USER'S MANUAL

TFKN

Original Instructions
M-KN09-E
(2009.11)

FOREWORD

This manual is a guidebook for using TAJIMA automatic embroidery machine TFKN (to be referred to as machine hereafter). Please read this manual thoroughly and use the machine after understanding the contents of the manual.

The contents of this manual are largely divided into the following sections.

[IMPORTANT WARNING ITEMS FOR SAFE OPERATION]
[MACHINE CONSTRUCTION]
[BASIC OPERATION]
[SETTINGS A TO E]
[OUTLINE OF FUNCTIONS]
[POWER SUPPLY/CONTROL BOX]
[TROUBLESHOOTING]
[MAINTENANCE]
[APPENDIX]

Concerning optional devices, please refer to the instruction manual of the optional device you have selected.
This manual may contain discrepancies in detailed information when compared with the actual product you have purchased due to continued research and improvements. If any question about the product or the contents of this manual arises, please contact your TAJIMA distributor.
Please keep this manual with care near the machine for quick reference.

Tokai Industrial Sewing Machine Co., Ltd.

IMPORTANT SAFETY INSTRUCTIONS

Operation of this machine requires correct operation and appropriate maintenance to ensure safety.
Please read the IMPORTANT SAFETY INSTRUCTIONS in this manual carefully and do not attempt operation or maintenance of the machine before you thoroughly understand the items written under IMPORTANT SAFETY INSTRUCTIONS.
Items that require your special attention on operation and maintenance of the machine are specified below with the warning symbol and signal word. These items must be strictly observed to ensure safety during operation and maintenance. Signal word definition is given below.

⚠ DANGER

Indicates that there is a lot of danger or death or serious injuries [*1] if the instruction is not observed.

⚠ WARNING

Indicates that there is a likelihood of death or serious injuries [*1] if the instruction is not observed.

⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury [*2] or property damage.

*1: A condition caused by electric shock, injury, fracture of a bone, etc., that leads to aftereffects, or an injury that necessitates hospitalization or visits to a hospital over a long period.
*2: It does not necessitate hospitalization or visit to a hospital over a long period.

: Prohibited items

: Items that may cause electric shock if not observed.

: Items that must be observed carefully to ensure safe operation.

⚠ : Items that must be observed for comfortable working
🕮 : The information which gives details or supplements the contents of the text.

(HB02)

CHAPTER 1 IMPORTANT WARNING ITEMS FOR SAFE OPERATION

CHAPTER 2 MACHINE CONSTRUCTION

CHAPTER 3 BASIC OPERATION

CHAPTER 4 SETTING A

CHAPTER 5 SETTING B

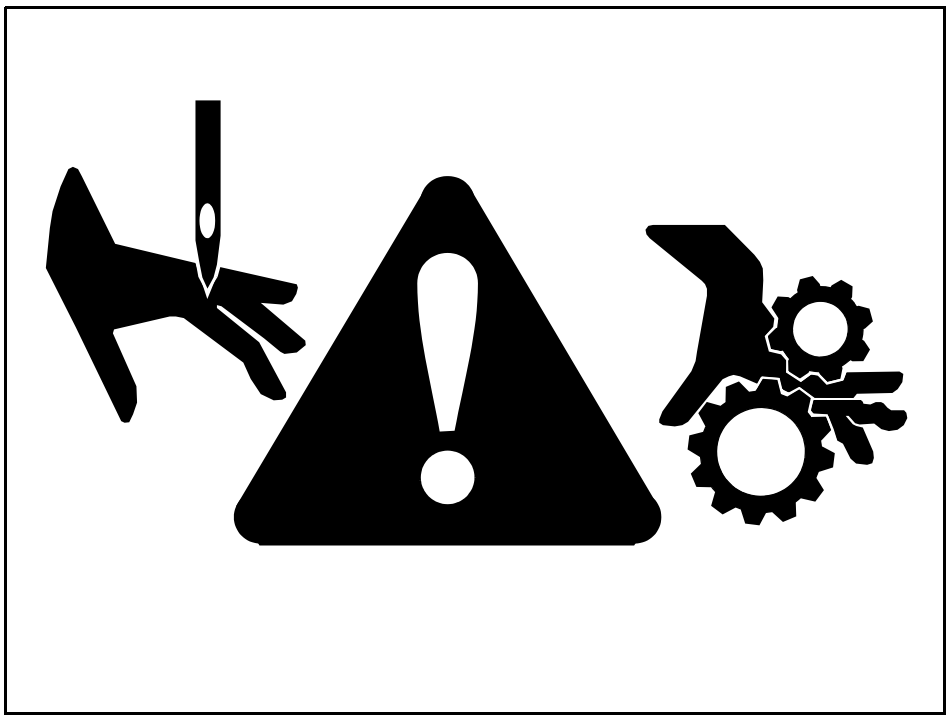
CHAPTER 6 SETTING C

CHAPTER 7 SETTING D

CHAPTER 8 SETTING E

CHAPTER 9 SETTING E (PARAMETER)

CHAPTER 1 IMPORTANT WARNING ITEMS FOR SAFE OPERATION



1. ITEMS TO NOTICE WHEN HANDLING THE MACHINE

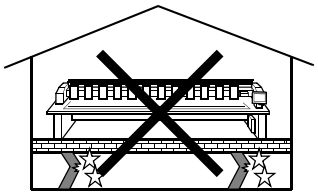
CAUTION

Do not transport, store, and operate the machine in the area of which altitude exceeds 1,000m.

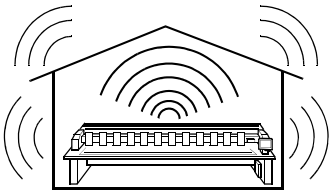
2. INSTALLATION ENVIRONMENT

CAUTION

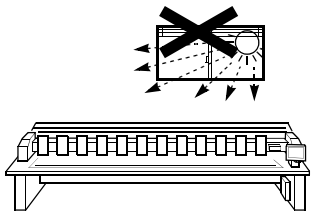
Install the machine on a sturdy floor.
The floor structure must be strong enough to bear the machine weight (indicated on the spec. plate). If the floor is supported by steel frames, place the machine stand on the steel beams as long as possible.



Prevent the operation noise in the environment.
This machine is designed to reduce noise during operation. To improve the sound insulation performance in a factory still more, use the interior finish materials which show high sound insulating performance for the walls, ceiling, and floor of the factory.

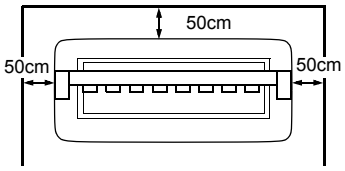


Avoid direct sunlight.
If the machine is exposed to direct sunlight over an extended period of time, the machine body may be discolored or deformed. Put curtains or shades to the site to prevent the machine from direct sunlight.

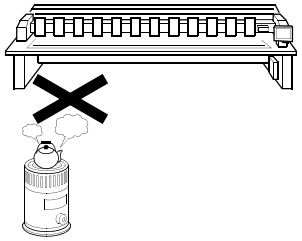


Provide enough space for maintenance.

In consideration of workability when inspecting and maintaining the machine, provide 50 cm clearance and more between the right, left, and back sides of the machine and the wall.



Avoid dust and moisture.
Dust and moisture lead to dirt and rust on the machine. Install air conditioning equipment, and periodically clean the working area.
Use caution not to expose the machine to direct wind from the air conditioner so that the embroidery threads do not become disheveled.
Humidity: 30 to 95%RH (relative humidity) without condensation
Ambient temperature: 5 to 40°C (during operation), -10 to 60°C (during storage)



3. CAUTIONS ON MACHINE OPERATION

CAUTION

For long life machine operation, operate the machine with about 70% of the maximum speed as "operation for total fitting" for about one month after installation.
By performing operation for total fitting, life of the machine will become longer, which will be useful to avoid unexpected troubles.

WARNING

To prevent accidents resulting in injury or death and physical damage, the following items must be observed strictly when operating the machine.

[Before Starting the Machine]

This machine is designed for industrial use. Use this machine for semi- or finished textile products and similar materials. Using the machine for other purposes must be avoided.

Use the machine in the environment where only authorized persons are permitted to enter, so that unauthorized persons will not manipulate the machine.

Only the persons who are sufficiently trained for the operation must operate the machine.

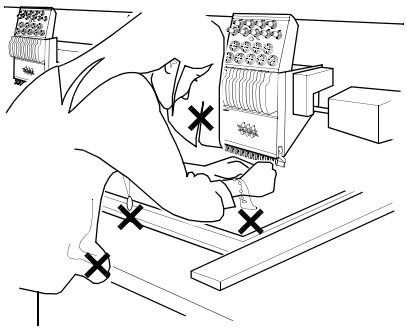
Do not have children access to vicinity of the machine.

The rear of the machine is not a working area. If you have to move to the rear of the machine, make sure to turn off the main switch.

Do not stand on the machine. Using the bar switch as a grip to support yourself is strictly prohibited.

Read this manual and thoroughly understand the contents of operation before starting the machine.

Wear proper clothes and tidy up yourself so that you can smoothly perform the operation.



A single operator should operate the machine in principle.
If more than one operator are working together, make sure that no one is working near the moving parts of the machine before starting the machine.

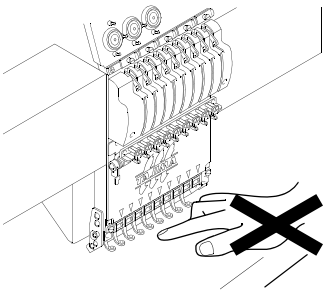
Do not damage, modify or heat the power or other cables. Do not exert undue force to them, either. Otherwise the cables will be damaged causing fire and electric shock.

Insert the power cable plug fully. If a metallic part touches a blade in the plug, it may cause fire and/or electric shock.

WARNING

[During the Machine Operation]

Do not use a device such as a cellular phone that generates microwave near the control circuits of the power supply box, the operation panel box, etc. Microwave may cause malfunctioning of the machine.



Do not remove the covers for the shaft and the pulleys when the machine is running. Do not run the machine without the covers.

Do not put your hands or face near the moving parts of the machine.
Especially, vicinities of needle, rotary hook, take-up lever, pulley, and speed reduction box are dangerous.

Keep away control units such as the power supply box and the controller box (operation panel box) from water and chemicals. Entry or splashing of them into control units leads to short circuits of internal circuits, causing fire, electric shock and other troubles. If water or other chemicals enter a control unit, shut off the power at the primary power source and contact your local distributor.

Do not have your hands, etc. access in the vicinity of needle. Sticking of needle could injure you.

[During Machine Adjustments]

Stop the machine before carrying out work near the needles such as threading the needle and checking the finish of embroidery.

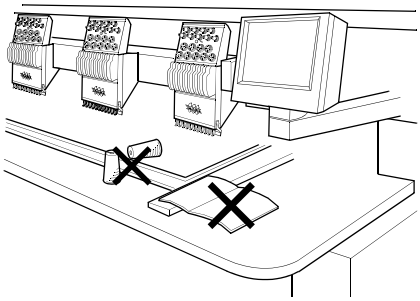
Shut off the power supply by turning off the power switch before manually rotating the main shaft of the machine.

Turn off the primary power source before opening the electrical boxes. Be sure to turn off the power switch of the machine before turning off the primary power source. If not, it may cause electric shock.

CAUTION

When operating the machine, always observe the following items to prevent machine or property damage.

Do not use bent needles or needles that are not suitable for the material.



After the completion of work, shut off the power supply switch of the machine and also the primary power supply switch of power distributor panel.

Do not put things on the table.

4. WARNING LABELS

Important directive items

The machine has warning labels that bear instructions for safe operation. Machine operators must follow the instructions shown on the warning labels.

CAUTION

Do not detach the warning labels nor make them illegible by painting, etc.

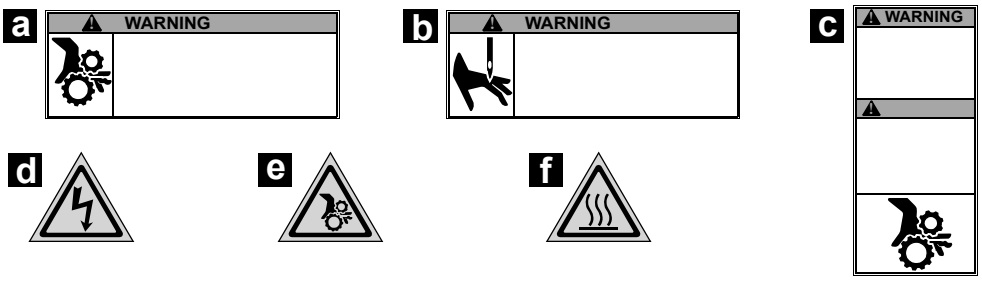
If a warning label is missed or damaged, please consult your local distributor.

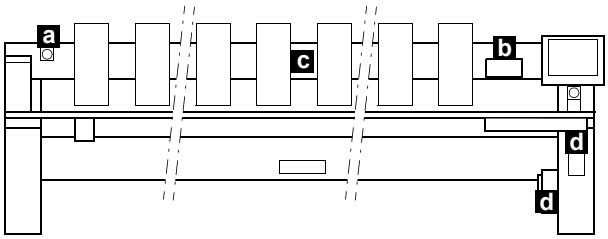
DANGER

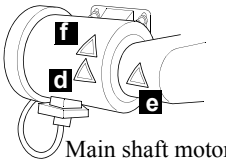
The covers of the places at which warning labels d are stuck should not be opened by other persons than service personnel appointed by TAJIMA.
It could cause a burn, electric shock, or death.

To open the cover, turn OFF the power switch and wait for 4 minutes.
You could receive an electric shock by remaining current.

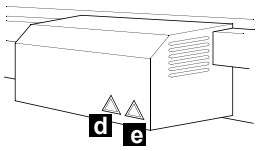
Sticking position of the warning labels





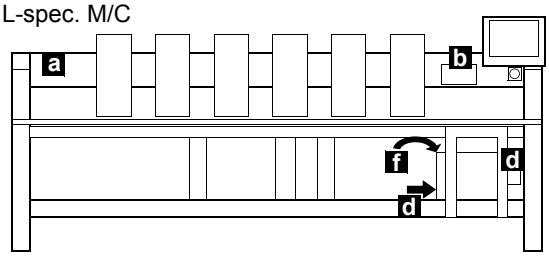


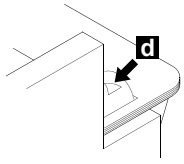
Main shaft motor



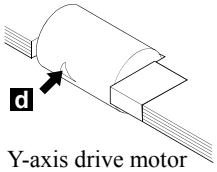
Main shaft motor cover

L-spec. M/C





X-axis drive motor

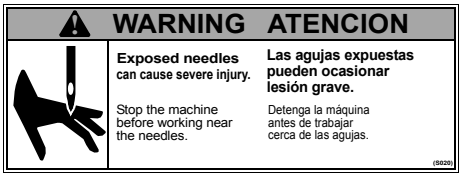


Y-axis drive motor

Type of warning labels

a Pay attention so that you are not to be caught or put into the machine.

b Pay attention to vicinity of needle



c Pay attention so that you arenot to be caught or put into the machine.

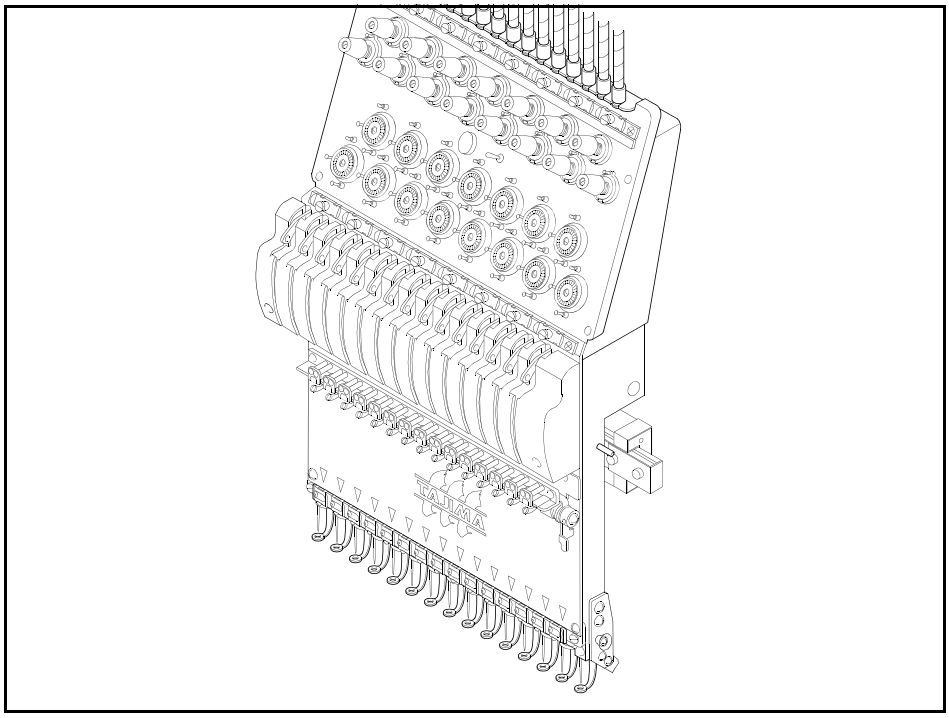
📖 The term “safety cover” used in the safety label(s) refer to all covers installed near movable units of the machine.

d Pay attention to electric shock

e Pay attention so that you are not to be caught or put into the machine.

f Pay attention to high temperature

CHAPTER 2 MACHINE CONSTRUCTION



1. MAIN FUNCTIONS

◆EASY OPERATION
It is possible to move the frame easily because of adoption of a jog remote-controller (option).

◆POWER FAILURE MEASURE
It is possible to prevent the loss of products due to design displacement, etc. if power is shut off during machine operation.

◆CLEANUP FUNCTION
It disposes fine stitch data automatically to prevent skip stitches and thread breakage.

◆MEMORY
Standard memory can store up to about 1,000,000 stitches, and it is possible to register up to 99 designs at the maximum.

◆CONDITION DATA
It is possible to register design data with embroidery condition such as needle bar setting, design start position, automatic offset, etc.

◆TAKE-UP LEVER GUARD
It adds stability to thread movement, and prevents entangling of thread or coming-off of thread.

◆ENLARGE, REDUCE AND ROTATE DESIGN
It is possible to reduce/enlarge size of embroidery design within a range of 50 to 200% in increments of 1%. Rotation can be changed in increments of 1 degree.

◆AUTOMATIC REPEAT OPERATION
It is possible to set up to 99 times at the maximum to X or Y direction differently by inputting a value to repeat a design. In addition, it is also possible to perform setting infinitely.

◆BUILT-IN FLOPPY DISK DRIVE
A single 2DD floppy disk can store 111 designs with approximately 240,000 stitches at the maximum. Alternatively, a 2HD floppy disk can hold 223 designs with approximately 480,000 stitches.

◆EDIT OF DESIGN DATA
Design can be edited (modified, inserted, deleted) in 1-stitch units.

◆FRAME BACK
The embroidery frame can be traveled back in 1-stitch units, color change code units, or by a designated number of stitches.

◆TRACE FUNCTION
The function checks if the design fits in the frame to be used before starting embroidery.

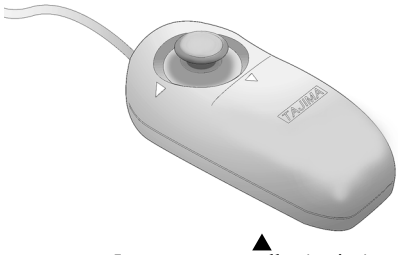
◆AUTOMATIC UPPER/UNDER THREAD TRIMMER
Threads are automatically trimmed by design data commands (under/both).
It is also possible to activate the device manually as desired to trim threads (under/upper and under).

◆THREAD TENSION SUITABLE FOR HIGH-SPEED OPERATION
Highly stable thread tension is realized by the adoption of middle thread guide with tension spring and upper thread lock mechanism.

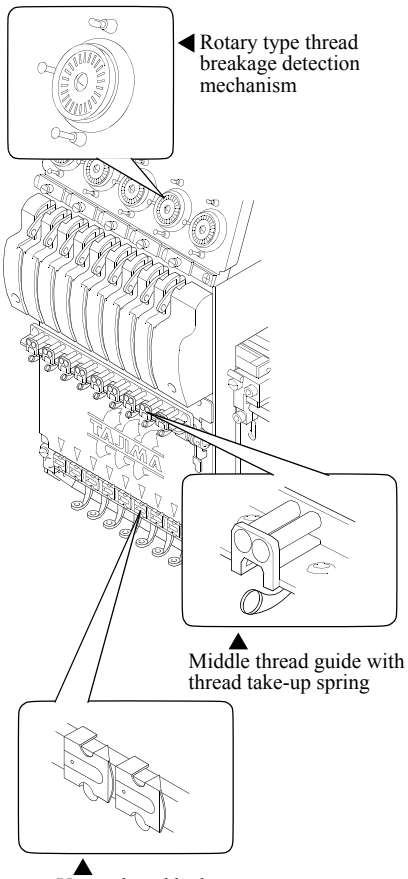
◆ROTARY TYPE THREAD BREAKAGE DETECTION MECHANISM
Stable detection of upper/under thread breakage is made possible even at high-speed operation.

◆QUIET OPERATION
The noise-reduction type presser foot brings you a comfortable working environment.

◆ORIGIN RETURN
A return to the design origin (design start position/offset start position) can be made during embroidery operation, even if the design origin does not coincide with the design end point.

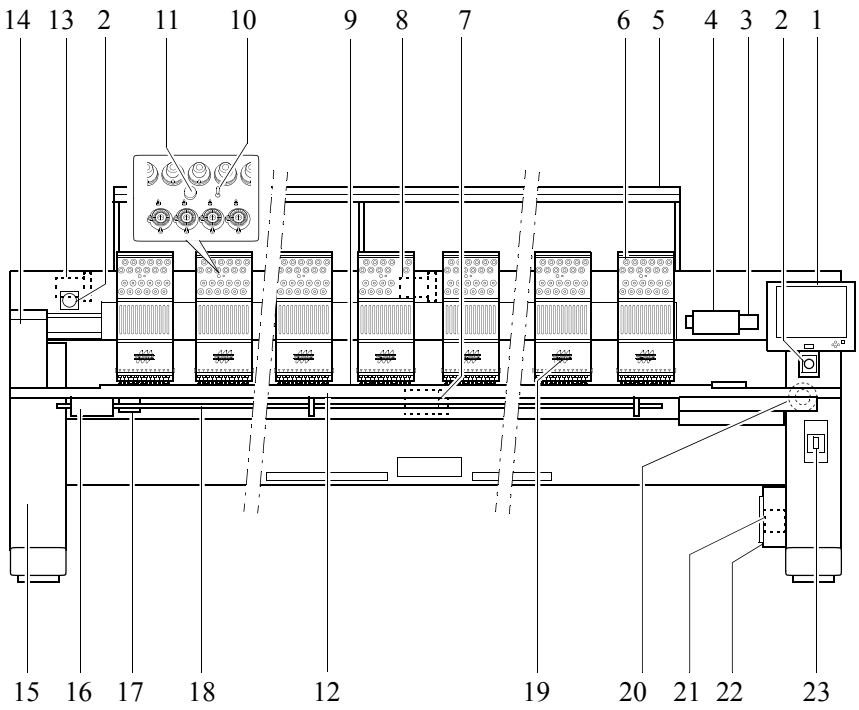


Jog remote-controller (option)



Rotary type thread breakage detection mechanism
Middle thread guide with thread take-up spring
Upper thread lock mechanism

2. NAME OF EACH PART



1. Operation panel box
2. Emergency stop switch
3. Color change motor
4. Color change box
5. Thread guide system
6. Individual tension base
7. Y-axis motor
8. Main shaft motor (*1)
9. Embroidery frame
10. Tension base switch
11. Thread breakage indicator lamp
12. Machine table
13. Main shaft motor (*1)
14. Rotary hook shaft transmission box
15. Stand
16. Bar switch box
17. Thread trimming cam box
18. Bar switch
19. Needle bar case
20. X-axis motor
21. Inverter
22. Controller box
23. Power switch

*1: Attaching position of the main shaft motor differs depending on specification.

3. ELECTRICAL SPECIFICATIONS

Electrical specifications of this machine are described below. Please use the machine complying with the condition.

CAUTION

If using the machine deviating from the conditions, trouble may occur.

Power supply

Allowable voltage range	Within +/- 10% of the rated voltage
Frequency	50/60Hz
Capacity/Power consumption	1.8kVA/1.1kW
Fluorescent lamp	624VA/286W

Insulating resistor

10M ohms or larger (measured with a 500 V insulation tester)

WARNING

Since there is a danger of electric shock due to leak current, be sure to ground the earth cable of the machine. In addition, degree of grounding should be type D or higher (grounding resistance 100 ohms or less).

4. AMBIENT NOISE LEVEL

The ambient noise level of the machine is less than 85 dB. Measuring conditions are as follows:

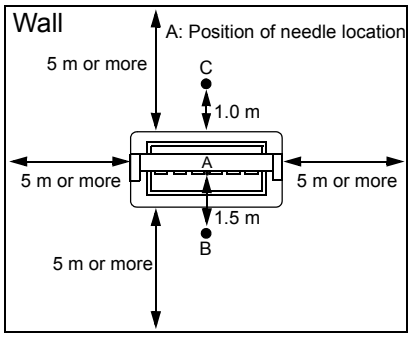
● Measuring ambience (refer to the illustration shown right)

● Measuring position

Measured at B and C

*Higher value is adopted.

Height: 1.6 m from the floor



● Operating condition of the machine

Fabric is stretched on the border frame and satin stitch sewing of stitch length 4 mm is executed.

● R. P. M.

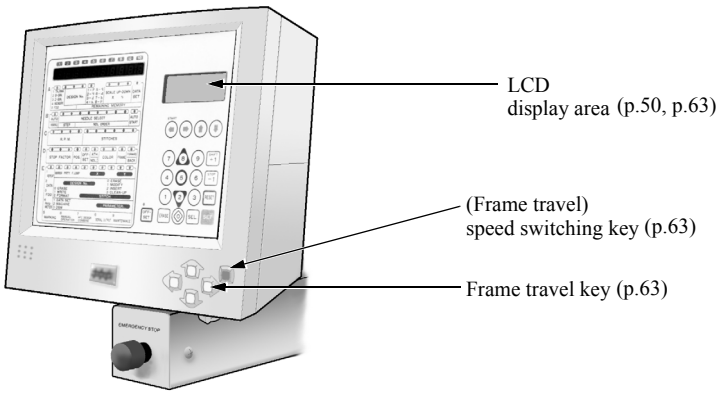
The maximum number of revolutions of the machine

● Measuring tool

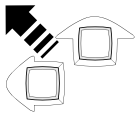
Conformity to IEC61672-1: 2002 Class 1

5. OPERATION PANEL BOX

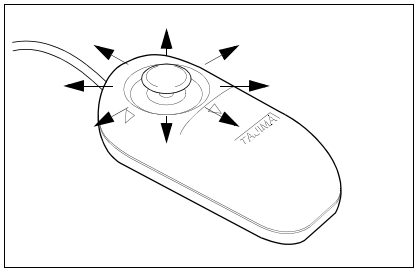
Front of the panel



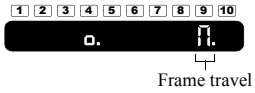
- Move the frame travel keys to move the frame.
- Switch frame travel speed to low speed ◄► middle speed by pressing the speed switching key. To perform high speed travel, press the frame travel key while pressing the speed switching key.
- It is possible to move the frame in an oblique direction by pressing the two frame travel keys at the same time.



Jog remote-controller (option)

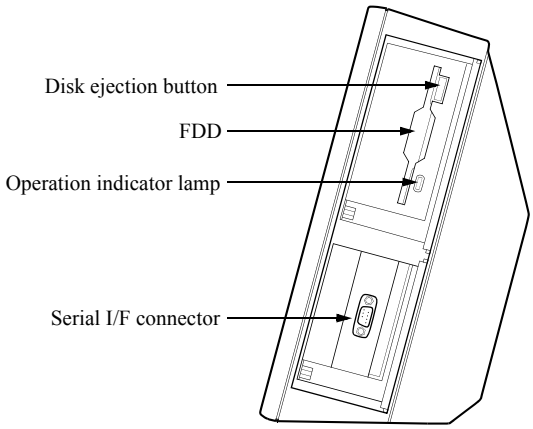


- It moves the embroidery frame rapidly with manual operation. Frame travel speed varies depending on tilting angle of the stick.
- It is possible to use the jog remote-controller only when the cursor is positioned at the frame travel column.

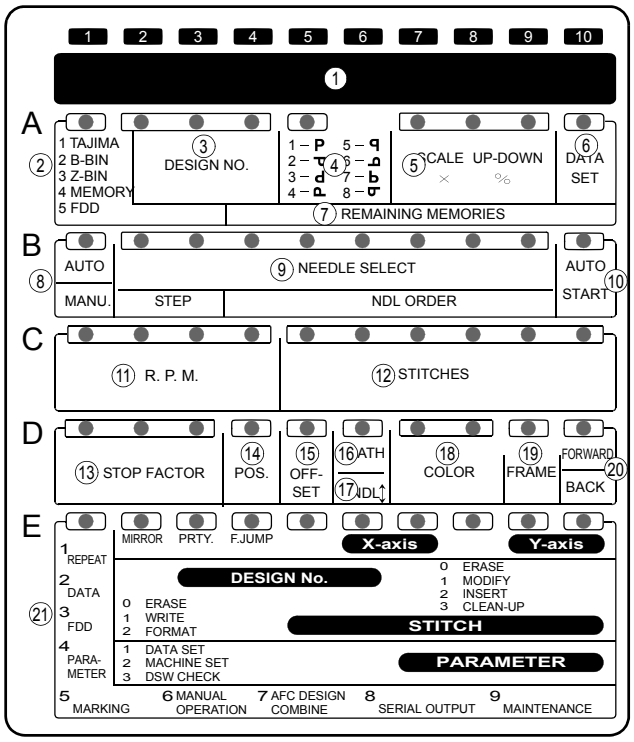


- When you do not use the jog remote-controller, store it in a jog remote-controller pocket, etc. not to move the frame carelessly.

Right side of the panel

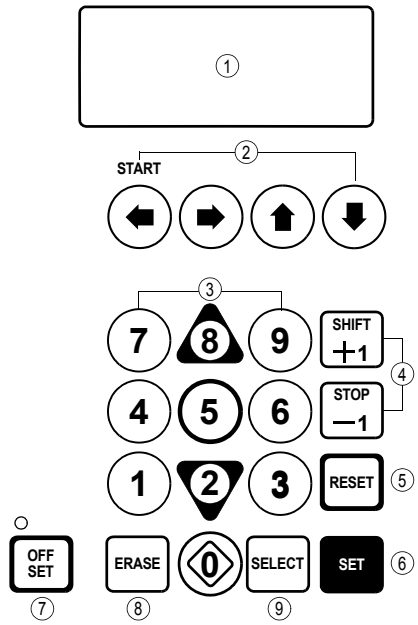


OPERATION PANEL



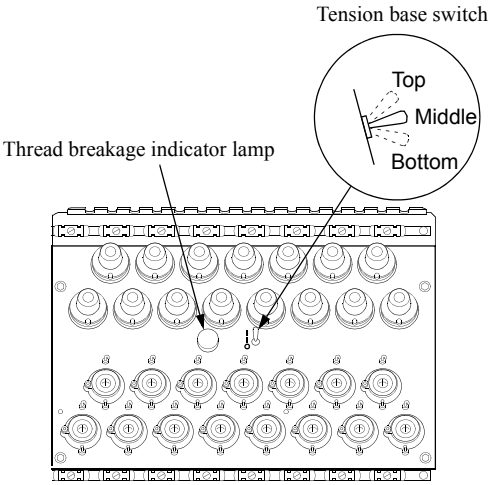
1. LED display area:Display of setting contents, R.P.M., stop factors, etc.
2. Input method (Tajima to FDD):Selection of input method, code format
3. Design number:Specifying the design number
4. Polarity of design(P–σ):Selection of rotation, reversion
5. Reduction/enlargement:50 to 200% (in increments of 1%)
6. Data set:Decision of the selected design number and setting value
7. The remaining number of stitches in memory: Display of the number of stitches that can be written into memory
8. Automatic/manual:Setting for color change method
9. Needle bar selection:Setting for sequence of automatic color change (needle bars)
10. Automatic start:Setting for starting method after color change
11. R. P. M.:Setting for the number of revolutions
12. The number of stitches:Display of the number of total stitches
13. Stop Factor:Reset of stop factor
14. Fixed position:Display of the stop position (fixed position/non-fixed position)
15. Offset:Setting for With/Without of offset
16. ATH:Manual ATH
17. Needle bar up/down:Manual moving up/down of needle bar or sequin device
18. Manual color change:Manual color change
19. Frame travel:Manual frame travel, etc.
20. Forward/back:Selection of frame forward/back
21. Setting mode (1 to 9):Selection, setting of each setting mode

LCD DISPLAY AREA, NUMERICAL KEY



1. LCD display area:Display of design name, each kind of setting value etc.
2. Cursor moving key:Movement of cursor, start of formatting
3. Numerical key:Value input, change of R. P. M. etc,
4. Shift key,Stop key:Changing the number of steps, etc.
5. Reset key:Reset of stop factor, break of memory writing
6. Set key:Decision of the setting value
7. Offset key:Automatic free setting offset, manual offset
8. Design delete key:Deletion of the design registered in memory
9. Select key:Selection of setting item, setting value

6. TENSION BASE



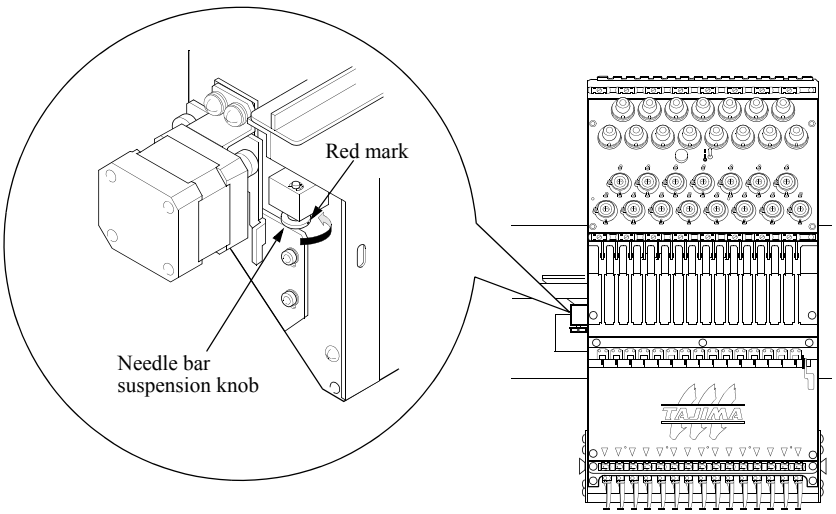
- Switch at the top: To perform embroidery from the position where frame back started, set the switch to the “Top”. When the switch is released, it will return to the “Center” position.
- In case of machine equipped with sequin device, sequin device moves up or down by setting the tension base switch to “top” when a sequin needle bar is selected.
- Switch middle: Set it usually to the “middle” position.When the machine was stopped due to thread breakage, it is possible to perform automatic frame back by the set number of stitches. p.120
  After that, when starting the machine, only the head where thread broke or all heads will perform sewing for mend according to setting. p.120
- Switch at the bottom: Needle bar does not move. (Embroidery is not performed.)
- Thread breakage indicator lamp
  During normal operation: Green (lit)
  When upper thread breakage is detected: Red (lit)
  When under thread breakage is detected: Red (blinking)
  The head that does not perform sewing for mend in a frame back section: blinking in green

7. NEEDLE BAR SUSPENSION KNOB

WARNING

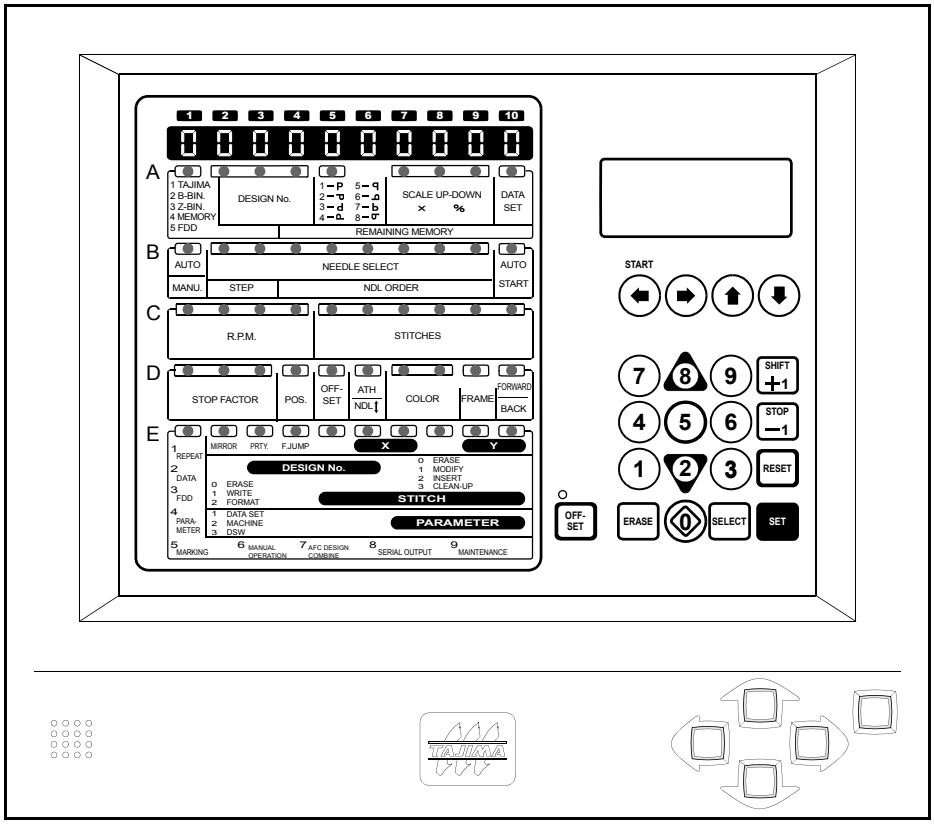
Do not perform changing thread, etc. at the suspended head during operation.

Even if the needle bar is suspended by the needle bar suspension lever, you may be injured by the moving take-up lever or ATH.

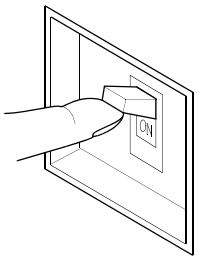


- When turning the needle bar suspension lever to the direction of arrow by 90°, the needle bar will be suspended.
  When making the red mark of the needle bar suspension lever face to the front, the needle bar will move.

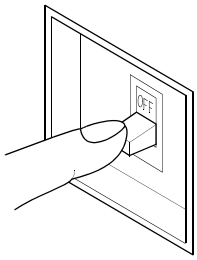
CHAPTER 3 BASIC OPERATION



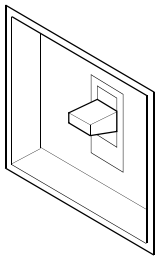
1. POWER SWITCH



Turn “ON” the power switch



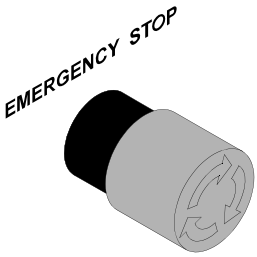
Turn “OFF” the power switch

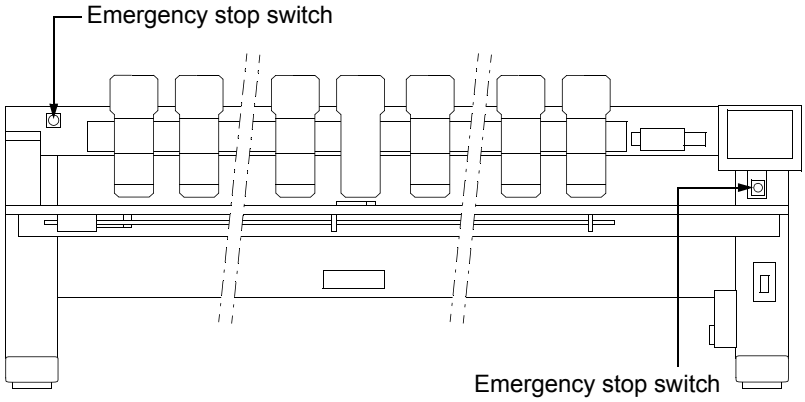


When the power is shut off

- When turning ON the power again, turn “OFF” the switch once and turn it “ON” after about 5 or 6 seconds.
- The switch is positioned at the center when the power is shut off such as power failure and emergency stop.
  Turn “OFF” the switch, and then turn it “ON”.

2. EMERGENCY STOP SWITCH





- Pressing the emergency stop switch will cause the machine to stop at the fixed position to turn OFF the power.
- To perform cancellation, follow the next procedure.

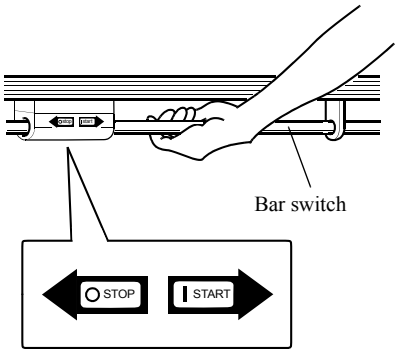
1 Rotate the switch knob to the direction indicated by arrow to release the lock.

2 Turn “OFF” the power switch, and then turn it “ON”.

3 As the code number “2E3” will be displayed, perform power resume operation. p.69

3. START AND STOP

OPERATION BY BAR SWITCH



DURING STOP

Move it to the left⇦	⇨ Move it to the right
Move it to the left and release. • FB/FF by 1 stitch	Move it to the right and release. • Operation starts
Hold it to the left. FB/FF by 1 stitch unit • If it is released within 10 stitches, the motion stops at that point. • If it is released with 11 stitches and more, the motion still continues and stops when moving it to the left again.	Hold it to the right • Operation starts with inching ↓ • Usual operation is performed when releasing it

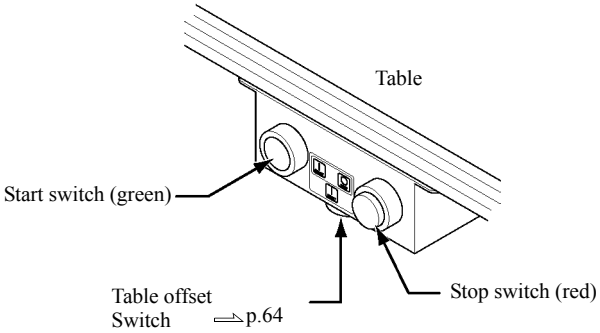
FB/FF is the abbreviation of frame back/ forward. p.70

When starting the machine after performing frame back passing a color change code, the releasing function of upper thread holding will act and the machine will operate temporarily with inching speed just before the frame back starting position.

Feed unit of frame forward/back will become the value set at n-14: Unit of forward/back of "Parameter" (machine setting). p.128

During operation
Left: stop
Right: invalid

OPERATION BY THE START/STOP SWITCH (SOME MODELS ONLY)



DURING STOP

Stop switch (red)	Start switch (green)
Press and release • FB/FF by 1 stitch	Press and release • Operation starts
Keep on pressing FB/FF by 1 stitch unit • If it is released within 10 stitches, the motion stops at that point. • If it is released with 11 stitches and more, the motion still continues and stops when pressing it again.	Keep on pressing • Operation starts with inching ↓ • Usual operation is performed when releasing it

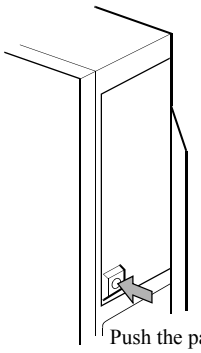
During operation
Press the stop switch: stop
Press the start key: invalid

4. FLOPPY DISK AND FDD

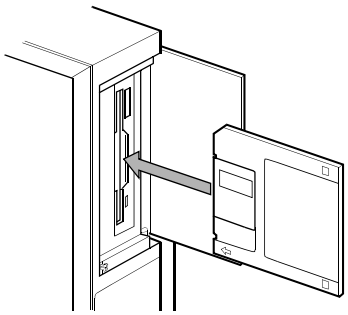
CAUTION

When handling a floppy disk or FDD, observe the items described below.

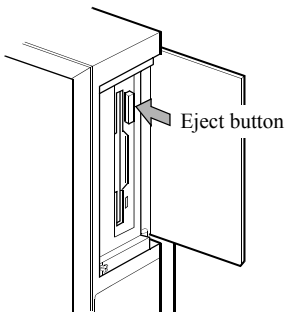
- **Do not put the floppy disk near magnets or a TV.**
- **Do not expose the floppy disk to excessive heat, humidity, or direct sunlight.**
- **Do not place heavy objects on the floppy disk.**
- **Since the life of floppy disk is not permanent, make a floppy disk for storage.**
- **Do not use damaged or deformed floppy disk, otherwise the floppy disk drive could be damaged.**
- **Clean the head of the FDD (the part where data is read or written) about once a month using a cleaning disk sold in the market. If the head is dirty, it could cause bad movement of reading/writing of floppy disk.**
- **Do not open the shutter.**
- **To prevent data of floppy disk from erasing mistakenly, open the write-protect window to protect the floppy disk from writing unless data is to be written to the floppy disk.**
- **Insert a floppy disk carefully.**
  If a floppy disk is inserted impetuously, it may become difficult to eject the floppy disk, or the machine may be damaged.
- **Do not take out the floppy disk forcedly. The floppy disk or FDD could be broken.**
- **Do not eject a floppy disk during data writing/reading. Data in the floppy disk may be damaged.**



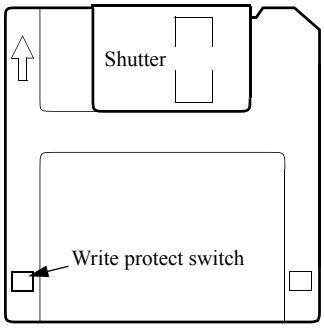
Push the part indicated by the arrow to open the cover.



Insert it as the illustration so that the arrow mark faces the front.



Press the button to eject the disk.



FDD is an abbreviation of floppy disk drive.

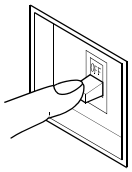
Formatting ⇨p.97

5. INSTALLATION OF SOFTWARE

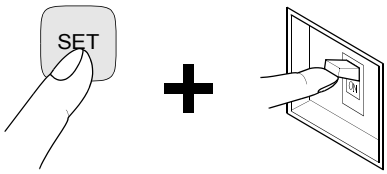
CAUTION

Before installing the system program, store the design data currently registered in memory to floppy disk(s).
The design data may be damaged by unexpected cause during system installation.

1. Turn “OFF” the power switch"



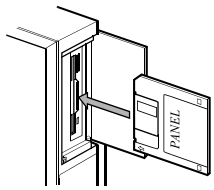
2. Turn “ON” the power switch while pressing the set key



Keep on pressing the set key until the menu screen for software installation appears.

3. Insert the PANEL floppy disk.

```
1: ALL      2:PANEL
3: CPU
9: EXIT
     Select Mode
```



4. Select “1: ALL”

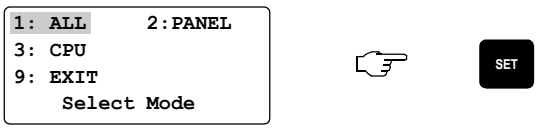
```
1: ALL      2:PANEL
3: CPU
9: EXIT
     Select Mode
```

(1)

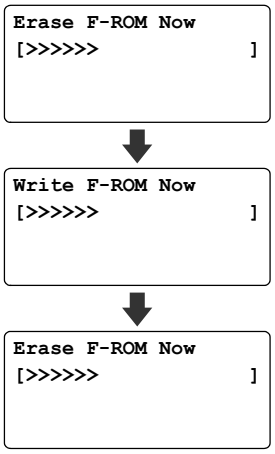
When installing the PANEL or CPU software only, select the corresponding item.

An example when selecting 1 (installing the PANEL and CPU software)

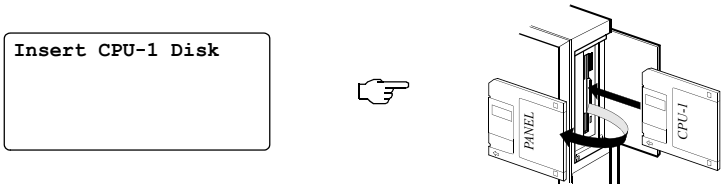
5. Set



When pressing the set key, the screen for renewal of system will be displayed once.

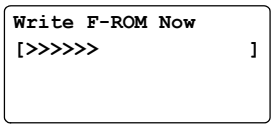


6. Replace the floppy disk with CPU-1 floppy disk

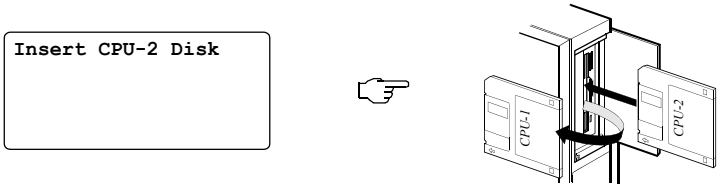


7. Set

When pressing the set key, the screen for renewal of system will be displayed once.

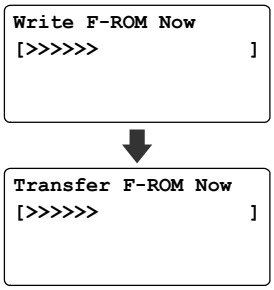


8. Replace the floppy disk with CPU-2 floppy disk

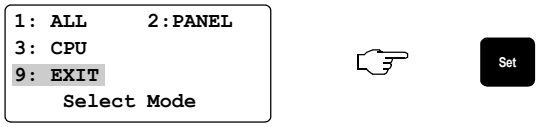


9. Set

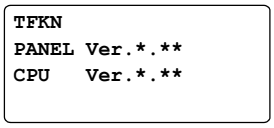
When pressing the set key, the screen for renewal of system will be displayed once.



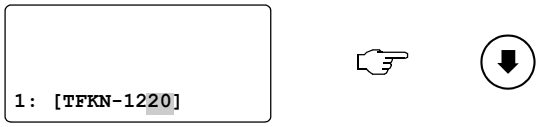
10. Set



When pressing the set key, the version screen of system will be displayed once.

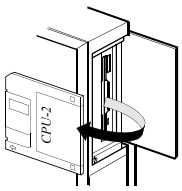


11. Confirmation of machine spec.

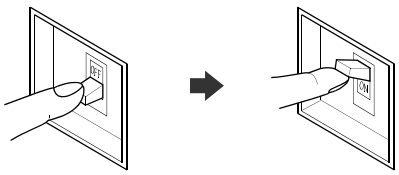


When machine spec. is wrong, perform setting again using numerical key.

12. Taking out the floppy disk



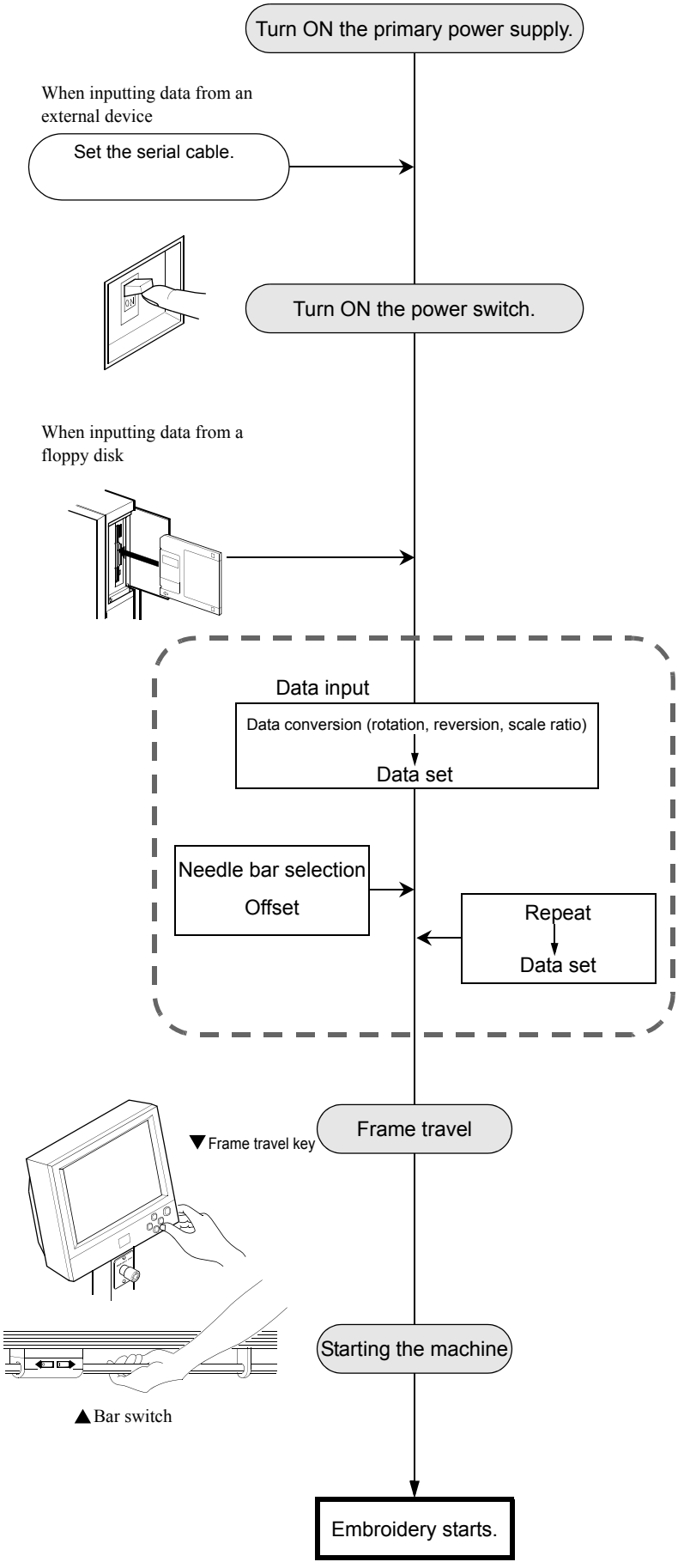
13. Turning on and off the power switch



Software installation is completed.

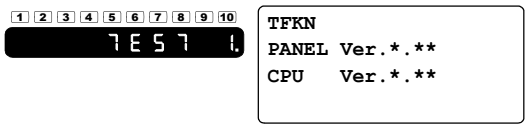
After that, perform operation of absolute origin search. p.128

6. OPERATION FLOW

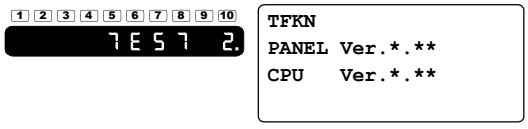


When turning "ON" the power switch, the operation screen will be displayed after display of the system check screen.

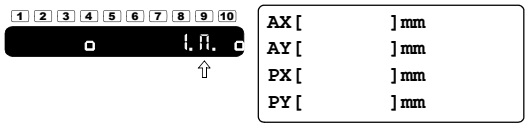
[Check screen]



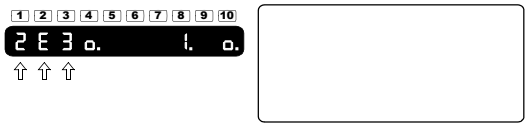
[Check screen]



[Operation screen]



When code number described below is displayed, perform power resume operation. p.69



When turning "OFF" the primary power supply regardless of during or completion of embroidery, perform the following procedure.

1 Stop the machine, and check if it is stopped at the fixed position. p.50
2 Turn "OFF" the power switch.
3 Turn "OFF" the primary power supply.

When the primary power supply was shut off in process of embroidery (including stop by emergency stop switch) and the embroidery is restarted from the position where it was interrupted, perform the following procedure.

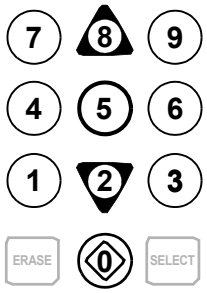
1 Turn ON the power switch again.
2 When the code number "2E3" is displayed, perform the "power resume" operation after resetting the code number. p.69

When the power switch was turned "OFF" and the embroidery frame was moved, perform "absolute origin search". p.128

7. VALUE INPUT

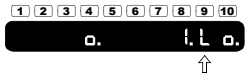
Input value to the cursor position using numerical key. Regarding some settings, it is possible to perform input by frame travel.

1. Input by numerical key

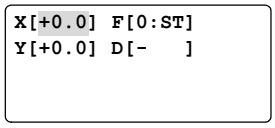


In this manual, the cursor position is shown as below.

LED display area: Indication by arrow

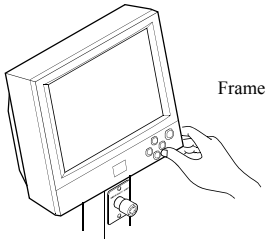


LCD display area: Meshed display



To correct the value, input the value after correction again.

2. Value input by frame travel



Jog remote-controller (option)

When moving the embroidery frame to an arbitrary position by frame travel key or jog remote-controller, the coordinate position will be input as value.

8. INSPECTIONS BEFORE STARTING OPERATION

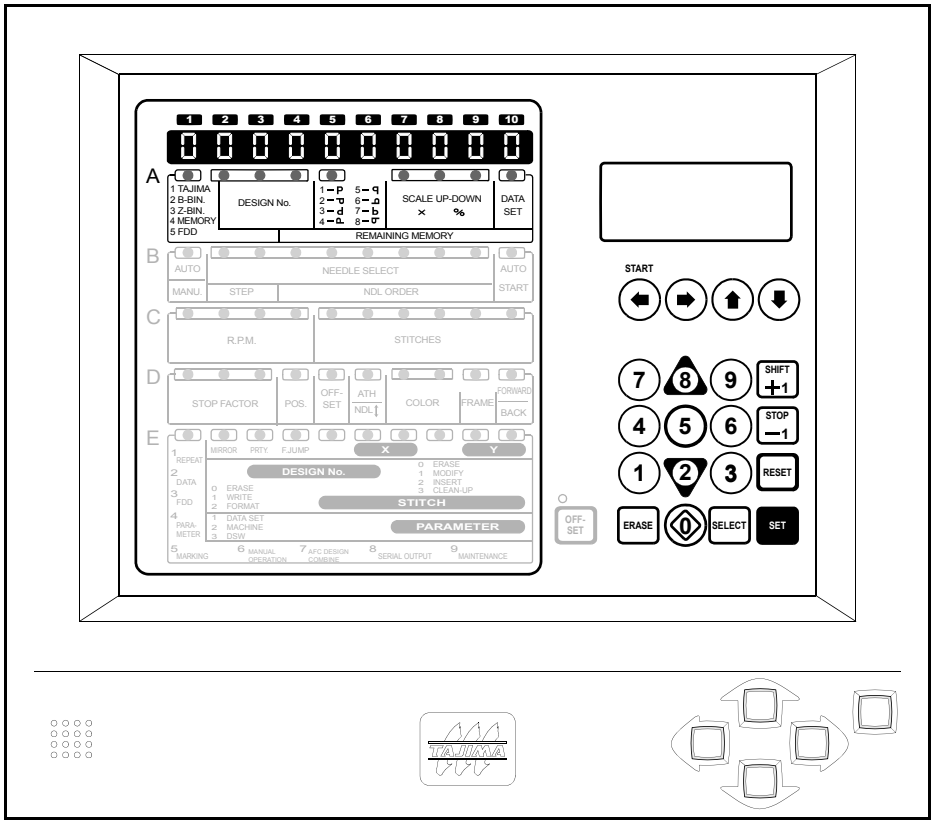
WARNING

When performing inspection before starting work, be sure to turn off the power.
You may be caught by the machine or sticking needle may cause severe injury.

Inspecting item	State	Action to take
Cover	Cover(s) depart from the machine.	Attach to the machine
Thread	Thread comes off	Set thread
	Thread is broken	
Needle	Needle(s) are bent.	Change the needle(s).
	Needle(s) are broken.	
Rail on rotary hook	Appropriate quantity of oil is not supplied to the rail section.	Supply oil

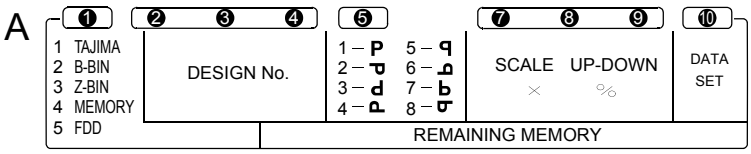
When the automatic lubrication system (option) has oil leakage, contact the distributor.

CHAPTER 4 SETTING A



This chapter explains about data input, rotation/reversion of design, enlargement/ reduction, data deletion, and data set operations.

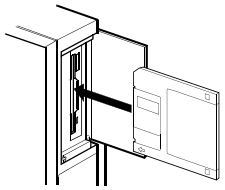
1. OPERATION PANEL



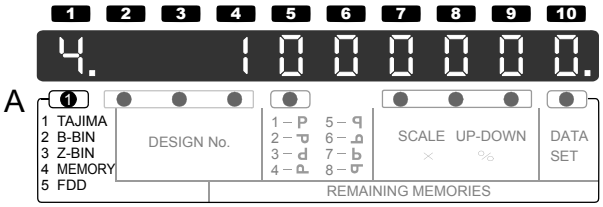
📖
❶ : Selection of data input
❷❸❹: Selection of design number
❺ : Rotation/reversion of design
❼❽❾: Enlargement/reduction of design
❿ : Existence of data set, auto jump

2. DATA SET (FDD)

1. Insertion of a floppy disk



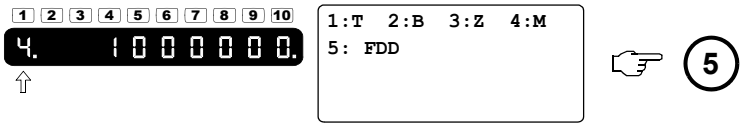
2. Move the cursor to A-❶.



📖


The number of remaining memory stitches

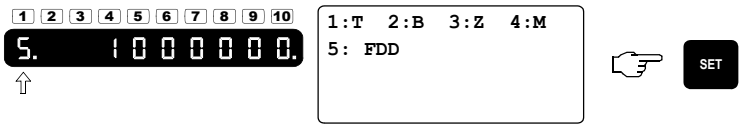
3. Select “5: FDD”



📖
1 : T (Tajima)
1 : T2 (Tajima binary)
2 : B (Barudan)
3 : Z (ZSK)
4 : M (Memory input)
5 : FDD (FD input)

The above descriptions 1 to 3 are input from serial.

4. Reading of a floppy disk

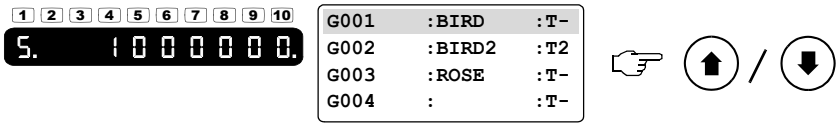


📖


Rotating display

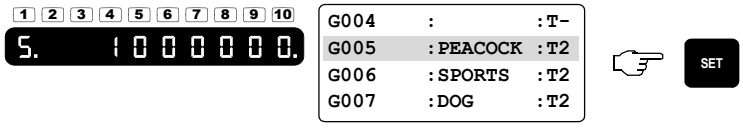
The display rotates during data reading.

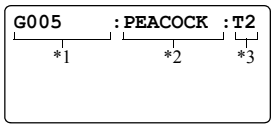
5. Selection of design data



📖 The design data being selected blinks.

6. Decision of design data



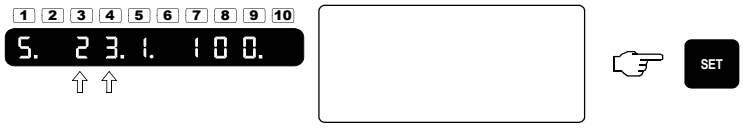


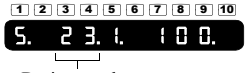
*1: File name
*2 :Design name (the initial 8 characters)
*3: Input code
T-: Tajima
T2: Tajima binary

When data includes input code T2 and condition data, it is possible to switch "to read" (T2)/"not to read" (T-) by the select key.

Condition data ⇨p.134

7. Decision of design number

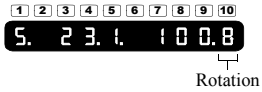




The smallest number that can be registered is displayed.

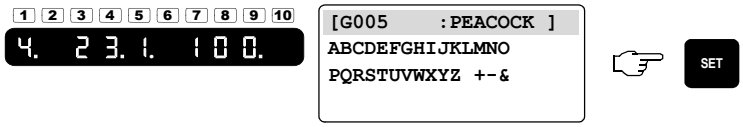
When 99 designs are already registered
⇨Code display [2bC]

To specify a design number, perform input by numerical key or SHIFT +1 STOP −1 key, and then press the set key.
It is not possible to specify the number being used (displays code [2bC]).



Reading of floppy disk data will be performed (rotating display).

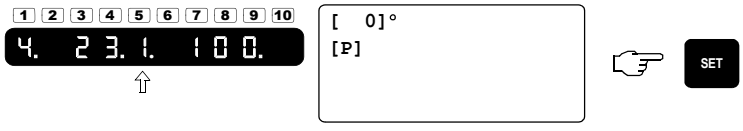
8. Decision of design name



Pressing the set key without setting a design name will register the design name that was registered in the floppy disk to the memory.

When setting a design name ⇨p.32

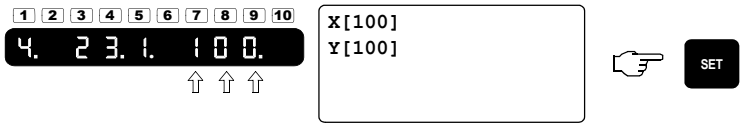
9. Decision of rotation/reversion



The initial value is 1: P (rotation, without reversion).

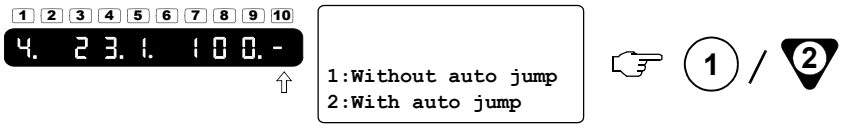
To change the setting value ⇨p.36

10. Decision of scale ratio



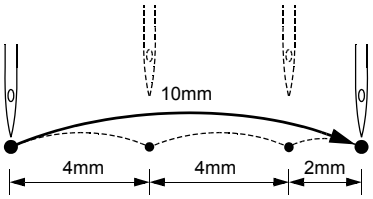
To change the setting value ⇨p.37

11. Selection of data set



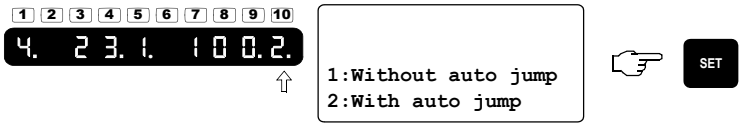
📖 [1 : Without auto jump
2 : With auto jump

📖 When auto jump is performed



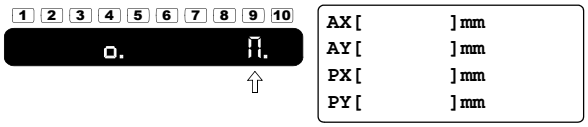
When there is a stitch of which length is longer than the length set by “d-9: Auto jump data”, the stitch will be automatically divided into jump stitches. p.121

12. Decision of data set



📖 An example when selecting 2 (with auto jump)

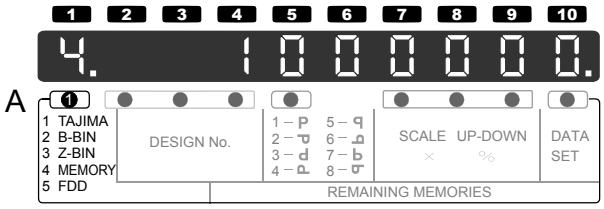
13. Completion



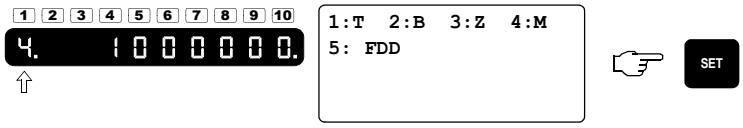
📖 Take out the floppy disk.

3. DATA SET (MEMORY)

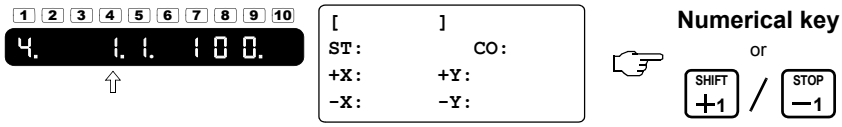
1. Move the cursor to A-❶.



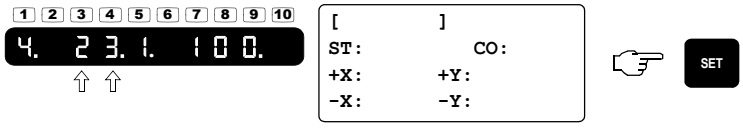
2. Decide “4: M”.

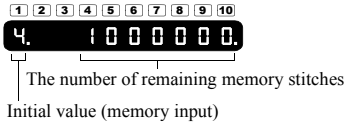


3. Selection of design number



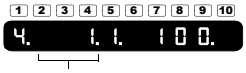
4. Decision of design number





1: T (Tajima)
1: T2 (Tajima binary)
2: B (Barudan)
3: Z (ZSK)
4: M (Memory input)
5: FDD (FD input)

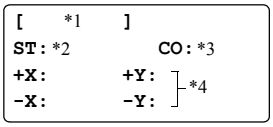
The above descriptions 1 to 3 are input from serial.



When the previously selected No. exists:The previous No. will be displayed.

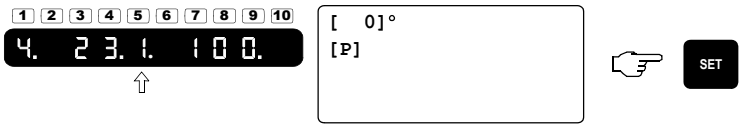
When the previously selected No. does not exist:The smallest number among registered numbers will be displayed.

When design is not registered, when selecting non-registered number ⇨Code display [2bC]



*1: Design name
*2: The number of design stitches
*3: No. of needle bar steps
*4: Design size (Y/X)

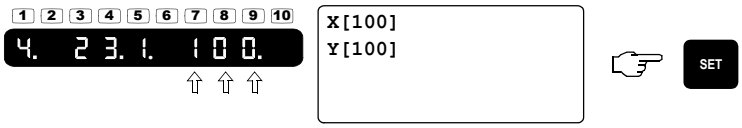
5. Decision of rotation/reversion

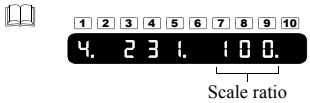


The previous setting value of the selected design is displayed.

To change the setting value ⇨p.36

6. Decision of scale ratio

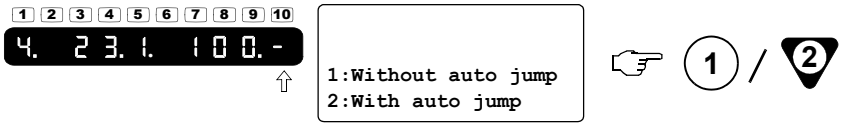




The previous setting value of the selected design is displayed.

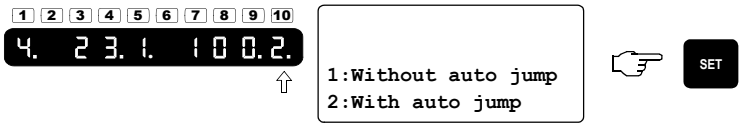
To change the setting value ⇨p.37

7. Selection of data set



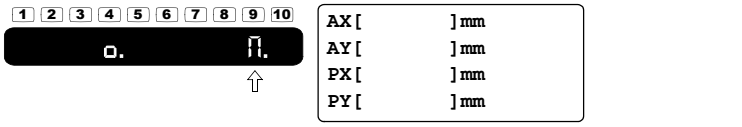
Detail of data set ⇨p.28

8. Decision of data set



An example when selecting 2 (with auto jump)

9. Completion

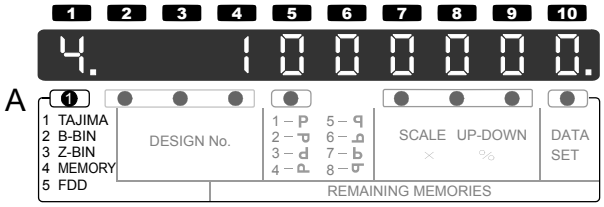


4. DATA SET (AN EXTERNAL DEVICE CONNECTED SERIALLY)

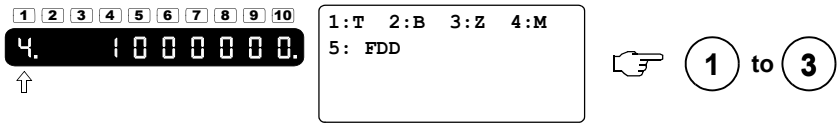
CAUTION

Turn ON the switch of the external device before turning ON the switch of the machine.

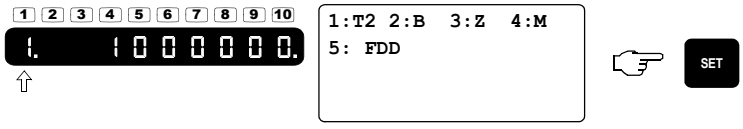
1. Move the cursor to A-(1).



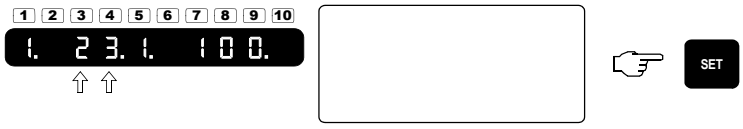
2. Selection of input code



3. Decision of input code



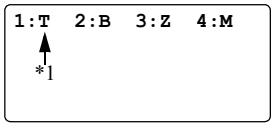
4. Decision of design number



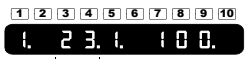
The number of remaining memory stitches

1: T (Tajima)
1: T2 (Tajima binary)
2: B (Barudan)
3: Z (ZSK)
4: M (Memory input)
5: FDD (FD input)

The above descriptions 1 to 3 are input from serial



*1: Pressing the select key after selection of "1" will switch T/T2.

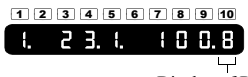


Design number

The smallest number that can be registered is displayed.

When 99 designs are already registered
⇨Code display [2bC]

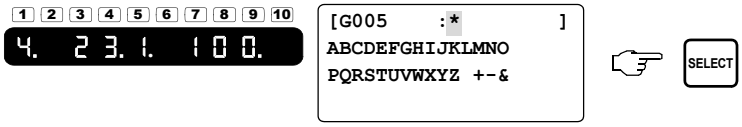
To specify design number, perform input by numerical key, and then press the set key.
It is not possible to specify the number being used (displays code [2bC]).

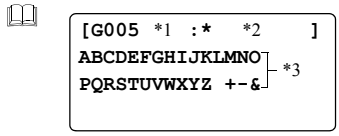


Display of R. P. M.

The display is rotated during data reading.

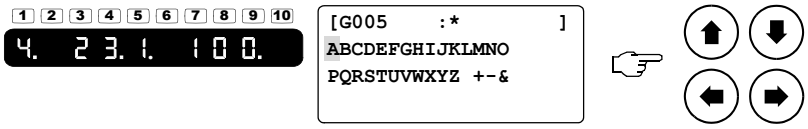
5. Setting for design name





*1: File name (must not be changed)
*2: Design name
*3: Columns of characters for setting

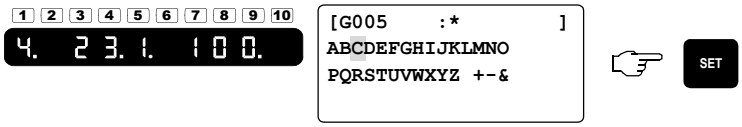
6. Setting for design name (selection of character)



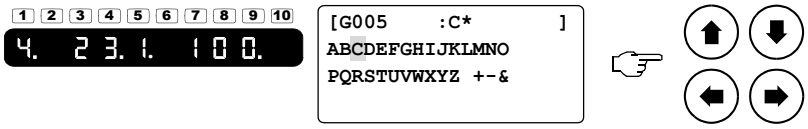
The cursor moves to the character columns for setting (A).

Pressing numerical key with the cursor placed at the rows of characters for setting will make it possible to input number for design name.

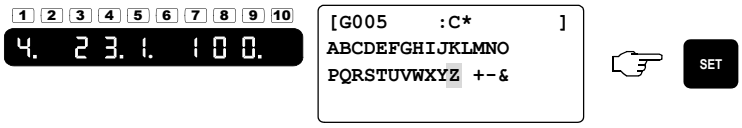
7. Setting for design name (decision of characters)



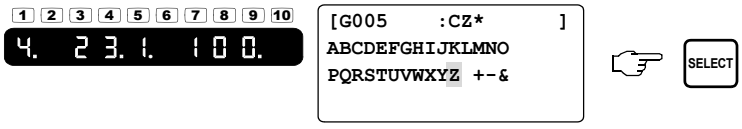
8. Setting for design name (selection of character)



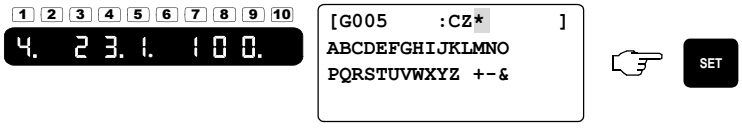
9. Setting for design name (decision of characters)



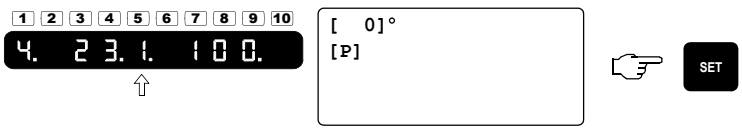
10. Setting for design name (end of selection)



11. Decision of design name



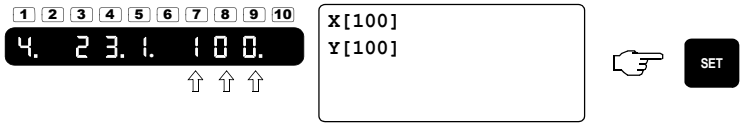
12. Decision of rotation/reversion



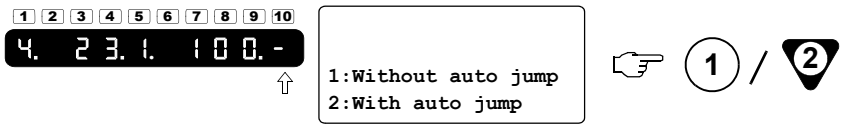
The initial value is 1: P (rotation, without reversion).

To change the setting value ⇒p.36

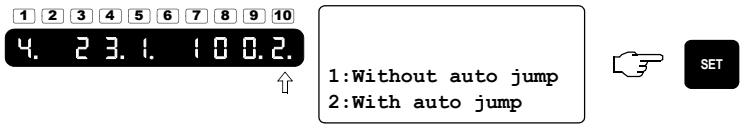
13. Decision of scale ratio



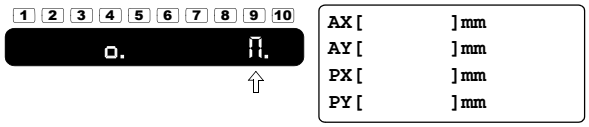
14. Selection of data set



15. Decision of data set



16. Completion



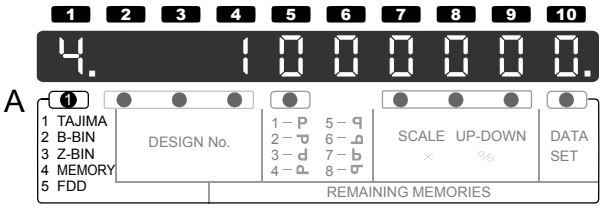
To change the setting value ⇨p.37

Detail of data set ⇨p.28

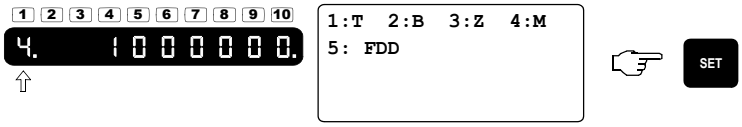
An example when selecting 2 (with auto jump)

5. DELETING MEMORY DESIGN

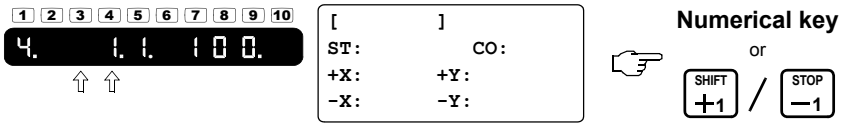
1. Move the cursor to A-(1).



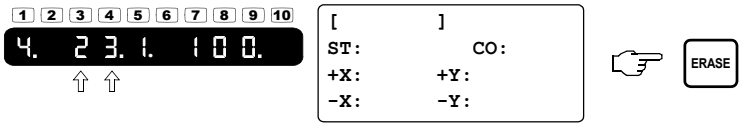
2. Decide“4: M”.



3. Selection of design number

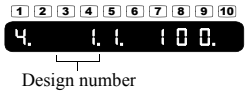


4. Selection of design deletion



The number of remaining memory stitches

1 : T (Tajima)
1 : T2 (Tajima binary)
2 : B (Barudan)
3 : Z (ZSK)
4 : M (Memory input)
5 : FDD (FD input)

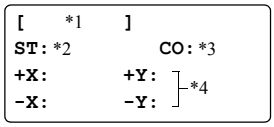


Design number

When the previously selected No. exists:The previous No. will be displayed.

When the previously selected No. does not exist:The smallest number among registered numbers will be displayed.

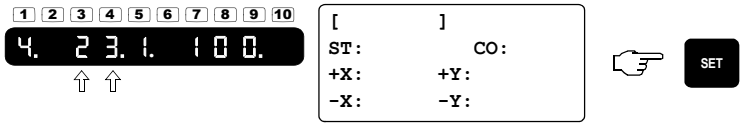
When design is not registered ⟹Code display [2bC]



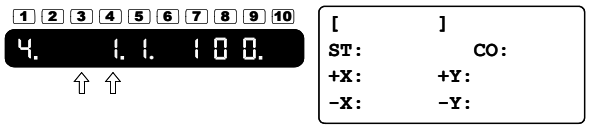
*1: Design name
*2: The number of design stitches
*3: No. of needle bar steps
*4: Maximum embroidery space

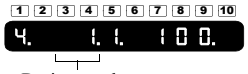
To delete all design data, input “0”.

5. Decision of design deletion



6. Completion



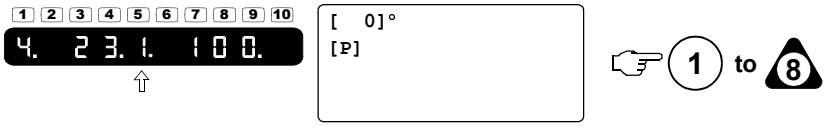


The smallest number among registered numbers will be displayed.
When all the designs are deleted, "—" will be displayed.

6. SUPPLEMENTARY EXPLANATION

SETTING OF ROTATION/REVERSION

1. Selection of rotation/reversion



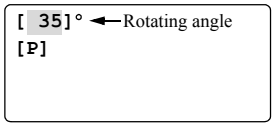
The previous set value of the design that is selected will be displayed.

1 – P 5 – ꟼ
2 – d 6 – ꟼ
3 – d 7 – ꟼ
4 – P 8 – ꟼ

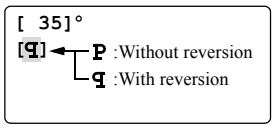
Combination of rotation, reversion (1 to 8)

To rotate in 1-degree increments, press the shift key to move the cursor to the LCD display area.

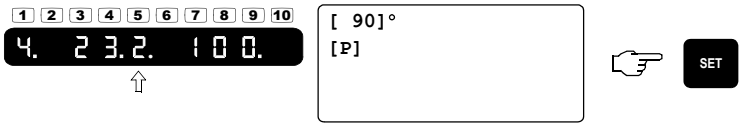
Rotating angle: numerical key + set key



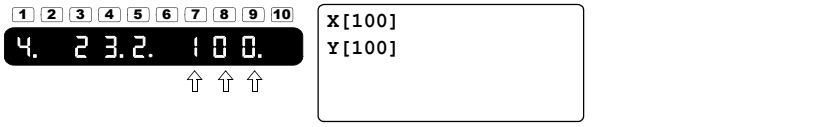
Reversion: select key + set key



2. Decision of rotation/reversion



3. End



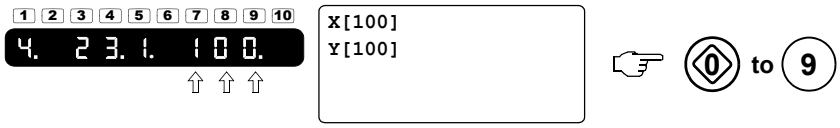
This completes the setting for rotation/reversion.

To make the setting value effect, perform data setting. p.28

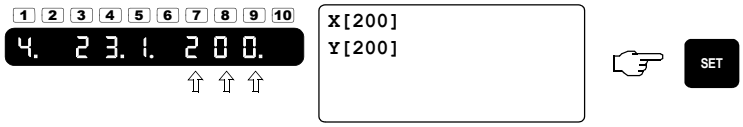
SETTING FOR SCALE RATIO

[When setting X, Y with the same scale ratio]

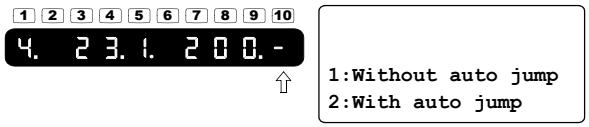
1. Setting for scale ratio



2. Decision of scale ratio



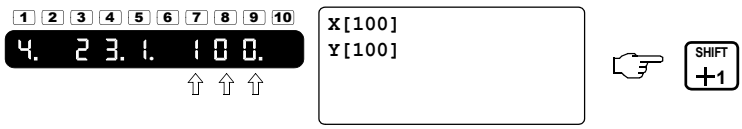
3. End



📖 Setting for scale ratio is finished.
To make the setting value effect, perform data setting. ⇒p.28

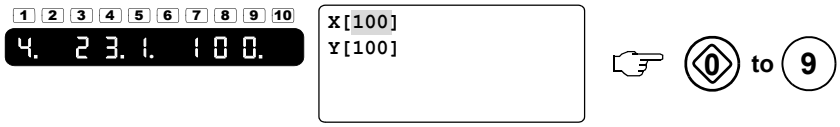
[When setting X, Y with individual scale ratio]

1. Select individual setting

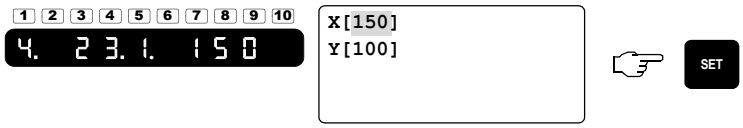


📖 During data set (memory), the previous set value of the selected design will be displayed.

2. Selection of X scale ratio

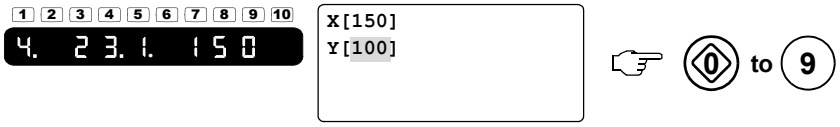


3. Decision of X scale ratio

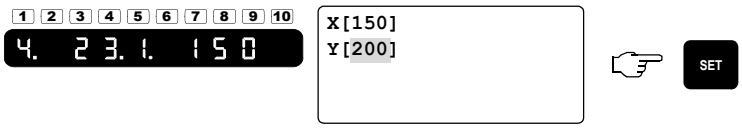


📖 An example when selecting 150 (%)

4. Selection of Y scale ratio

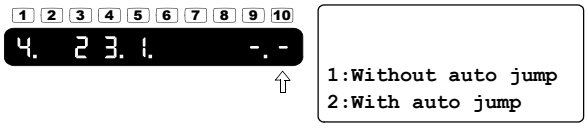


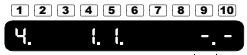
5. Decision of Y scale ratio



An example when selecting 200 (%)

6. End

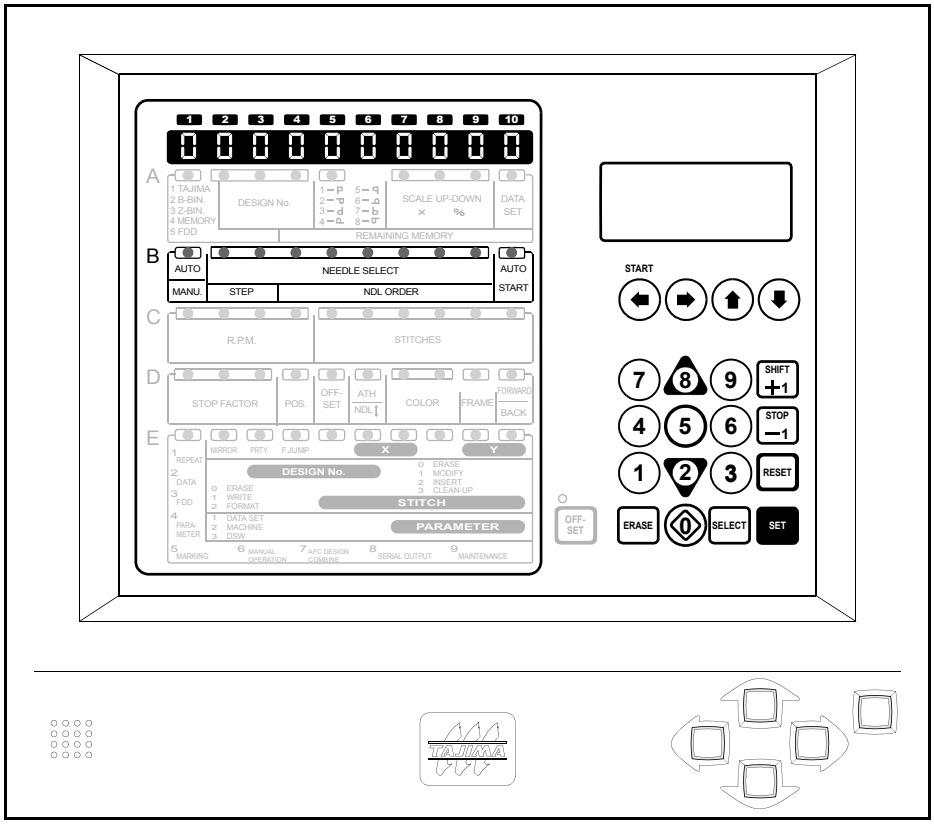




When scale ratio of X and Y is different, "—" will be displayed.

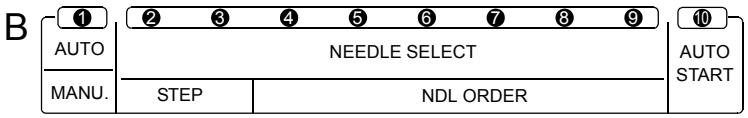
Setting for scale ratio is finished.
To make the setting value effect, perform data setting. ⇨p.28

CHAPTER 5 SETTING B



This chapter explains about color change method (automatic/manual), needle bar selection, and setting operation for automatic start.

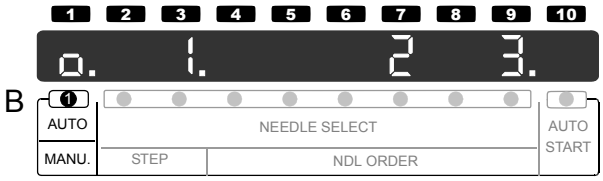
1. OPERATION PANEL



📖
❶ : Setting for color change method (automatic/manual)
❷ to ❾: Setting of needle bar selection
❿ : Setting for automatic start

2. COLOR CHANGE METHOD

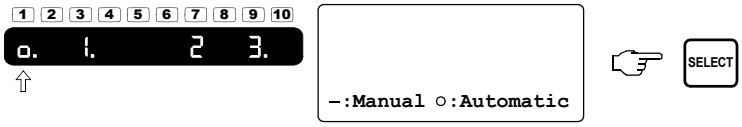
1. Move the cursor to B-❶.



📖

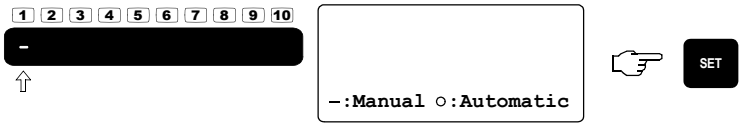

Color change method
The previous setting value will be displayed.
o : Automatic
- : Manual

2. Selection of color change method



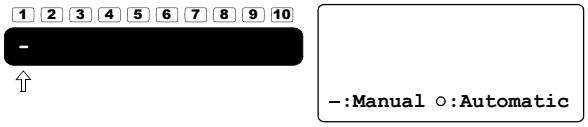
📖 Pressing the select key will switch automatic/manual.

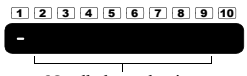
3. Decision of color change method



📖 An example when selecting – (manual)

4. Completion



📖


Needle bar selection
When “manual” is set, the column for needle bar selection will not be displayed.

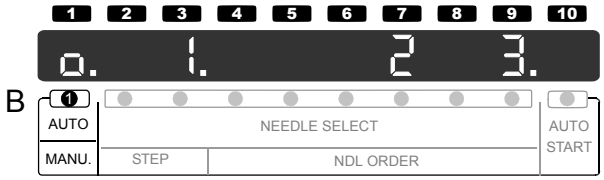
3. NEEDLE BAR SELECTION

It is a setting for sequence of needle bars to be used.

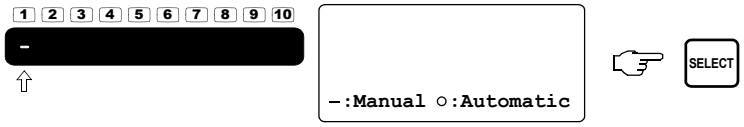
Example of setting 1

When changing order of needle bars to be used from 2, 3, 5, 10 (4 steps) to 12, 9, 8 (3 steps)

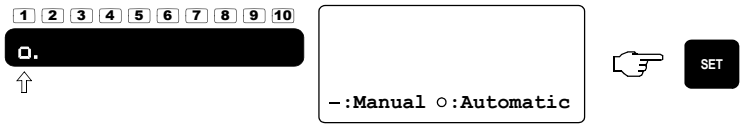
1. Move the cursor to B-❶.



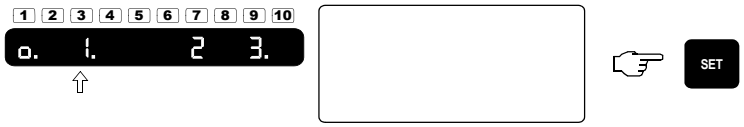
2. Select automatic color change.



3. Decision of color change method



4. Decision of step 1



5. Select

It is possible to make setting only when color change method is "automatic". ⇨p.40

Color change method

The previous setting value will be displayed.

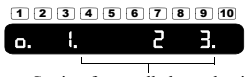
0 : Automatic
- : Manual

Pressing the select key will switch automatic/manual.

Step number

Step numbers 100 and more are displayed as shown below.

100 - 109 : A0-A9
110 - 119 : b0-b9
120 - 129 : c0-c9
130 - 139 : d0-d9
140 - 149 : E0-E9
150 - 159 : F0-F9



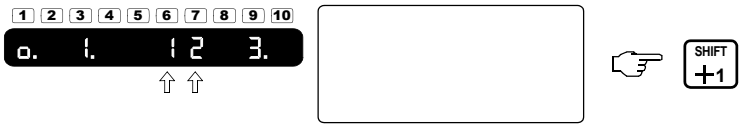
Setting for needle bar selection

The initial value of setting for needle bar selection differs depending on data input method.

How to input data	Initial value
Memory	Setting value for registered design in memory
FDD (T2)	Setting value of design in a floppy disk
FDD (T)	*1
Serial connecting	

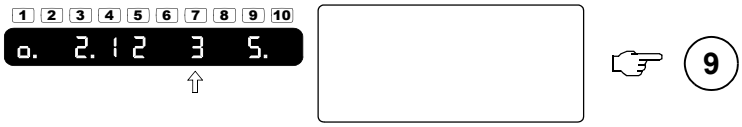
*1 : When the design of which data is set exists, the setting value for that design is applied. If not, the needle bar numbers for the number of steps will be set from needle bar No. 1 (Example: Step 1 . → Needle bar No.1, Step 2 Needle bar → No.2, Step 3 → Needle bar No.3 -).

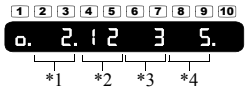
6. Move up of step



Pressing the shift key will cause needle bar number to be decided.

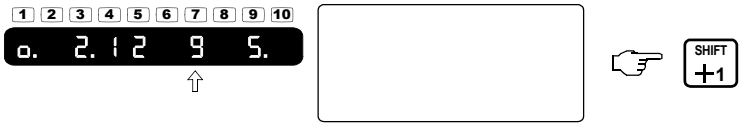
7. Selection of needle bar number of step 2



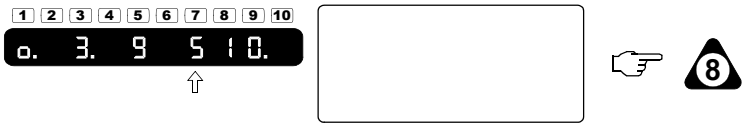


*1: Current stepNo. (step 2)
*2: Needle number of step 1
*3: Needle number of step 2
No. (the needle bar number of the current step)
*4: Needle number of step 3

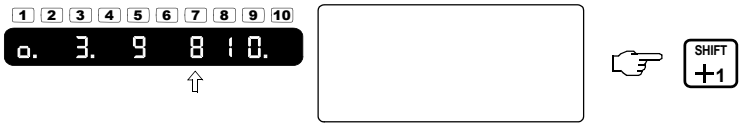
8. Move up of step



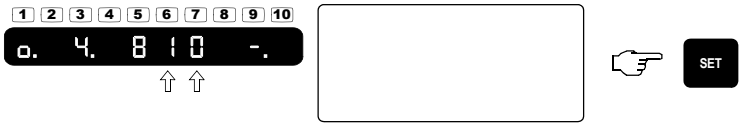
9. Input of needle bar number of step 3

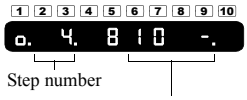


10. Move up of step



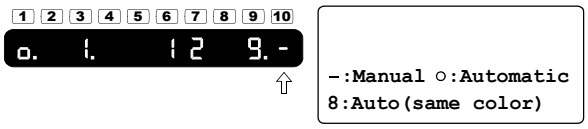
11. Deletion of needle bar setting for step 4 and after





Pressing the set key will delete all needle bar settings of step number that is displayed at that moment and after.

12. Completion

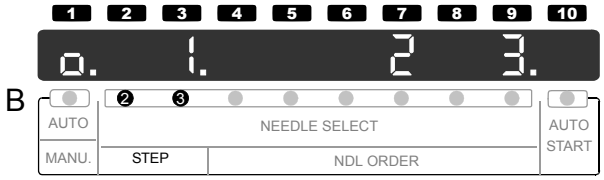


Make setting for automatic start if necessary. ⇨p.44

Example of setting2

When changing needle bar setting for step 10 from 5 to 4

13. Move the cursor to B-❷ ❸.



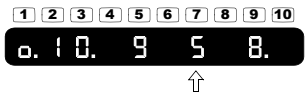
14. Select step 10

☞ 1 0

15. Decide step 10

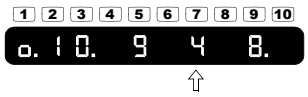
☞ SET

16. Select needle bar number 4



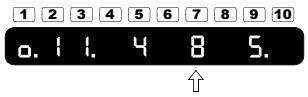
☞ 4

17. Move up of step



☞ SHIFT +1

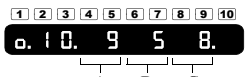
18. Completion



Step number

Step numbers 100 and more are displayed as shown below.

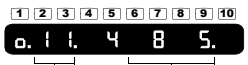
100 - 109 : A0-A9
110 - 119 : b0-b9
120 - 129 : c0-c9
130 - 139 : d0-d9
140 - 149 : E0-E9
150 - 159 : F0-F9



A B C

A: Needle bar number of step 9
B: Needle bar number of step 10
C: Needle bar number of step 11

Pressing the shift key will cause needle bar number to be decided.



Step number

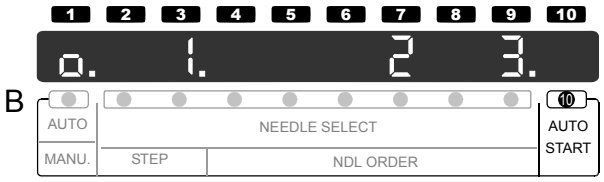
Needle bar number to be deleted

Pressing the set key will delete all needle bar settings of step number that is displayed at that moment and after.

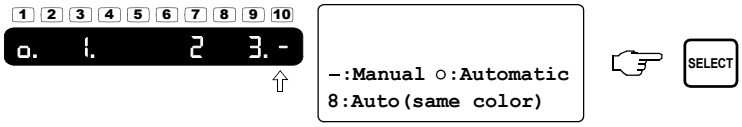
4. AUTOMATIC START

This setting makes the machine start automatically after automatic color change.

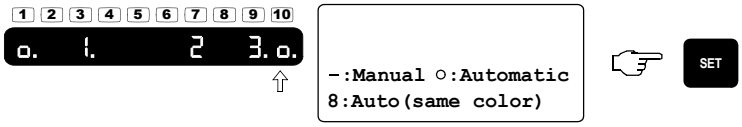
1. Move the cursor to B-⑩.



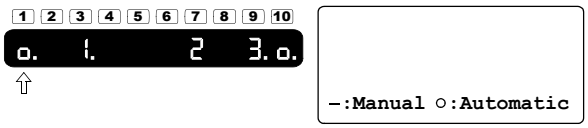
2. Select automatic start



3. Decide automatic start



4. Completion

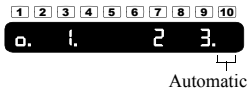


It is possible to make setting only when color change method is "automatic". ⇨p.40

- : Automatic start is not performed
o : Automatic start is performed
8 : Automatic start is performed

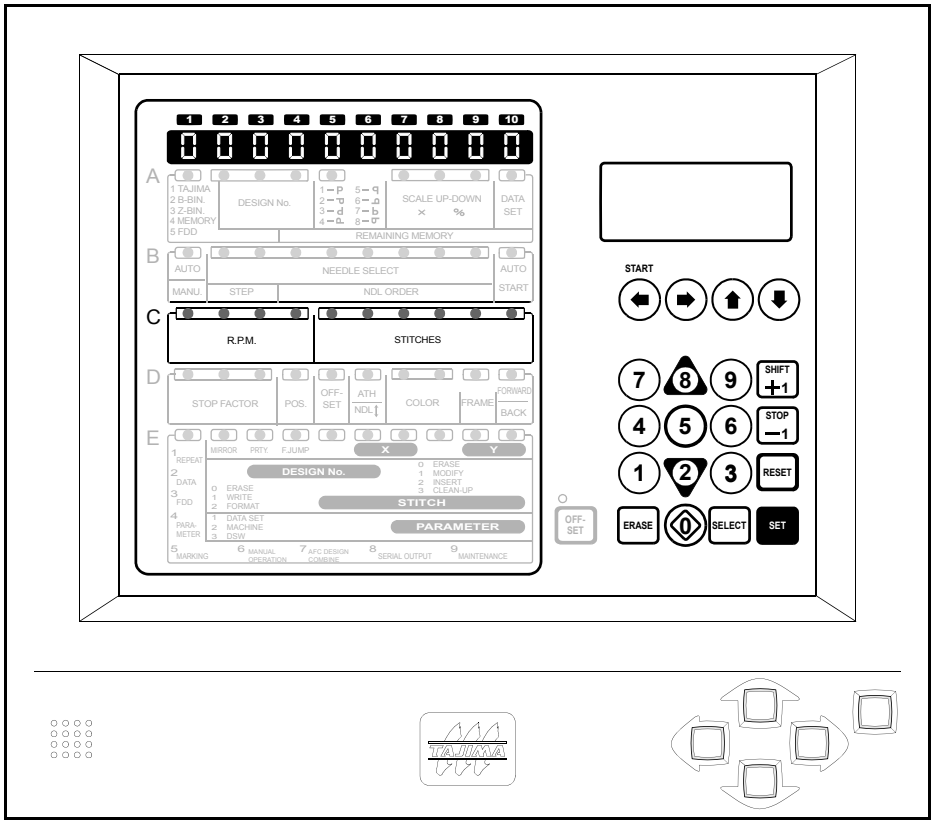
Selecting "8" will cause the machine to start automatically even if the same color is selected for needle bar selection.

Pressing the select switch will cause automatic start "to perform/not to perform" to be switched.



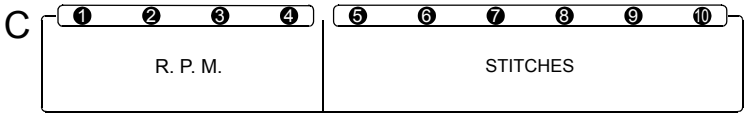
When "automatic start is not performed" is selected, it will turn off.

CHAPTER 6 SETTING C



This chapter explains about setting for the number of revolutions (rpm), resetting the number of total stitches, etc.

1. OPERATION PANEL



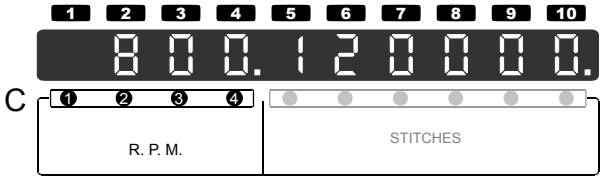
📖
❶ to ❹: Display/setting of r.p.m.
❺ to ❿: Display of the number of total stitches/ reset, confirmation of finishing rate

2. SETTING FOR THE NUMBER OF REVOLUTIONS

It sets high speed/low speed r.p.m. of the main shaft and low speed code r.p.m.

WHEN SETTING IS MADE DURING STOP OF THE MAIN SHAFT

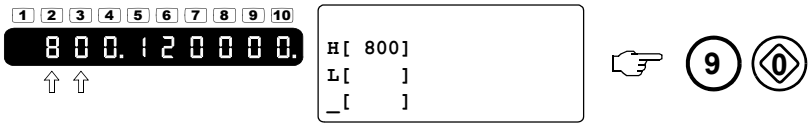
1. Move the cursor to C-❶ ❷ ❸ ❹.



📖


The current setting value is displayed

2. Selection of high speed r.p.m.



📖
```
H [ *1 ]
L [ *2 ]
_ [ *3 ]
```

*1: High speed r.p.m.
*2: Low speed r.p.m.
*3: Low Speed Code R.P.M.
Setting unit is 10rpm

📖 Display differs depending on setting for optional device.

● In case of sequin R and L

```
H [    ]
L [    ]  SQR [ *1 ]
_ [    ]  SQL [ *2 ]
```

*1: R. P. M. of sequin R (the 1st needle)
*2: R. P. M. of sequin L (the last needle)

● In case of sequin R and cording device

```
H [    ]
L [    ]  SQR [ *3 ]
_ [    ]  COD [ *4 ]
```

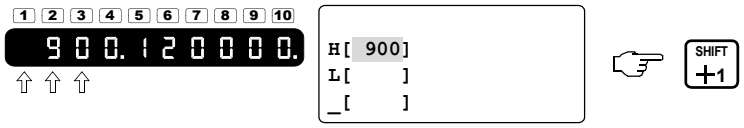
*3: R. P. M. of sequin R (the 1st needle)
*4: R. P. M. of cording device (the last needle)

● In case of boring and sequin L

```
H [    ]
L [    ]  BR  [ *5 ]
_ [    ]  SQL [ *6 ]
```

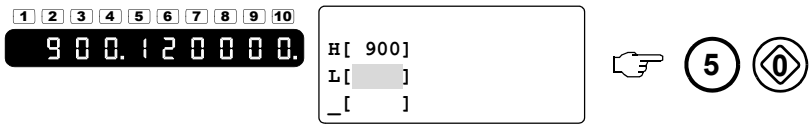
*5: R. P. M. of boring (the 1st needle)
*6: R. P. M. of sequin L (the last needle)

3. Decision of high speed r.p.m.

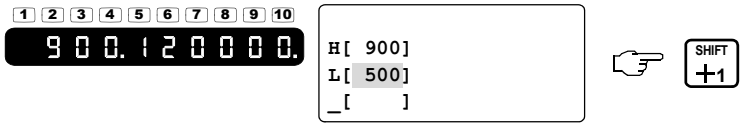


Example: 900rpm

4. Selection of low speed r.p.m.

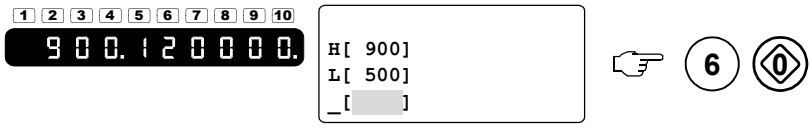


5. Decision of low speed r.p.m.

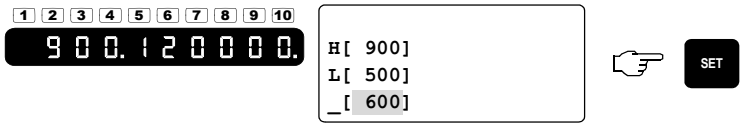


Example: 500rpm

6. Selection of low speed code r.p.m.

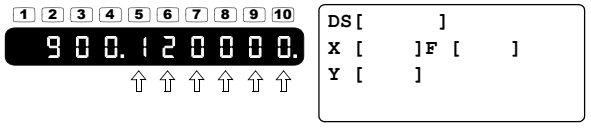


7. Decision of low speed code r.p.m.



Example: 600rpm

8. Completion

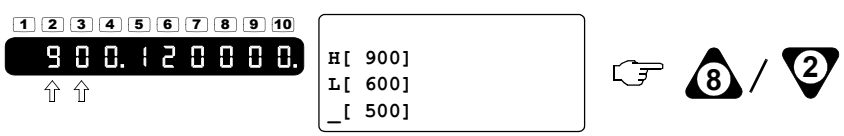


WHEN CHANGING R.P.M. DURING OPERATION

It is possible to change the setting for high speed r.p.m. by pressing the numerical switch as shown below during operation. Actual r.p.m. is also changed according to changed high speed r.p.m.

It is not possible to change the low speed r.p.m., and low speed code r.p.m.

1. Change of r.p.m.



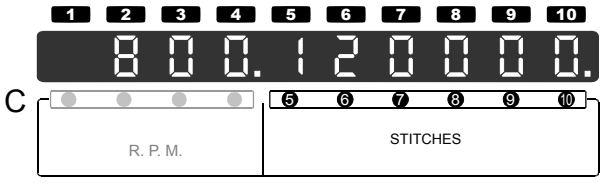
Real time display of actual r.p.m. is performed.

Setting contents of each key are as follows.

- 8 : Increasing by 10rpm
- 5 + 8 : Increasing by 50rpm
- 2 : Decreasing by 10rpm
- 5 + 2 : Decreasing by 50rpm

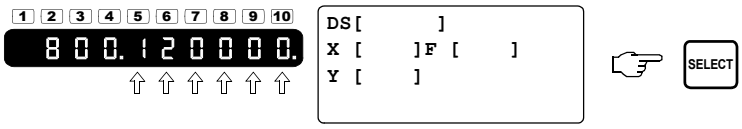
3. THE NUMBER OF EMBROIDERY STITCHES/FINISHING RATIO

1. Move the cursor to C-❺ ❻ ❼ ❽ ❾ ❿.

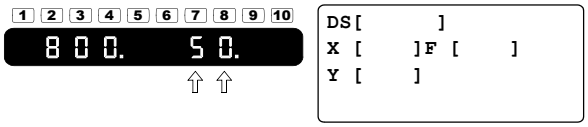


DISPLAY OF THE NUMBER OF EMBROIDERY STITCHES/FINISHING RATIO

1. Selection of finishing ratio

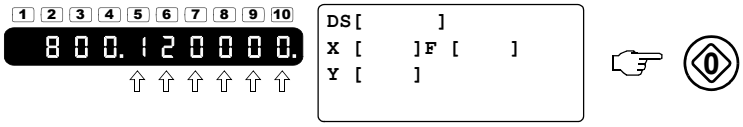


2. Completion

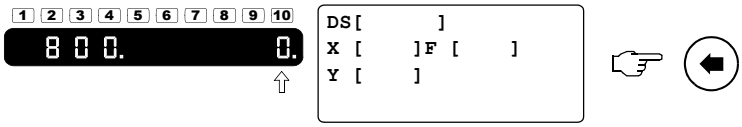


RESETTING OF THE NUMBER OF TOTAL STITCHES

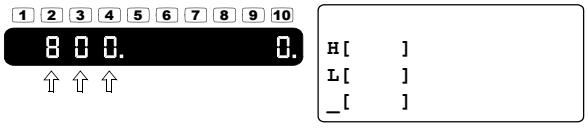
1. Selection of reset



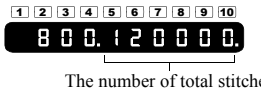
2. Decision of reset



3. Completion

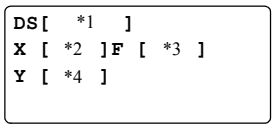


There are two types of the number of embroidery stitches. One is the number of total stitches, and another is the number of stitches of design unit.

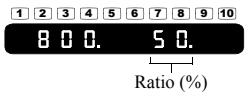


The number of total stitches up to now is displayed.

When it exceeds 999,999 stitches, it will be reset.

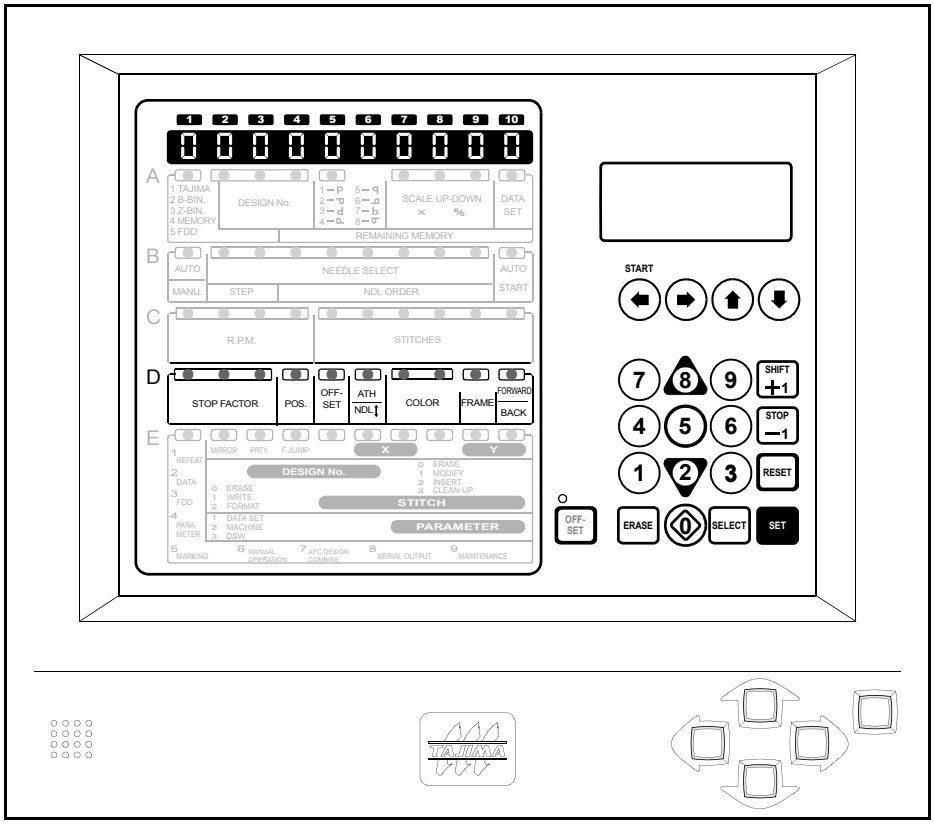


*1: The number of stitches in design unit
*2: X data
*3: Function code ⟹p.86
*4: Y data



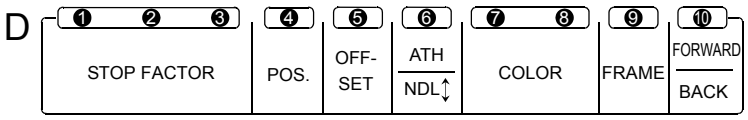
The number of stitches in design unit is not reset.

CHAPTER 7 SETTING D



This chapter explains about reset of stop factor, offset, frame back/forward, manual ATH, manual color change, and frame travel operation.

1. OPERATION PANEL

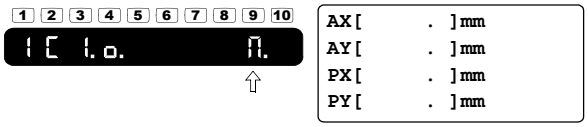


📖
❶ to ❸: Display of stop factor/reset
❹ : Display of the state of the stop of the main shaft
❺ : Offset
❻ : Manual ATH, needle bar up/down, sequin
❼❽ : Manual color change
❾ : Frame travel
❿ : Frame forward/back

2. STOP FACTOR • IN THE STATE OF THE STOP OF THE MAIN SHAFT

AT TEMPORARY STOP

Code number of stop factor will be displayed, and the column of frame travel will blink. It is possible to start the machine as it is.

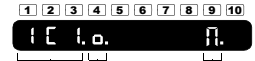


📖 Stop Factor ⇨p.148

📖 There are two types of temporary stop as described below.

1. Stop by stop factor of 100 series except "1D2"
2. Stop by stop factor "291", "293"

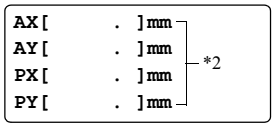
📖



In the state of the stop of the main shaft
- -: Stop position error
- o: Stop at the fixed position (*1)
- 8: Pseudo-fixed position stop (lower dead point stop)

*1: When the weak brake is turned "OFF", the display will blink.

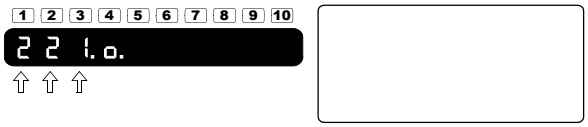
📖



*2: Frame position ⇨p.63

IN CASE OF ABNORMAL/EMERGENCY STOP

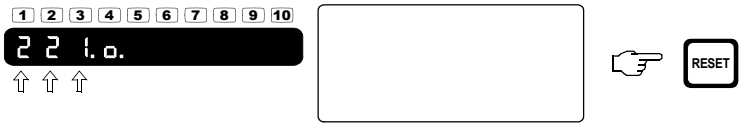
Code number of stop factor will blink to be displayed.



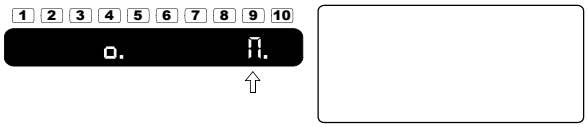
RESET OF CODE NUMBER

When abnormal/emergency stop of the machine occurred, reset the machine following the procedures below.

1. Remove the stop factor
2. Reset



3. Completion



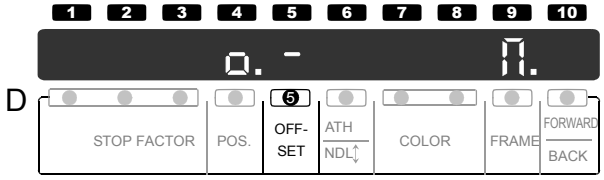
📖 When there are plural factors of abnormal and emergency stops, pressing the reset key will cause the remaining code numbers to be displayed.

3. OFFSET

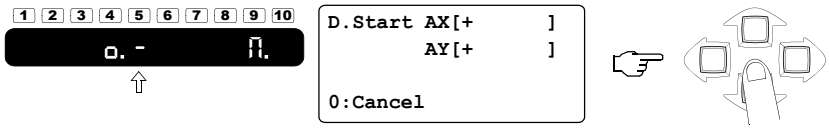
AUTOMATIC OFFSET (WITHOUT MIDDLE POSITION)

This setting makes the frame move to the offset start position automatically when the machine finishes to embroider the design to the end.

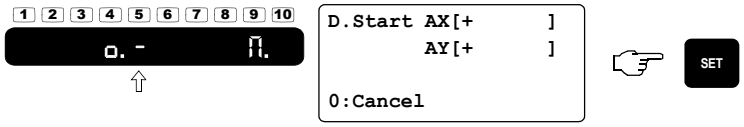
1. Move the cursor to D-⑤.



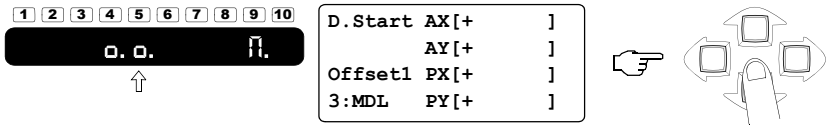
2. Move the frame to the design start position



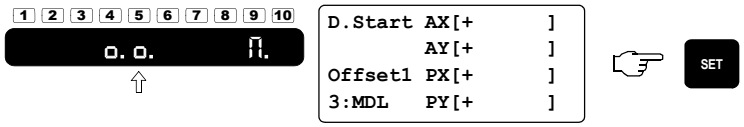
3. Decision of start position of design



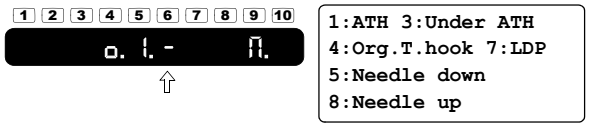
4. Move the frame to the offset start position.



5. Decision of the offset start position

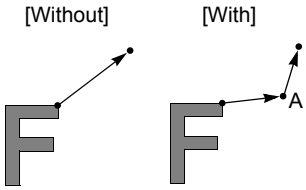


6. Completion



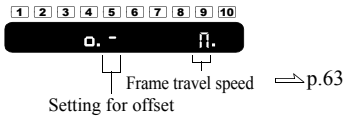
📖 Outline of offset ⇨p.136

📖 Middle position (A)



📖 The machine must be stopped at the fixed position. ⇨p.50

📖



⇨p.63

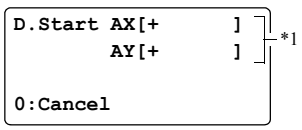
The previous set value will be displayed.

- -: Without
- 1: Performed (without middle position)
- 3: Performed (with middle position)

📖 Move the frame to start position of design.

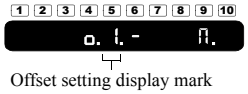
📖 It is also possible to use a jog remote-controller (option) (and so forth).

📖



*1: The current frame position will be displayed. ⇨p.63

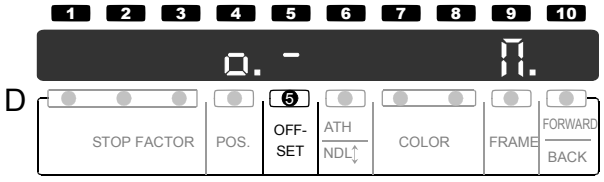
📖



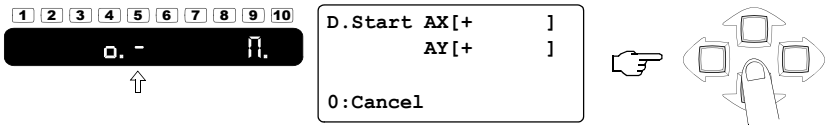
AUTOMATIC OFFSET (WITH MIDDLE POSITION)

This setting makes the frame move to the offset start position automatically through the offset middle position when the machine finishes to embroider the design to the end.

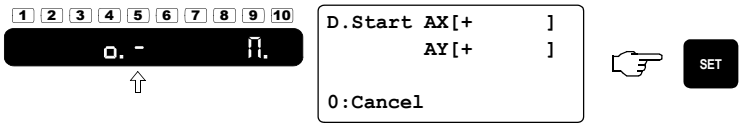
1. Move the cursor to D-⑤.



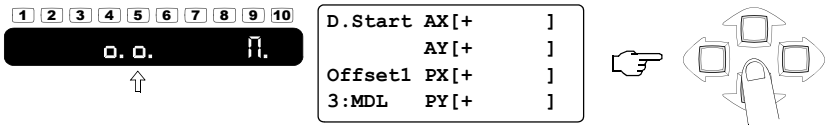
2. Move the frame to the design start position.



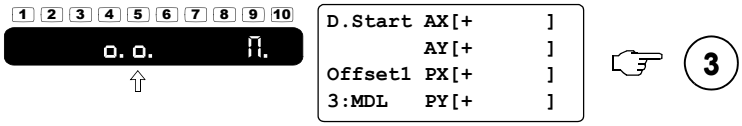
3. Decision of start position of design



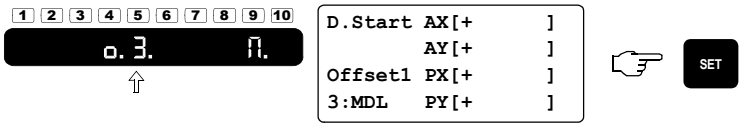
4. Move the frame to the offset middle position.



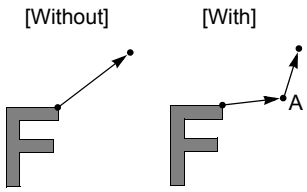
5. Select “3: Offset middle position”.



6. Decision of the offset middle position

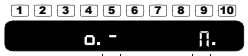


📖 Middle position (A)



📖 The machine must be stopped at the fixed position. ⇨p.50

📖



⇨p.63

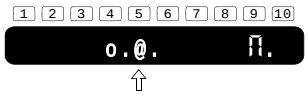
The previous set value will be displayed.

- -: Without
- 1: Performed (without middle position)
- 3: Performed (with middle position)

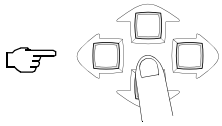
📖 Move the frame to the design start position.

📖 It is also possible to use the jog remote-controller (the same as follows).

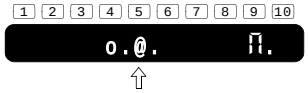
7. Move the frame to the offset start position.




```
D.Start AX[+      ]
        AY[+      ]
Offset2 PX[+      ]
        PY[+      ]
```

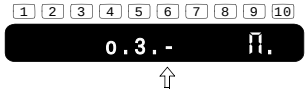


8. Decision of the offset start position

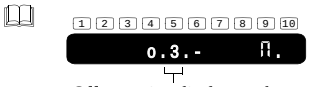



```
D.Start AX[+      ]
        AY[+      ]
Offset2 PX[+      ]
        PY[+      ]
```

9. Completion




```
1:ATH 3:Under ATH
4:Org.T.hook 7:LDP
5:Needle down
8:Needle up
```



Offset setting display mark

AUTOMATIC FREE SETTING OFFSET

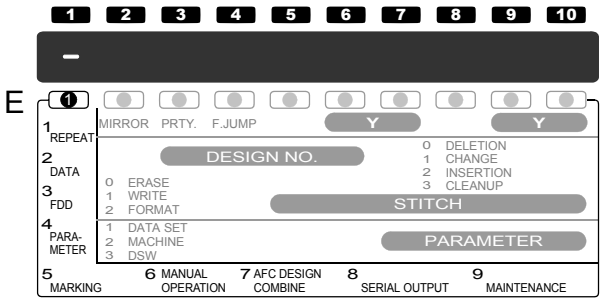
This setting makes the frame move forward automatically at the free setting point during embroidery.

Perform the following procedures to set automatic free setting offset.

1. Insert offset code by data edit.
2. Input the design data that has been edited, and perform data set.
3. Set the automatic offset.

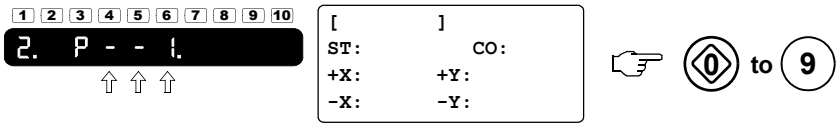
[Insertion of offset code]

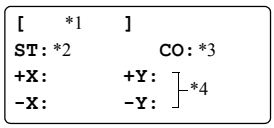
1. Move the cursor to E-(1).



2. Select “2: Data edit”.

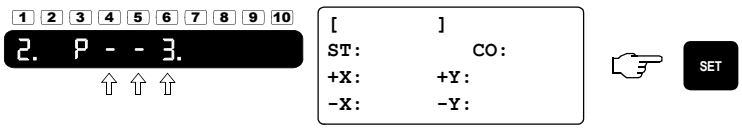
3. Selection of design number





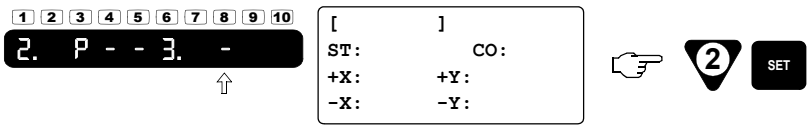
*1: Design name
*2: The number of design stitches
*3: No. of needle bar steps
*4: Maximum embroidery space

4. Decision of design number



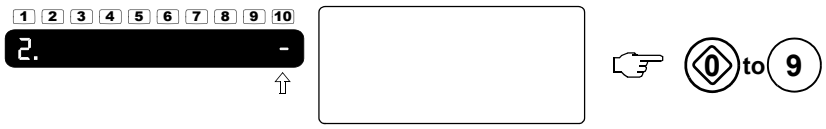
Example: No.3

5. Select “2: Insert”.



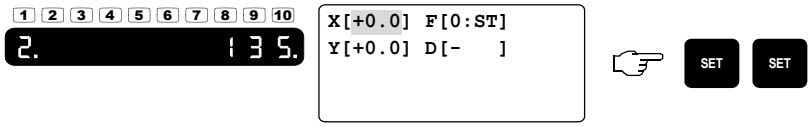
0: Delete
1: Modify
2: Insert
3: Cleanup
4: Design name change

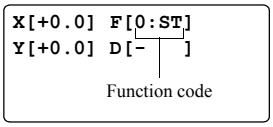
6. Selection of the target stitch to insert



7. Decision of the target stitch to insert

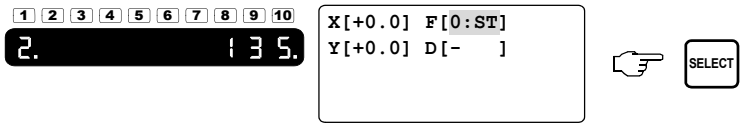
8. Select the column of function code.





The initial value is displayed as stitch data.

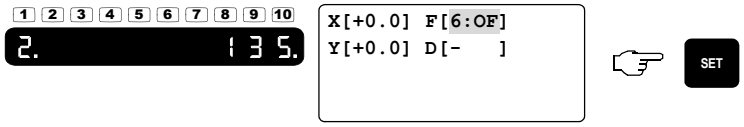
9. Select “6: Offset”.



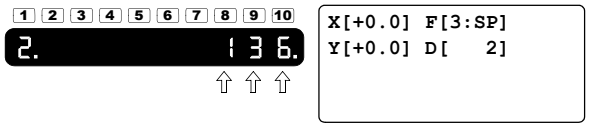
Every pressing the select key will cause function code to be switched.

Function code ⇨p.86

10. Decide “6: Offset”.



11. Completion



The value of stitch data of the 135th stitch before data insertion will be set as the value of the 136th stitch.

When inserting plural offset codes, repeat operations of 6 to 10.

[Data input (memory)]

Set the design data that has been edited.

[Setting for automatic offset]

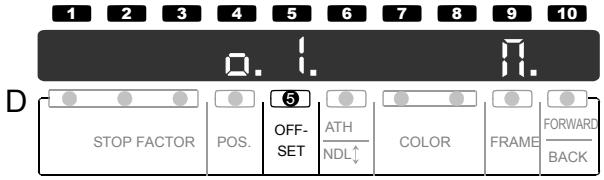
Data input ⇒p.29

Automatic offset ⇒p.51, p.52

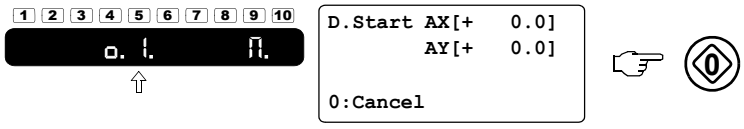
Cancel of automatic offset

Cancel the setting for automatic offset.

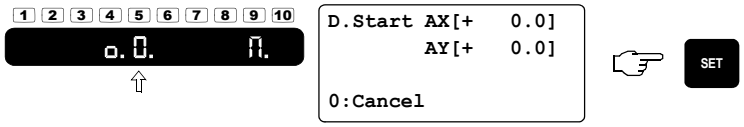
1. Move the cursor to D-⑤.



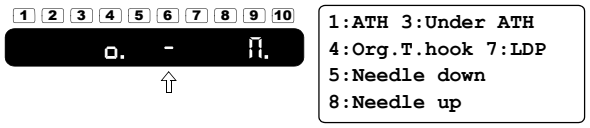
2. Select “0: Cancel”.



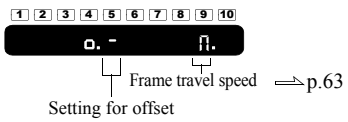
3. Decide the cancellation.



4. Completion



The machine must be stopped at the fixed position. ⇒p.50



⇒p.63

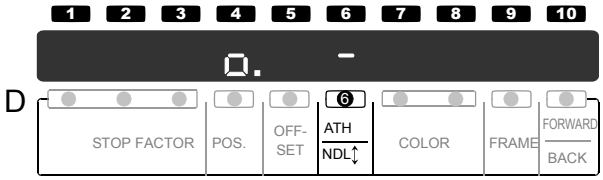
The previous set value will be displayed.

- -: Without
- 1: Performed (without middle position)
- 3: Performed (with middle position)

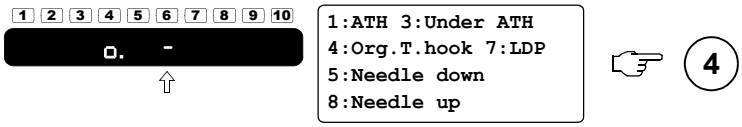
4. MANUAL UPPER THREAD HOOK RETURN

Return upper thread hook by activating pulse motor.

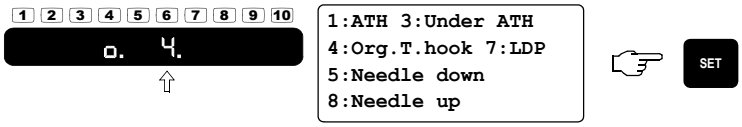
1. Move the cursor to D-⑥.



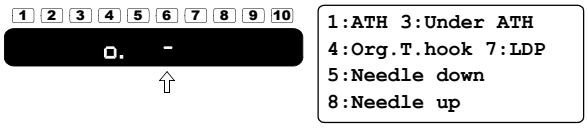
2. Select “4: Upper thread hook return”.



3. Execution of upper thread hook return



4. Completion



The machine must be stopped at the fixed position. ⇨p.50

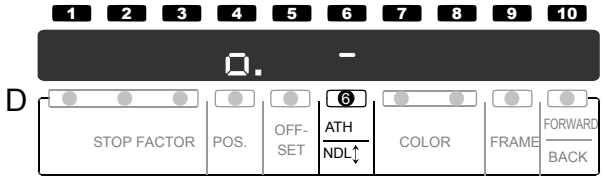
5. MANUAL STOP AT PSEUDO-FIXED POSITION

This setting lowers the needle bar to the lower dead point (the needle sticks into the lowest point).

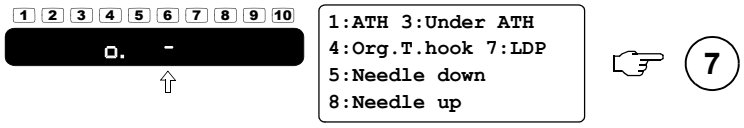
CAUTION

When performing this operation, do not put your hands, etc. under the needle or on the machine table. You could be injured by moving needle bar or frame.

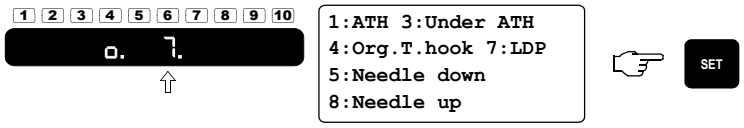
1. Move the cursor to D-⑥.



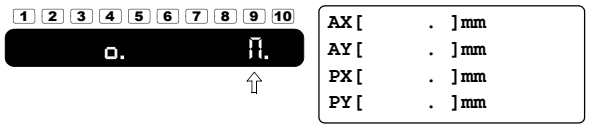
2. Selection of stop at pseudo-fixed position (lower dead point)



3. Execution of stop at pseudo-fixed position



4. Completion



7: To lower the needle bar to the lower dead point

To raise the needle bar ⇒p.61

6. MANUAL ATH

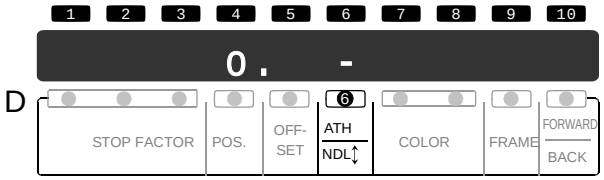
It activates ATH to perform thread trimming.

CAUTION

When performing this operation, do not put your hands, etc. under the needle or on the machine table. You could be injured by moving needle bar or frame.

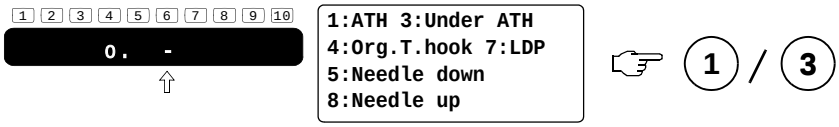
The setting for automatic thread trimming must be set to “To perform”. p.126

1. Move the cursor to D-⑥.



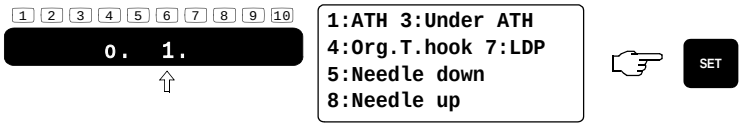
The machine must be stopped at the fixed position. p.50

2. Selection of thread trimming method

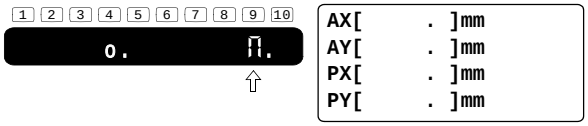


1: Upper/under thread trimming
3: Under thread trimming

3. Execution of manual ATH



4. Completion



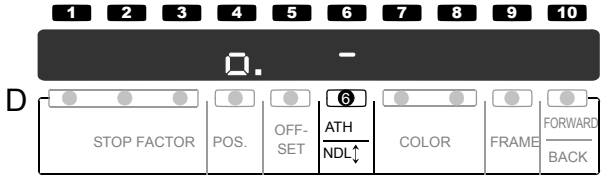
7. NEEDLE BAR UP/DOWN

Raise the needle bar.

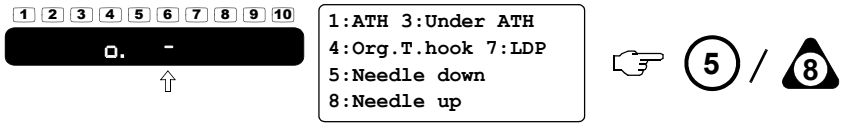
CAUTION

When performing this operation, do not put your hands, etc. under the needle or on the machine table. You could be inured by moving up/down of needle bar.

1. Move the cursor to D-⑥.

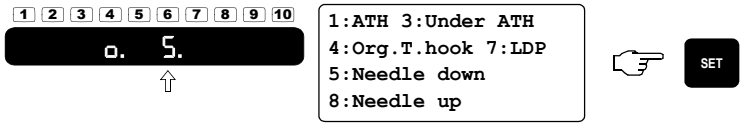


2. Selection of lowering/raising

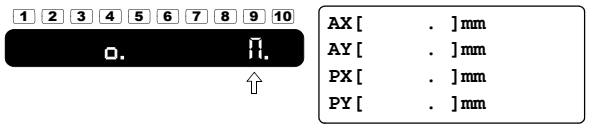


5: Lower
8: Raise

3. Execution of needle bar up/down



4. Completion



8. MANUAL COLOR CHANGE

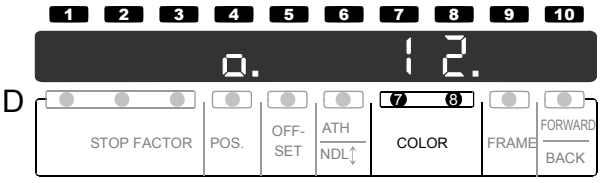
This operation makes the needle bar case slide to perform color change.

📖 To perform embroidery as manual color change is, set color change method to "manual". ⇨p.40

CAUTION

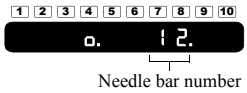
When performing this operation, do not put your hands, etc. between the first head and the color change box. You could be wedged between them to be injured.

1. Move the cursor to D-❼ ❽.



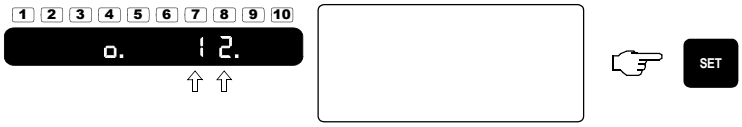
📖 The machine must be stopped at the fixed position. ⇨p.50

2. Selection of needle bar number

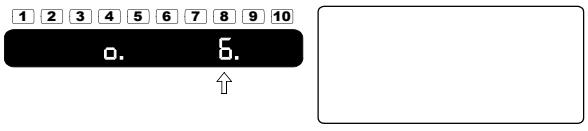
📖 

Needle bar number
The current needle bar number is displayed.

3. Execution of manual color change



4. Completion



📖 An example when selecting 6 (needle)

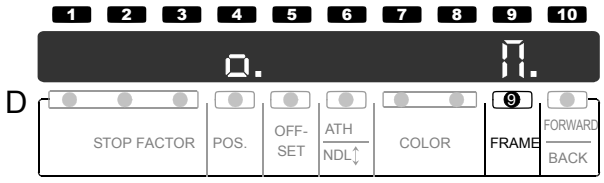
📖 The needle bar number after change will be displayed when sliding is completed.

9. FRAME TRAVEL

CAUTION

When performing this operation, do not put your hands, etc. on the machine table. You may be injured by the moving embroidery frame.

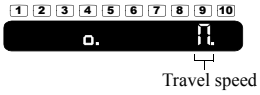
1. Move the cursor to D-⑨.



📖 The machine must be stopped at the fixed position ⇒p.50

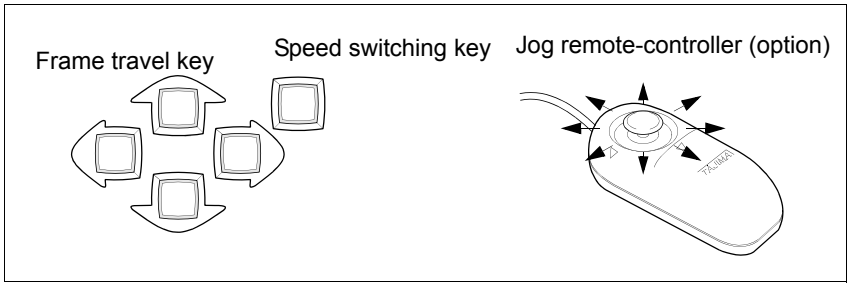
📖 When stopping the machine in the middle of embroidery, the cursor will be positioned at D-⑨. Therefore, it is unnecessary to move the cursor.

📖 The current frame travel speed will be displayed.
Low speed (L), middle speed (M))



2. Manual frame travel

The frame will move by frame travel key or jog remote-controller (option).

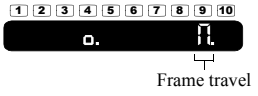


📖 When pressing the speed switching key, frame travel will become low speed (L) ◄► middle speed (M). To move the frame in high speed (H), press the frame travel key while pressing the speed switching key.

📖 To move the frame in an oblique direction, press the neighboring two keys at the same time.

📖 It is possible to use the jog remote-controller only when the cursor is positioned at the column of frame travel.

EXPLANATION OF LCD DISPLAY AREA AT FRAME TRAVEL

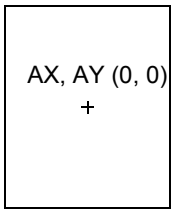



```
AX[      . ]mm
AY[      . ]mm
PX[      . ]mm
PY[      . ]mm
```

AX, AY: The current frame position assuming that the position of the absolute origin is (X, Y) = (0, 0)

PX, PY: The current frame position assuming that the design start position is (X, Y) = (0, 0)

📖 Absolute origin position: the center of embroidery space

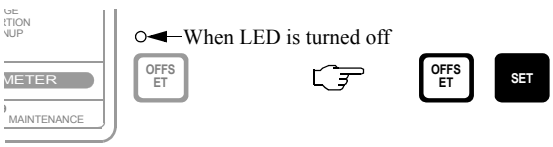


The frame will move to the offset start position during embroidery.

CAUTION

When performing this operation, do not put your hands, etc. on the machine table. You may be injured by the moving embroidery frame.

3. Execute frame travel to the offset start position



📖 Automatic offset must be set.

📖 No cursor position is required.

📖 The frame will move to the offset start position, and LED will turn on.

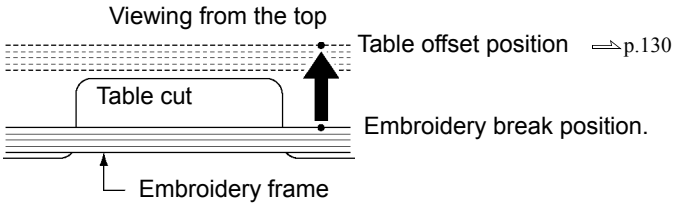
📖 When pressing the offset key and then set key with LED turned on, the frame will move to the original position.

TABLE OFFSET (SOME MODELS ONLY)

When the embroidery frame stops at the position where it rides on table-cut position (option), this operation make the frame move once to the rear (table offset position) for easier threading.

CAUTION

When performing this operation, do not put your hands, etc. on the machine table. You may be injured by the moving embroidery frame.



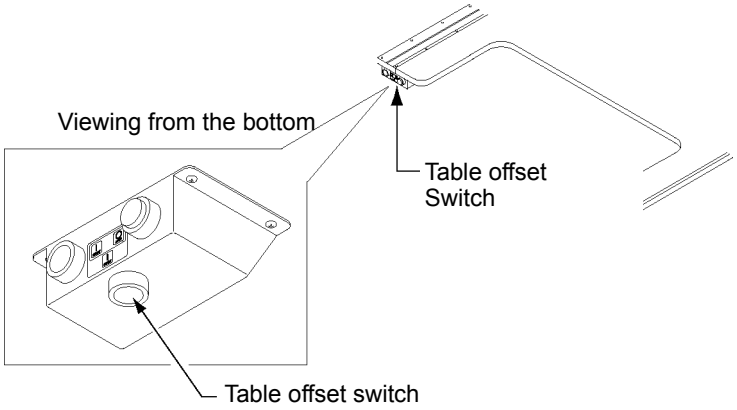
Pressing the table-offset switch that is attached under the table will cause the frame to move to the table offset position. Movement of the frame differs depending on operating method of the machine.

[WHEN THE FRAME IS POSITIONED AT EMBROIDERY BREAK POSITION]

- Press the table offset switch and release it immediately.
  Embroidery break position. → Table offset position
- Press the table offset switch for two seconds or more.
  After performing thread trimming, it will move to embroidery interrupted position → Table offset position

[WHEN THE FRAME IS POSITIONED AT TABLE OFFSET POSITION]

- Press the table offset switch. Or perform manual offset (P.66).
  Table offset position → Embroidery break position
- Start the machine by the bar switch or the start switch.
  Table offset position → Embroidery break position → Start



If the current frame position is farther from the front than the table offset position, the machine will not move.

If operating the bar switch or the start/stop switch at the table offset position, the machine will start or perform frame back/forward after moving to embroidery break position.

Setting for table offset position p.130

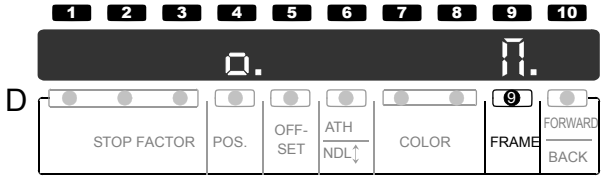
MANUAL ORIGIN RETURN

The frame will move to the origin.

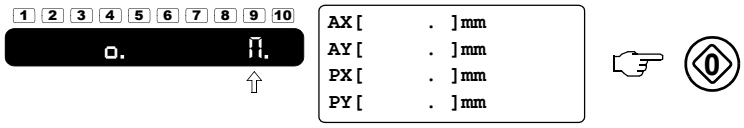
CAUTION

When performing this operation, do not put your hands, etc. on the machine table. You may be injured by the moving embroidery frame.

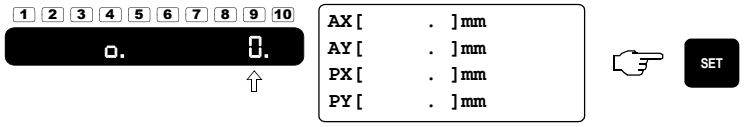
1. Move the cursor to D-⑨.



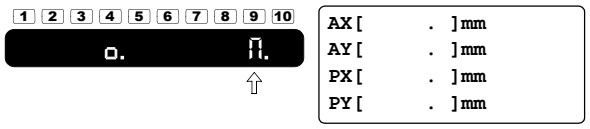
2. Select “0: Manual origin return”



3. Execution of manual origin return



4. Completion

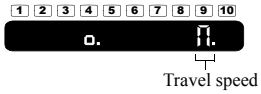


Origin: The position where the machine starts or performs frame forward at the beginning after data set. When automatic offset is set, the offset start position will become the origin.

The machine must be stopped at the fixed position. ⇒p.50

The current frame travel speed will be displayed.

Low speed (L), middle speed (n))



- 0: Manual origin return
- 1: Manual offset
- 3: Move the frame to the design start position
- 7: Trace
- 9: Power resume

MANUAL OFFSET

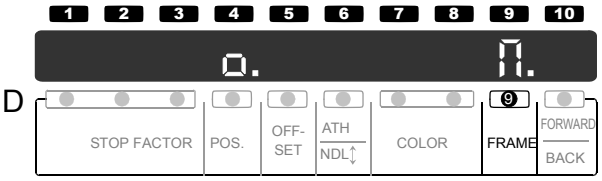
Retune the frame to the position prior to manual frame travel.

Manual offset ⇨p.136

CAUTION

When performing this operation, do not put your hands, etc. on the machine table. You may be injured by the moving embroidery frame.

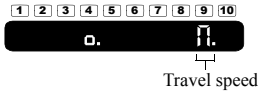
1. Move the cursor to D-⑨.



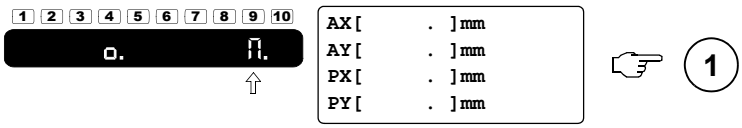
The machine must be stopped at the fixed position. ⇨p.50

The current frame travel speed will be displayed.

Low speed (L), middle speed (⊓)

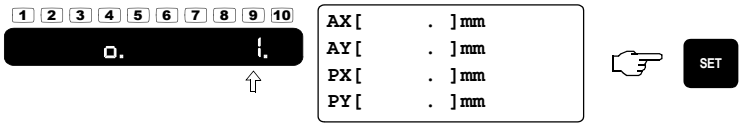


2. Select “1: Manual offset”.

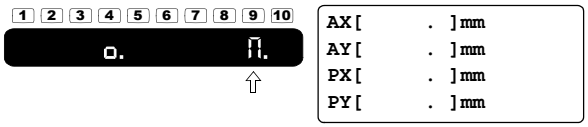


0: Manual origin return
1: Manual offset
3: Move the frame to the design start position
7: Trace
9: Power resume

3. Execution of manual offset



4. Completion



MOVE THE FRAME TO THE DESIGN START POSITION

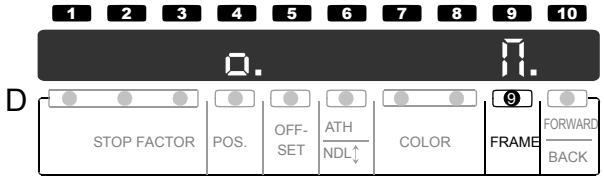
Move the frame to the design start position.

📖 This machine has memorized the start position of every design that was embroidered. p.134

CAUTION

When performing this operation, do not put your hands, etc. on the machine table. You may be injured by the moving embroidery frame.

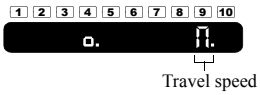
1. Move the cursor to D-⑨.



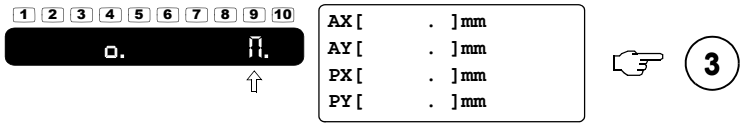
📖 The machine must be stopped at the fixed position. p.50

📖 The current frame travel speed will be displayed.

Low speed (L), middle speed (n)

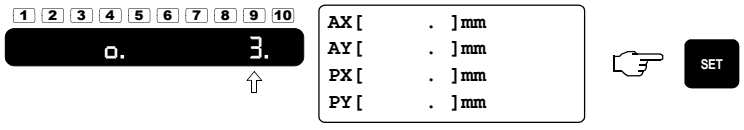


2. Select “3: Design start position”.

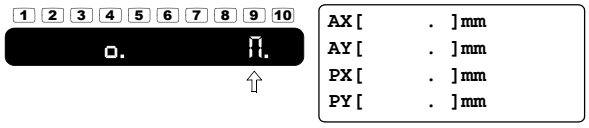


📖
- 0: Manual origin return
- 1: Manual offset
- 3: Move the frame to the design start position
- 7: Trace
- 9: Power resume

3. Execution of frame travel



4. Completion



TRACE

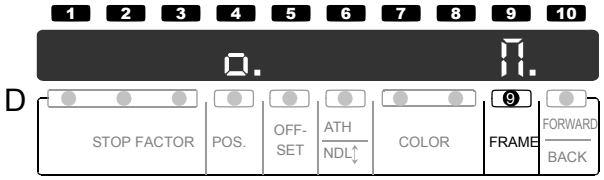
The frame will move along with the outer circumference of the design.

Trace ⇨p.139

CAUTION

When performing this operation, do not put your hands, etc. on the machine table. You may be injured by the moving embroidery frame.

1. Move the cursor to D-⑨.

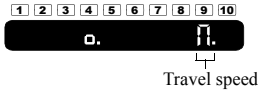


The machine will memorize the frame position after tracing as the start position of the design.

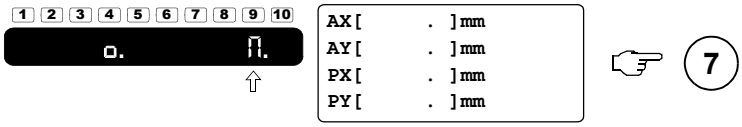
The machine must be stopped at the fixed position. ⇨p.50

The current frame travel speed will be displayed.

Low speed (L), middle speed (M)

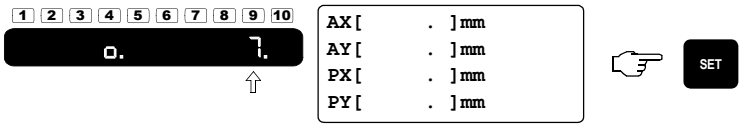


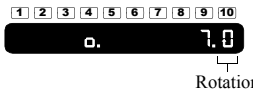
2. Select “7: Trace”.



0: Manual origin return
1: Manual offset
3: Move the frame to the design start position
7: Trace
9: Power resume

3. Execution of trace

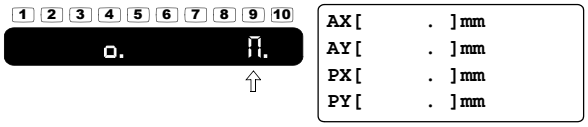




Rotating display is performed during tracing and the beeper sounds.

To cancel tracing, press the bar switch/stop switch to stop the frame, and then press the stop key.
In addition, pressing the set key after stop of the frame will continue tracing.

4. Completion



POWER RESUME

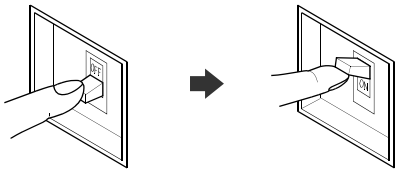
When embroidery was interrupted by power shut off or the emergency stop switch, this operation will return the frame to position prior to the interrupted position to prevent design displacement.

CAUTION

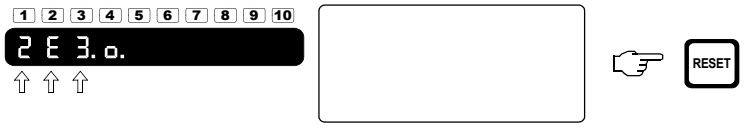
When performing this operation, do not put your hands, etc. on the machine table. You may be injured by the moving embroidery frame.

There may be some cases where the frame moves forward by some stitches depending on design data to use. Continue to perform embroidery after performing frame back according to need.

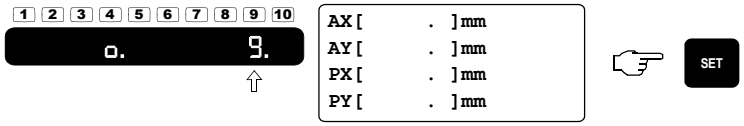
1. Turn on the power switch again.



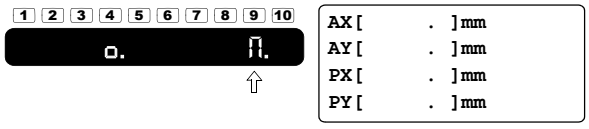
2. Reset of code number



3. Execution of power resume



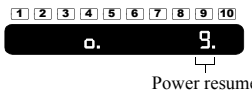
4. Completion



Absolute origin search must be performed. ⇒p.65

When the machine was stopped by the emergency stop switch, release the lock and then turn on the power switch again. ⇒p.16

The machine must be stopped at the fixed position. ⇒p.50

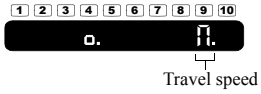


"Power resume" will be selected automatically.

The frame will return to the interrupted position through the position of the absolute origin.

The current frame travel speed will be displayed.

Low speed (L), middle speed (n)

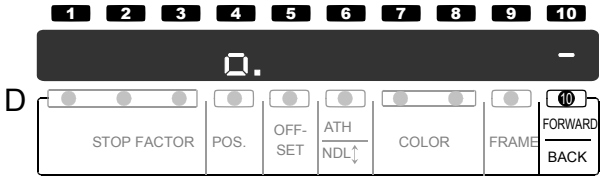


10. FRAME BACK/FRAME FORWARD

SWITCHING OF FRAME BACK/FORWARD

Frame back:
To move the embroidery frame only to the returning direction of stitches with the needle bar(s) stopped
Frame forward:
To move the embroidery frame only to the advancing direction of stitches with the needle bar(s) stopped

1. Move the cursor to D-10.



The machine must be stopped at the fixed position ⇒p.50

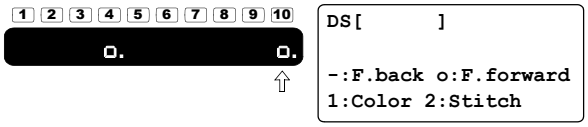
2. Selection of F.B/F.F

-: Frame back
o: Frame forward
It will be switched by pressing the select key.

3. Decision of F.B/F.F.

Example: F.F

4. Completion

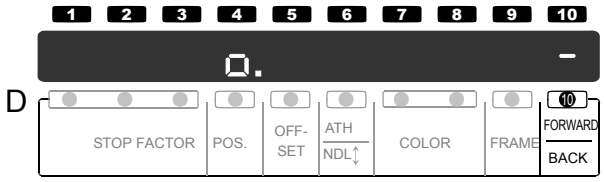


FRAME BACK/FORWARD BY COLOR CHANGE CODE

CAUTION

When performing this operation, do not put your hands, etc. on the machine table. You may be injured by the moving embroidery frame.

1. Move the cursor to D-10.



The machine must be stopped at the fixed position. ⇒p.50

2. Selection of F.B/F.F

F.B/F.F ⇒p.70

3. Decision of F.B/F.F.

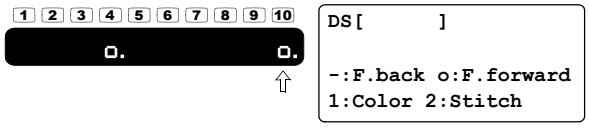
Example: F.F

4. Select “1: F.B/F.F. by color change code”.

5. Execution of F.B/F.F. by color change code unit

Rotating display is performed during data processing and the beeper sounds. F.B/F.F. will be performed after data processing.

6. Completion

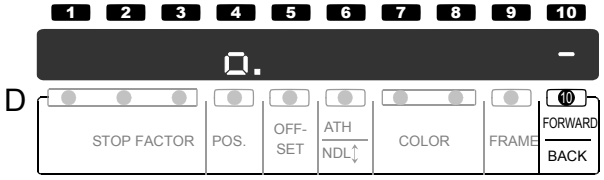


FRAME BACK/FORWARD BY SPECIFYING THE NUMBER OF STITCHES

CAUTION

When performing this operation, do not put your hands, etc. on the machine table. You may be injured by the moving embroidery frame.

1. Move the cursor to D-⑩.



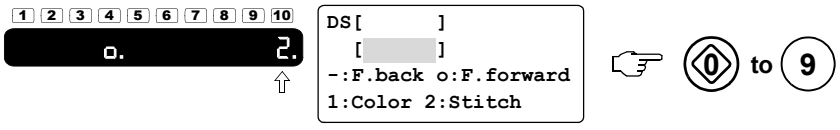
2. Selection of F.B/F.F

3. Decision of F.B/F.F.

4. Select “2: F.B/F.B by the specified number of stitches”.

5. Decision of F.B/F.F. by the specified number of stitches

6. Specify the number of stitches.



📖 When specifying the number of stitches that exceeds the number of total stitches of design whose data is set, the machine will perform F.B/FF. to the top of the design (F. B) or to the end code (F. F).

📖 The machine must be stopped at the fixed position. ⇨p.50

📖 F.B/F.F ⇨p.70

📖 Example: F.F

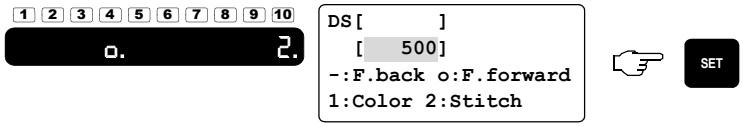
📖

```
DS[   *1   ]
  [   *2   ]
```

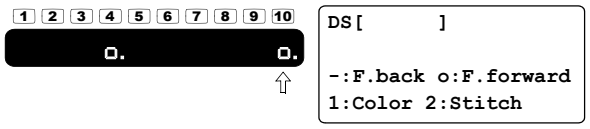
*1: The current number of stitches

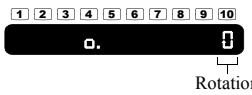
*2: Column of the specified number of stitches

7. Execution of F.B/F.F



8. Completion





Rotating display is performed during data processing and the beeper sounds. F.B/F.F. will be performed after data processing.

11. SEQUIN DEVICE UP/DOWN

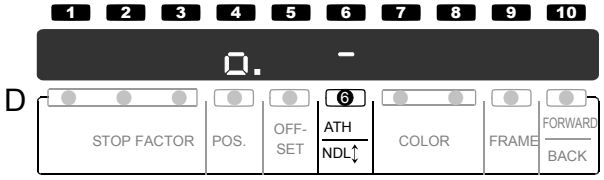
It makes the sequin device (option) lower.

📖 Setting for SW27-6 “Sequin” must be set to “equipped”. ⇨p.146

CAUTION

When performing this operation, do not put your hands, etc. under the needle or on the machine table. If your hands are under the needle or on the machine table, you may be injured by the moving sequin device.

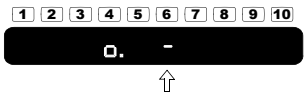
1. Move the cursor to D-⑥.



📖 The machine must be stopped at the fixed position.

📖 Needle position must be sequin needle

2. Selection of lowering/raising

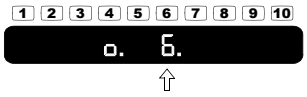



```
1:ATH 3:Under ATH
4:Org.T.hook 7:LDP
5:NDL down 6:SQ down
8:NDL up   9:SQ up
```

☞ ⑥ / ⑨

📖 6: Lower
9: Raise

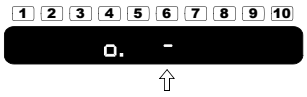
3. Execution of sequin device up/down




```
1:ATH 3:Under ATH
4:Org.T.hook 7:LDP
5:NDL down 6:SQ down
8:NDL up   9:SQ up
```

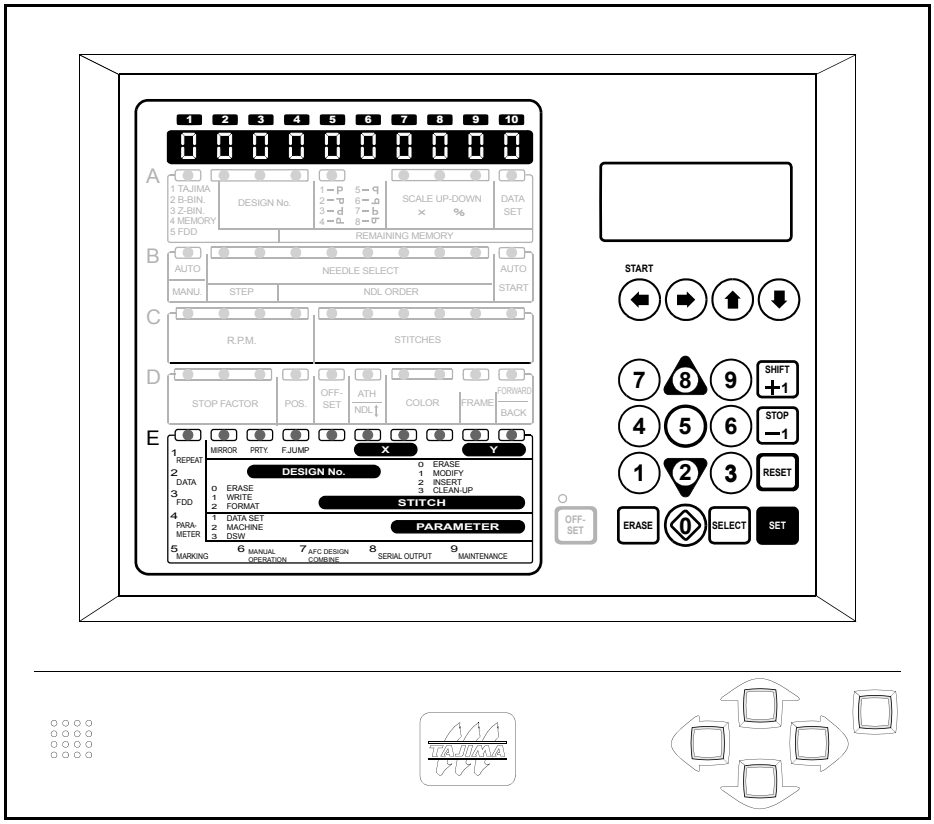
☞ SET

4. Completion




```
1:ATH 3:Under ATH
4:Org.T.hook 7:LDP
5:NDL down 6:SQ down
8:NDL up   9:SQ up
```

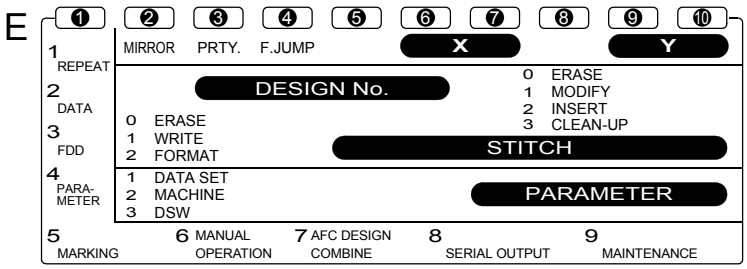
CHAPTER 8 SETTING E



This chapter explains about repeat, data edit, floppy disk processing, marking, manual operation, serial output operation.

Regarding the parameter setting, it is explained in the chapter 9.

1. OPERATION PANEL



📖

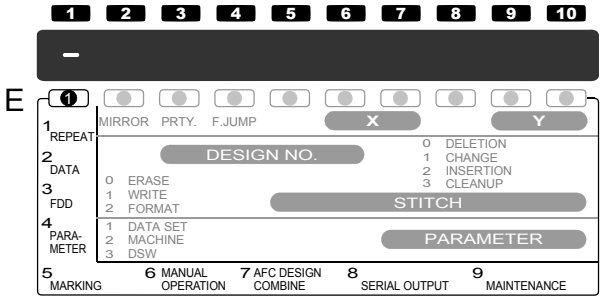
❶ : Selection of setting item
1. Repeat
2. Data edit
3. Floppy disk processing
4. Parameter setting
5. Marking
6. Manual operation
8. Serial output
9. Maintenance

❷ to ❿: Detailed setting for above setting item

📖 Regarding the parameter setting, it is explained in the chapter 9.

2. REPEAT

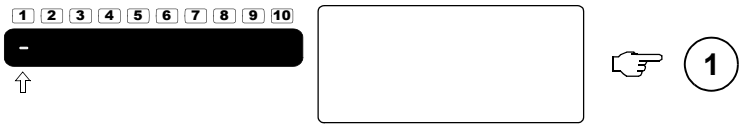
1. Move the cursor to E-❶.



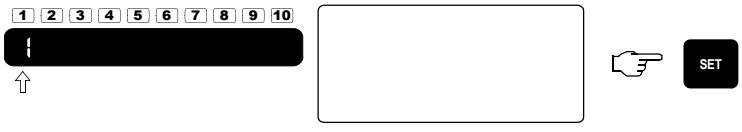
📖 Outline of repeat ⇨p.135

📖 Color change and start method must be set to automatic. ⇨p.40, p.44

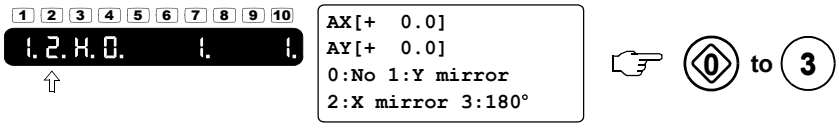
2. Select “1: Repeat”.



3. Decide “1: Repeat”.



4. Selection of arranging mode



📖
- 0: No conversion
- 1: Y-axis mirror
- 2: X-axis mirror
- 3: 180° rotation

The previous setting value of the design being selected will be displayed

📖 Converted arrangement ⇨p.135

5. Decision of arranging mode


```
AX[+  0.0]
AY[+  0.0]
0:No 1:Y mirror
2:X mirror 3:180°
```

Example: No conversion

6. Selection of priority direction


```
AX[+  0.0]
AY[+  0.0]

H:X Y:Y
```

H : Priority to X
Y : Priority to X

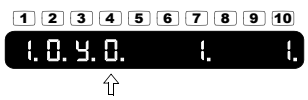
7. Decision of priority direction


```
AX[+  0.0]
AY[+  0.0]

H:X Y:Y
```

Example: Y(direction priority)

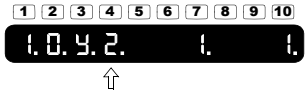
8. Selection of design interval function




```
AX[+  0.0]
AY[+  0.0]
0:Stitch
2:F.stepping
```

0: Stitch
2: Frame stepping
The previous setting value of the design being selected will be displayed.

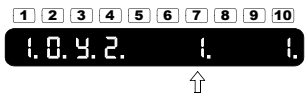
9. Decision of design interval function




```
AX[+  0.0]
AY[+  0.0]
```

Example: 2 (Frame stepping)

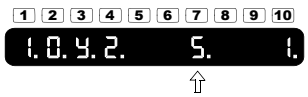
10. Selection of the number of repeats in X direction




```
AX[+  0.0]
AY[+  0.0]
```

Setting range:0 (infinite) /1 to 99

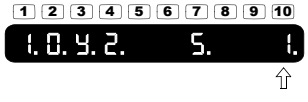
11. Decision of the number of repeats in X direction




```
AX[+  0.0]
AY[+  0.0]
```

Example: 5 (times)

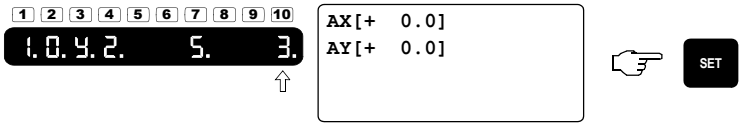
12. Selection of the number of repeats in Y direction




```
AX[+  0.0]
AY[+  0.0]
```

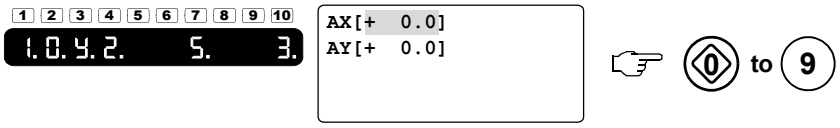
Setting range:0 (infinite) /1 to 99

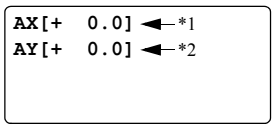
13. Decision of the number of repeats in Y direction



Example: 3 (times)

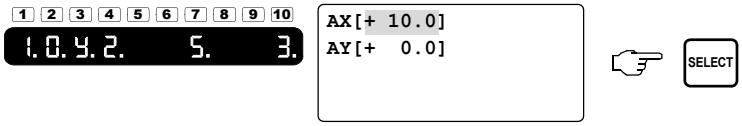
14. Selection of design interval amount in X direction





*1: Design interval in X direction
*2: Design interval amount in Y direction
Setting range: 0.1 to 999.9(mm)

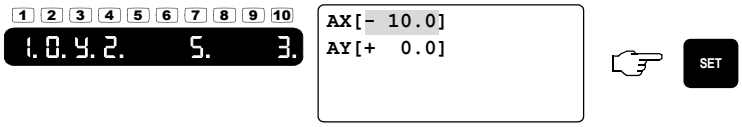
15. Selection of repeat direction (X)



- : Left
+ : Right
The symbol of design interval amount will be switched.

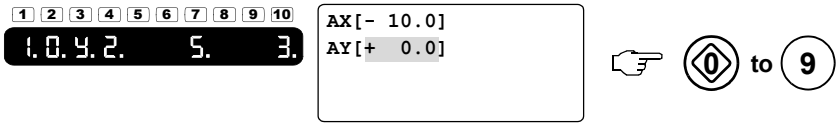
Example: 10 (mm)

16. Decision of repeat direction (X)



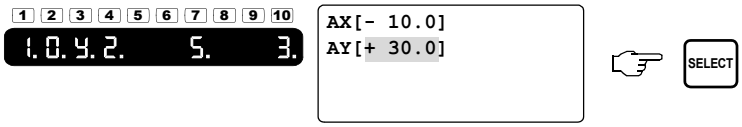
Example: Left direction

17. Selection of design interval amount in Y direction



Setting range: 0.1 to 999.9 (mm)

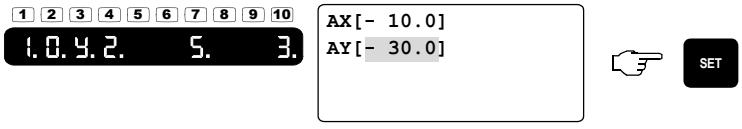
18. Selection of repeat direction (Y)



- : Front
+ : Rear
The symbol of design interval amount will be switched.

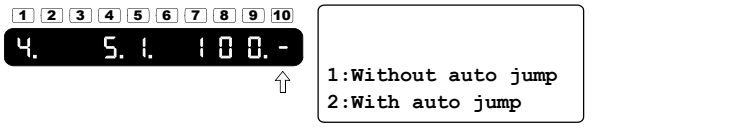
Example: 30 (mm)

19. Decision of repeat direction (Y)



Example: Front direction

20. Completion



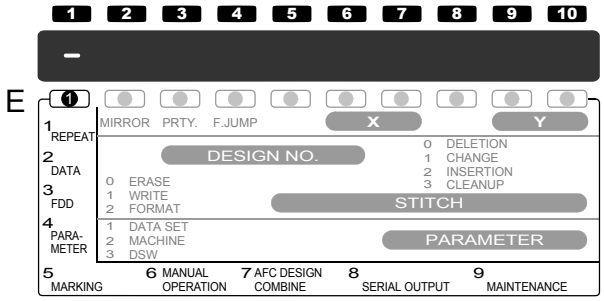
Perform data set.
1: Without auto jump
2: With auto jump

3. DATA EDIT

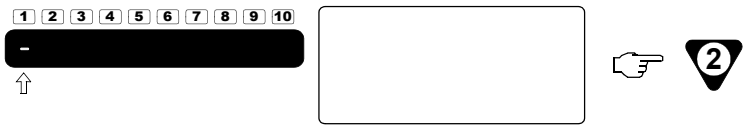
MODIFICATION

Modify stitch data by 1 stitch unit.

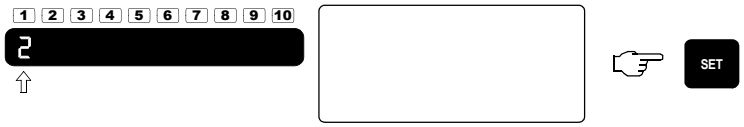
1. Move the cursor to E-①.



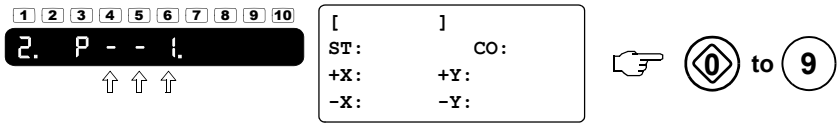
2. Select “2: Data edit”.

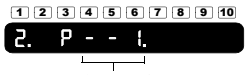


3. Decide “2: Data edit”.



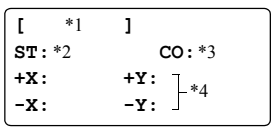
4. Selection of design number





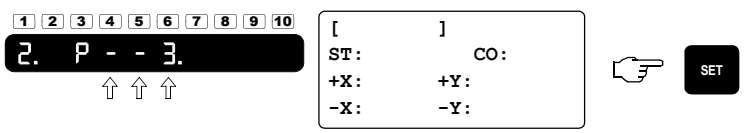
Design number

The smallest number among registered numbers will be displayed.



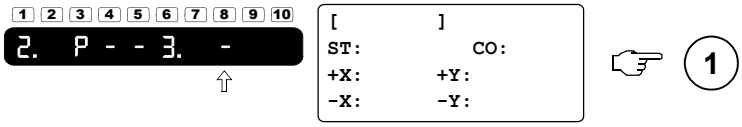
*1: Design name
*2: The number of design stitches
*3: No. of needle bar steps
*4: Maximum embroidery space

5. Decision of design number



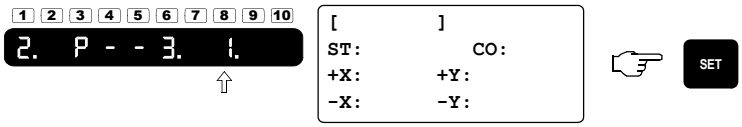
Example: No.3

6. Select “1: Modify”.



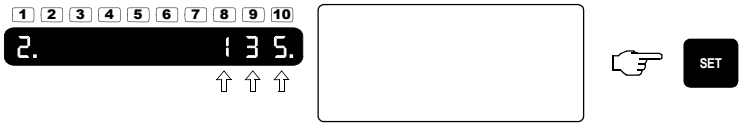
0: Delete
1: Modify
2: Insert
3: Cleanup
4: Design name change

7. Decide “1: Modify”.

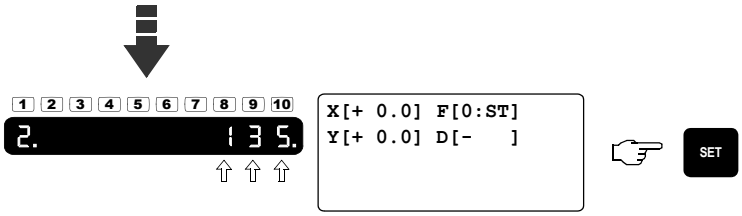


8. Selection of stitch number

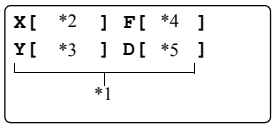
9. Decision of stitch number



It is also possible to step stitch by the shift key or stop key within a range of the total number of stitches of design data.

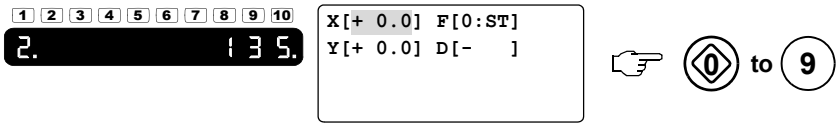


Example: The 135th stitch
If selecting the value that exceeds the total number of stitches of design data being selected, the LCD display area will have no display. In this case, input the number of stitches again.



*1: Stitch data
*2: X data
*3: Y data
*4: Function code
*5: Function code (detailed)

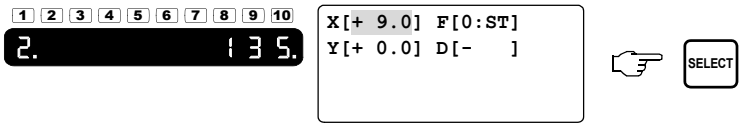
10. Input of X data



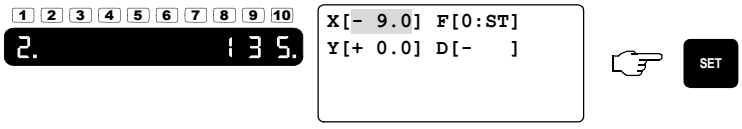
Setting range: -12.7 to 12.7 (mm)

To cancel setting at the LCD display area, press the cursor movement key.

11. Selection of symbol of X data

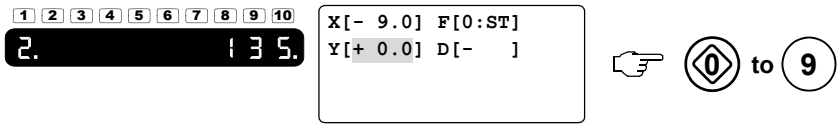


12. Decision of X data

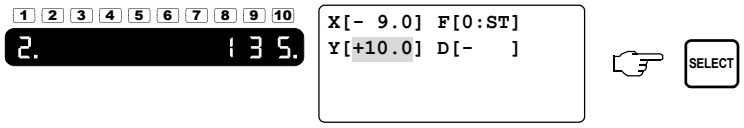


Example : Symbol “-”

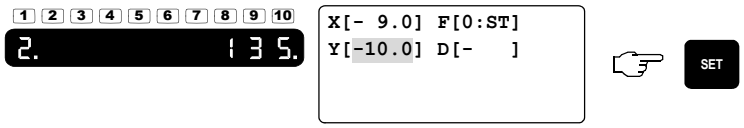
13. Input of Y data



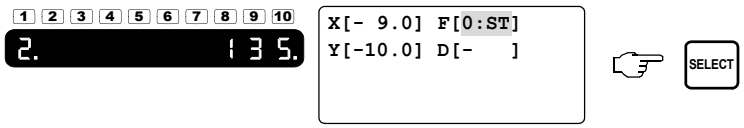
14. Selection of symbol of Y data



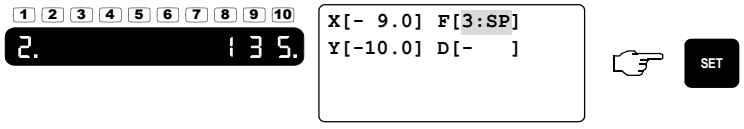
15. Decision of Y data



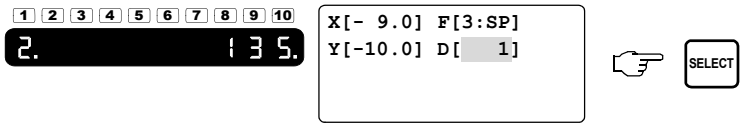
16. Selection of function code



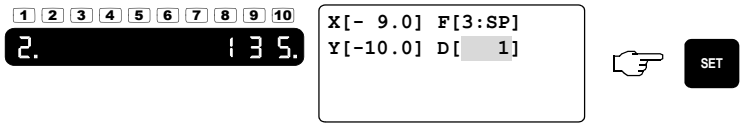
17. Decision of function code



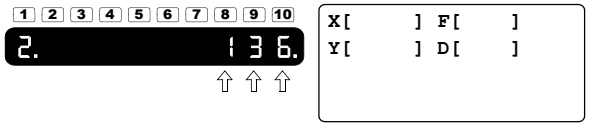
18. Selection of function code (detailed)



19. Decision of function code (detailed)



20. Completion



Setting range: -12.7 to 12.7 (mm)

Example : Symbol "-"

Every pressing the select key will switch function code.

Function code ⇒p.86

When selecting function codes as shown below, set detailed items. ⇒p.86

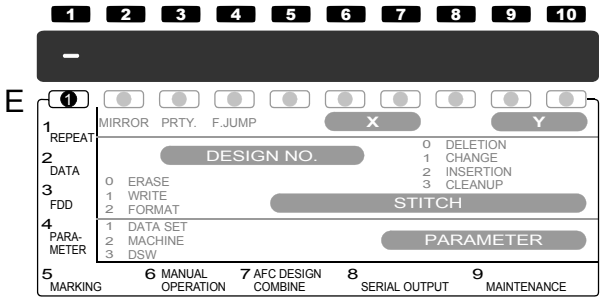
- 2: TS(Temporary stop)
- 3: SP(Color change)
- 4: LS(Low speed)
- 5: AT(ATH)
- 7: SS(Satin)
- 8: SQ(Sequin)
- 9: BR(Boring)

To modify further other stitches, perform operations on and after "8: Selection of stitch to modify". ⇒p.80

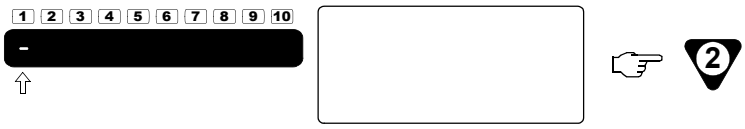
INSERTION

Insert stitch data by 1 stitch unit.

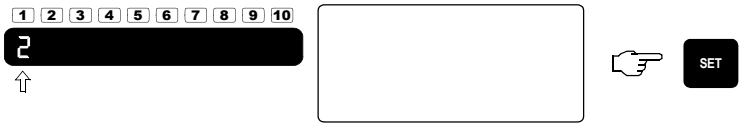
1. Move the cursor to E-(1).



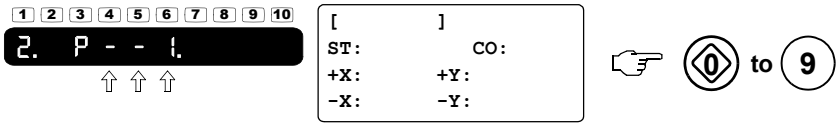
2. Select “2: Data edit”.



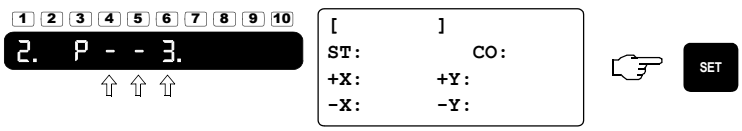
3. Decide “2: Data edit”.



4. Selection of design number

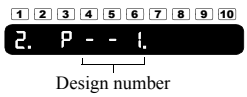


5. Decision of design number

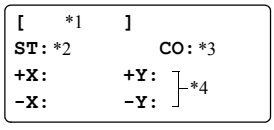


Insertion will be performed just before the stitch number that has been selected as the target.

As the procedure is the same as that for “Modify”, explanation is partially omitted. Also refer to the explanation of “Modify”.



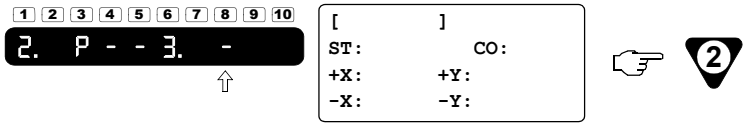
The smallest registered number will be displayed.



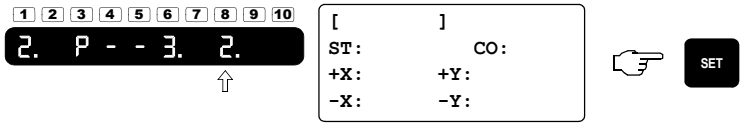
*1: Design name
*2: The number of design stitches
*3: No. of needle bar steps
*4: Maximum embroidery space

Example: No.3

6. Select “2: Insert”.



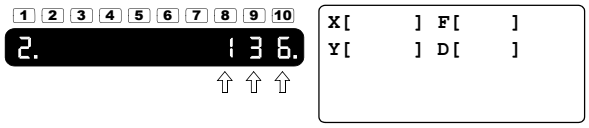
7. Decide “2: Insert”.



8. Selection of stitch number

Continue the procedure.

9. Completion

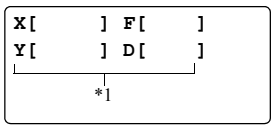


0: Delete
1: Modify
2: Insert
3: Cleanup
4: Design name change

Insertion will be performed just before the stitch number that has been selected as the target.

Operations hereafter are the same as those for “Modify”.

Perform operations on and after “8. Selection of stitch to change”. ⇒p.80



*1: Stitch data

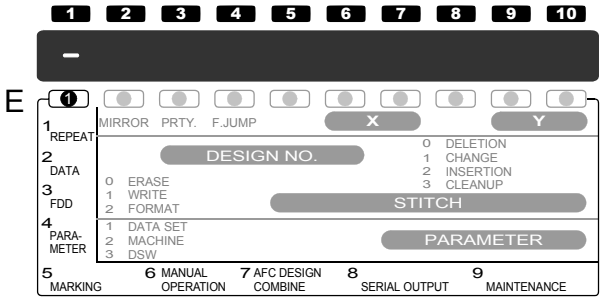
The stitch data of the 135th stitch before insertion will be displayed as the data of the 136th stitch.

To modify further other stitches, perform operations on and after “8: Selection of stitch to modify”.

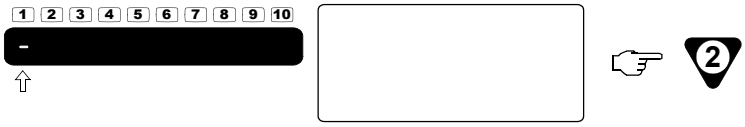
DELETION

Delete stitch data by 1 stitch unit.

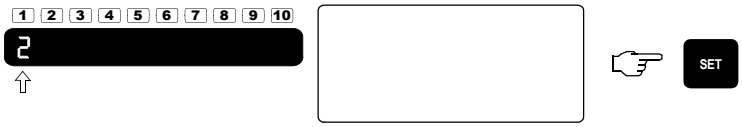
1. Move the cursor to E-❶.



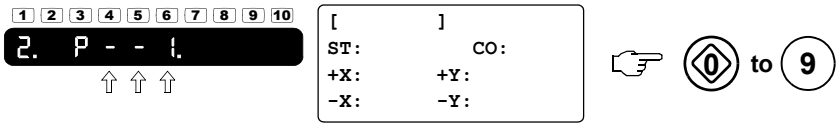
2. Select “2: Data edit”.

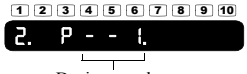


3. Decide “2: Data edit”.



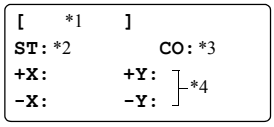
4. Selection of design number





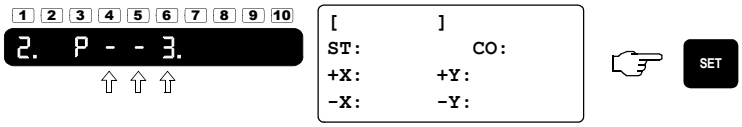
Design number

The smallest registered number will be displayed.



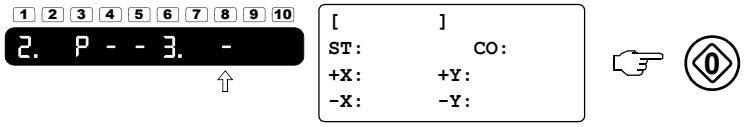
*1: Design name
*2: The number of design stitches
*3: No. of needle bar steps
*4: Maximum embroidery space

5. Decision of design number

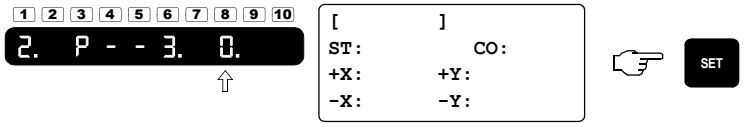


Example: No.3

6. Select “0: Delete”.

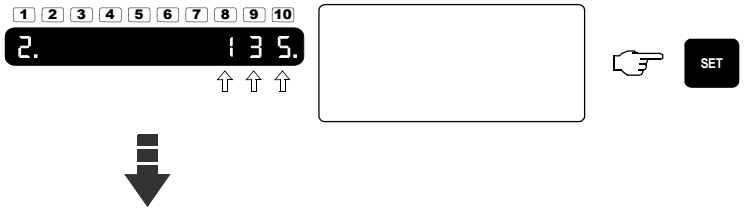


7. Decide “0: Delete”.

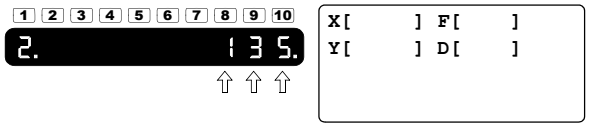


8. Selection of stitch number

9. Decision of stitch number



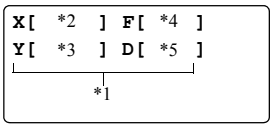
10. Completion



0: Delete
1: Modify
2: Insert
3: Cleanup
4: Design name change

It is also possible to step stitch by the shift key or stop key within a range of the total number of stitches of design data.

Example: The 135th stitch
If selecting the value that exceeds the total number of stitches of design data being selected, the LCD display area will have no display. In this case, input the number of stitches again.



*1: Stitch data
*2: X data
*3: Y data
*4: Function code
*5: Function code (detailed)

The stitch data of the 136th stitch before deletion will be displayed as the data of the 135th stitch.

To modify further other stitches, perform operations on and after “8: Selection of stitch to modify”.

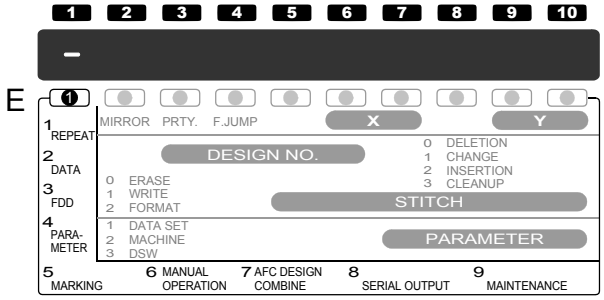
●ABOUT FUNCTION CODE

Function code	Detailed setting	Contents
0: ST (Stitch)	—	Stitch embroidery
1: JP (Jump)	—	No needle location
2: TS (Temporary stop)	0: ST (Stitch)	Temporary stop of stitch/jump
	1: JP (Jump)	
3: SP (Color change)	Needle bar number	Stop for changing needle bar
4: LS (Low speed)	0: SS (Start stitch)	Low speed operation in the section of start (stitch/jump) → end (stitch/jump)
	1: SJ (Start jump)	
	2: ES (End start)	
	3: EJ (End jump)	
5: AT (ATH)	0: AL (Upper/under thread)	Trim upper thread/under thread/upper and under thread automatically
	1: UP (Upper thread)	
	2: UD (Under thread)	
6: OF (Automatic free setting offset)	—	The machine stops embroidery, and moves the frame to the set position
7: SS (Satin stitch)	0: ST (Start)	Perform satin embroidery in the section of start → end
	1: ED (End)	
8: SQ (Sequin)	0: ST (Start)	Specify the section with start → end Feed chip(s) by output
	1: ED (End)	
	2: OU (Output)	
9: BR (Boring)	0: ST (Start)	Perform boring in the section of start → end
	1: ED (End)	

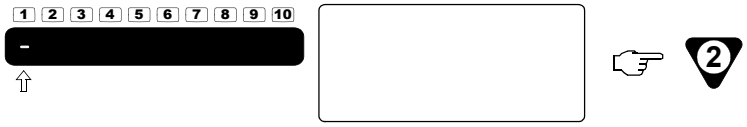
CLEANUP

It makes a fine stitch that causes thread cast-off or thread breakage absorbed by preceding and succeeding stitch data.

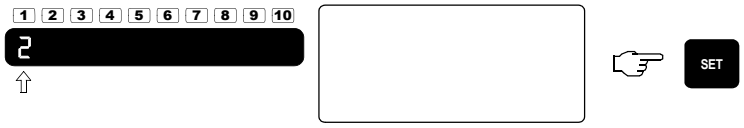
1. Move the cursor to E-❶.



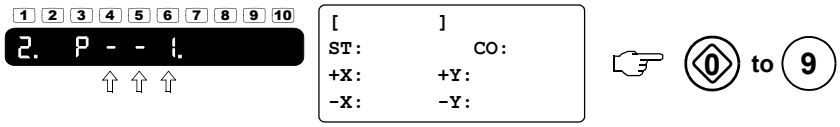
2. Select “2: Data edit”.



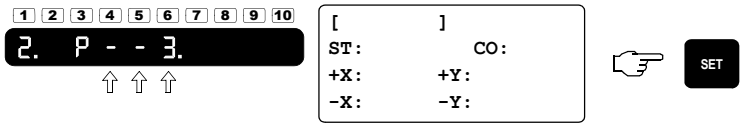
3. Decide “2: Data edit”.



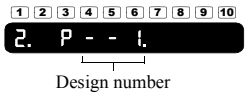
4. Selection of design number



5. Decision of design number

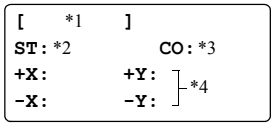


Design will be somehow changed after cleanup.



Design number

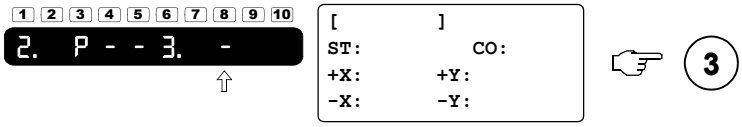
The smallest registered number will be displayed.



*1: Design name
*2: The number of design stitches
*3: No. of needle bar steps
*4: Maximum embroidery space

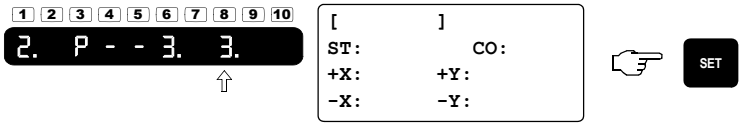
Example: No.3

6. Select “3: Cleanup”.

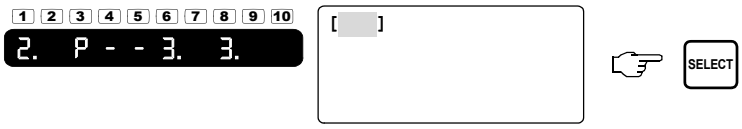


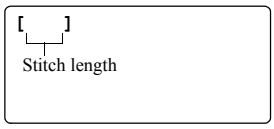
0: Delete
1: Modify
2: Insert
3: Cleanup
4: Design name change

7. Decide “3: Cleanup”.



8. Selection of stitch length

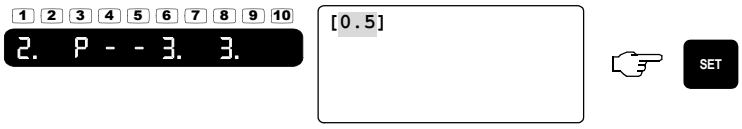


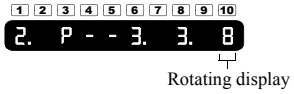


Setting range: 0.4 to 0.9 (mm)

It process smaller stitches than the setting value.

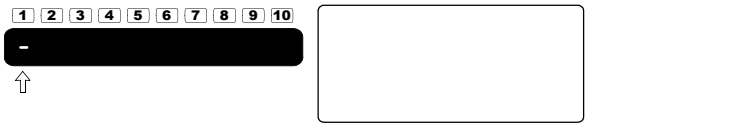
9. Decision of stitch length





Rotating display is performed during cleanup processing.

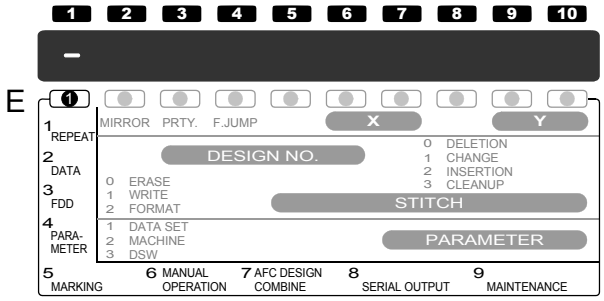
10. Completion



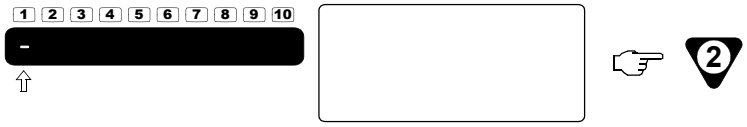
CHANGE OF DESIGN NAME

Change the design name.

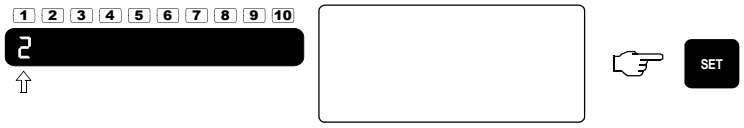
1. Move the cursor to E-❶.



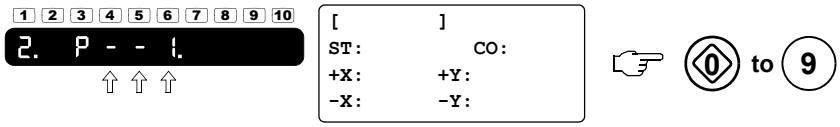
2. Select “2: Data edit”.

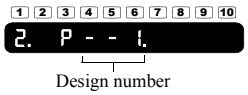


3. Decide “2: Data edit”.

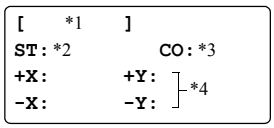


4. Selection of design number



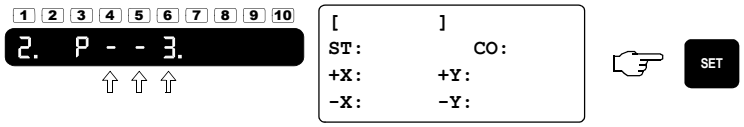


The smallest registered number will be displayed.



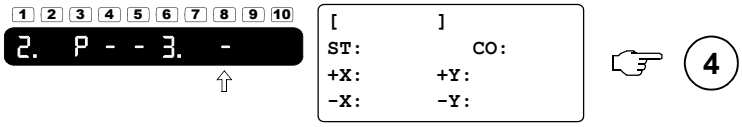
*1: Design name
*2: The number of design stitches
*3: No. of needle bar steps
*4: Maximum embroidery space

5. Decision of design number



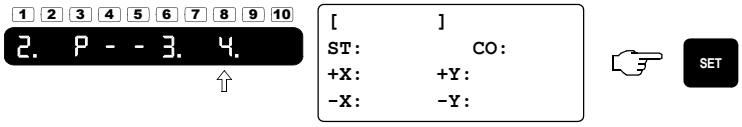
Example: No.3

6. Select “4: Design name change”.

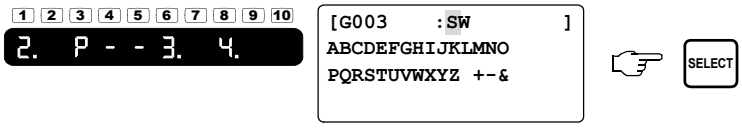


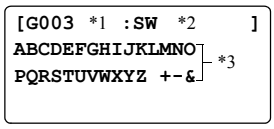
0: Delete
1: Modify
2: Insert
3: Cleanup
4: Design name change

7. Decide “4: Design name change”.



8. Move the cursor to the rows of characters.

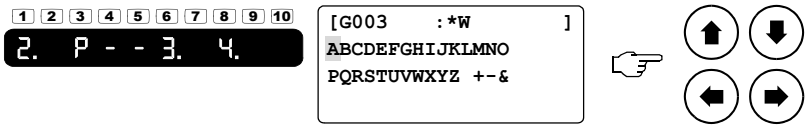




*1: File name (must not be changed)
*2: Design name
*3: Columns of characters for setting

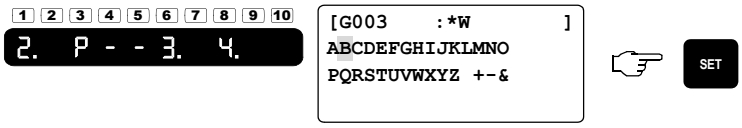
Up to 8 characters at the maximum are available for design name.

9. Selection of the first character



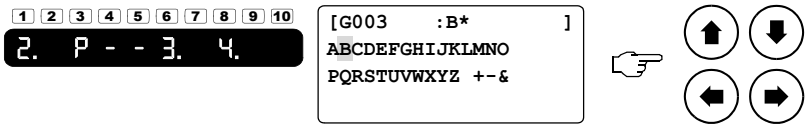
The first character of the design name will become display of “*”.

10. Decision of the first character



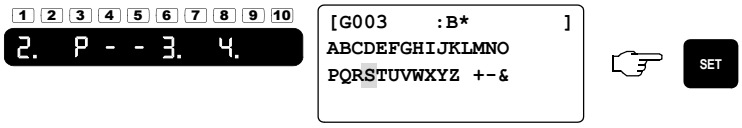
Example : Select B

11. Selection of the second character



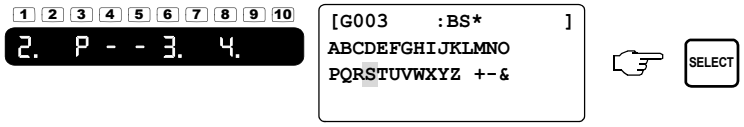
Pressing the select key in this state will cause the design name to become “B”.

12. Decision of the second character

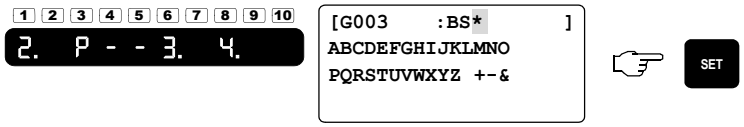


Example : Select S

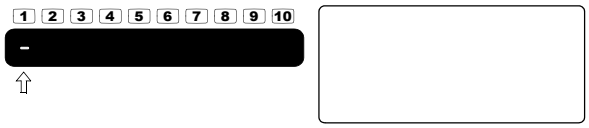
13. Move the cursor to the column of design name.



14. Decision of change of design name



15. Completion

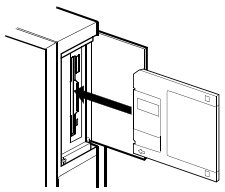


4. FLOPPY DISK PROCESSING

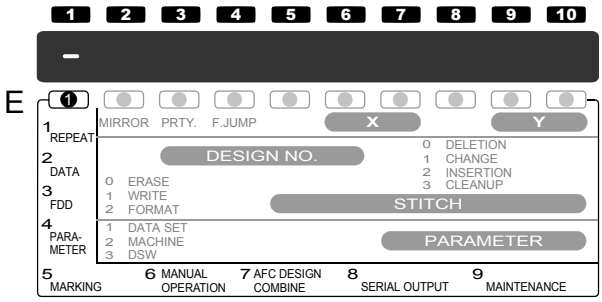
WRITING

Write design data to the floppy disk.

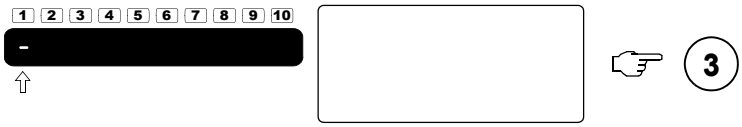
1. Insertion of a floppy disk



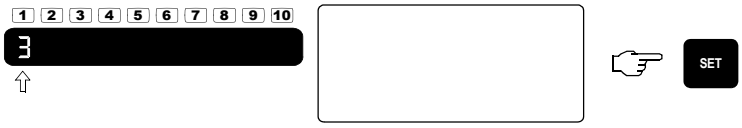
2. Move the cursor to E-(1).



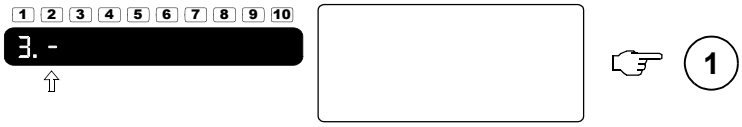
3. Select “3: FDD”.



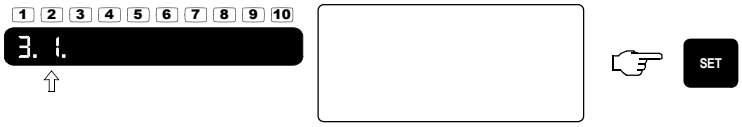
4. Decide “3: FDD”.



5. Select “1: Write”.



6. Decide “1: Write”.

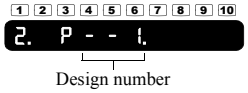


The number that can be written
- 2DD type: 111 designs
- 2HD type: 223 designs

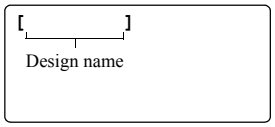
0: Delete
1: Write
2: Format

Reading of floppy disk data will be performed (rotating display).

7. Selection of design number

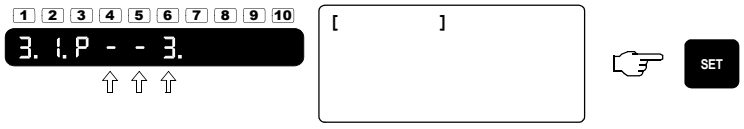


The smallest number among registered numbers will be displayed.



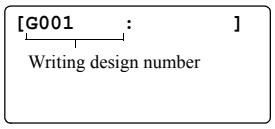
It is also possible to select by the shift key or stop key.

8. Decision of design number



Example : No.3

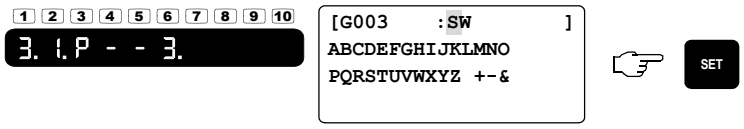
9. Decision of writing design number

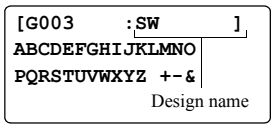


The smallest number that can be written will be displayed.

To change a design number to write, use the shift key or stop key for selection.

10. Decision of design name

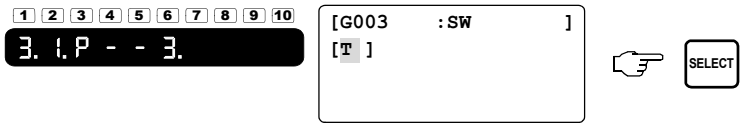




Design name registered in the memory will be displayed.

To change design name, perform the same operations as “8. Move the cursor to the rows of characters” of “Design name change” and after. ⇨p.90

11. Selection of storing mode (code format)

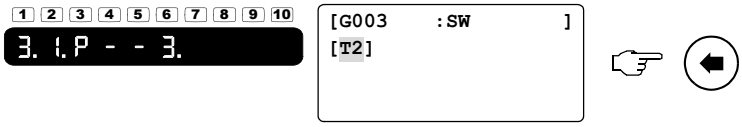


Storing mode

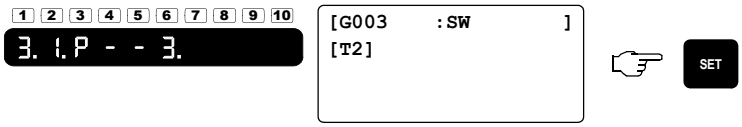
T : Tajima code
T2: Tajima binary format

Condition items	FD storage	
	T2	T
Needle bar setting	O	—
Data conversion	—	—
Design start position	O	—
Automatic offset	—	—
Repeat	—	—

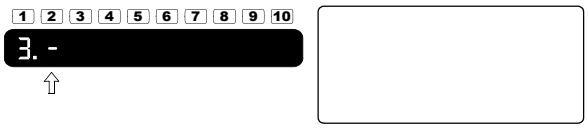
12. Select “Write”.

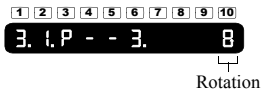


13. Execute “Write”.



14. Completion



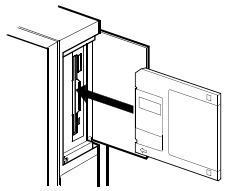


Rotating display is performed during processing.

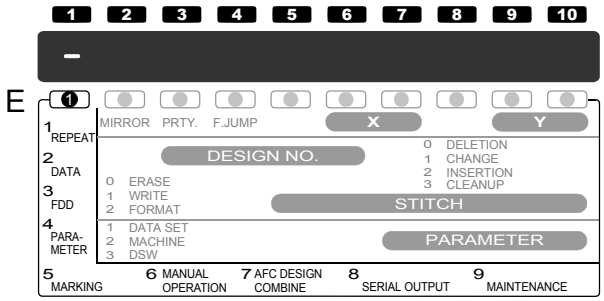
DELETION

Delete design data in a floppy disk by one design unit.

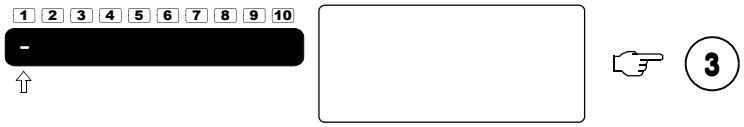
1. Insertion of a floppy disk



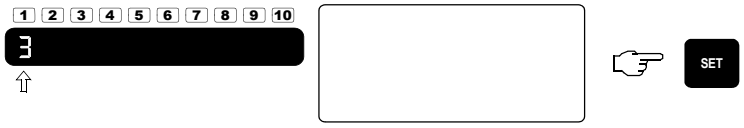
2. Move the cursor to E-❶.



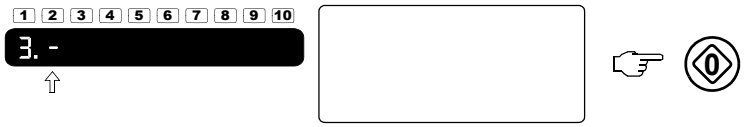
3. Select “3: FDD”.



4. Decide “3: FDD”.

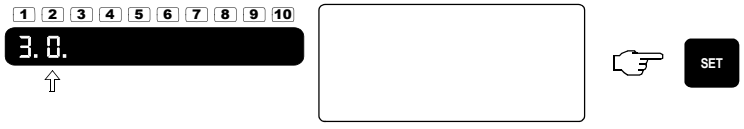


5. Select “0: Delete”.



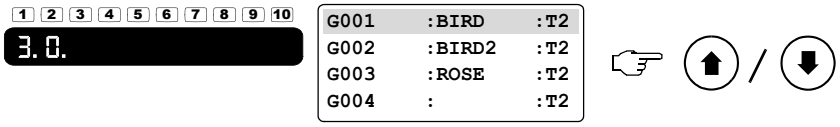
0: Delete
1: Write
2: Format

6. Decide “0: Delete”.

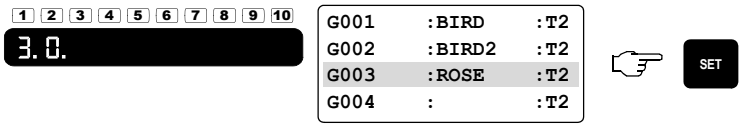


Reading of floppy disk data will be performed (rotating display).

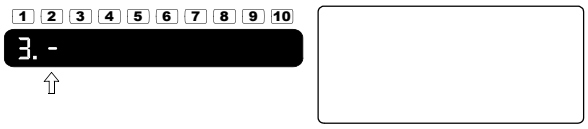
7. Selection of design number



8. Execute “Delete”.



9. Completion

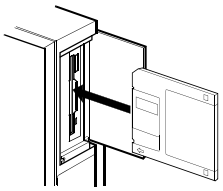


Rotating display is performed during processing.

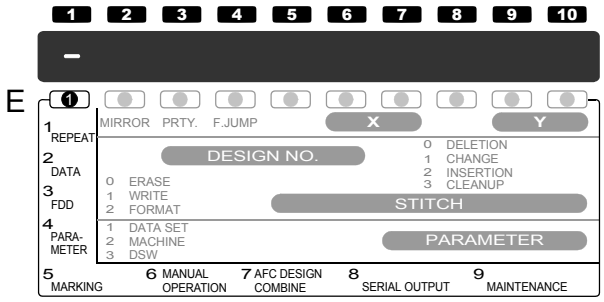
FORMATTING

It makes a floppy disk on the market available to be used to the machine.

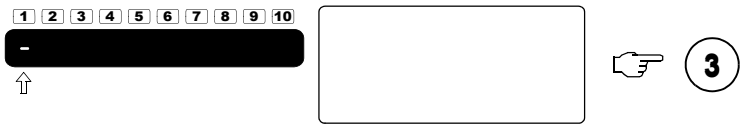
1. Insertion of a floppy disk



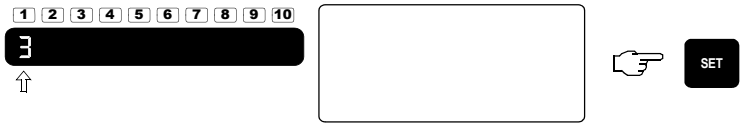
2. Move the cursor to E-❶.



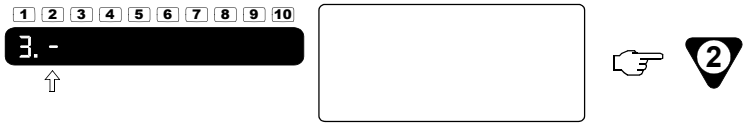
3. Select “3: FDD”.



4. Decide “3: FDD”.

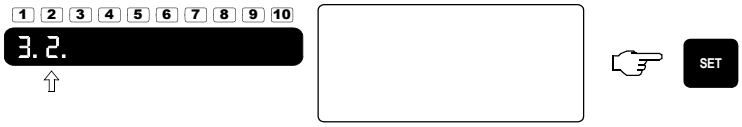


5. Select “2: Format”.

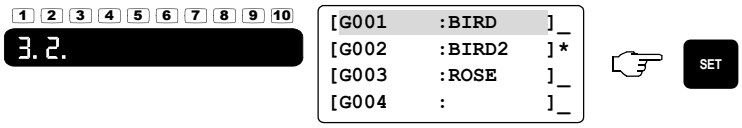


0: Delete
1: Write
2: Format

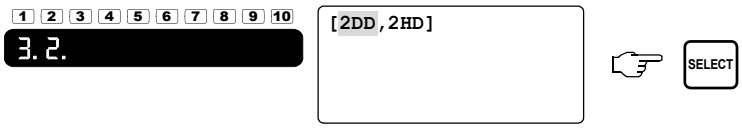
6. Decide “2: Format”.



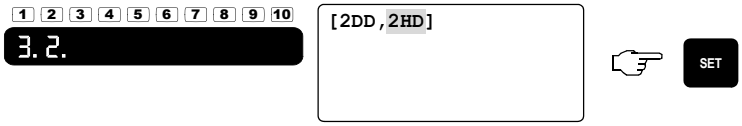
7. Check design data.



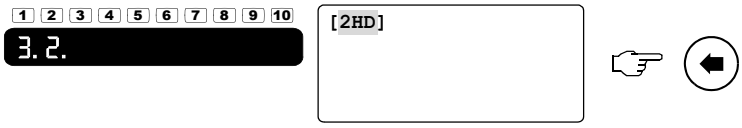
8. Selection of 2DD/2HD



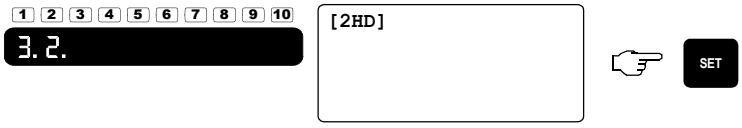
9. Decision of 2DD/2HD



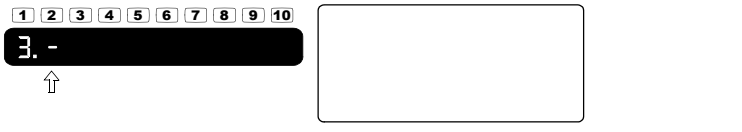
10. Select “Format”.



11. Execute “Format”.



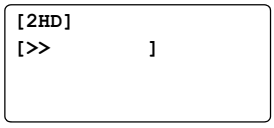
12. Completion



Reading of floppy disk data will be performed (rotating display).

Before performing formatting, check design data.It is possible to move the cursor by using the ⬇⬆ key.
When formatting is performed, all design data will be erased.

Select the type that fits to the kind of floppy disk.



Display of under formatting

When selecting different type ⟹Code display [b01]

5. MARKING

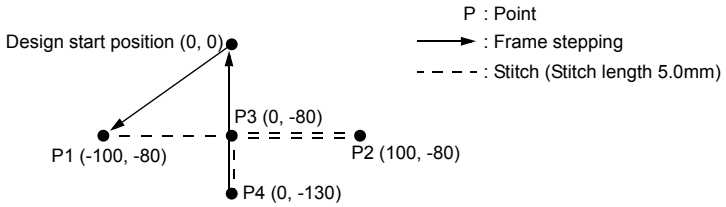
Make basting data (marking design) for positioning material to be embroidered in such as applique, placing embroidery etc., and register the data into the memory. There are following four kinds in marking function.

- Marking A :
  To register marking design into the memory independently.
- Marking B :
  Registration in the memory is performed with design data to embroider.
- Contour marking A:
  Register contour marking design into the memory by itself.
- Contour marking B:
  Register contour marking design with design data into the memory.

Marking ⇒p.140

Example of setting 1 (Marking A)

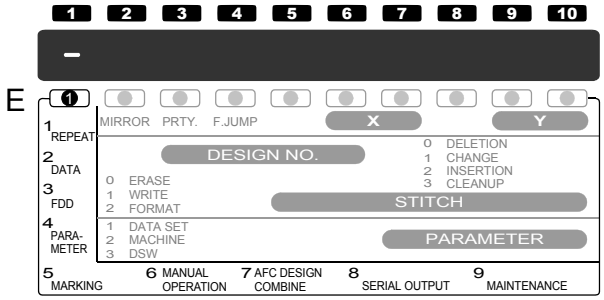
When registering the following marking data into the memory



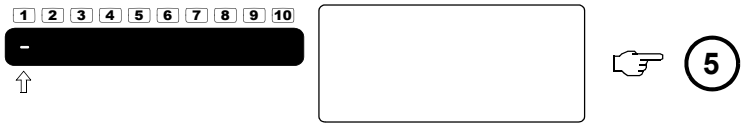
Explanation is given assuming that the design start position is (X, Y) = (0, 0).

The left illustration gives an explanation based on the needle position (It differs from frame travel directions).

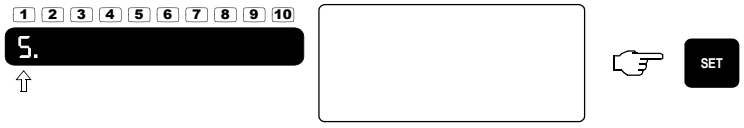
1. Move the cursor to E-❶.



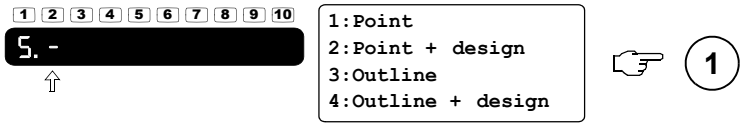
2. Select “5: Marking”.



3. Decide “5: Marking”.

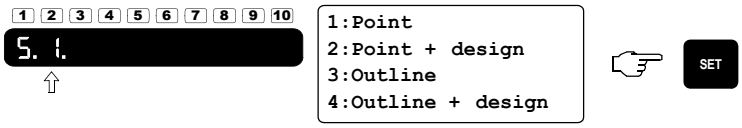


4. Selection of marking method



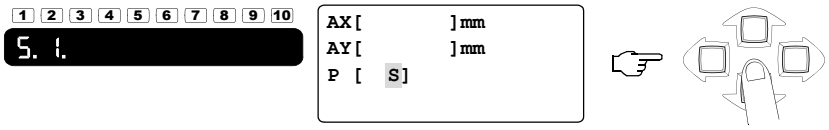
1: Marking A
2: Marking B
3: Contour marking A
4: Contour marking B

5. Decision of marking method

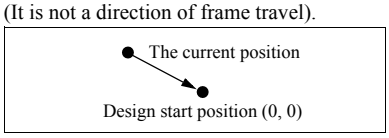


Example: Marking A

6. Selection of the design start position

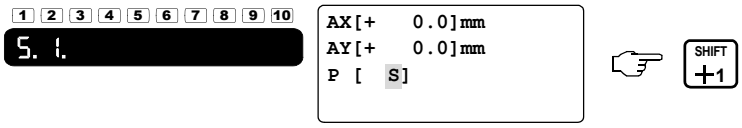


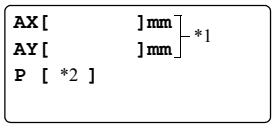
Move the frame to the position where it is set as the start position of design. The arrow marks indicates the track of needle positions (It is not a direction of frame travel).



It is also possible to use a jog remote-controller (option) (and so forth).

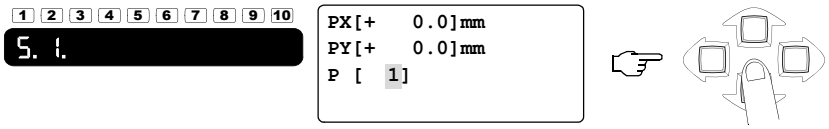
7. Decision of start position of design

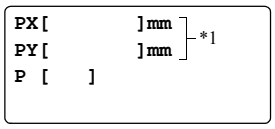




*1: The current position of the frame (position of the absolute origin)
*2: Point (S: start position)

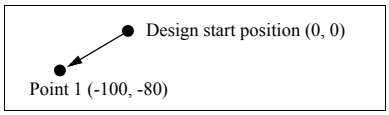
8. Selection of point 1



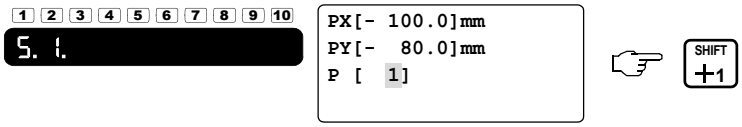


*1 The display of coordinates will switch to the distance from the start position of the design.

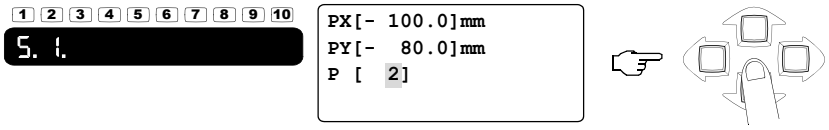
Setting range : Point1 to 10

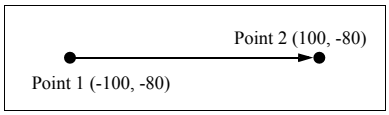


9. Decision of point 1

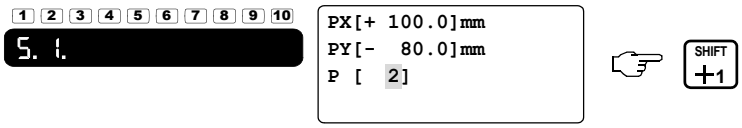


10. Selection of point 2

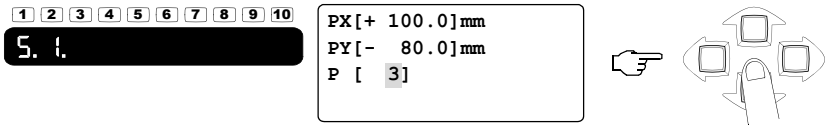


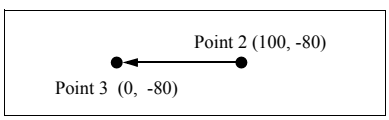


11. Decision of point 2



12. Selection of point 3

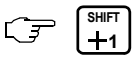




(KY01)

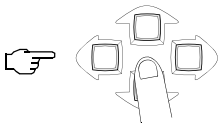
13. Decision of point 3

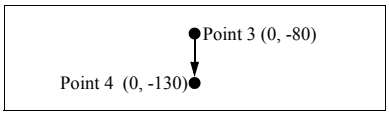

```
PX[+   0.0]mm
PY[-  80.0]mm
P [  3]
```



14. Selection of point 4

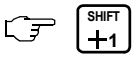

```
PX[+   0.0]mm
PY[-  80.0]mm
P [  4]
```



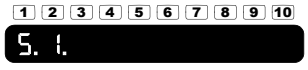


15. Decision of point 4

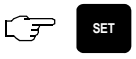

```
PX[+   0.0]mm
PY[- 130.0]mm
P [  4]
```



16. Completion of point setting

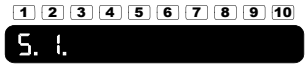



```
PX[+   0.0]mm
PY[- 130.0]mm
P [  5]
```



To set points (10 at the maximum) continuously, press the shift key.

17. Selection of stitch length




```
PX[+   0.0]mm
PY[- 130.0]mm
P [  5]
FS[ 4.0]
```

Select stitch length when performing marking.

Setting range: 0.5 to 12.7(mm)

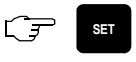
18. Decision of stitch length

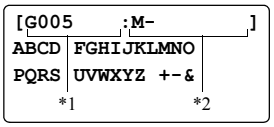

```
PX[+   0.0]mm
PY[- 130.0]mm
P [  5]
FS[ 5.0]
```

Example: 5.0(mm)

19. Decision of memory register design number


```
[G005    :M-       ]
ABCDEFGHIJKLMNO
PQRSTUVWXYZ +-&
```





*1: Memory register number
The smallest number that can be registered will be displayed

*2: Marking design name
"M-" will be displayed automatically.

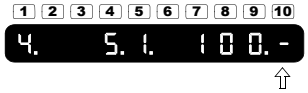
To change a registered number, input using numerical key.

20. Decision of design name

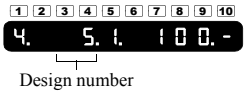

```
[G005    :M-       ]
ABCDEFGHIJKLMNO
PQRSTUVWXYZ +-&
```

When changing the design name ⇨p.32

21. Selection of data set

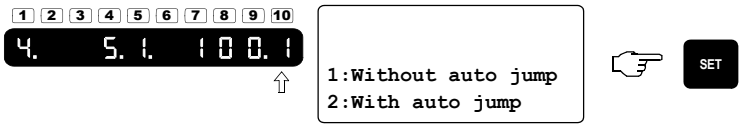



```
1:Without auto jump
2:With auto jump
```



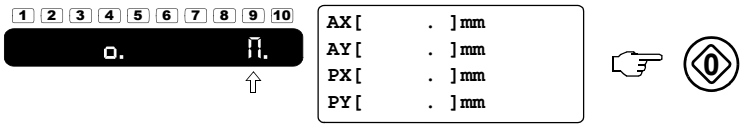
Memory register design number will be displayed.

22. Execution of data set



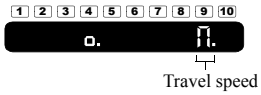
An example when selecting 1 (without auto jump)

23. Selection of the design start position

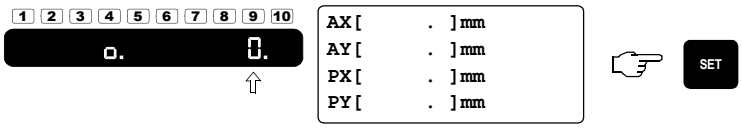


The current frame travel speed will be displayed.

Low speed (L), middle speed (Ո)

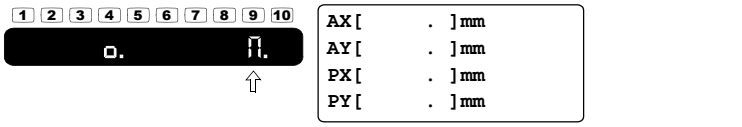


24. Perform frame travel to the design start position



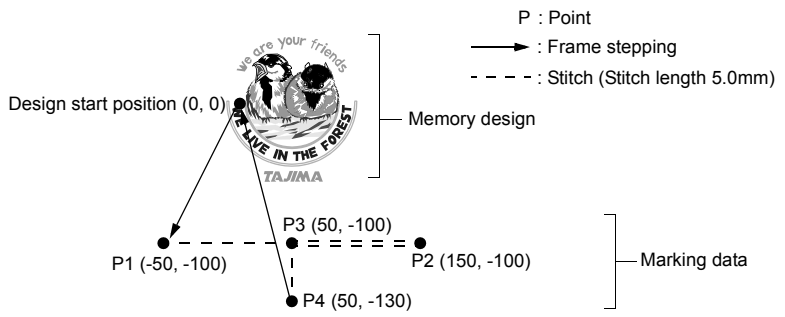
The frame will move to start position of design. ⇨p.100

25. Completion



Example of setting 2 (Marking B)

When registering the following marking data with memory design

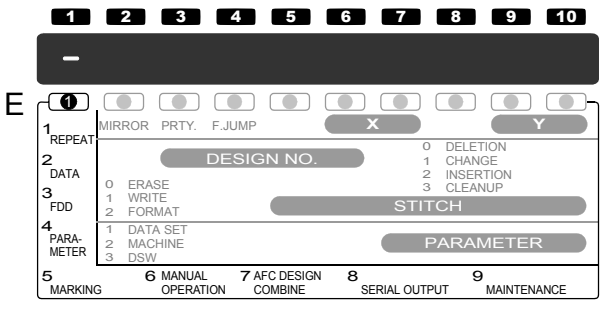


Explanation is given assuming that the design start position is (X, Y) = (0, 0).

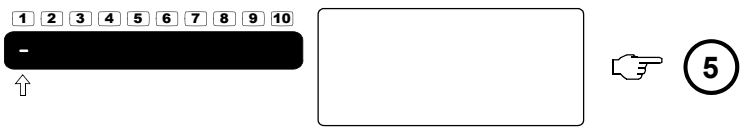
The left illustration gives an explanation based on the needle position (It differs from frame travel directions).

After embroidering the marking data in advance, embroider the design.

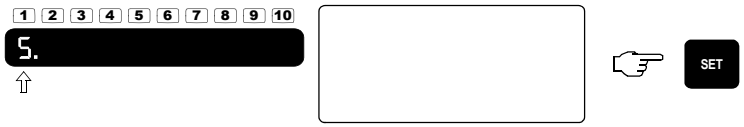
1. Move the cursor to E-❶.



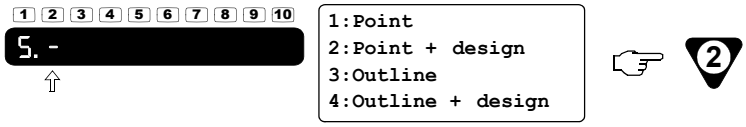
2. Select “5: Marking”.



3. Decide “5: Marking”.

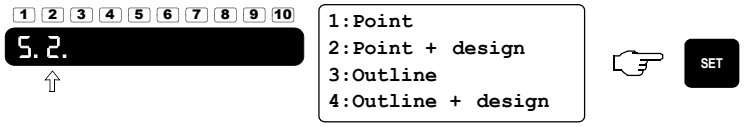


4. Selection of marking method



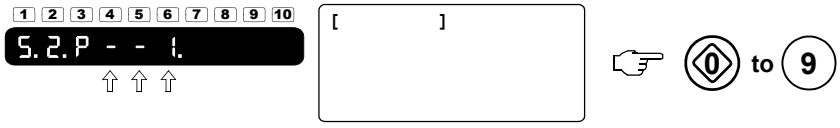
1: Marking A
2: Marking B
3: Contour marking A
4: Contour marking B

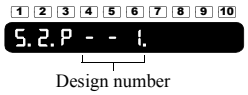
5. Decision of marking method



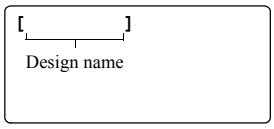
Example: Marking B

6. Selection of memory design number



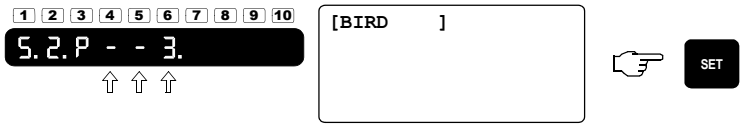


The smallest number among registered numbers will be displayed.



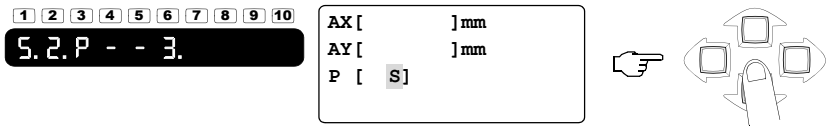
It is also possible to select by the shift key or stop key.

7. Decision of memory design number

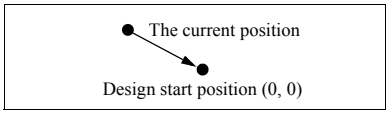


Example : Design number “3”, design name “BIRD”

8. Selection of the design start position

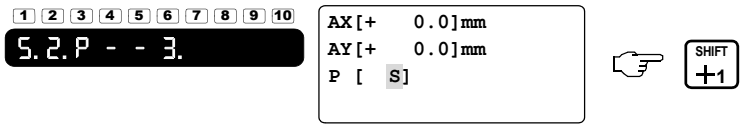


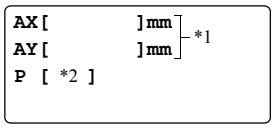
Move the frame to the position where it is set as the start position of design. The arrow marks indicates the track of needle positions (It is not a direction of frame travel).



It is also possible to use the jog remote-controller (the same as follows).

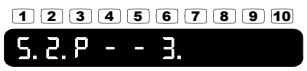
9. Decision of start position of design



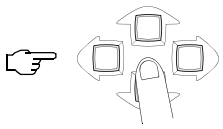


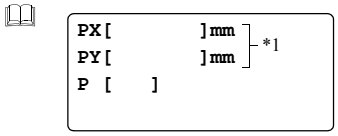
*1: The current position of the frame (position of the absolute origin)
*2: Point (S: start position)

10. Selection of point 1



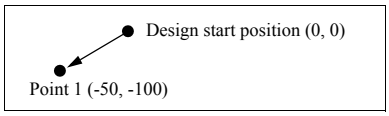

```
PX[+   0.0]mm
PY[+   0.0]mm
P [  1]
```



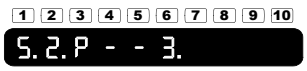


*1 The display of coordinates will switch to the distance from the start position of the design.

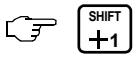
Setting range : Point1 to 10



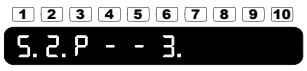
11. Decision of point 1



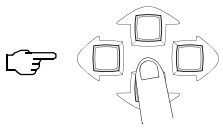

```
PX[-  50.0]mm
PY[- 100.0]mm
P [  1]
```

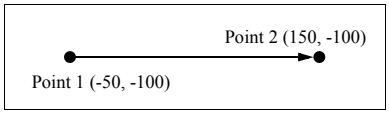


12. Selection of point 2

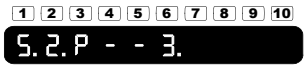



```
PX[-  50.0]mm
PY[- 100.0]mm
P [  2]
```

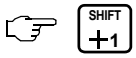




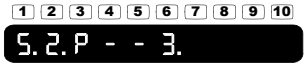
13. Decision of point 2



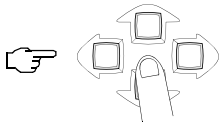

```
PX[+ 150.0]mm
PY[- 100.0]mm
P [  2]
```

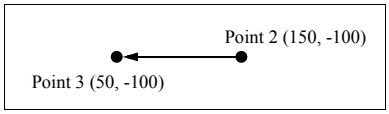


14. Selection of point 3

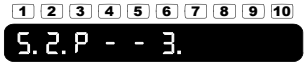



```
PX[+ 150.0]mm
PY[- 100.0]mm
P [  3]
```

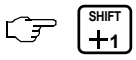




15. Decision of point 3

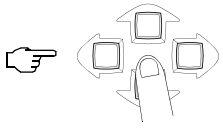


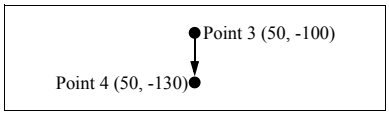

```
PX[+  50.0]mm
PY[- 100.0]mm
P [  3]
```



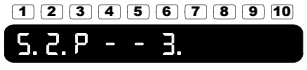
16. Selection of point 4


```
PX[+  50.0]mm
PY[- 100.0]mm
P [  4]
```

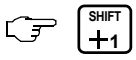




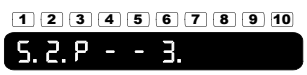
17. Decision of point 4



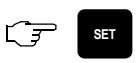

```
PX[+  50.0]mm
PY[- 130.0]mm
P [  4]
```



18. Completion of point setting

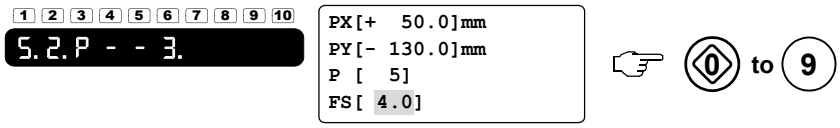



```
PX[+  50.0]mm
PY[- 130.0]mm
P [  5]
```



To set points (10 at the maximum) continuously, press the shift key.

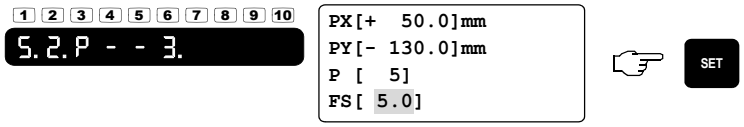
19. Selection of stitch length



Select stitch length when performing marking.

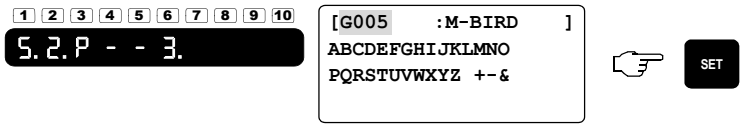
Setting range: 0.5 to 12.7(mm)

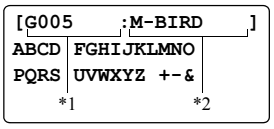
20. Decision of stitch length



Example: 5.0 (mm)

21. Decision of memory register design number



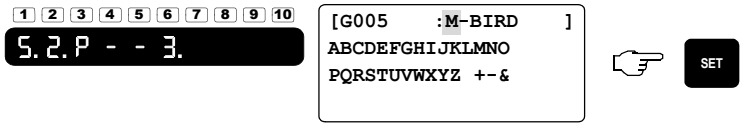


*1: Memory register number
The smallest number that can be registered will be displayed

*2: Marking design name
"M-" will be automatically added to the name of design that has been selected

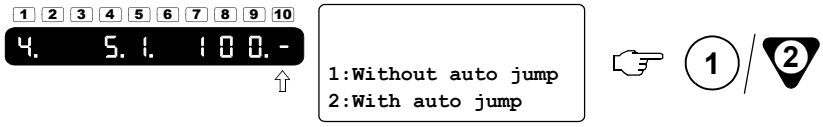
To change a registered number, input using numerical key.

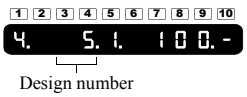
22. Decision of design name



When changing the design name ⇒p.32

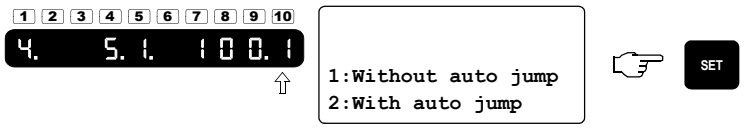
23. Selection of data set





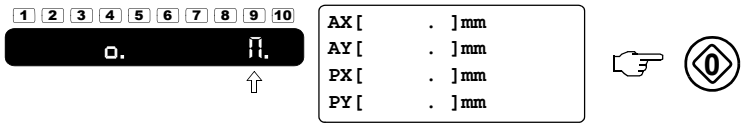
Memory register design number will be displayed.

24. Execution of data set



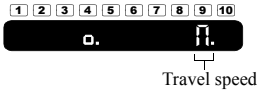
An example when selecting 1 (without auto jump)

25. Selection of the design start position

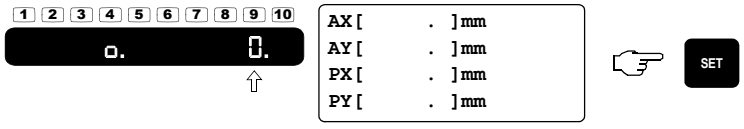


The current frame travel speed will be displayed.

Low speed (L), middle speed (n)

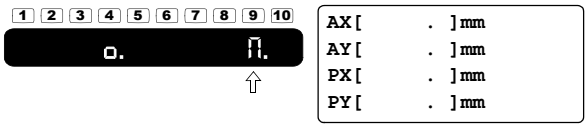


26. Perform frame travel to the design start position



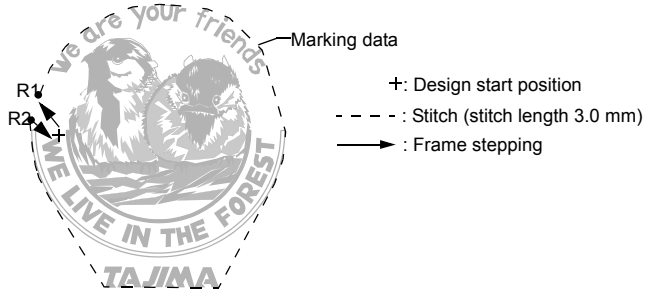
The frame will move to start position of design. ⇒p.103

27. Completion

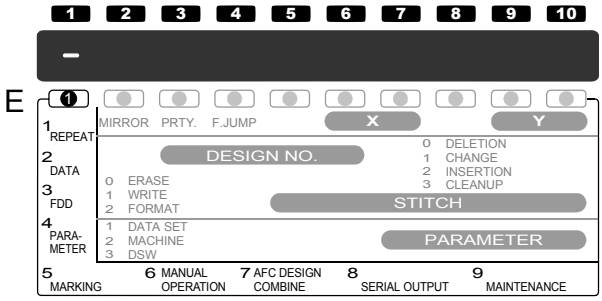


Example of setting 3 (Contour marking A)

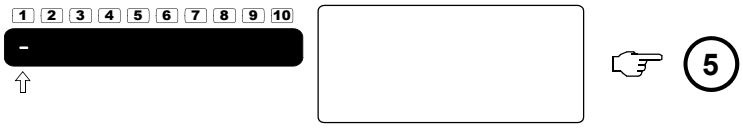
When registering the following contour marking data into the memory



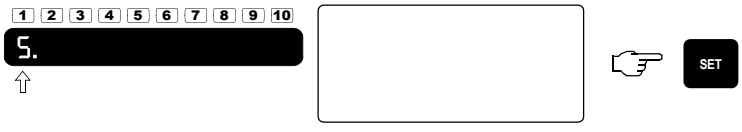
1. Move the cursor to E-1.



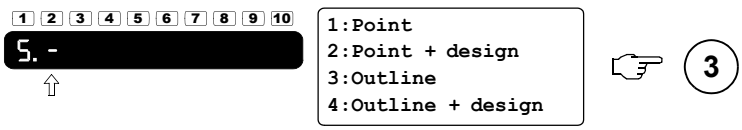
2. Select “5: Marking”.



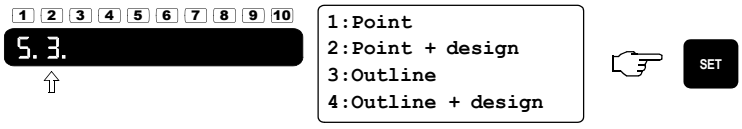
3. Decide “5: Marking”.



4. Selection of marking method



5. Decision of marking method

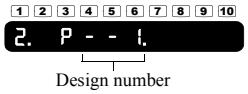


The frame will move from the design start position (+) to the sewing start point of marking design (R1), and the machine will perform marking to the end point (R2). When the marking is finished, the frame will move to the design start position (+) (frame stepping) and then the machine will stop.

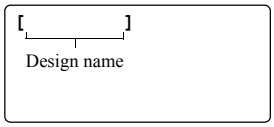
1: Marking A
2: Marking B
3: Contour marking A
4: Contour marking B

Example:Contour marking A

6. Selection of design data to perform contour marking

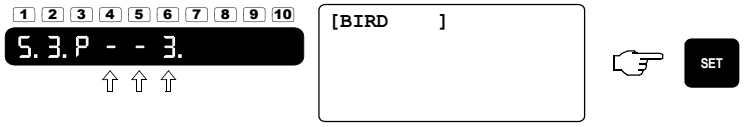


The smallest number among registered numbers will be displayed.



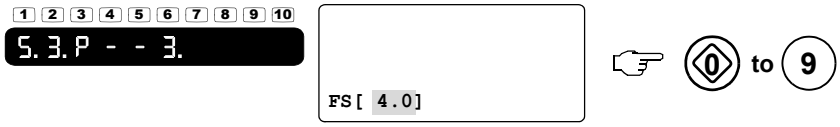
It is also possible to select by the shift key or stop key.

7. Decision of design data to perform contour marking



Example : Design number “3”, design name “BIRD”

8. Selection of stitch length



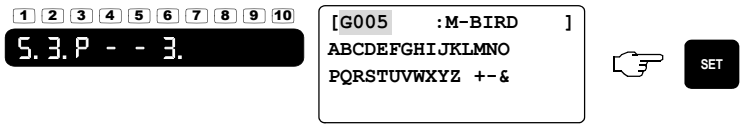
Select stitch length when performing marking.

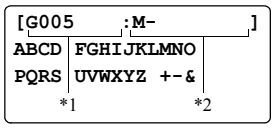
Setting range: 0.5 to 12.7(mm)

9. Decision of stitch length

Setting example: 3.0 mm

10. Decision of memory register design number



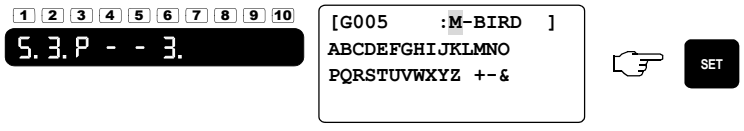


*1: Memory register number
The smallest number that can be registered will be displayed.

*2: Marking design name
“M-” will be displayed automatically.

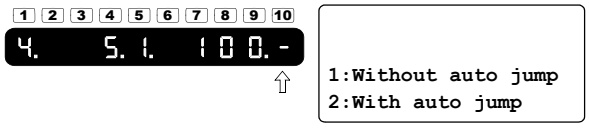
To change a registered number, input using numerical key.

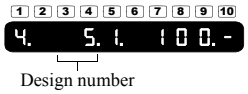
11. Decision of design name



When changing the design name p.32

12. Completion





Memory register design number will be displayed.

Perform setting for auto jump continuously. p.28

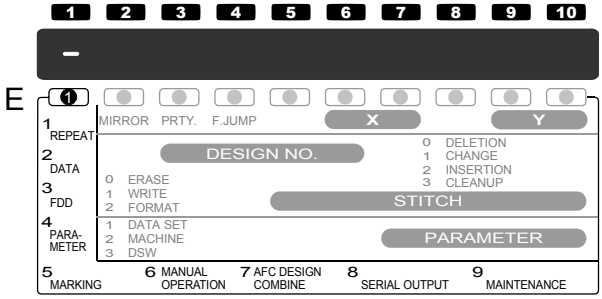
Example of setting 4 (contour marking B)

When registering the following contour marking data with memory design

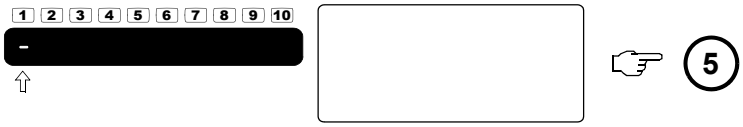
📖 After embroidering the marking data in advance, embroider the design.

📖 The frame will move from the design start position (+) to the sewing start point of marking design (R1), and the machine will perform marking to the end point (R2). When the marking is finished, the frame will move to the design start position (+) (frame stepping) and then the machine will stop. When starting the machine, the machine will start embroidery from that position.

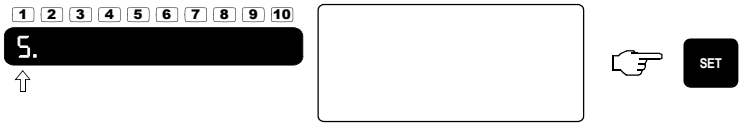
1. Move the cursor to E-❶.



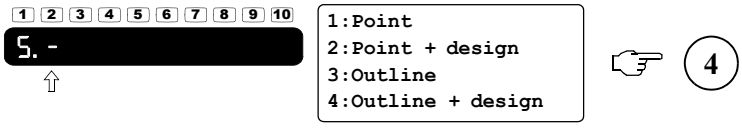
2. Select “5: Marking”.



3. Decide “5: Marking”.

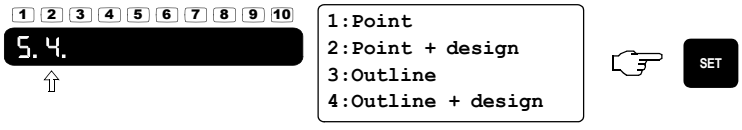


4. Selection of marking method



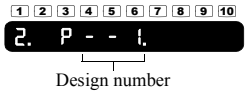
📖 1: Marking A
2: Marking B
3: Contour marking A
4: Contour marking B

5. Decision of marking method

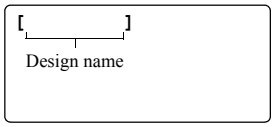


📖 Example: Contour marking B

6. Selection of design data to perform contour marking

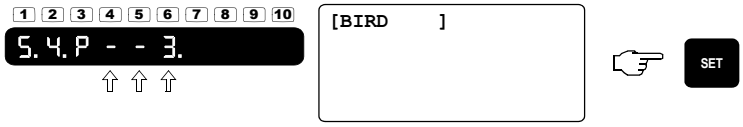


The smallest number among registered numbers will be displayed.



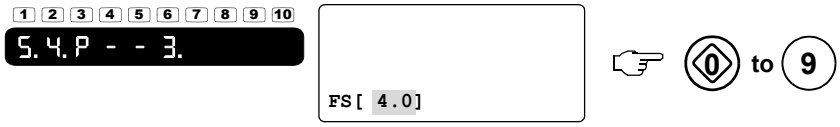
It is also possible to select by the shift key or stop key.

7. Decision of design data to perform contour marking



Example : Design number “3”, design name “BIRD”

8. Selection of stitch length



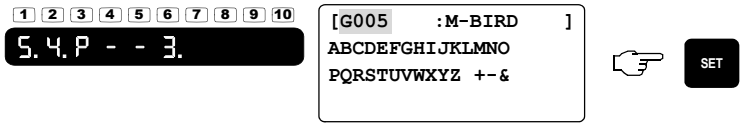
Select stitch length when performing marking.

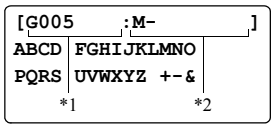
Setting range: 0.5 to 12.7(mm)

9. Decision of stitch length

Setting example: 3.0 mm

10. Decision of memory register design number



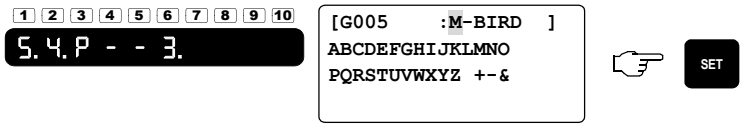


*1: Memory register number
The smallest number that can be registered will be displayed.

*2: Marking design name
“M-” will be displayed automatically.

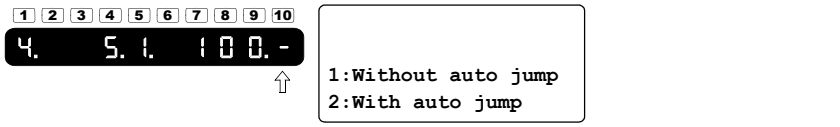
To change a registered number, input using numerical key.

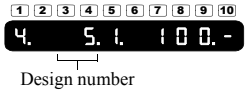
11. Decision of design name



When changing the design name ⇨p.32

12. Completion





Memory register design number will be displayed.

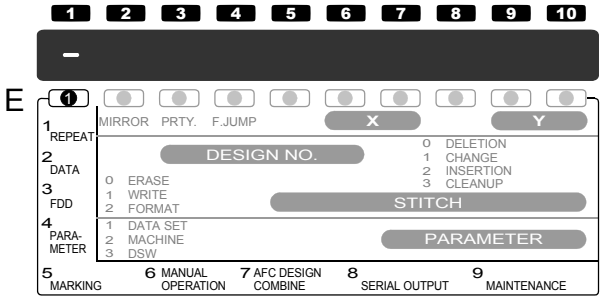
Perform setting for auto jump continuously. ⇨p.28

6. MANUAL OPERATION

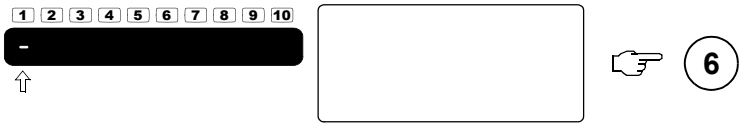
SETTING FOR THE NUMBER OF STITCHES TO STOP THE MACHINE FOR LUBRICATION

This setting urges you to lubricate to the rotary hooks of the machine that is not equipped with automatic lubrication system (option) (When counting reaches the number of set stitches, the machine will stop).

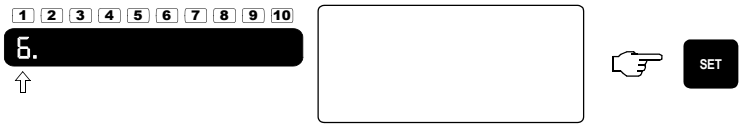
1. Move the cursor to E-(1).



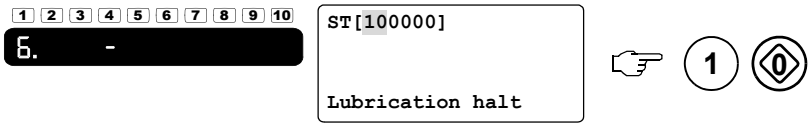
2. Select “6.Manual Operation”.



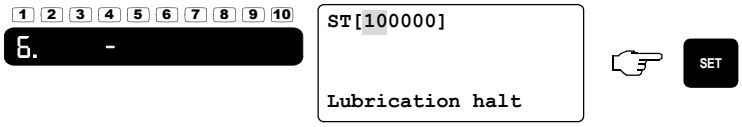
3. Decide “6.Manual Operation”.



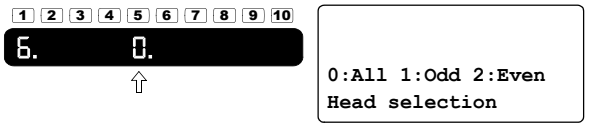
4. Selection of the number of stitches for halt



5. Decision of the number of stitches for halt



6. Completion



SW27-4 “Oiling” must be set to OFF p.146

As the recommended value (see below) is set when the machine is shipped, it is not particularly necessary to change this value.

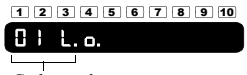
Without automatic lubrication system: 100,000 stitches

Automatic lubrication system is equipped: 50,000 stitches (rotary hook section) 150,000Stitch (inside of the arm)

When automatic lubrication system is not equipped:

When it reaches the number of stitches for halt, the following code number will be displayed to cause the machine to stop.

After lubricating to the rail section of the rotary hook, press the reset key.



Code number

When automatic lubrication system is equipped:

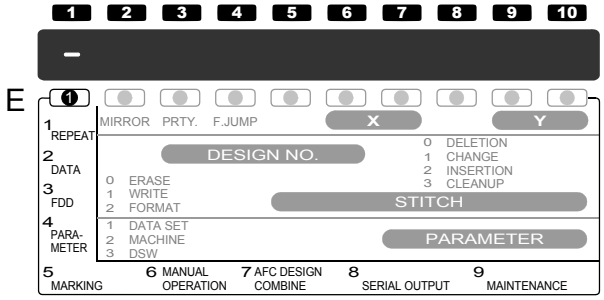
When counting reaches lubrication cycle, lubrication to rotary hook will be performed automatically. p.112

Setting range: 10,000 to 990,000 stitches

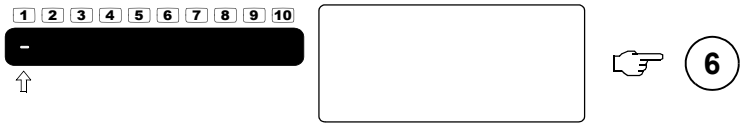
MANUAL LUBRICATION (OPTION)

It activates the optional automatic lubrication system manually to perform lubrication.

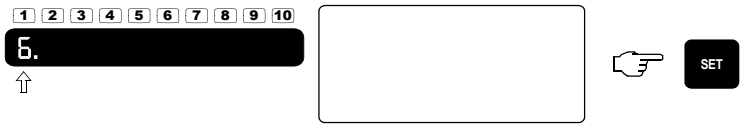
1. Move the cursor to E-❶.



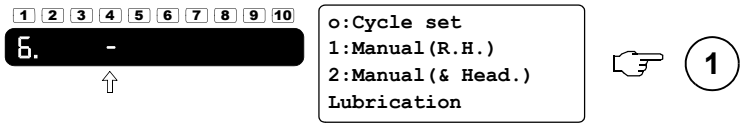
2. Select “6.Manual Operation”.



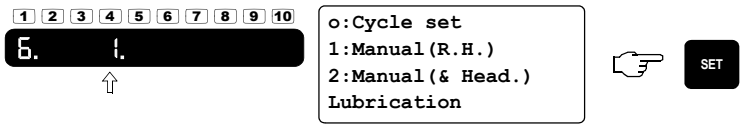
3. Decide “6.Manual Operation”.



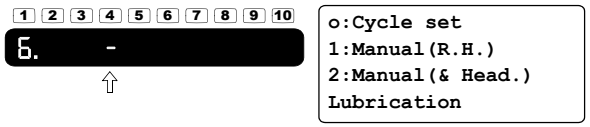
4. Selection of manual lubrication



5. Execution of manual lubrication



6. Completion



SW27-4 “Oiling” must be set to ON ⇒p.146

Parameter n-25.Setting for lubricating valve must be set to “With”. ⇒p.130

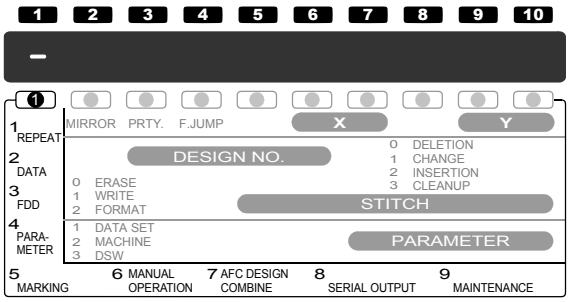
o : Setting for lubrication cycle ⇒p.112
1 : Manual lubrication (rotary hook section)
2 : Manual lubrication (rotary hook section, inside of the arm)

Example: 1 (rotary hook section)

SETTING FOR LUBRICATION CYCLE (OPTION)

Set the number of stitches to perform automatic lubrication.

1. Move the cursor to E-❶.

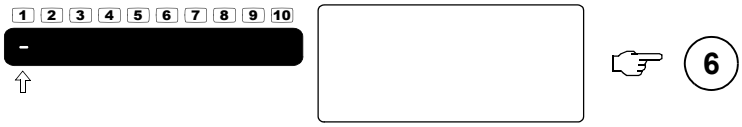


📖 SW27-4 “Oiling” must be set to ON. ⇒p.146

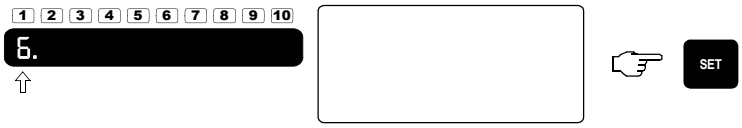
📖 As the recommended value (rotary hook section: 50,000, inside of the arm:3) is set when the machine is shipped, it is not particularly necessary to change this value.

📖 Parameter n-25.Setting for lubricating valve must be set to “With”.. ⇒p.130

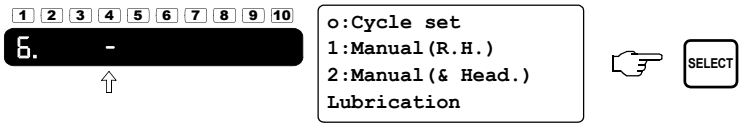
2. Select “6.Manual Operation”.



3. Decide “6.Manual Operation”.

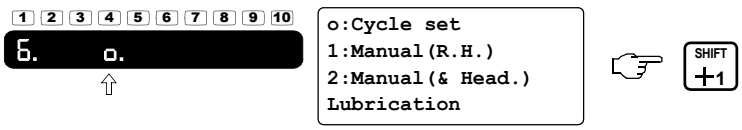


4. Selection of manual lubrication

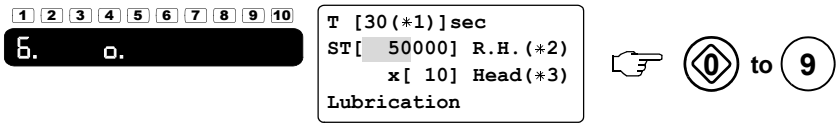


📖 o : Setting for lubrication cycle
1 : Manual lubrication (rotary hook section)
2 : Manual lubrication (rotary hook section, inside of the arm)

5. Move to the column of the number of stitches for lubrication.



6. Input of the number of stitches for lubrication (rotary hook section)



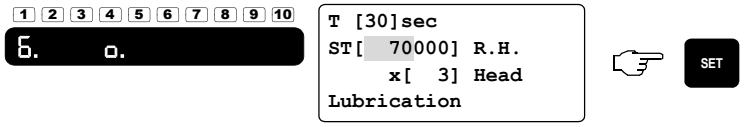
📖 Setting range: 1,000 to 9,999,000

*1: Working time of lubricating pump (30 seconds)

*2: Lubricating cycle to the rotary hook section (the number of stitches)

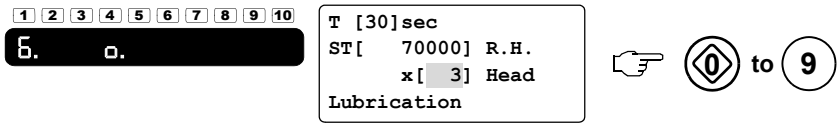
*3: Lubricating cycle to inside of the arm (lubricating cycle to the rotary hook section multiplied by integer)

7. Decision of the number of stitches for lubrication (rotary hook section)

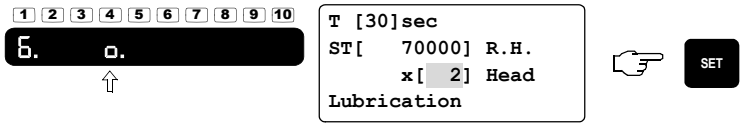


Example: 70,000

8. Input of the number of set times for lubrication (inside of the arm)

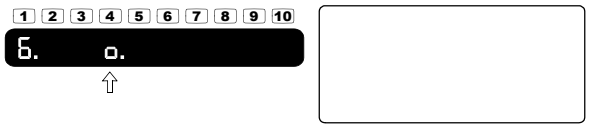


9. Decision of the number of set times for lubrication (inside of the arm)



Example: 2
In this example, the lubricating cycle to the inside of the arm is 140,000.

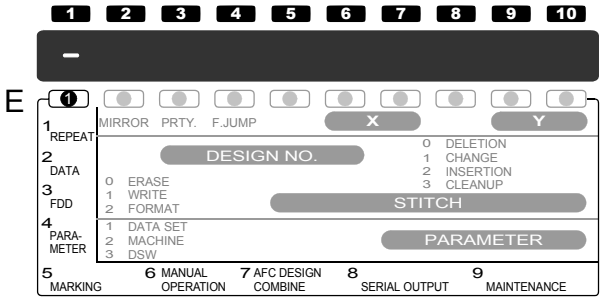
10. Completion



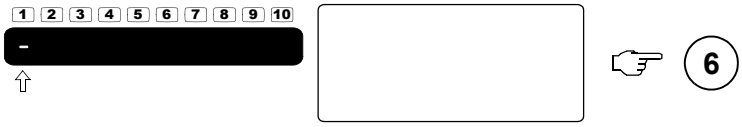
HEAD SELECTION

Select head to use.

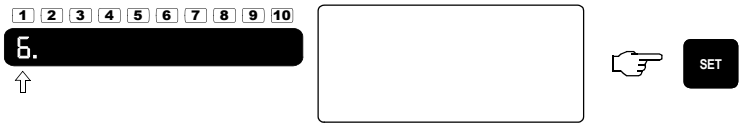
1. Move the cursor to E-❶.



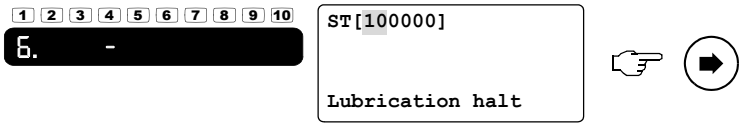
2. Select “6.Manual Operation”.



3. Decide “6.Manual Operation”.

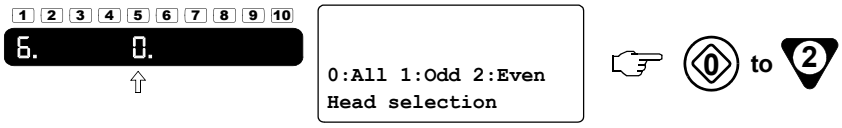


4. Move to head selection.



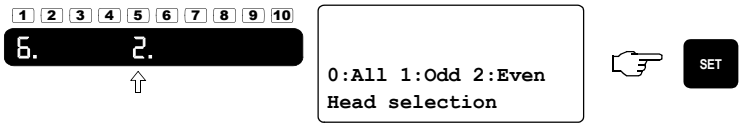
📖 Screen display differs depending on existence of automatic lubrication.

5. Selection of head to use



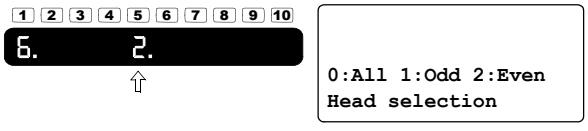
📖 0: All heads
1: Odd-numbered head
2: Even-numbered head

6. Decision of head to use



📖 Example : Even-numbered head

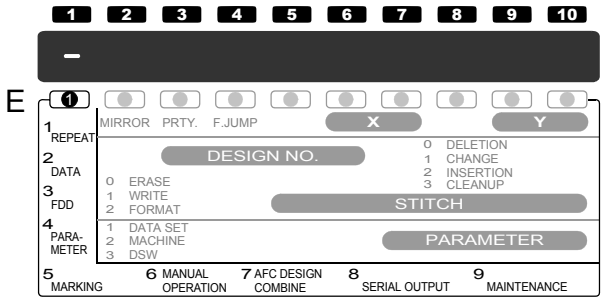
7. Completion



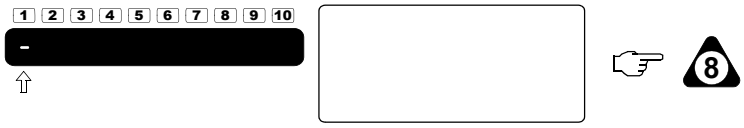
7. SERIAL OUTPUT

Output design data that is registered in the memory to an external device (DG/ML) that is connected serially.

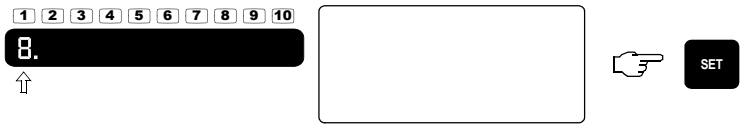
1. Turn ON the power switch of an external device (DG/ML) after serial connection.
2. Move the cursor to E-①.



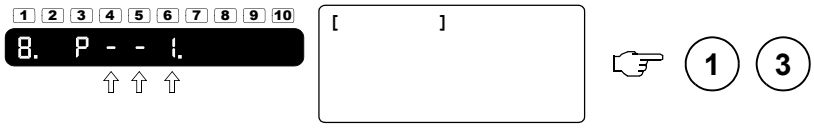
3. Select “8: Serial output”.

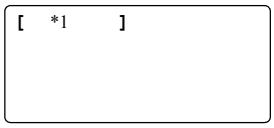


4. Decide “8: Serial output”.



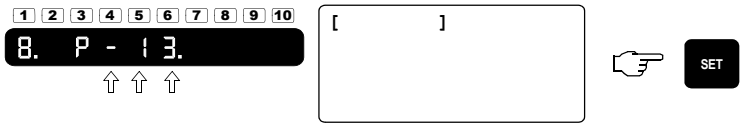
5. Selection of a design number to output





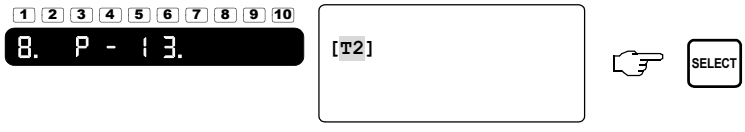
*1: Design name

6. Decision of the design number to output



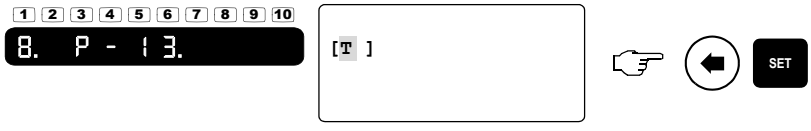
Example: design number 13

7. Selection of storing mode (code format)



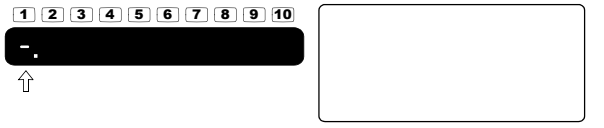
T:TAJIMA code
T2: Tajima binary code

8. Decision of storing mode (code format)



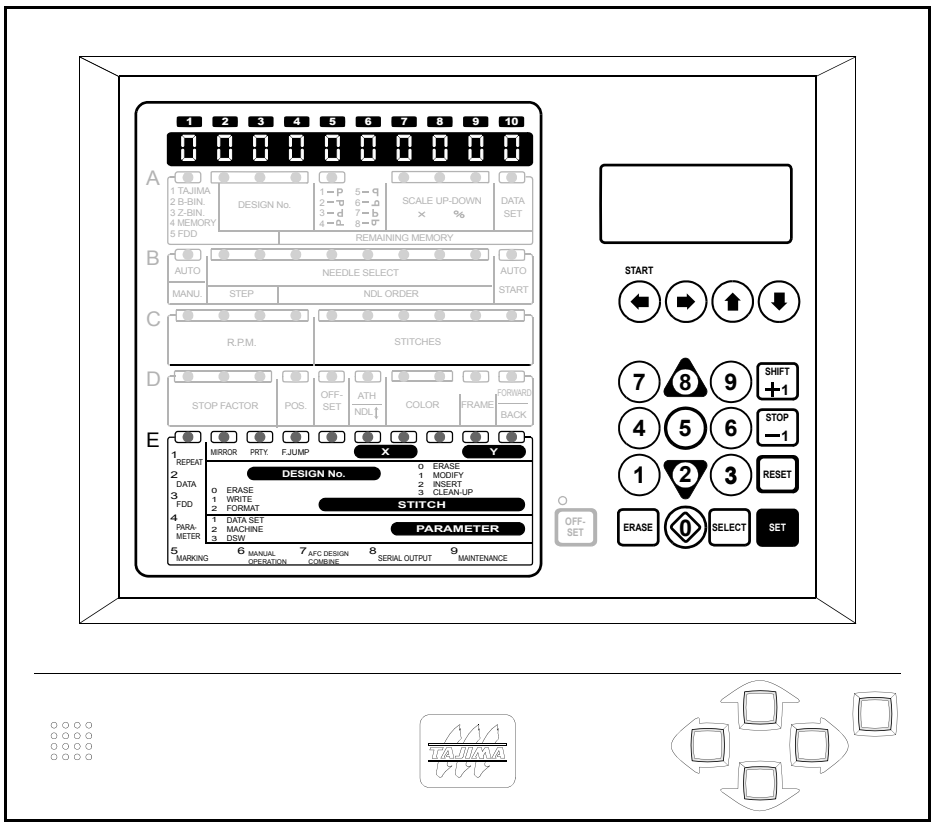
Rotating display

9. Completion



It is not possible to perform serial output of AFC design.

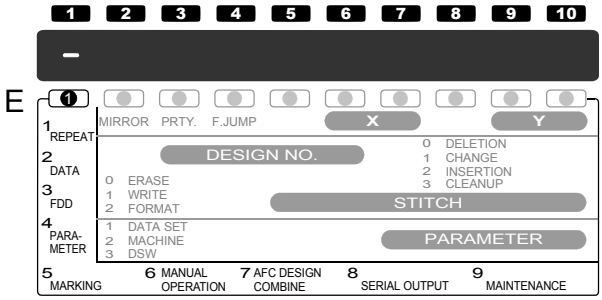
CHAPTER 9 SETTING E (PARAMETER)



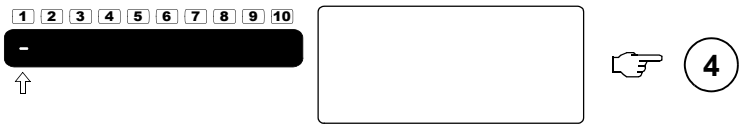
This chapter explains about parameter setting.

1. DATA SET

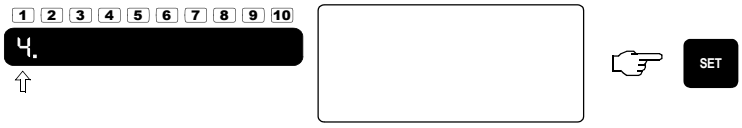
1. Move the cursor to E-(1).



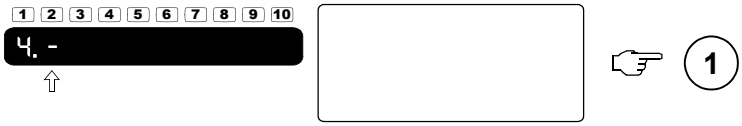
2. Select “4: Parameter”.



3. Decide “4: Parameter”.1: Data set.

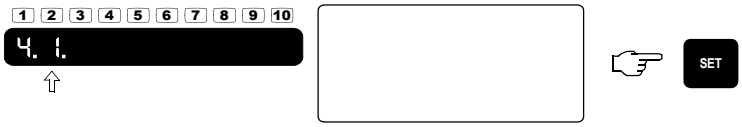


4. Select “1: Data set”.

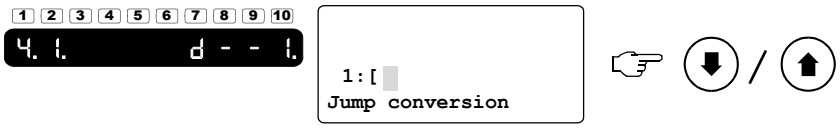


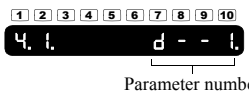
1 : Data set
2 : Machine setting
3 : DSW confirmation

5. Decide “1: Data set”.

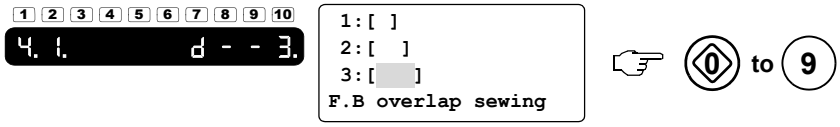


6. Selection of setting item

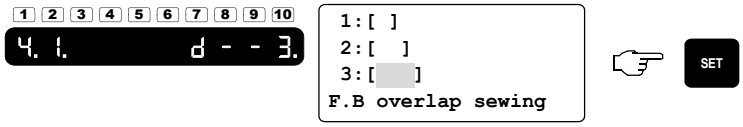




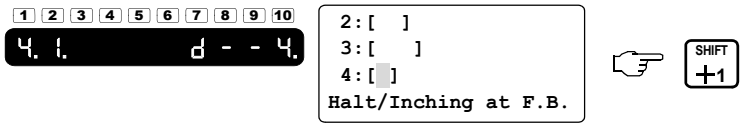
7. Selection of the setting value



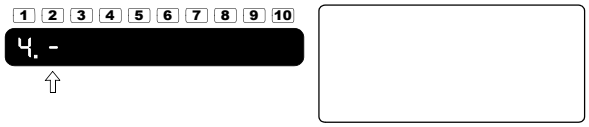
8. Decision of the setting value



9. End of parameter setting



10. Completion



Example : d-3 F.B overlap sewing

Setting contents of each setting item ⇨p.120

It is also possible to select setting items input by numerical key using the following keys.

◀, ▶: Cursor moving key

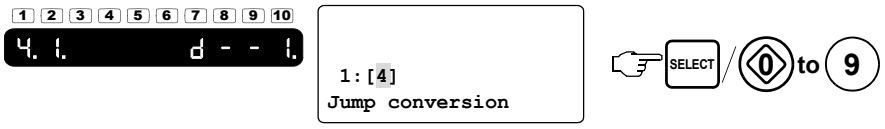
SELECT: Select key

To continue to perform other settings, perform operations “6. Selection of setting item” and after.

Setting item

d-1. Jump conversion

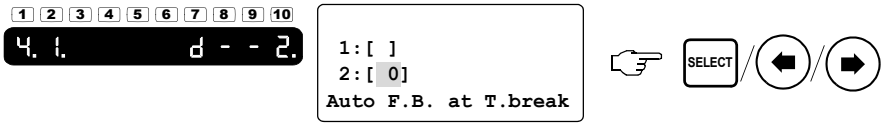
Setting for conditions to covert consecutive jump codes to frame stepping code



Contents to be set
Input the number of consecutive jump codes using numerical key (0 to 9).
0 does not perform jump conversion.

d-2. Automatic F. B at thread breakage

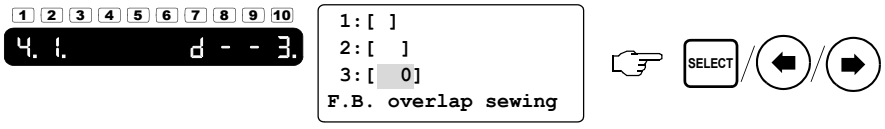
Setting whether the machine performs frame back automatically at thread breakage



Contents to be set
No: Not to perform
0: To perform frame back to thread breakage detected point
1 to 9: To perform frame back to a thread breakage detecting point and by the number of stitches

d-3. F.B overlap sewing

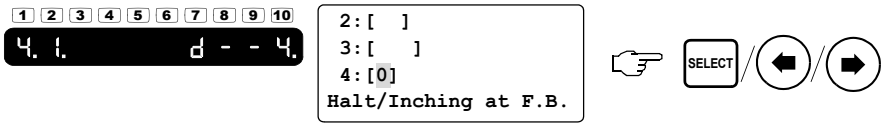
Setting for a starting point of all head sewing after frame back



Contents to be set
Setting how many stitches short of the thread breakage point where the machine stopped makes the machine start to sew
0: Not to perform all head sewing (only the head where thread broke performs sewing).
1 to 9, ALL (whole section)
It is also possible to select using the numerical key.

d-4. Machine halt before F.B

Setting whether that machine stops or not at a start point of all head sewing, or the machine performs inching at short of F. B start point

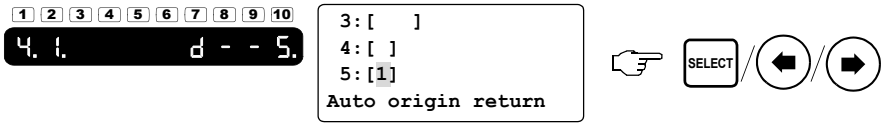


Contents to be set
0: No to stop
1: To stop
2: Inching
All head sewing point is the position that is set by “d-3. F.B Overlap Sewing”.

When selecting “2”, the machine will perform inching rotation p.125

d-5. Automatic origin return

Setting for to perform/not to perform automatic origin return at the end of embroidery

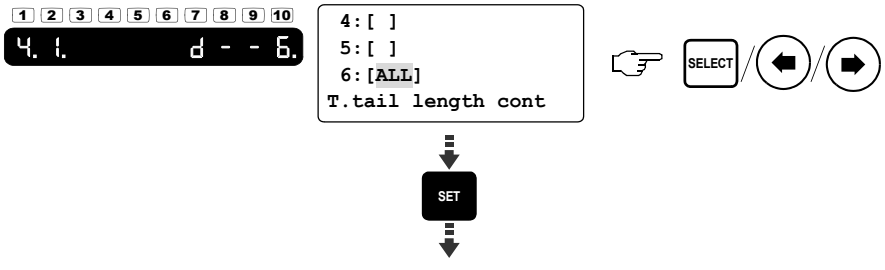


Contents to be set
0: Not to perform
1: To perform

d-6. Picker OFF timing

Setting for thread trim length of all needle bars/needle bar unit

[All needle bars/needle bar unit]



Contents to be set
ALL : All needle bars
EACH: Needle bar unit

Pressing the set key will set “Thread trim length”.

[Thread trim length (all needle bars)]

```
 5:[ ]
 6:[ALL]
   [+2]
T.tail length cont
```

Setting range: -8 to +8
(In increments of 5° between 340 to 355° or 0 to 60°)

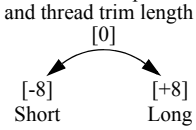
[Thread trim length (needle bar unit)]

```
 5:[ ]
 6:[EACH]
   [+2 +2 +2 +2 +2]
T.tail length cont
```

Contents to be set
Select picker OFF timing for each needle bar.

Setting range: -8 to +8
(In increments of 5 ° between 340 to 355° or 0 to 60°)

The relationship between picker OFF timing and thread trim length is shown as below.



d-8. Return stitching

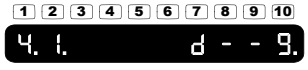
Return stitching at start of sewing after thread trimming


```
   [ ]
 7:[   ]
 8:[1]
Return stitching
```

Contents to be set
0: Not to perform
1: 1 reciprocating (0.8 mm)
2: 2 reciprocatings (0.8 mm)

d-9. Automatic jump

Setting for stitch length to make automatic jump




```
 7:[     ]
 8:[ ]
 9:[4.0]
Automatic jump
```

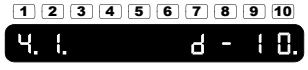
It is not possible to change in the middle of embroidery.

Contents to be set
Input a stitch length using numerical key.
Setting range: 4.0 to 9.9(mm)
When the value exceeds the set stitch length, jump will be performed.

It is effective when data is set to "2: With auto jump". ⇨p.28

d-10. Tie stitching

Setting for tie stitches at thread trimming




```
 8:[ ]
 9:[   ]
10:[0.6][B]
Tie stitch
```

Contents to be set
0.2: 0.2mm
0.4: 0.4mm
0.6: 0.6mm
0.8: 0.8mm

Selection of tie stitching


```
 8:[ ]
 9:[   ]
10:[0.6][ ]
Tie stitch
```

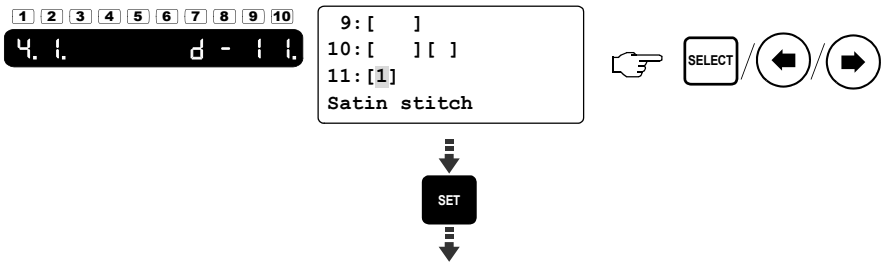
Contents to be set
A: Not to perform tie stitching
B, C, D: To perform tie stitching

B
C
D ▼ Hard to fray

When fray is highly visible in B, set to C or D.

d-11. Satin stitch

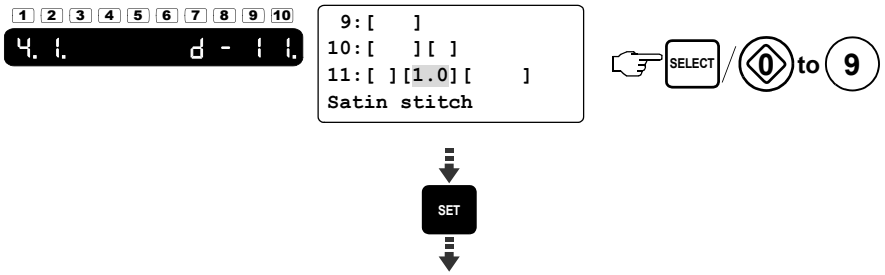
Set a range to enlarge/reduce.



📖 It is not possible to change in the middle of embroidery.

📖 Contents to be set
0: Not to perform scale up/down
1: Whole design data
2: A part of design data (The part specified by a function code ⇨p.86

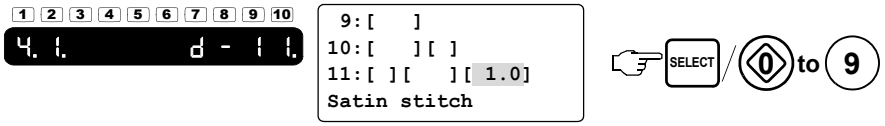
Setting that judges whether given stitch is a satin stitch or a running stitch



📖 Satin stitch ⇨p.138

📖 Contents to be set
Input a stitch length using numerical key.
Setting range: 0.4 to 1.0(mm)

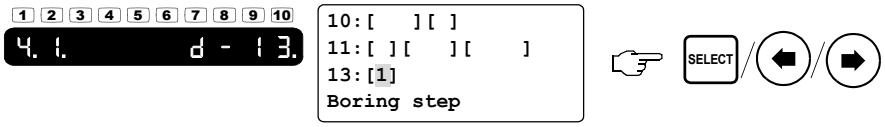
Set enlarging/reducing amount (stitch data to add).



📖 Contents to be set
Input a stitch length using numerical key and switch a symbol using the select key.
Setting range: -1.0 to 1.0(mm)

d-13. Boring

Setting for data processing method when performing boring



📖 This setting is possible only when the switch SW27-2 on the PSW7L3 card is set to "ON".. ⇨p.146

📖 It is not possible to change in the middle of embroidery.

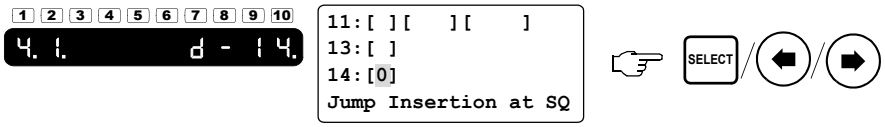
📖 Contents to be set
1: To perform boring (*1)
2: To perform boring (*2)
3: To perform boring (*3)
4: Boring is not performed
*1: Not to perform data processing
*2: It deletes the offset amount on the design data, and adds mechanical offset 12mm.
*3: Mechanical offset 12mm is added.

📖 When selecting "1", do not make setting for "rotation/reversion" and "enlargement/reduction" of design. Boring will not be performed as the data is.

📖 When using design data that includes offset data for boring, select "1" or "2". If not, select "3".

d-14. Sequin jump insertion

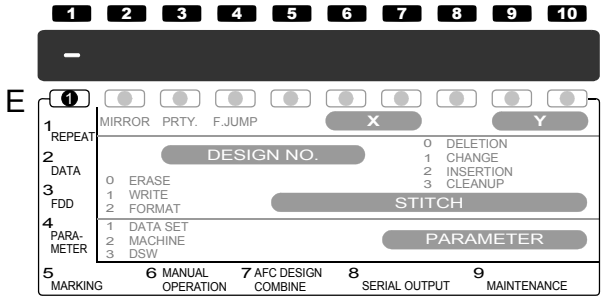
To perform/not to perform automatic insertion of jump data after sequin output



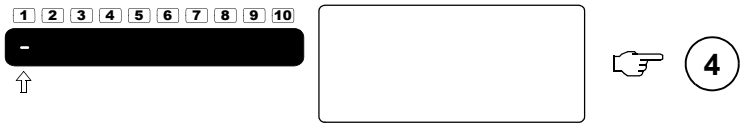
📖 Contents to be set
0: Not to perform automatic insertion
1: To perform automatic insertion

2. MACHINE SETTING

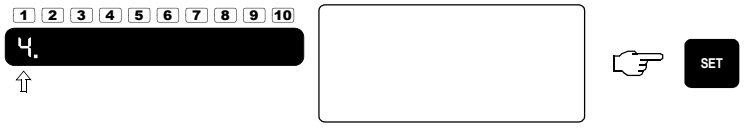
1. Move the cursor to E-❶.



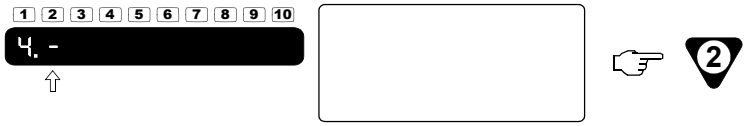
2. Select “4: Parameter”.



3. Decide “4: Parameter”.

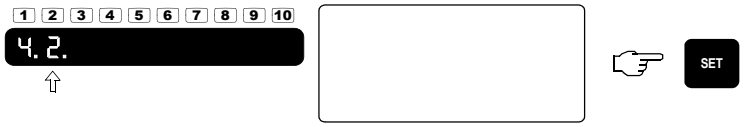


4. Select “2: Machine setting”.

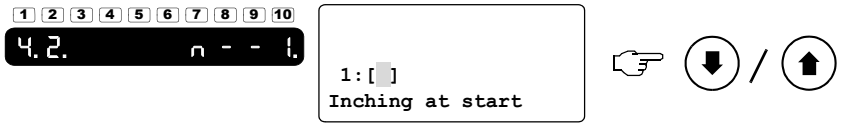


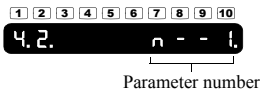
1 : Data set
2 : Machine setting
3 : DSW confirmation

5. Decide “2: Machine Setting”.

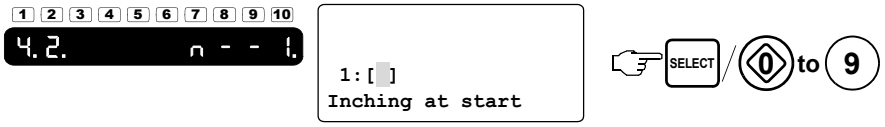


6. Selection of setting item





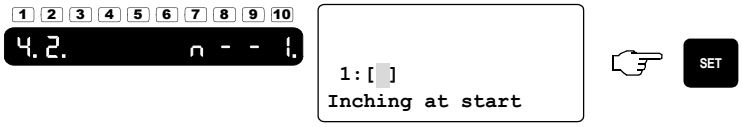
7. Selection of the setting value



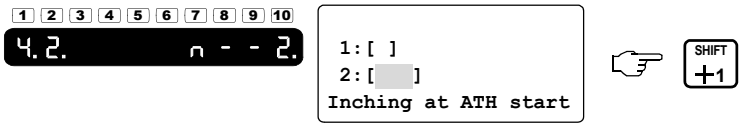
📖 Example : n-1 The number of inching times at start

📖 Setting contents of each setting item ⟹p.125

8. Decision of the setting value

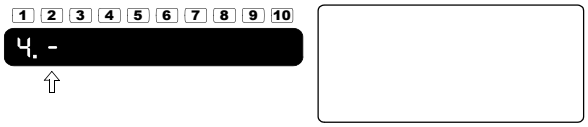


9. End of parameter setting



📖 To continue to perform other settings, perform operations “6. Selection of setting item” and after.

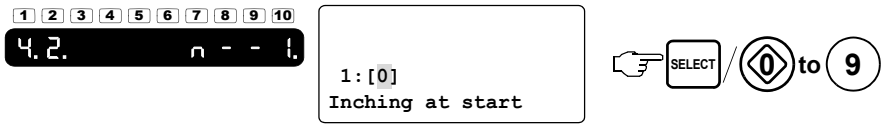
10. Completion



Setting item

n-1. The number of inching times at start

Setting for the number of inching times at start

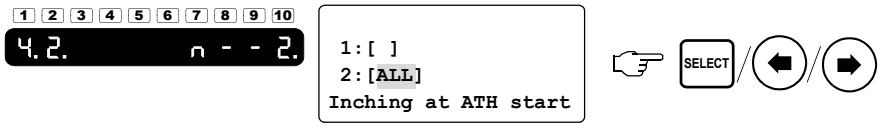


Contents to be set
Input the number of inching times using numerical key (0 to 9).

n-2. The number of inching times at ATH start

Setting for the number of inching times at machine start after thread trimming (all needle bars/needle bar unit)

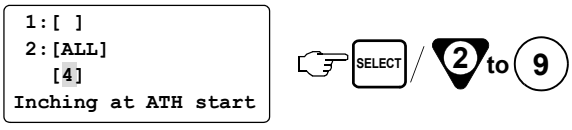
[All needle bars/needle bar unit]



Contents to be set
ALL : All needle bars
EACH: Needle bar unit

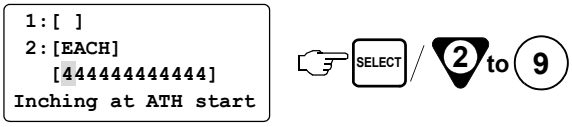
Pressing the set key will set “The number of inching times”.

[The number of inching times (all needle bars)]



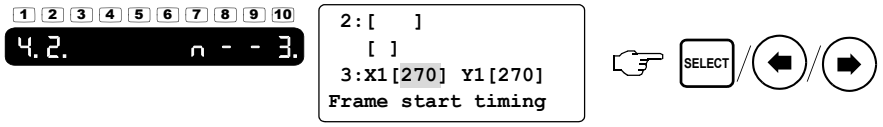
Contents to be set
Input the number of times using numerical key.
Setting range: 2 to 9

[The number of inching times (needle bar unit)]



n-3. Frame drive start timing

Setting for drive start timing of X/Y-axis motor



Contents to be set
240 to 300 (in increments of 5 degrees)

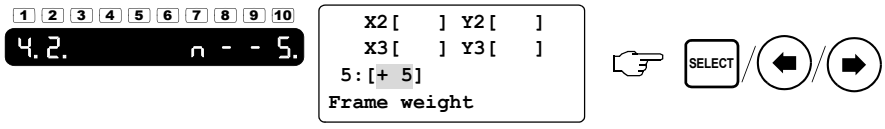
Timing	Result
Quicken	Thread tension will become weak
Slow	Thread tension will become tight Stitch length may sometimes become shorter

About setting item

Setting item	The target of control	Corresponding stitch data	
		X/Y	Setting value (mm)
X1	X-axis motor	X data	0.1 to 1.9
X2			2.0 to4.9
X3			5.0 to 12.7
Y1	Y-axis motor	Y data	0.1 to 1.9
Y2			2.0 to4.9
Y3			5.0 to 12.7

n-5. Frame weight

Setting for weight to be added to the frame



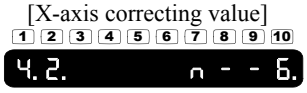
When frame weight becomes heavier, stitch length in X-axis direction may become larger. Perform adjustment when stitch length becomes larger due to change of fabric or embroidery frame to use, etc.

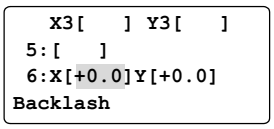
Setting range: +0 to +20(in increments of 5)

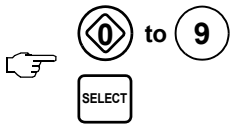
n-6. Backlash

Setting for correcting backlash at X/Y-axis drive system

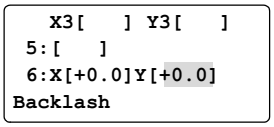
[X-axis correcting value]

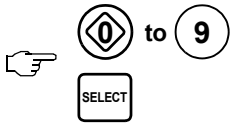






[Y-axis correcting value]





📖 It is not possible to change (Only when "satin stitch" is changed). ⇨p.122

📖 Contents to be set
Input a stitch length using numerical key and switch a symbol using the select key.
Setting range: -0.5 to +0.5(mm)

📖 It is also possible to select using the following key.

◀, ▶: Cursor moving key

📖 Pressing the set key will set "Y-axis correcting value".

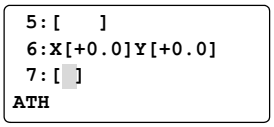
📖 Setting range: -0.5 to +0.5(mm)

📖 It is also possible to select using the following key.

◀, ▶: Cursor moving key

n-7. Automatic thread trimming (ATH)

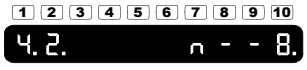
Setting whether automatic thread trimming is performed or not

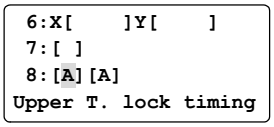


📖 Contents to be set
0: Not to perform
1: To perform

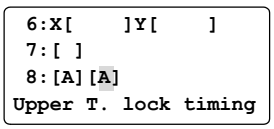
n-8. Upper thread lock timing

Adjustment for thread tension at start of sewing





Adjustment for thread tension at thread trimming



📖 Contents to be set

A
B
C ▼ Strong thread tension (it is hard to leave upper thread)

📖 When upper thread remains on the fabric at start of sewing, perform adjustment. When the upper thread is highly visible in A, set to B or C.

📖 Contents to be set

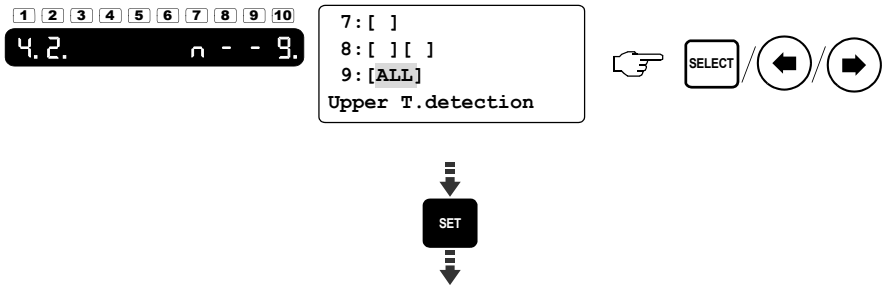
A
B
C ▼ Strong thread tension (hard to fray)

📖 When fray is highly visible in A, set to B or C.

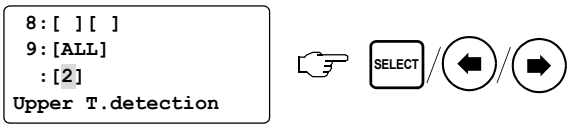
n-9. Upper thread breakage Detection

Setting for upper thread breakage detecting mode (all needle bars/needle bar unit)

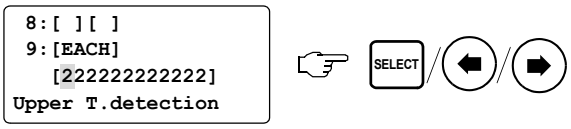
[All needle bars/needle bar unit]



[The number of detecting times (all needle bars)]



[The number of detecting times (needle bar unit)]



Contents to be set
ALL : All needle bars
EACH: Needle bar unit

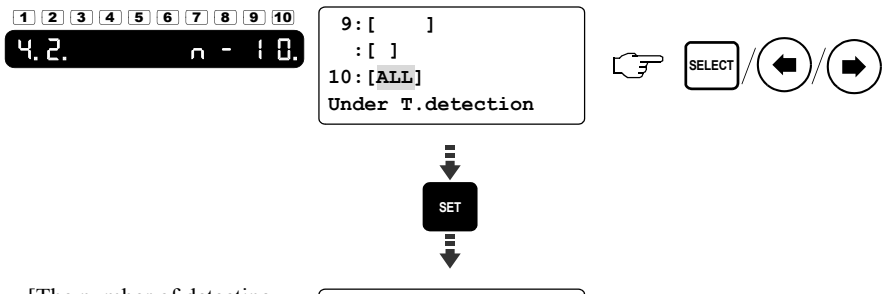
Pressing the set key will set “The number of detecting times”.

Setting range: -/1 to 4 times
Selecting “—” will cause no detection of thread breakage.
The smaller the number of detecting times, the higher the sensitivity.

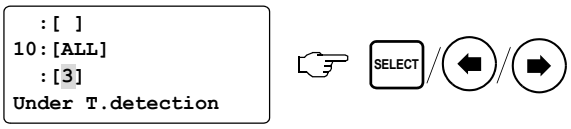
n-10. Under thread breakage detection (unit)

Setting for under thread breakage detection unit (all needle bars/needle bar unit)

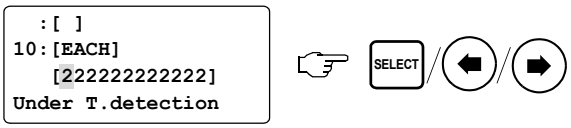
[All needle bars/needle bar unit]



[The number of detecting times (all needle bars)]



[The number of detecting times (needle bar unit)]



Contents to be set
ALL : All needle bars
EACH: Needle bar unit

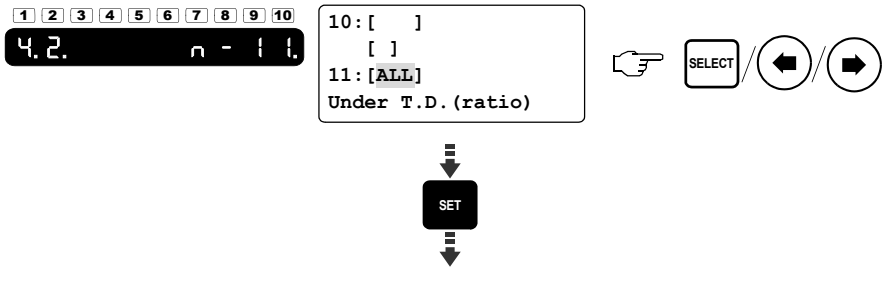
Pressing the set key will set "The number of detecting times".

Setting range: -/2/4/6/8 times
Selecting “—” will cause no detection of thread breakage.
The smaller the number of detecting times, the higher the sensitivity.

n-11. Under thread breakage detection (ratio)

Setting for under thread breakage detection ratio (all needle bars/needle bar unit)

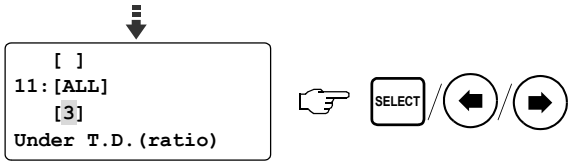
[All needle bars/needle bar unit]



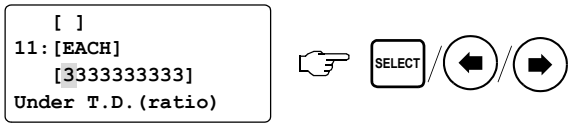
Contents to be set
ALL : All needle bars
EACH: Needle bar unit

Pressing the set key will set “Detecting ratio”.

[Detecting ratio (all needle bars)]



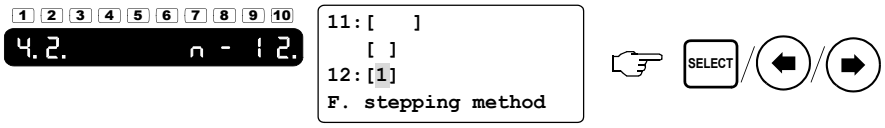
[Detecting ratio (needle bar unit)]



Setting range:
3 to 9 (in increments of 10%), A (100%)
The larger the detecting ratio, the higher the sensitivity.

n-12. Frame stepping method

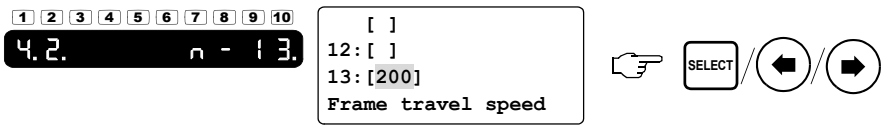
Setting for frame travel method at frame stepping



Contents to be set
0: Stitch by stitch
1: Batch

n-13. Frame travel speed

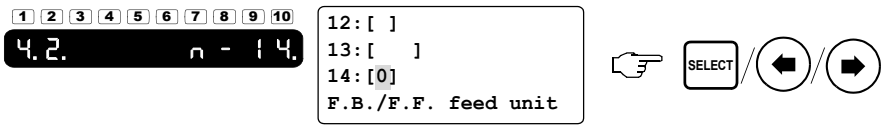
Setting for frame travel speed at origin return, or offsetting



Contents to be set
100: 100mm/sec
200: 200mm/sec

n-14. F.B/F.F. feed unit

Setting for feed unit in frame back/forward



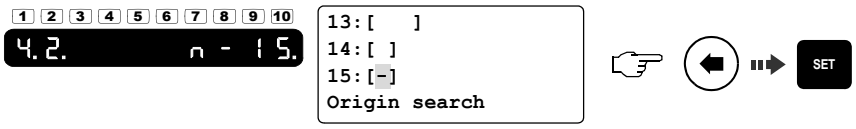
Contents to be set
0: 1 stitch
1: 3 stitches
2: 5 stitches

n-15. Absolute origin search

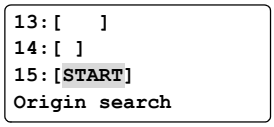
Operation to make the machine memorize the origin of the embroidery space

CAUTION

When performing this operation, do not put your hands, etc. on the machine table. You may be injured by the moving embroidery frame.



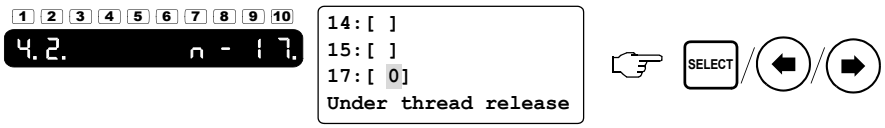
Pressing the start key will call the following screen.



Pressing the set key will cause the embroidery frame to return to the original position after moving to the position of absolute origin.

n-17. Under thread release

Setting for amount of under thread releasing (frame travel amount)



Contents to be set
0 : Not to release under thread
5 : 5mm
8 : 10mm
10 : 20mm

n-18. Preset halt

Setting for making the machine stop automatically

[Halt by stitch]


```
15:[ ]
17:[  ]
18:ST[ 50000]
Preset halt
```

- When it reaches the set number of stitches, the machine will stop.
- Contents to be set
  Input the number of stitches using numerical key (0 to 999,999).
  Selecting “0” does not perform automatic stop.
- Pressing the set key will set “Halt by data”.

[halt by data]

```
17:[  ]
18:ST[      ]
   DT[80000] ED[ ]
Preset halt
```

- The machine will stop when total travel amount of the frame reaches the set value.
- Contents to be set
  Input a moving amount (mm) using numerical key (0to 99,999).
  Selecting “0” does not perform automatic stop.
- Pressing the set key will set “Stop just before end code”.

[stop just before end code]

```
17:[  ]
18:ST[      ]
   DT[     ] ED[0]
Preset halt
```

- The machine will stop one stitch prior to end code. Since embroidery is not finished, it is possible to perform frame back.
- Contents to be set
  0: Not to perform
  1: To perform
- In case of setting both halt by stitch and halt by data, the machine will halt when one of them reaches the setting value.
  In this case, both counts will be reset.

n-20. Cord

Setting whether cording is performed or not

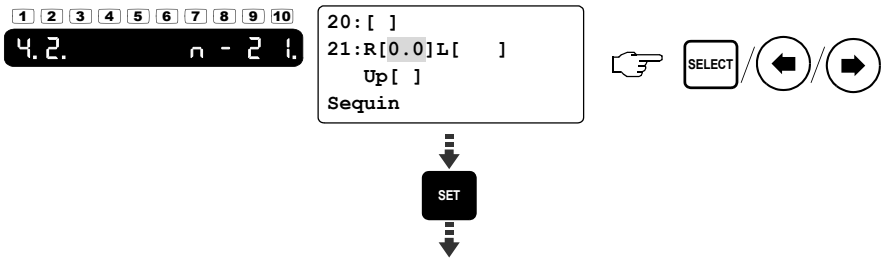

```
18:ST[      ]
   DT[     ] ED[ ]
20:[0]
Cording
```

- This setting is possible only when the switch SW27-3 on the PSW7L3 card is set to “ON”.. ⇒p.146
- Contents to be set
  0: Not to perform
  1: To perform

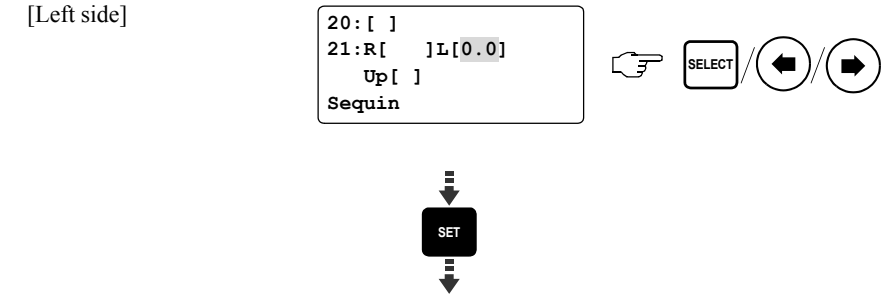
n-21. Sequin

Setting for sequin device

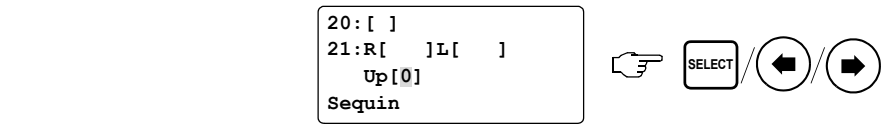
[Right side]



[Left side]



To make the sequin device move up at frame stepping



This setting is available only when the switch SW27-6 on the PSW7L3 card is set to "ON".. ⇒p.146

Contents to be set
0.0: Without
1.0(mm): Conventional sequin device
4.0 to 9.9(mm): High speed sequin device (*1)
*1: Select the value to adjust to the outer diameter or material of sequin. Generally, outer diameter + 0.7mm is the standard value.

Pressing the set key will set to "left side".

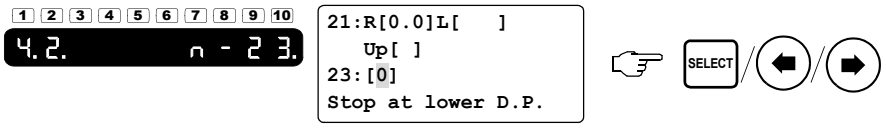
It is also possible to input using numerical key

Contents to be set are the same as the right one.

Contents to be set
0: Not to make the sequin device move up
1: To make the sequin device move up

n-23. Stop at lower D. point (pseudo-fixed position)

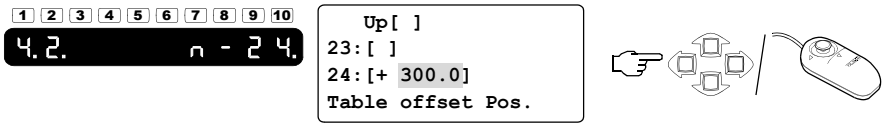
Setting whether stop at lower dead point is performed or not



Contents to be set
0: Not to perform
1: To perform

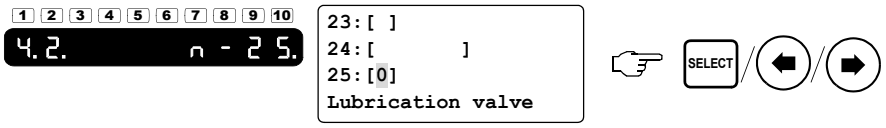
n-24. Table offset position

Setting for table offset position



n-25. Lubricating valve

Setting whether lubricating valve exists or not

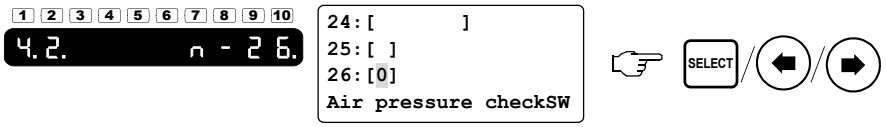


Contents to be set
0: Without
1: With

It is possible to perform setting only when PSW card SW27-4 Oiling is set to "ON". ⇒p.146

n-26. Air pressure sensor

Setting whether air pressure sensor exists or not

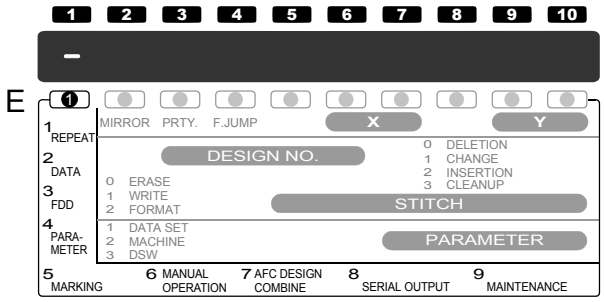


Contents to be set
0: Without
1: With

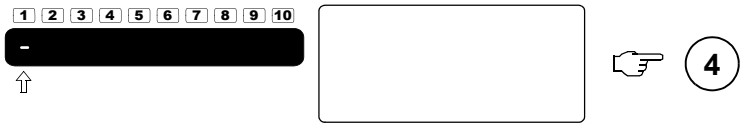
It is possible to perform setting only when either PSW card SW27-6 (sequin) and/or SW27-7 (bobbin changer) are set to "ON".. ⇒p.146

3. CONFIRMATION OF DIP SWITCH

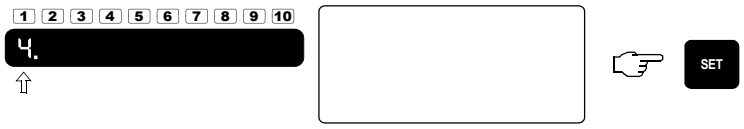
1. Move the cursor to E-❶.



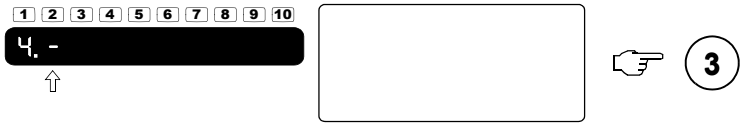
2. Select “4: Parameter”.



3. Decide “4: Parameter”.

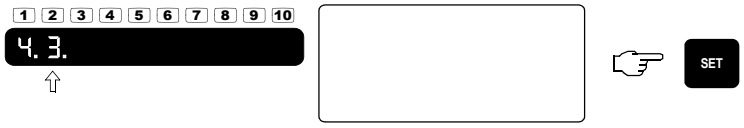


4. Select “3: DSW confirmation”.

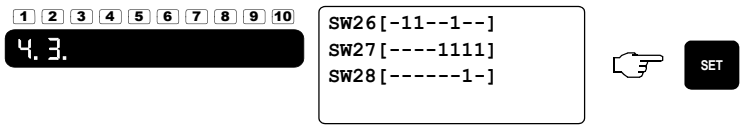


📖 1 : Data set
2 : Machine setting
3 : DSW confirmation

5. Decide “3: DSW confirmation”.



6. Confirm



📖 87654321 (Switch number)

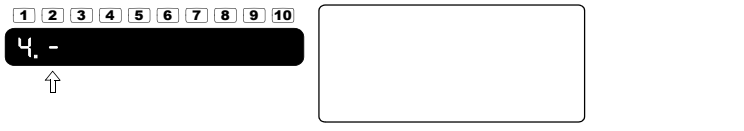
```
SW26[-11--1--]
SW27[----1111]
SW28[------1-]
```

Setting value

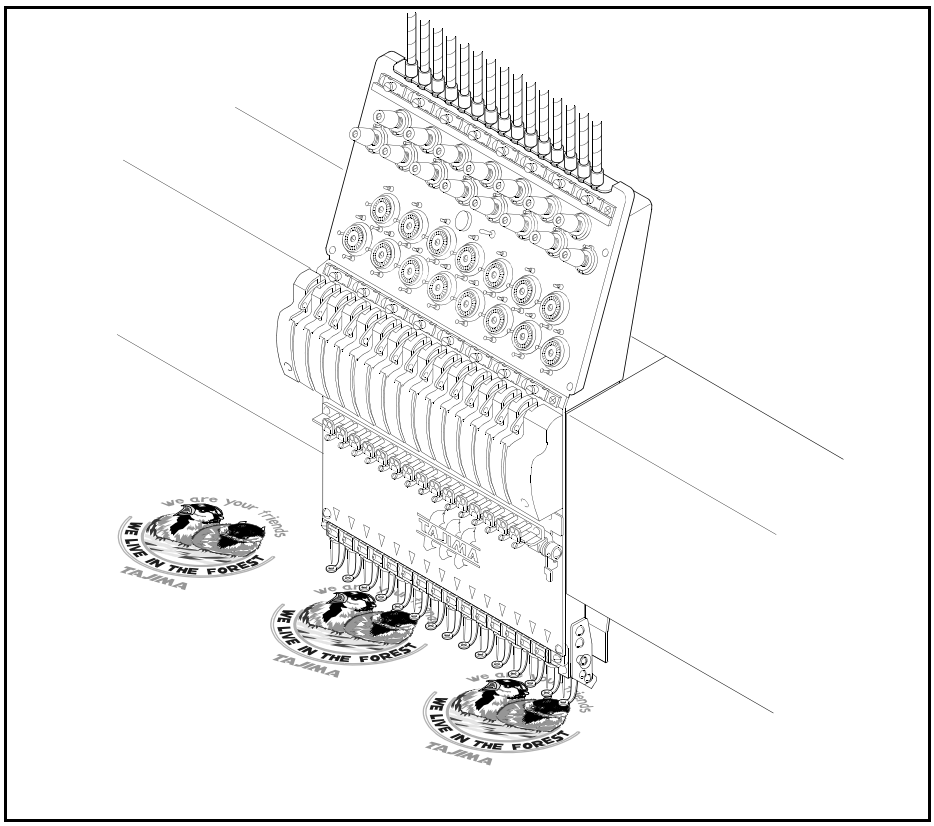
-: OFF
1: ON

📖 Press the set key after confirmation.

7. Completion



CHAPTER 10 OUTLINE OF FUNCTIONS



1. CONDITION DATA

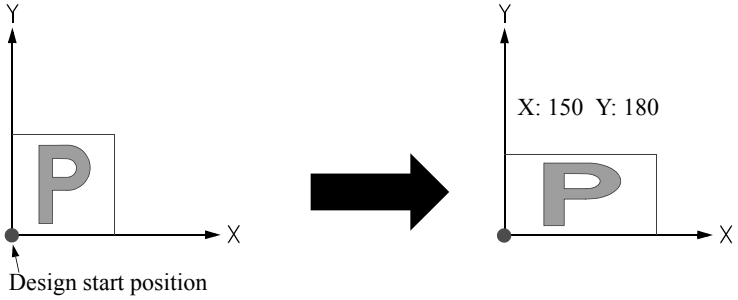
Conditional item	Memory	Floppy disk storage	
		T2 code	T code
Needle bar setting	○	○	—
Enlargement/reduction, rotation, reversion	○	—	—
Design start position	○	○	—
Automatic offset	○	—	—
Repeat	○	—	—

Condition data is embroidery condition included in design data.
Some item of condition data may not be stored depending on target where it is stored.

Even if design data includes condition data, it is not possible to read the design start position when inputting from floppy disk.

2. DESIGN SCALE UP/DOWN

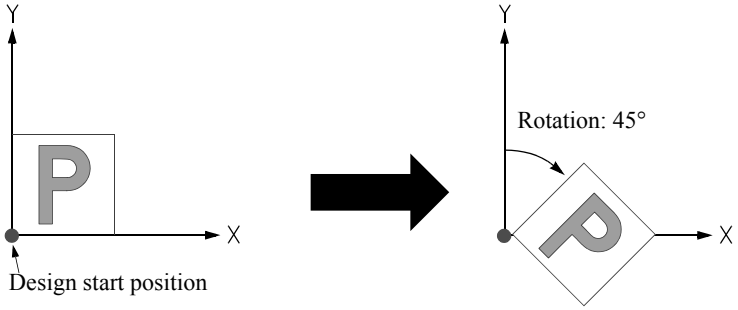
It is possible to perform enlargement/reduction in 50 to 200% in X/Y direction.



When setting all of enlargement/reduction, rotation, and reversion, there will be priority ranking in data processing.
Enlargement/reduction → rotation → reversion
These are processed in this order.

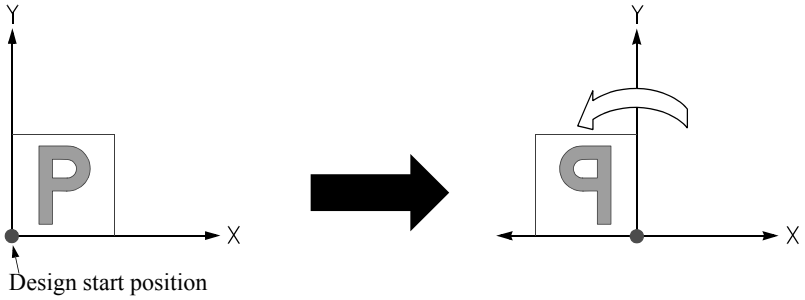
3. ROTATION

It is possible to rotate a design up to 359° in increments of 1°.

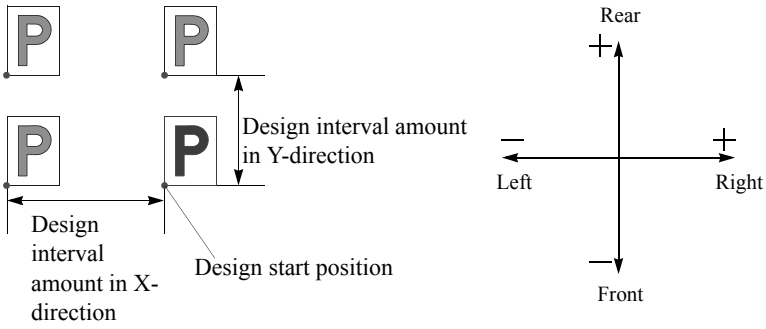


4. REVERSION

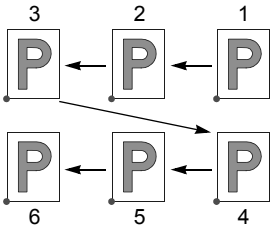
It is possible to make reversion based on Y-axis.



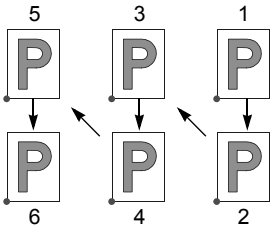
5. REPEAT



X direction priority



Y direction priority



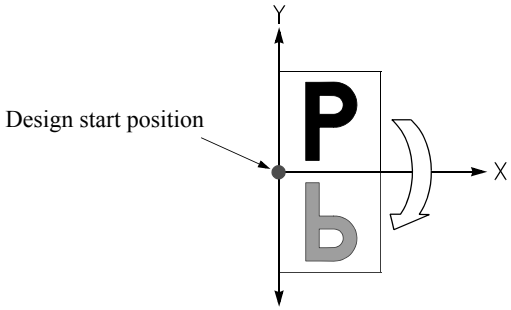
The direction of repeat is determined by +/- of a design interval amount.

Embroidering order differs depending on priority direction.

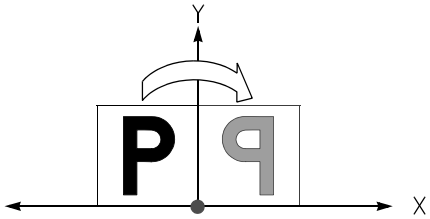
The XY design interval in the left illustration is minus direction.

6. CONVERTED ARRANGEMENT

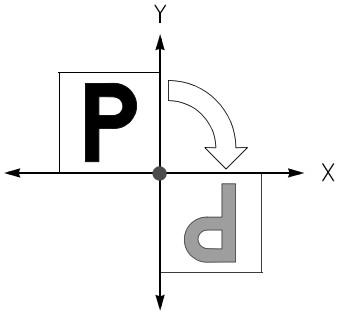
X-axis mirror image arrangement



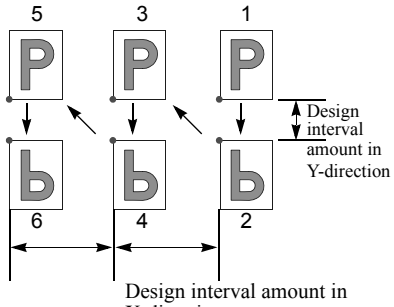
Y-axis mirror image arrangement



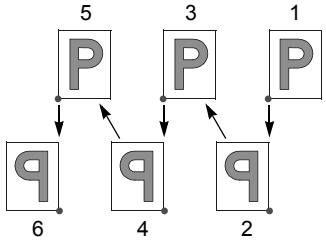
180° rotated arrangement



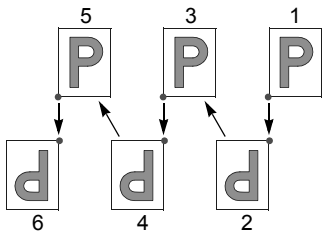
Converted arrangement arranges and repeats the design as it is set as the initial setting in odd-numbered times, and design arranged by mirror/ rotation in even-numbered times in order.



X: -, Y: -, Y priority



X: -, Y: -, Y priority



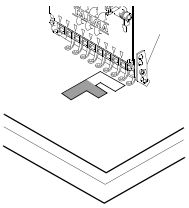
X: -, Y: -, Y priority

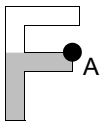
7. MANUAL OFFSET

This function returns the embroidery frame to the original position after stopping the machine at a free setting point and moving the embroidery frame forward from the free setting point by manual frame travel.

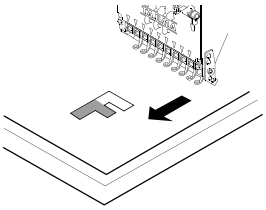
A: Free setting point B: Frame travel position

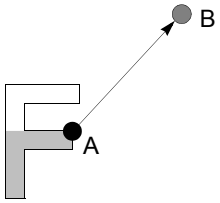
1. It performs manual thread trimming after it makes the machine stop at the free setting point (A).



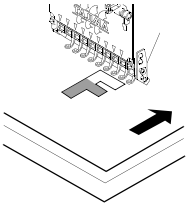


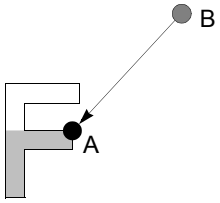
2. Move the embroidery frame forward (B) by manual frame travel for confirming the embroidery design, etc.





3. When performing this operation, the frame will move to the free setting point (A).



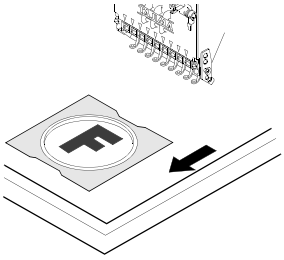


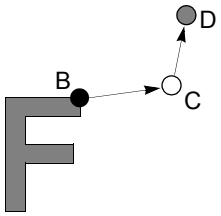
8. AUTOMATIC OFFSET

This function moves the embroidery frame forward automatically at the end position of design.

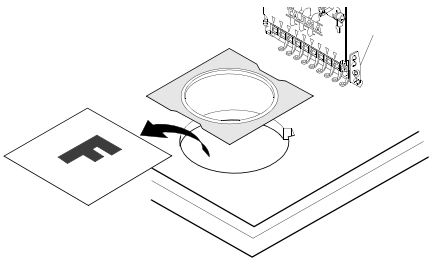
A: Design start position
B: End position of design
C: Middle position
D: Offset start position

1The machine will stop at the end position of design (B) to perform thread trimming, and the embroidery frame will move to the offset start position (D) through the middle position (C).



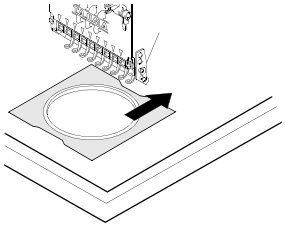


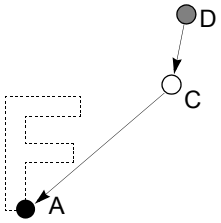
2. Exchange the cloth or frame.



When there is no middle position (C), the frame will move directly to the offset start position (D).

3. When starting the machine, the embroidery frame will move to the design start position (A) through the middle position (C), and the embroidery will be continued.





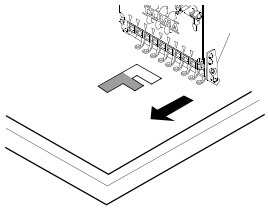
When there is no middle position (C), the frame will move to the design start position (A).

9. AUTOMATIC FREE SETTING OFFSET

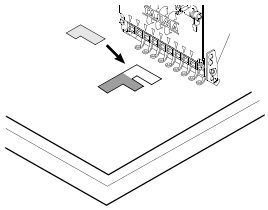
This function moves the embroidery frame forward automatically at a free setting point during embroidery.degree

Condition: Stitch data must include automatic free setting offset, setting for automatic start and automatic thread trimming must be set to “To perform”. p.44, p.54, p.126

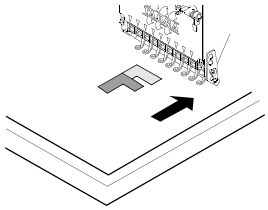
1. The machine stops at the free setting point (D) during embroidery to perform thread trimming, and the embroidery frame moves to the offset start position (E) through the middle position (C).



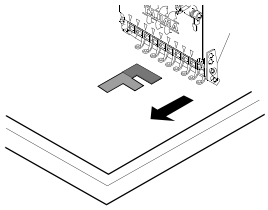
Place applique.



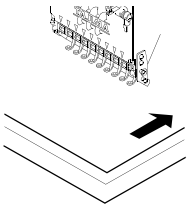
3. When starting the machine, the embroidery frame will move to the free setting point (D) through the middle position (C), and the embroidery will be continued.



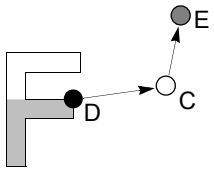
4. The machine stops at the end position of design (B) to perform thread trimming, and the embroidery frame will move to the offset start position (E) through the middle position (C).



5. When starting the machine after exchanging cloth, etc., the embroidery frame will move to the design start position (A) through the middle position (C), and the embroidery will be started.

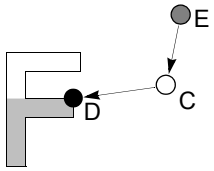


🕮 When using automatic free setting offset without setting an offset start position, the offset movement position will become the design start position.

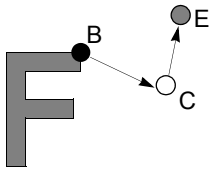


🕮 When there is no middle position (C), the frame will move directly to the offset start position (E).

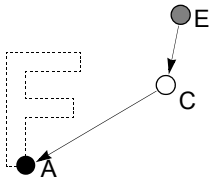
A: Design start position
B: End position of design
C: Middle position
D: Free setting position
E: Offset start position



🕮 When there is no middle position (C), the frame will move directly to the free setting point (D).



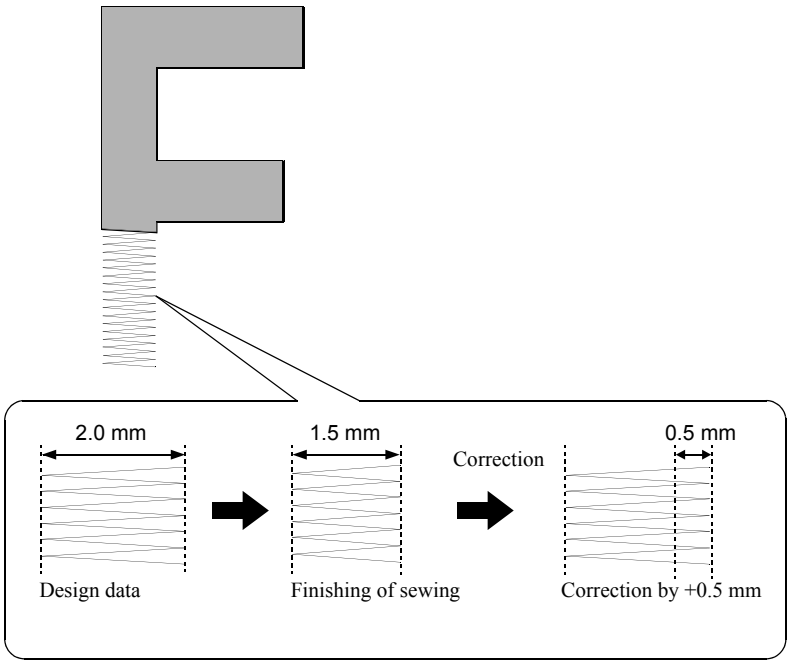
🕮 When there is no middle position (C), the frame will move directly to the offset start position (E).



🕮 When there is no middle position (C), the frame will move directly to the design start position (A).

10. BACKLASH

This function corrects drive error generated when direction of stitch data reverses (reversion of polarity).

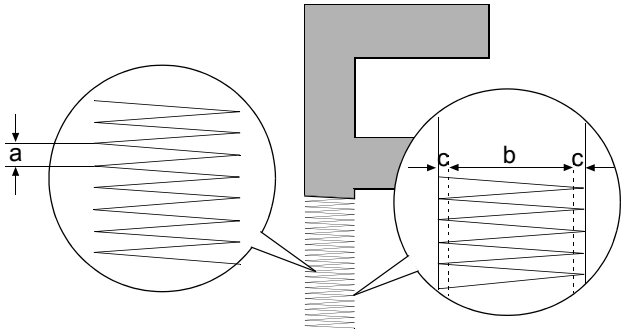


📖 It is possible to correct X direction/Y direction individually.

11. SATIN STITCH

This function expands/reduces satin stitch length.

a: Distance b: Stitch length c: 1/2 of the setting value



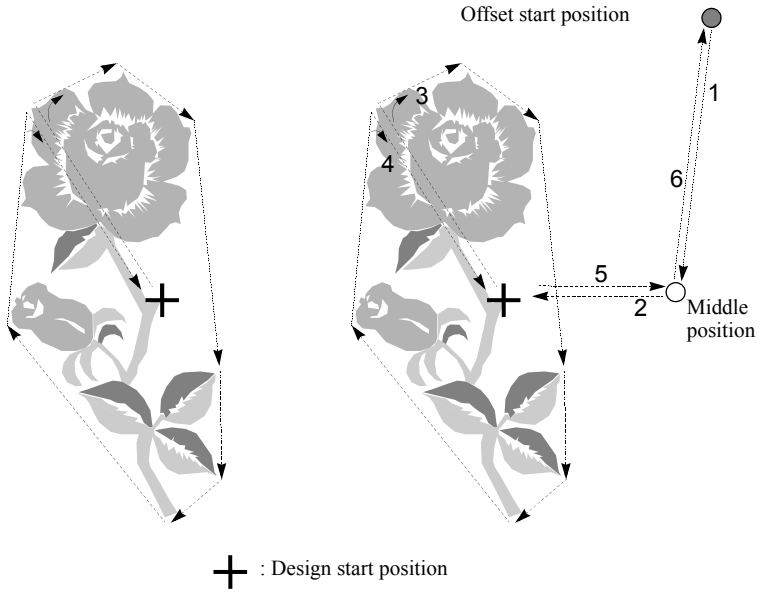
📖 Density for distinction
When a distance (a) is the setting value or less of parameter “d-11 Satin stitch [judging density]”, the machine judges it as a satin stitch.

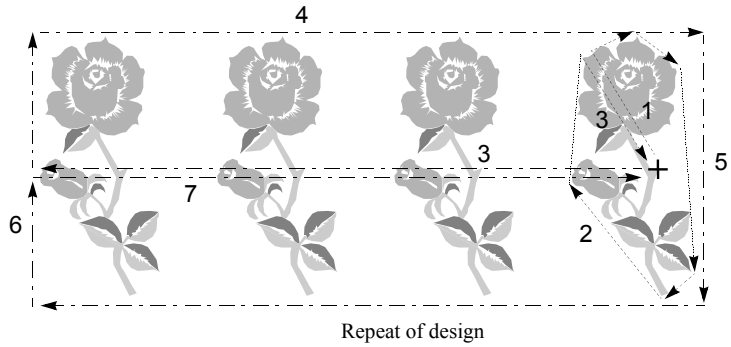
📖 Data to be added
1/2 (C) of the setting value of parameter “d-11 Satin stitch [data to be added]” is added to both ends of stitch (b).

📖 d-11 Satin stitch ⇒p.122

12. TRACE

This function makes the frame move along the periphery of the design of which data is set.





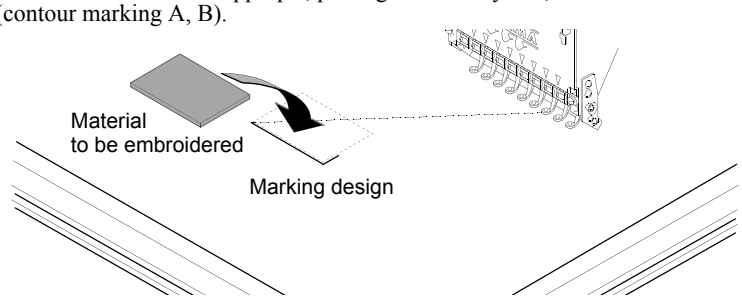
At tracing the frame moves as if a rubber band were hung on periphery of a design.

When there is an offset position, the frame will move to offset start position → middle position → design start position → outer circumference → design start position → middle position → offset start position..

When repeat setting is made, whole designs will be traced after tracing the first design only.

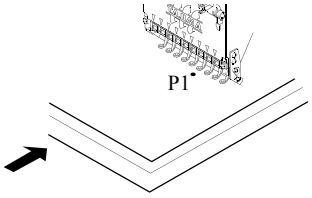
13. MARKING

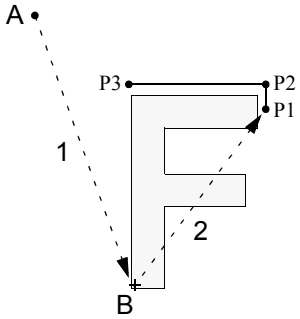
Marking means basting a mark (marking A, B) for positioning material to be embroidered in such as applique, placing embroidery etc., or a contour of design data (contour marking A, B).



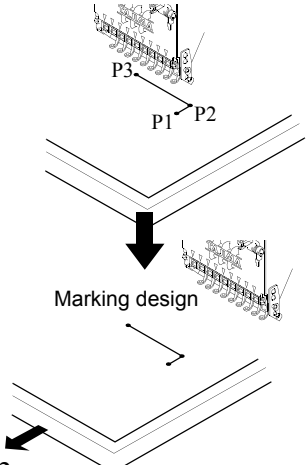
[ABOUT MOVEMENTS AT SETTING OF MARKING B]

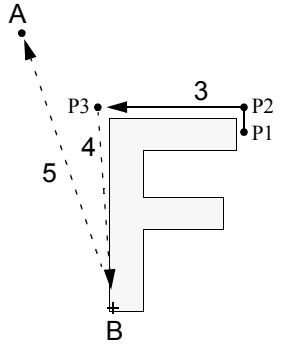
1. After frame travel from the offset start position (A) to the design start position (B), the machine will move to the sewing start point P1 of the marking design by jumping (2).



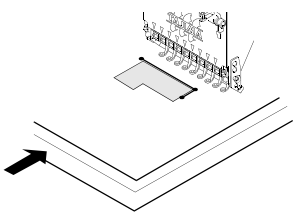


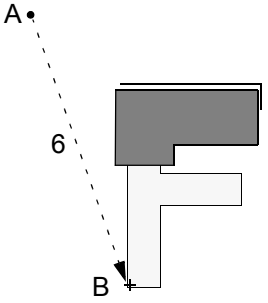
2. The machine will perform marking (3) from P1 to P3. After that, the machine will move from P3 to the start position of design (B) by jumping, and then the frame will move (5) to the offset start position (A).





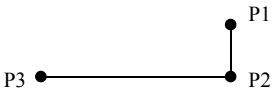
3. Place applique, material for placing embroidery etc. according to the marking design.
4. When starting the machine, the frame will move to the design start position (B) and embroidery will start.





🕮 It is possible to make 1 to 10 points in a marking design.

An example of 3 points



🕮 Although this example explains about marking B, movements in contour marking B are the same excluding that marking design (p1 to P3) will become a contour of design data.

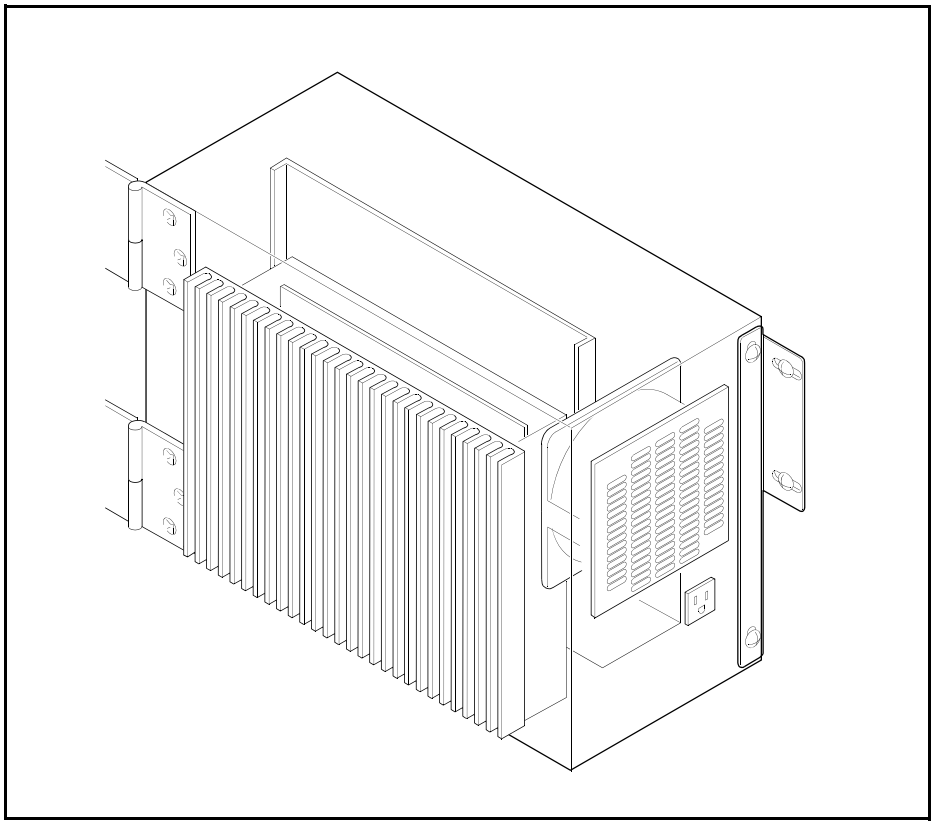
🕮 In this example, automatic offset is set to "With".

🕮 When automatic offset is set to "Without", the frame will move from the design start position (B) to P1, and the machine will perform marking from P1 to P3. When the marking is finished, the frame will move to the design start position (B) and the machine will stop. When starting the machine, the machine will start embroidery from that position.

🕮 An OF (automatic free position offset) code will be automatically set at the design start position (B) (In case of marking A, "OF" will not be set).

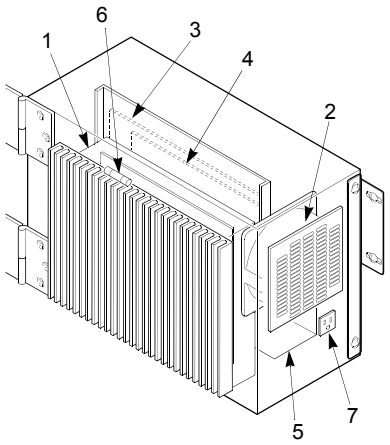
🕮 After embroidery is finished, the frame will return to the offset start position (A).

CHAPTER 11 ELECTRO-COMPONENT PARTS



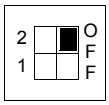
1. CONTROLLER

1	7iDU Amp.
2	Fan motor
3	CPU I/F card
4	CPU card
5	DC Power supply
6	Glass tube fuse (7A: discharging circuit)
7	Power outlet (AC 100 V)



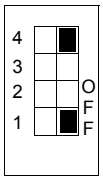
Do not connect fluorescent lamp to the receptacle. Fuse will be blown.

SW1

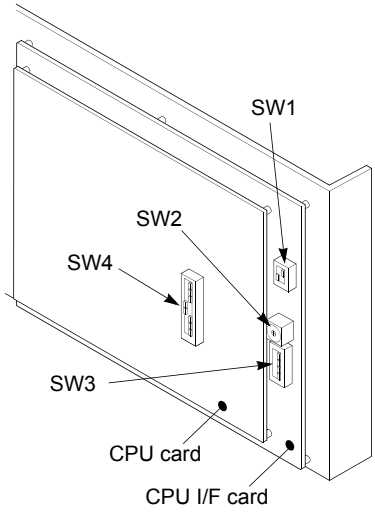


1	Terminator ON: To set (must be turned ON) OFF: Not to set

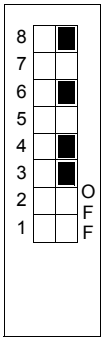
SW3



1	Slit disk ON: 50 OFF: 100 (must be turned OFF)
2	X, Y-axis motor ON: M-spec. or shorter stand length M/C OFF: G-spec. or longer stand length M/C
3	Safety device ON: To set OFF: Not to set



SW4

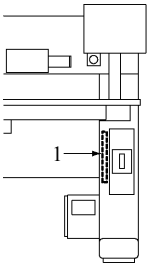


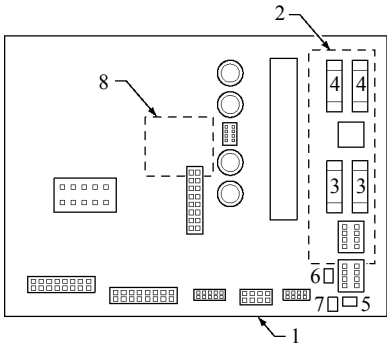
1	Rotating direction of X-axis shaft ON: Clockwise OFF: Counterclockwise
2	Rotating direction of Y-axis shaft ON: Clockwise OFF: Counterclockwise
4	Color LCD panel ON: Equipped OFF: Not equipped (must be turned OFF)
5	Jog remote-controller ON: Equipped OFF: Not to equip
6	Arm type 47: 47mm 45: 45mm (must be turned OFF)
7	Holding of level data of frame weight ON: To hold data OFF: Not to hold data
8	Thread holding hook stroke (hook come-out length) ON: Short OFF: Long (must be turned OFF)

When you changed switch setting, turn ON the power again.

2. POWER SUPPLY UNIT

1	Joint card
2	Noise filter
3	Glass tube fuse (10A: each circuit)
4	Glass tube fuse (15A: DC 24 V system)
5	Fuse (2A: power outlet)
6	Fuse (5A: lubrication motor)
7	Fuse (5A: fan motor, bobbin changer)
8	Surge protector

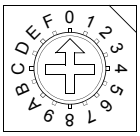




3. TENSION BASE

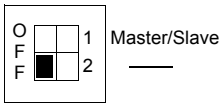
TCM CARD

SW2



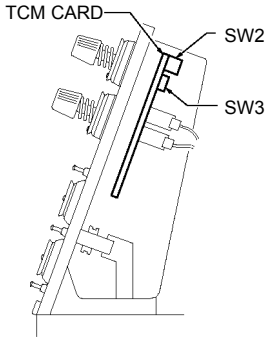
0:1-2H	6: 13-14H
1: 3-4H	7: 15-16H
2: 5-6H	8: 17-18H
3: 7-8H	9: 19-20H
4: 9-10H	A: 21-22H
5: 11-12H	B: 23-24H

SW3

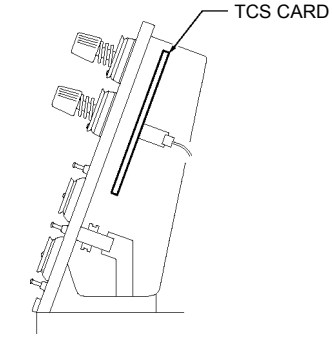


1	Card function switching ON: Even-numbered head OFF: Odd-numbered head

ODD-NUMBERED HEAD: TCM CARD



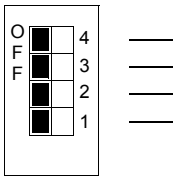
EVEN-NUMBERED HEAD: TCS CARD



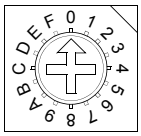
TCS card has no DIP switch.

4. JFU CARD

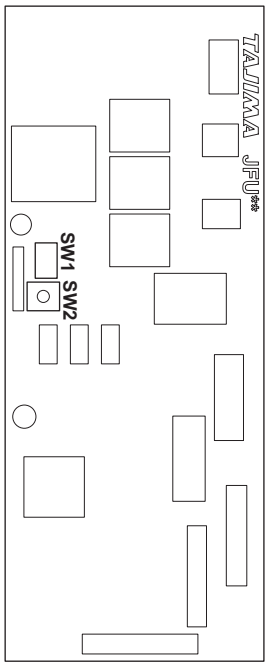
SW1

	—	All must be turned OFF

SW2

	0:1-12H 1:13-24H

[JFU card]

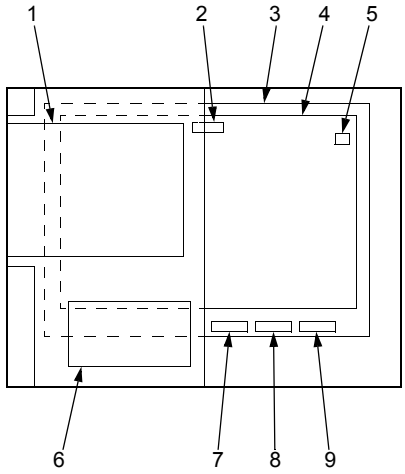


When you changed switch setting, turn ON the power again.

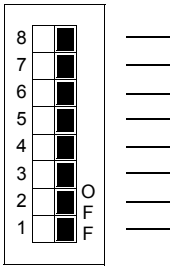
5. OPERATION PANEL BOX

1	FDD
2	SW1
3	PSW7L3 card
4	Panel7L2 card
5	SW2
6	FSW card
7	SW26
8	SW27
9	SW28

[Rear view]

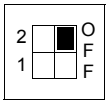


SW1



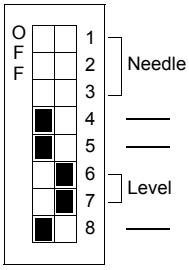
-	All should be positioned OFF

SW2



1	Terminator ON: To set OFF: Not to set

SW26



1
2
3

Selection of the number of needles

The number of needles	DSW No.		
	1	2	3
3	ON	OFF	OFF
6	OFF	ON	OFF
9	ON	ON	OFF
12	OFF	OFF	ON
15	ON	OFF	ON
18	OFF	ON	ON

6
7

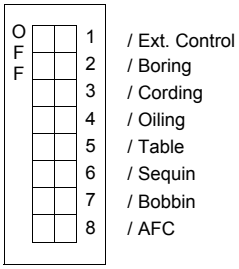
Selection of level

Level	DSW No.	
	6	7
1	OFF	OFF
2	ON	OFF
3	OFF	ON
4	ON	ON

Do not change the DIP switch SW1.

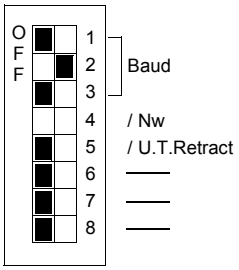
When you changed switch setting, turn ON the power again.

SW27



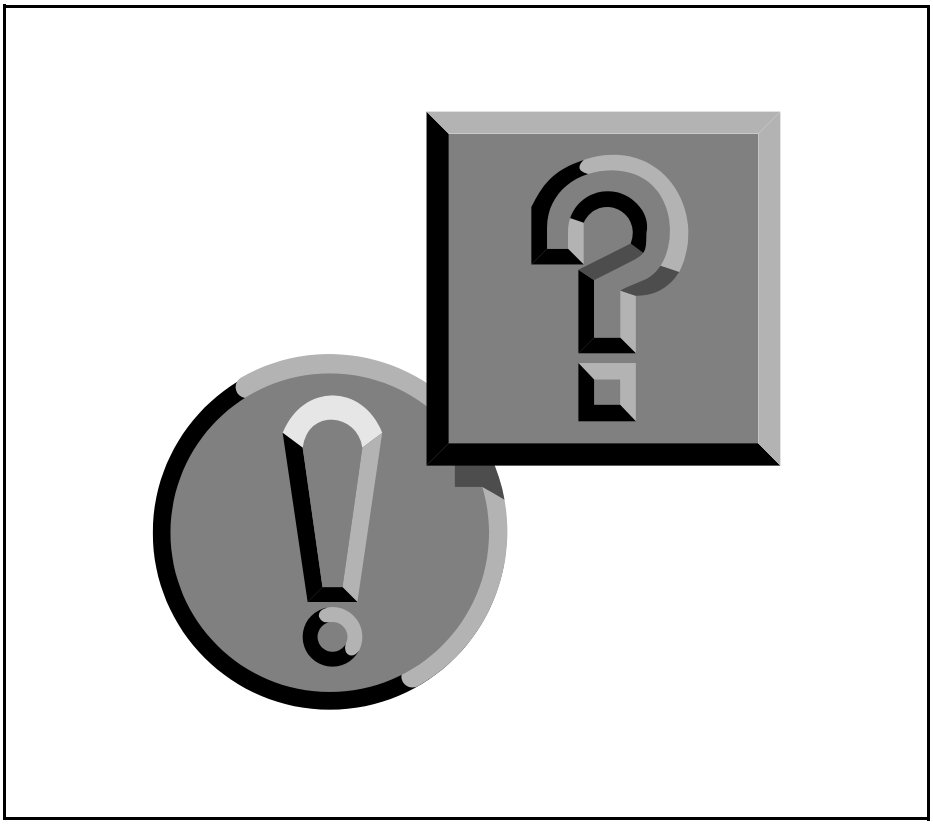
1	Safety device * Do not use this switch. Perform setting with switch of the CPU I/F card. ⇨p.142
2	Boring device ON: Set OFF: Without
3	Cording ON: Set OFF: Without
4	Lubrication system ON: Set OFF: Without
5	Table up/down device ON: Set OFF: Without
6	Sequin device ON: Set OFF: Without
7	Bobbin Changer ON: Set OFF: Without
8	AFC *Must be turned OFF. It is not available to use AFC. ON: Set OFF: Without

SW28

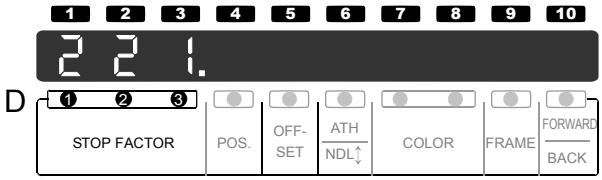


1 2 3	Selection of level Communication speed / DSW No. (1 2 3) 9600: OFF OFF OFF 19200: ON OFF OFF 38400: OFF ON OFF
4	Network ON: To connect OFF: Not to connect
5	Must be turned OFF.

CHAPTER 12 TROUBLESHOOTING



1. WHEN THE MACHINE WAS STOPPED DURING OPERATION



An example of occurrence of error (code number 221)

There are two main machine stop factors: one is stop by occurrence of error and another is stop by normal stop factor. When the machine operation is interrupted with code number displayed on the screen, carry out the troubleshooting referring to the code chart below.

Reset of code number ⇒p.50

Stop by occurrence of error

If a code number of 300 series is displayed, contact your local distributor.

Code No.	Stop Factor	Corrective Action
211	The fixed position signal (main shaft Z signal) is not detected.	Return the main shaft to the fixed position. Check the encoder signal.
212	In the state of needle bar lowering	Move up the needle bar.
221	The embroidery frame moved to the travel limit position of the frame (left direction).	Move the frame manually so that the design fits in the embroidery area.
222	The embroidery frame moved to the travel limit position of the frame (right direction).	
223	The embroidery frame moved to the travel limit position of the frame (front direction).	
224	The embroidery frame moved to the travel limit position of the frame (rear direction).	
225	Embroidery space was exceeded.	
228	Table up/down operation was performed when the frame was positioned forward.	Move the frame to the rearmost.
251	Lubrication pump oil is insufficient.	Supply oil to the tank.
281	The target needle position is not detected within 8 seconds after the start of color change.	Return the needle position to make the correct display. Check or replace the potentiometer (needle position sensor).
291	The machine detected thread breakage.	Check upper and under threads.
293	The machine has detected under thread breakage.	Check the under thread.
2B1	No response is received for 5 seconds since the operation was started using a serial interface. (A device is not connected to the serial interface.)	Check connection of the device. Correct the design data.
2B2	Tajima code complement data error (The same + and - numbers exist in one stitch data).	Correct the design data.
2B3	Data exists in an end code.	Correct the design data.
2B4	Function code error (The third character has no stitch code.)	Correct the design data.
2B6	The system interface is not ready.	Set the serial interface to communication mode.
2B7	Data is not set.	Perform data setting.
2B8	The pre-reading buffer has become empty and no data is output.	During operation: Lower the r.p.m. During frame forward operation: Wait until the design data is all read.
2B9	Memory write error	Check the CPU card or memory card. Replace the card if necessary.
2BA	Memory capacity over	Delete unnecessary designs registered in memory.
2BB	Available range to perform frame back was exceeded.	Do not perform frame back any more.

Code No.	Stop Factor	Corrective Action
2BC	No design is registered in the memory.	Register designs in the memory.
	Design number that has already been registered is selected at memory writing.	Change design number.
	Attempt was made to perform memory writing although 99 designs were already registered in the design memory.	Delete unnecessary memory designs.
2BE	Start and end codes are not set as a pair in satin conversion, sequin and boring codes.	Set again so that start and end codes become as a pair.
2C1	The machine was started during program setting.	Cancel the program setting mode.
2C2	Setting for option is incorrect.	Set correctly.
2C6	Machine operation was attempted although the bobbin changer was running.	Do not operate the machine during working of the bobbin changer.
2CE	Stop by safety device	After removing the obstacle, press the reset key.
2CF	Stop by the emergency stop switch	Release the lock of the emergency stop switch.
2E2	Air pressure of the air valve has become less than the rated value.	Check the air compressor. Check air source of the air valve.
2E3	The power supply was shut off during operation (including power shut off by the emergency switch).	Execute power resume operation.
311	Encoder A signal does not change for five seconds. Abnormality of motor and/or motor belt	Check encoder and/or encoder signal wire. Check motor and/or motor belt. Check excitation of the main shaft driver.
312	Encoder Z signal status does not change.	Check the encoder or encoder signal lines.
316	A main shaft driver error signal has been detected.	Replace the main shaft driver unit or main shaft motor.
321	Frame driver error signal is detected.	Replace the 7iDU amp.
322	An X-axis motor driver error signal is detected.	Replace the 7iDU amp.
323	An Y-axis motor driver error signal is detected.	Replace the 7iDU amp.
331	Bobbin changer error	Operate the bobbin changer manually to check the place where movements are bad, and adjust it.
382	The needle position signal status during color change does not change for 1 second and more.	Check the color change motor and power supply circuit. Check the potentiometer (needle position sensor).
383	There was no needle position signal during rotation of the main shaft.	Check the potentiometer (needle position sensor).
384	No one-turn signal is given while the main shaft is running.	Check the photo-interrupter (One-turn sensor).
386	Color change and thread trimming were performed at the same time.	Check the joint card.
3A1	There is abnormality in thread trimming driver.	Check the joint card.
3A6	ATH knife retractable position has become nonuniform.	Check the position of ATH movable knife.
3A8	Abnormal signal of thread holding driver is detected.	Replace the JFU card.
3B5	Communication error in the controller • Between CPU card and Panel card • Between CPU card and inverter • Between CPU card and Joint card • Between CPU card and JFU card	Turn off the power once, and then turn it on again. “3B5” is still displayed even after that, check harness of each card.
3C1	Bad contact of the limit switch or start/stop switch, breakage of the switch harness, or bad connection of the connector	Check connector Replace the limit switch or switch assembly.
3C2	Power switch was turned “ON” with frame travel key pressed. Frame travel key has abnormality.	Turn on the power again. Replace the FSW card in the panel.
3D1	Backup battery voltage has decreased.	Turn on the power supply of the machine and charge the battery. Set parameters and input designs again.
3D4	There is error in data check sum.	Replace the CPU card.
3D5	There is abnormality in check sum.	Perform software installation. If no improvement appears even after that, replace panel card.
3DA	The permanent counter connector is disengaged.	Connect the connector.

(JZ02)

Code No.	Stop Factor	Corrective Action
B01	Floppy disk format has an error.	Format the floppy disk. Replace with a new formatted floppy disk.
	Abnormality occurred in reading/writing.	Copy other designs to a new floppy disk and dispose of the old floppy disk.
	Attempt was made to format 2DD floppy disk in 2HD type.	Format 2DD floppy disk in 2DD type.
	Attempt was made to format 2HD floppy disk in 2DD type.	Format 2HD floppy disk in 2HD type.
B02	Floppy disk management information has an error.	Copy the floppy disk, and do not use the floppy disk in which error occurs.
B03	The write protect window of the floppy disk is open.	Close the write protect window.
B04	No floppy disk has been inserted.	Insert a floppy disk.
BC1	Selected design is not found on the floppy disk. No design is registered on the floppy disk.	Select other design.
BC2	The set file name has been already used for design registered in floppy disk. (The same file name is set regardless of code formats T or T2.)	Change the file name.
BC4	Design was not written from the memory to floppy disk correctly.	Retry writing.
BC5	Available capacity of the floppy disk is not sufficient.	Replace with floppy disk that has enough remaining capacity.
C01	The FDD does not work.	Check the FDD connector. If there is no problem with the connection, replace the FDD unit.

Stop by usual stop factor

Stop by the code numbers (100-series) described below is not caused by occurrence of error.

Code No.	Stop Factor	Corrective Action
1B1	Stop due to a frame stepping code.	In this case, it is not stop by abnormality. Perform “Start operation” or “Frame back/forward operation”, or press any operation key (excluding manual frame travel key) to continue operation of the machine.
1B2	Stop due to a stop code.	
1B3	Stop due to stop code 1.	
1B4	Stop due to thread trimming code.	
1B6	Stop due to an automatic free setting offset code.	
1B8	Stop due to temporary stop code.	
1C1	Stop due to the bar switch/stop switch.	Perform “start operation” or “frame back/forward operation”.
1C2	Stop by manual ATH or operation of needle bar	
1D1	Stop at the start of all-head embroidery due to the stop setting.	Start the machine and continue embroidery.
1D2	Stop by preset halt (except lubrication)	Reset.
OIL	Preset halt (lubrication)	Perform lubrication to the corresponding spots, and reset the machine.

2. IF TROUBLE OCCURS

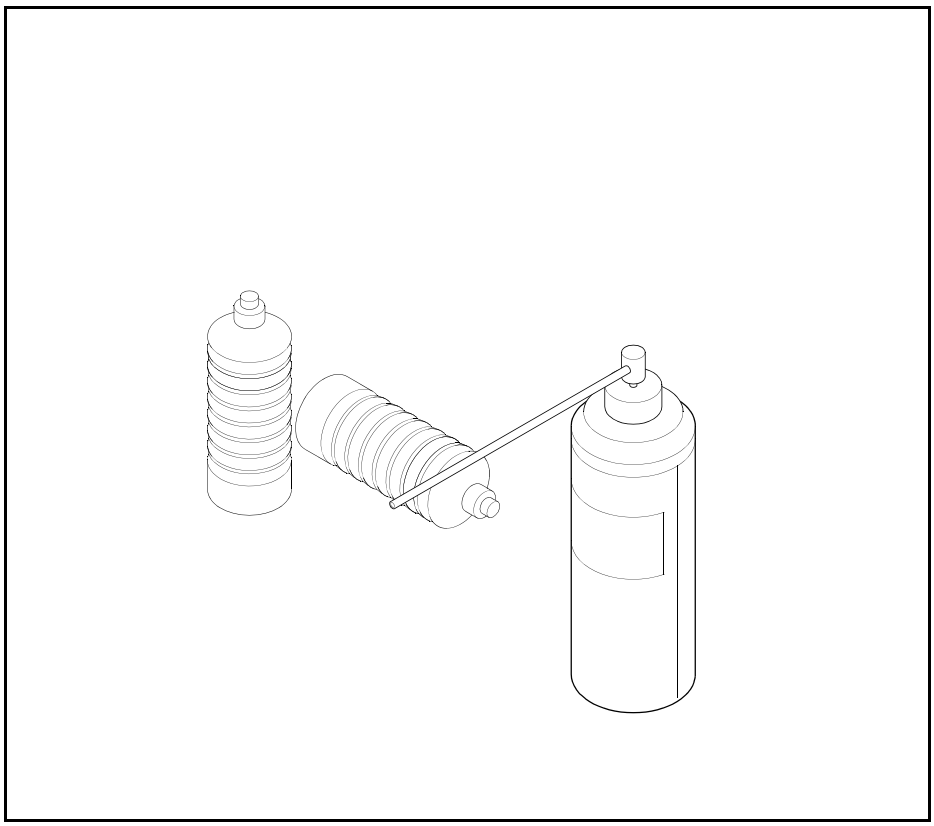
CAUTION

Adjustment includes some complicated works. Consult your local distributor before working.

Cause of troubles and adjustments

	Cause	Adjust
Machine cannot start	Loose or broken belts	Adjust the belt tension or replace the belt.
	Needle position signal, NOT detected.	Adjust the needle position so that needle position is properly indicated in the manual color change section on the operation panel.
	Alarm lamp on the driver box (unit) is ON.	Switch the power from OFF to ON.
	Poor connection of power supply box connectors.	Securely connect the connectors.
Stop position error	Loose or soiled belt	Adjust the belt tension or clean the belt.
	Galling of driving parts	Replace the driving parts for needle bar/rotary hook. or make adjustment.
Incorrect color changing	Stop position is incorrect.	Adjust the position.
	Position of take-up lever is wrong.	Adjust the position of the take-up lever at the stop position so that its position is the same as others.
	Needle position NOT detected.	Adjust the needle position so that needle position is properly indicated in the manual color change section on the operation panel.
Jump error	Incorrect positioning of parts related to needle bar drive system	Adjust attaching position of the needle bar using the upper dead point stopper.
Design displaced	Incorrect tension of frame drive belt	Adjust the belt tension.
	Malfunctioning of frame drive system	Replace/adjust the parts.
	Overall frame weight is excessive.	Lower the r.p.m. of the main shaft.
	Drive unit (X, Y-axes) defective	Replace the drive unit.
		Replace the X-axis/Y-axis drivers.
Thread breakage	Wrong needle-rotary hook timing or improper gap	Adjust the timing or gap.
	Wrong needle bar lower dead point	Readjust the lower dead point.
	Scratches on rotary hooks, presser feet, or on thread passage areas	Remove the scratches.
	Incorrect upper/lower thread tension	Adjust the tension.
	Repeated stitching at the same point	Correct the data.
	Incorrect take-up lever timing	Readjust the take-up lever driving cam timing.
Matters related to ATH	The machine cannot trim thread.	Adjust the ATH knife position.
	Thread comes off at start of sewing.	Adjust thread trim length by setting of “Picker OFF timing”. ⇨p.120
	Poor tensioning of upper thread	Adjust the tension.
Needle bar activates even if the tension base switch is set to the “bottom” position.	Tension base card is faulty.	Replace the tension base card.
	Defect in sensor card	
	Poor adjustment for jumping	

CHAPTER 13 MAINTENANCE



1. WARNINGS AND CAUTIONS

WARNING

To prevent accidents resulting in injury or death and physical damage, the following must be observed when performing daily maintenance (cleaning, lubrication, greasing, and/or inspection).

- **The maintenance operations must be performed by properly trained personnel.**
- **When restarting the machine after maintenance operation, attach all covers etc. which were removed for maintenance operation.**

CAUTION

- **Perform daily maintenance in the specified schedule.**
  If the daily maintenance is not observed, the machine may fail to operate correctly. Since the loss incurred by ignoring the daily maintenance instructions can be judged "not covered by guarantee".
- **If the machine is not used for a long period, turn the power switch ON in regular intervals.**
  Although each card of the machine has a backup battery, data may be lost for about one month because voltage of the battery will come down gradually due to discharge when the power switch is turned off.
- **Assure enough illumination. Assure 300 lux or more for working areas including underneath part of the machine table when changing under threads or performing daily maintenance.**

2. CLEANING

⚠ WARNING

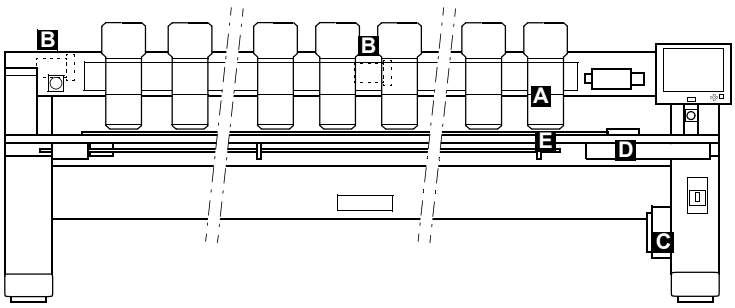
During machine cleaning, you could sustain severe injuries due to electric shock or being entangled by moving machine units. Therefore, observe the following items when you clean the machine.

- **Even if the primary power supply is turned off, some circuits are still charged. Wait (4 minutes) until these circuits are completely discharged and then start cleaning.**
- **The maintenance operations must be performed by properly trained personnel.**
- **When restarting the machine after maintenance operation, attach all covers etc. which were removed for maintenance operation.**

⚠ CAUTION

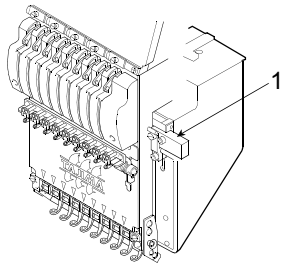
If the slits of the power supply/driver box and/or the filter of the main shaft motor is clogged, temperature inside the boxes or the main shaft motor increases, which could cause malfunctioning of the machine.

- **Clean the slits and filters at the specified intervals.**

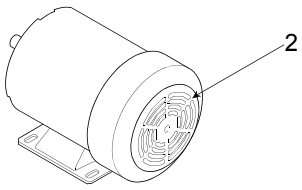


Cleaning area	Cleaning cycle
(1) Case linear section (2) Filter section of main shaft motor (3) Filter section of power supply/driver box	Once/week
(4) X-axis drive system, Y-axis drive system	Once/2 weeks
(5) ATH section	Everyday

A

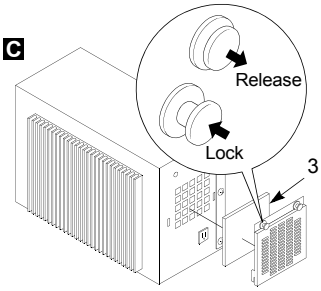


B



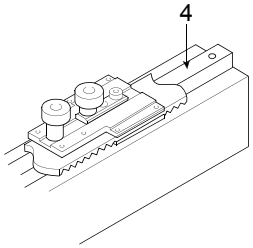
Attaching position of the main shaft motor (B) differs depending on machine specifications.

C

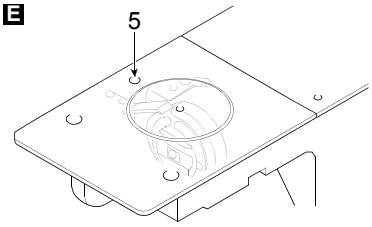


Release the lock to detach the cover, and clean the filter (3).

D



E



3. LUBRICATION

WARNING

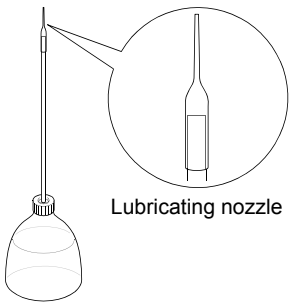
During machine lubrication, turn off the power switch. You may sustain severe injuries due to being entangled by moving machine units.

CAUTION

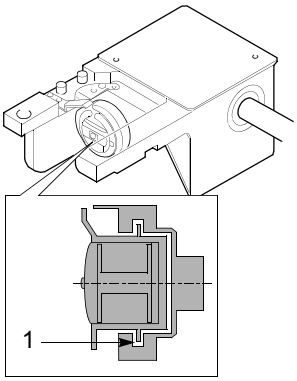
Keep the lubrication cycle as shown below. Deviated lubrication cycles may cause thread breakage.

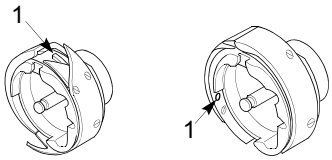
When performing lubrication, use Tajima's genuine TF oil. When using other oil than this by necessity, select 150 spindle oil (ISO viscosity grade = VG18).

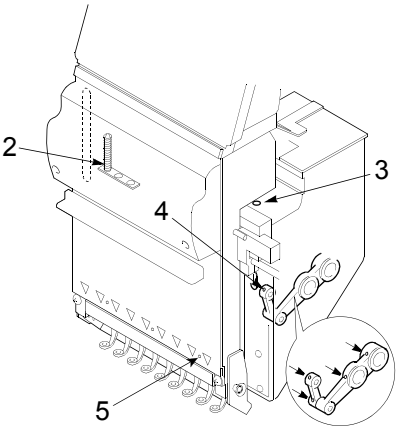
Lubrication Points	Lubricating Cycle
(1) Rotary hook	Every 5 to 6 hours of operation
(2) Needle bar (Perform lubrication from the slit section of top cover) (3) Needle bar drive shaft (4) Inside the arm (5) Felt packing (6) Presser foot reciprocator (wick)	Once/week

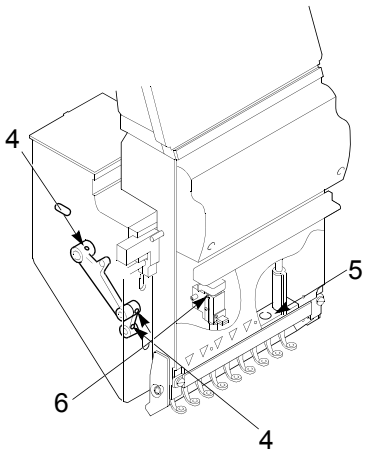


When lubricating the lubrication hole (red mark) of the rotary hook, attach the accessory lubricating nozzle to the tip of the oiler.
Cut the tip of the nozzle according to necessary length.









4. GREASING

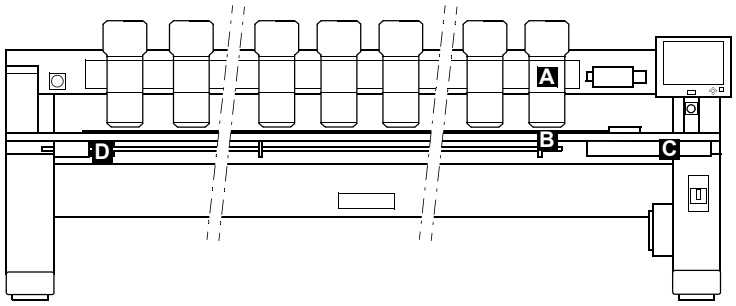
WARNING

During machine greasing, turn off the power switch. You may sustain severe injuries due to being entangled by moving machine units.

CAUTION

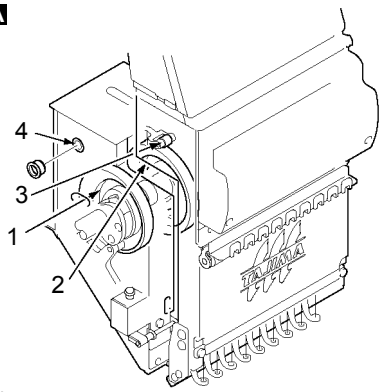
When performing greasing, consult the distributor.

Use the recommended goods (mineral oil-based lithium grease) or equivalent.

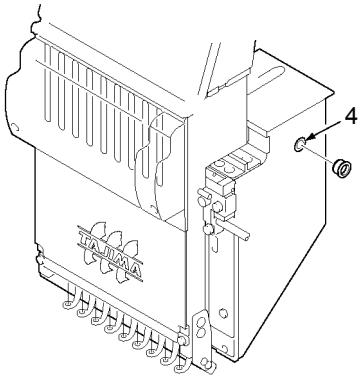


Greasing spot	Greasing cycle
(1) Presser foot cam (2) Take-up lever drive cam (3) Roller of take-up lever (4) Take-up lever bearing case (5) Bevel gear (6)ATH cam	Once/3 months
(7) X/Y-axis drive system	Once/6 months

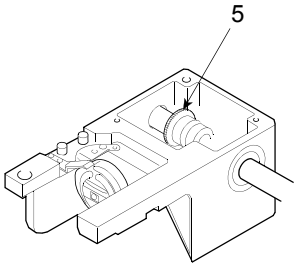
A



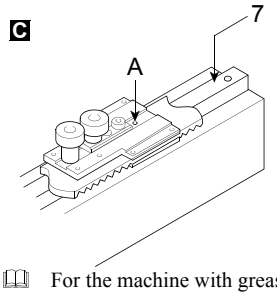
To perform greasing to the take-up lever drive cam (2), slide the needle bar case to the direction of the last needle.



B

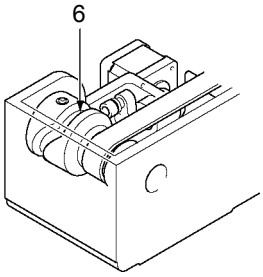


C



For the machine with greasing holes (A), inject grease from the greasing hole (A) using greasing gun, etc.

D



5. INSPECTION

WARNING

When inspecting the machine, be sure to turn off the primary power supply (before turning off the primary power supply, turn OFF the power switch). You could sustain severe injury due to being entangled by the machine.

Inspection Point	Contents of inspection	Inspection Cycle
(1) Each belt of main shaft drive system	Tension of belt, degree of wear, existence of crack	Once/3 months
(2) Each belt of X/Y drive system	Tension of belt, degree of wear, existence of crack	
(3) Rotating and sliding sections	Degree of wear	

6. REPAIR

WARNING

When repairing the machine, be sure to observe the following items to prevent accident resulting in injury or death.

Before working, be sure to turn off the primary power supply (Before turning off the primary power supply, turn off the power switch). Even if the primary power supply is turned off, some circuits are still charged. Wait (4 minutes) until these circuits are completely discharged and then start working.

If the machine needs repairs, the repairs must be done only by the service personnel assigned and trained by Tajima or qualified technician. (Consult your distributor.)
Do not change the specification nor modify the parts of the machine without due consultation with Tajima. Such modification may risk the operational safety.

When restarting the machine after repairs, attach all covers etc. which were removed for repair operation.

CAUTION

For the machine repairs, use TAJIMA genuine parts for replacement.

7. OPERATION LEVEL

This setting limits available setting range (level 1 to 4). Perform setting by switching DIP switch. p.145

O: Approved to set Δ: Approved to set (with condition) ×: Not approved to set

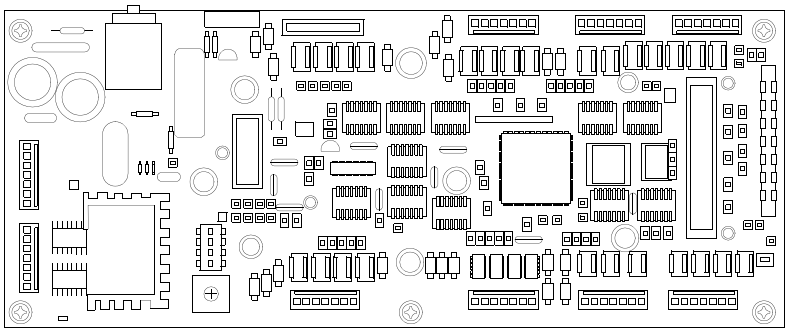
	Level 1	Level 2	Level 3	Level 4
Data set (FDD)	Δ (*1, *2)	Δ (*1)		
Condition data	Δ (*3)	O		
Data set (an external device connected serially)	×	×		
Data set (memory)	O	O		
Needle bar selection	O	O		
Data conversion	×	O		
Repeat (usual repeat)	×	O		
Repeat (mirror image repeat)	×	×		
Offset	O	O		
Offset (setting for middle position)	×	×		
Data edit	×	×		
Floppy disk processing	×	×		
Marking	×	×		
Stop at lower D. point (pseudo-fixed position)	×	O		
Head selection	×	O	O	O
Frame drive start timing	×	O		
Upper thread breakage detection	×	O		
Under thread breakage detection	×	O		
Frame stepping method	×	O		
Frame travel speed	×	O		
Preset halt	×	O		
Frame weight level	×	×		
Backlash	×	×		
Under thread trimming selection	×	×		
Under thread release	×	×		
Sequin	×	×		
Lubricating valve	×	×		
Air pressure check switch	×	×		
Setting for the number of stitches to stop the machine for lubrication	×	×		
Setting for lubrication cycle (option)	×	×		
Maintenance	×	×	×	

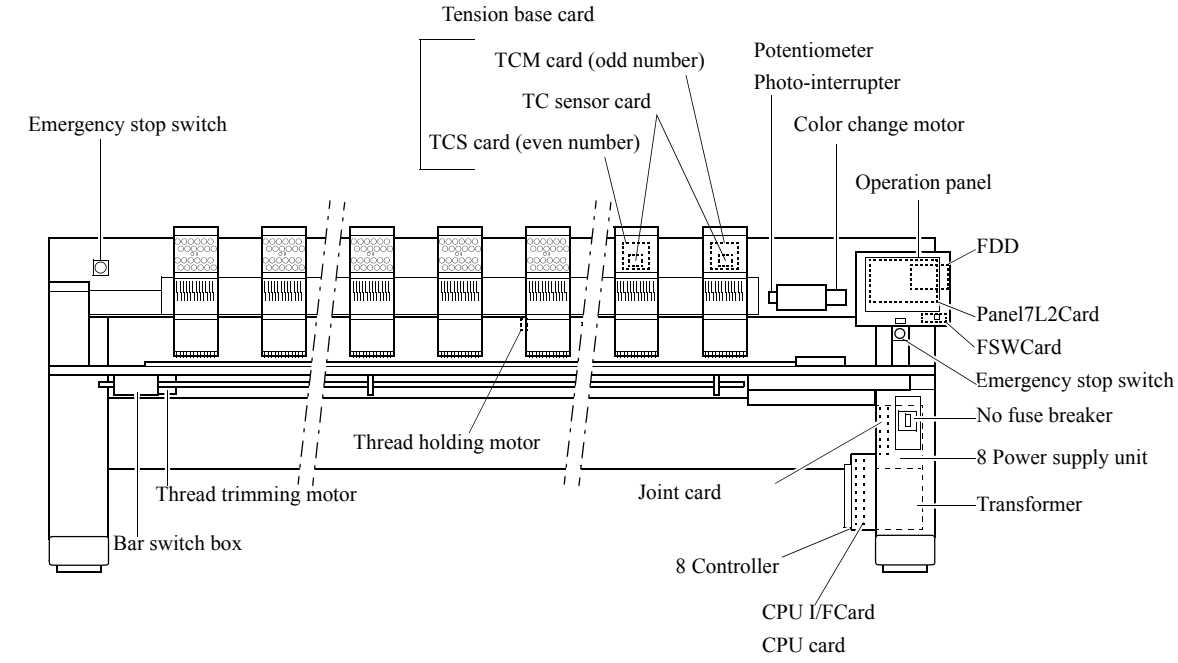
*1: It is not possible to change design name.

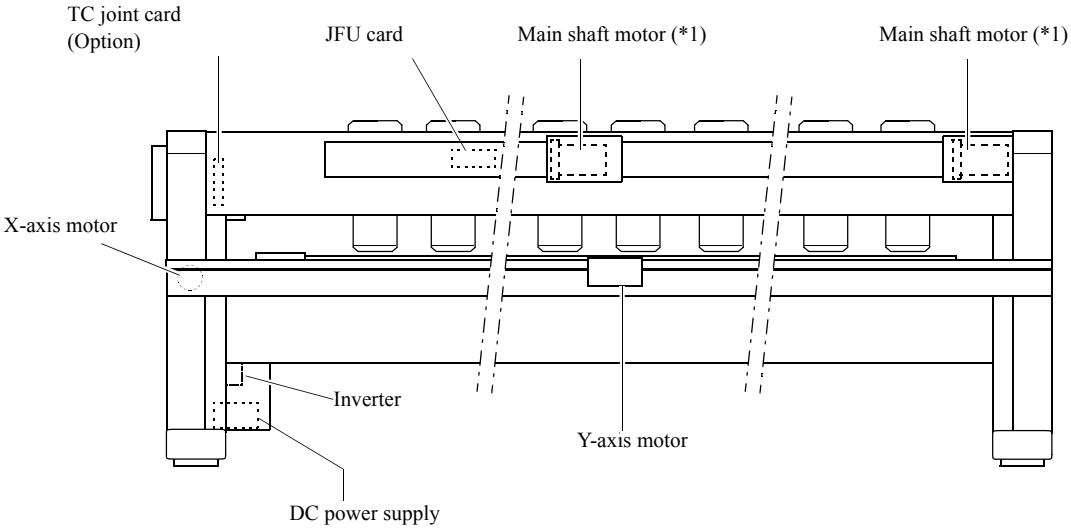
*2: It will be registered to the smallest design number that can be registered in the memory.

*3: “To read” only (It is not possible to select “To read” and “Not to read”.)

ELECTRO-RELATIVE DRAWING

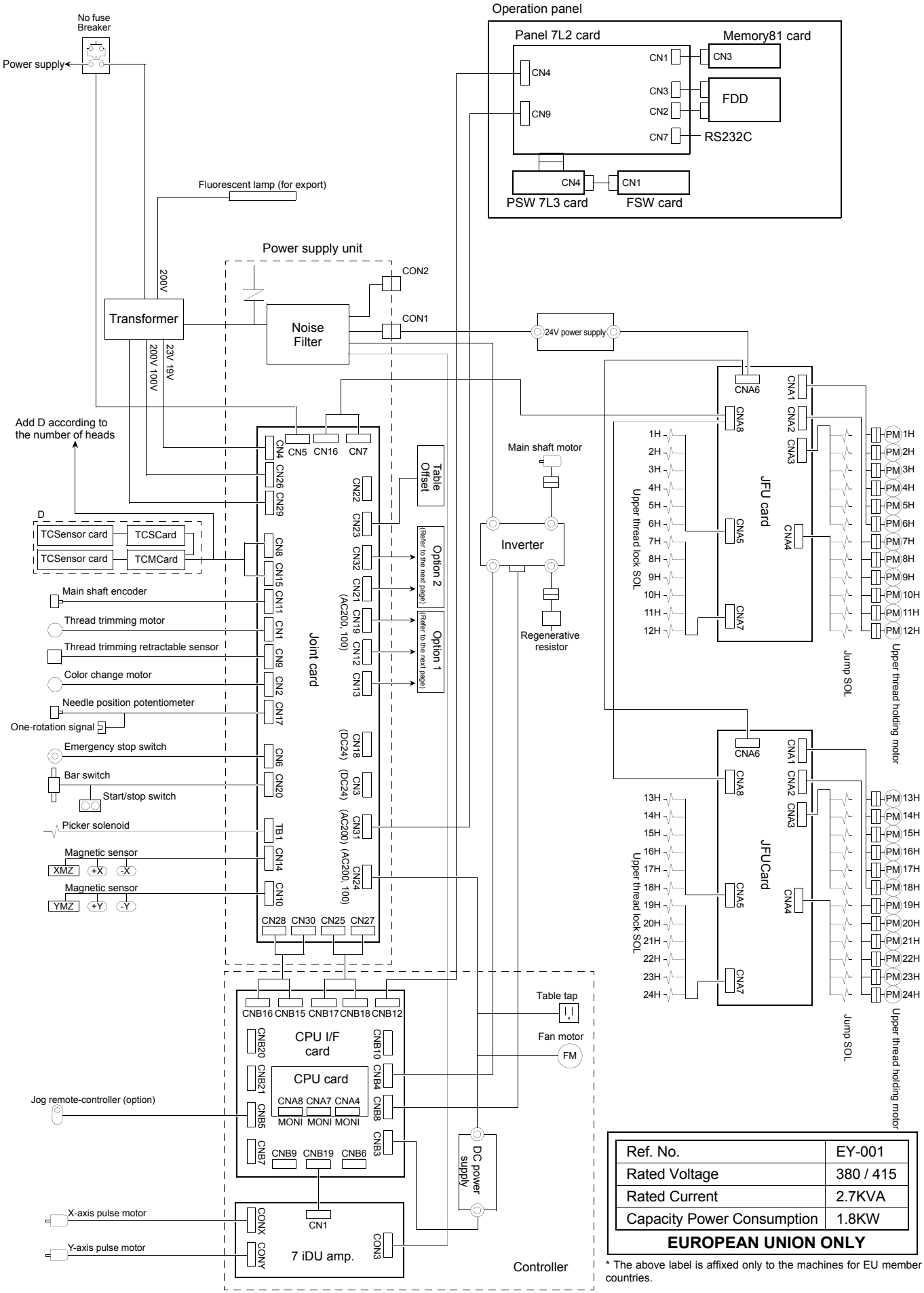






*1: The attaching position of the main shaft motor differs depending on machine specifications.

Electric system diagram



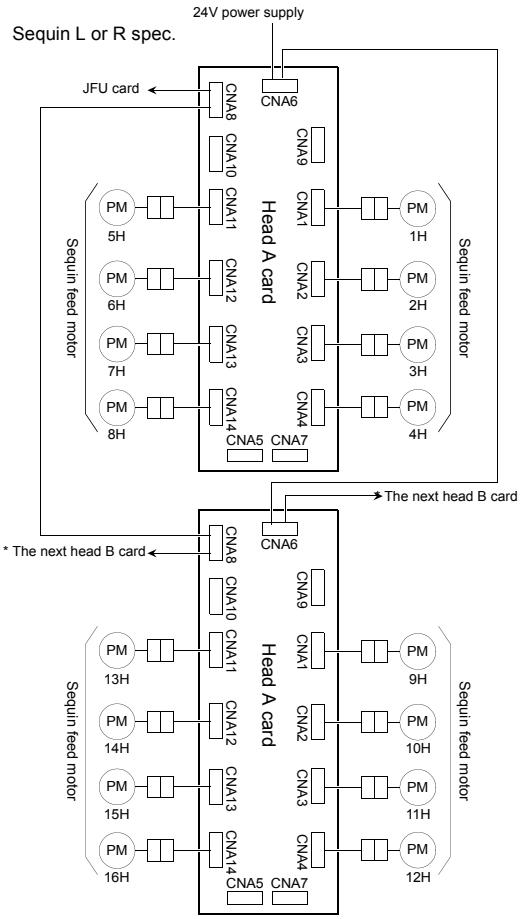
Ref. No.	EY-001
Rated Voltage	380 / 415
Rated Current	2.7KVA
Capacity Power Consumption	1.8KW

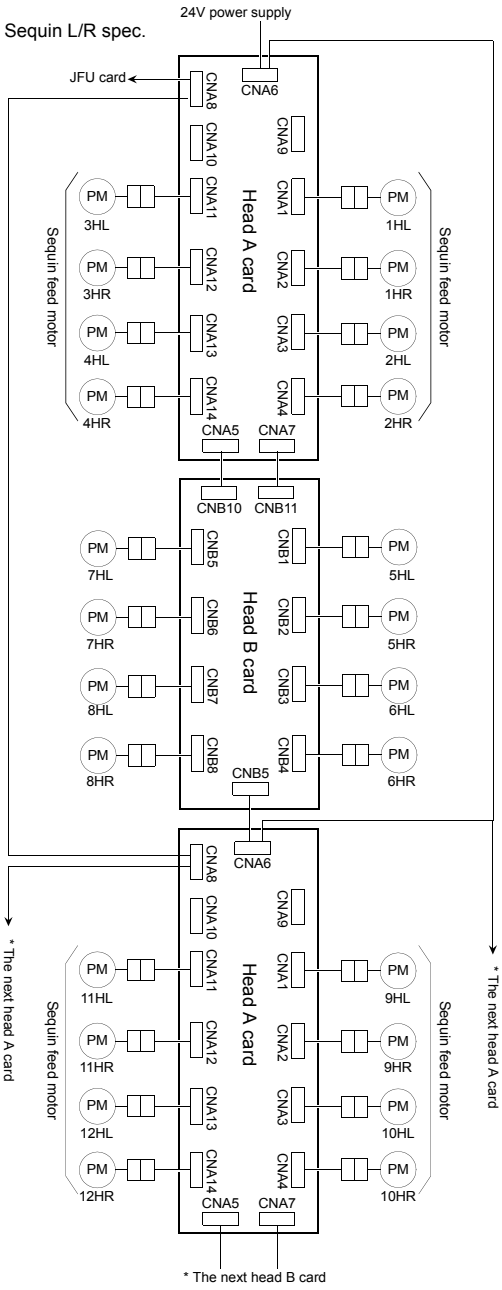
EUROPEAN UNION ONLY

* The above label is affixed only to the machines for EU member countries.

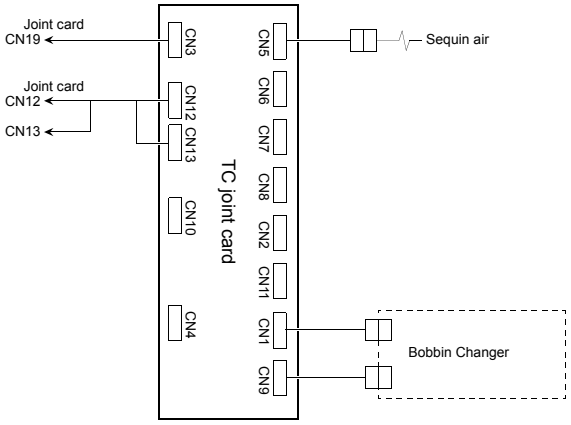
Option 1 (OP1)

* : Add the card according to the number of heads.

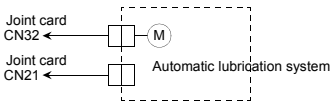




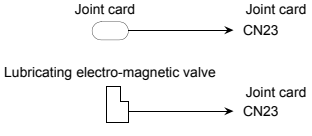
Option 2 (OP2)



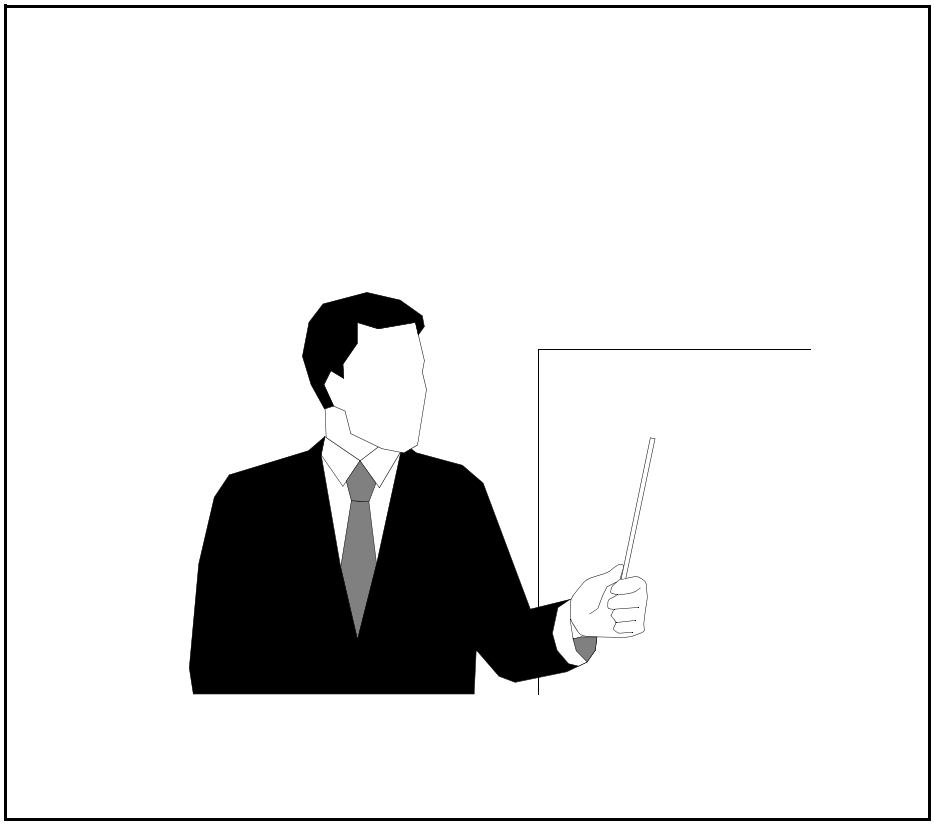
Option 3 (OP3)



Option 4 (OP4)



TERMINOLOGY



A

ABSOLUTE ORIGIN

An anchoring point that makes the machine calculate the current frame position (The position of origin differs depending on model).

AFC

Abbreviation of Automatic Frame Changer.

Device for performing automatic embroidery continuously against piece goods fabric to be embroidered

AFC VALVE

Air valve that activates AFC

APPLIQUE

The method to sew colored clothes, etc. that are cut to various shapes on the material

ATH

Abbreviation of Automatic Thread Trimming and Holding Device

AUTOMATIC FRAME TRAVEL

Automatic frame travel by inner processing in such an occasion as at the end of embroidery or during set of offset

AUTOMATIC JUMP

To make jump automatically when a stitch length exceeds the setting value

AUTOMATIC LUBRICATION SYSTEM

An optional device to lubricate to each factor of the machine head and rotary hook section

B

BOBBIN CHANGER

A device attached to the bottom of a machine table that changes bobbins automatically (option)

BORDER FRAME

A kind of embroidery frames. Basic frame to hold cut cloth (material) to be stretched to overall embroidery space, embroidered by all the embroidery heads.

BORING DEVICE

A device that makes hole(s) on the cloth (material) by knife attached to the needle bar to add values to embroidery

BUFFER (BUFFER MEMORY)

Buffer memory media to smooth input/output of data

C

CAP FRAME

A kind of embroidery frames for embroidery on cap. There are two types of cap frame. One is wide cap frame, another is semi-wide cap frame. The wide cap frame can embroider wider area of circumference directions compared with the semi-wide cap.

CHECK SUM

A kind of measures to detect error of data transfer or saved (memory) contents

CLEANUP

To make preceding and succeeding stitches absorb fine stitches in a design data for removal to prevent thread coming off or thread breakage

CODE FORMAT

Data type (tape code) for data input

COILING

To coil cord-shaped material around core thread to be sewn on the material to be embroidered

CONDITION DATA

Setting data for needle bar setting, design scale up/down, rotation, reversion, repeat, design start position, and automatic offset that are included in design data

CORDING DEVICE

The device that sews cord-shaped material on the material to be embroidered

CURSOR

A mark that indicates the position where character or value is to be input/displayed on the screen. Some of marks blink or reverse character.

CYLINDRICAL FRAME

A type of embroidery frame. Frame used to perform embroidery on tubular material such as a head cover of golf club (option).

D

D-AXIS

Driving shaft to rotate sewing needle or nipple (TCMX series)

DATA CONVERSION

To reduce/enlarge, rotate, or reverse the original design data

DATA SET

Operation to decide a series of setting contents in data input

DESIGN DATA

Data to embroider design. It consists of design and data such as embroidery mode.

DESIGN INTERVAL

Amount of movement (mm) when one design moves to the next design in repeat embroidery of the same design

DESIGN INTERVAL FUNCTION

Moving method when moving one design to the next design in embroidering the same design repeatedly.

Moving method includes by stitch and by frame stepping (frame stepping only for TMLH series)

DESIGN START POSITION

The position where trace or start/frame forward at the beginning after data set was performed (origin).
It becomes 0th stitch on data. *In case of no setting of automatic offset

DIP SWITCH

A small slide switch to change conditions of machine movements

DST

Tajima ternary data format. Refer to TBF.

DSW

Abbreviation of Dual in Package Switch Refer to DIP switch

E

EMBROIDERY FRAME

A general term of frames that hold material to be embroidered such as cloth, leather, etc.

END CODE

There are the code that indicates the end point of embroidery (end code 2) and the code that indicates the pause in designs to be repeated (end code 1)

EXCITATION

To generate magnetic power by sending electric current into coil such as electric magnet, etc.

F

FDD

Abbreviation of Floppy Disk Drive. Refer to Floppy Disk Drive.

FIXED PITCH MOVEMENT

To move the frame to right or left direction (X-axis direction) by preset head pitch (head interval)

FIXED POSITION

It is the regular stop position, and is indicated by angle of the main shaft of the machine.

FLOPPY DISK

An external memory device of which round shaped polyester surface is pasted with magnetic powder. It is used for storing design data, etc.

FLOPPY DISK DRIVE

A device to write or read data or program of floppy disk

FRAME BACK

To move the embroidery frame only to the returning direction of stitches with the needle bar(s) stopped

FRAME FORWARD

To move the embroidery frame only to the advancing direction of stitches with the needle bar(s) stopped

FRAME LIMIT SWITCH

Switch to limit the embroidery range

FRAME LIMIT

The embroidery space limited by the frame limit switches

FRAME

Refer to embroidery frame

FRAME STEPPING

To move the embroidery frame only with the main shaft of the machine kept stopped during embroidery

FUNCTION CODE

A control code to specify function or action of the machine

H

HALF CUT

To cut only the upper material of piled materials (usually two pieces) by laser irradiation

I

INCHING

Very slow rotation of the main shaft when the machine starts or before it stops

J

JUMP

Not to activate needle bar by cutting off the driving force from needle bar driving mechanism. It is possible to generate longer stitch than the maximum length of one stitch (12.7 mm) by making the machine perform jumping. In addition, when the machine stops, it is always in a state of jumping.

L

LAN

An abbreviation of Local Area Network. High-speed communication network that connects computer(s) and terminal(s) in a factory.

LCD

Abbreviation of Liquid Crystal Display

LED

Abbreviation of Light Emitting Diode

LOOPING

It means the state in which take-up lever cannot lift upper thread adequately and results in upper thread remaining on fabric with uncompleted thread tightening.

M

MANUAL FRAME TRAVEL

To move the embroidery frame to a free setting position by key switch operation

MANUAL THREAD TRIMMING

To activate ATH by key switch operation to trim thread

MARKING

To draw illustrations or letters by scorching the surface of the material by laser irradiation (only when laser processing) To make basting data (marking design) for positioning the material to be embroidered in applique embroidery or placing embroidery

M-AXIS

Driving shaft to rotate nipple or bobbin

MEMORY CARD

An external memory device that can delete and overwrite data. It can handle a large capacity of data compared with a floppy disk.

MEMORY DESIGN

Design data that is written in the memory

MEMORY

Internal memory device

MEMORY REGISTRATION

To write to memory (memory writing)

MEMORY WRITING

To write to memory (memory registration)

N

NEEDLE BAR SELECTION

To set orders of needle bars to be used

NIPPLE

Part to press material to be embroidered in LH head.

Attachment suitable for material to be sewn such as cord, tape. etc. is attached

NIPPLE STROKE

Stroke of nipple in up and down direction

NUMERICAL KEY

Numerical key switches of 0 to 9

O

OFFSET START POSITION

A free setting position that makes the embroidery frame wait temporarily in offset setting.

ORIGIN

The position where start or frame forward was made at the beginning after data set * When automatic free setting offset is set, the offset start position will become the start position.

P

POLARITY

Posture of a design when embroidering

R

RESET

To return the control system of the machine that stopped movement by stop factor to the previous condition to its stop

RETURN STITCHING

It prevents misstitching or fraying, and is executed when the machine starts to sew.

S

SEQUIN

A kind of decorative materials to be sewn on clothes, etc. Thin round plate(s) that have hole at the center to be sewn

SOLENOID

A kind of electro-magnetic driven device, moving in reciprocating or circular motion when the power is turned on.

SPEED CODE

Design data code to switch setting for embroidery speed (high speed/low speed)

STEP

Sequence of color changes for one design

STEP

To advance value one by one

STITCH DATA

It is set at every one stitch. It consists of X//Y data, function code, and speed code.

STOP AT LOWER D. POINT (PSEUDO-FIXED POSITION)

To stop the machine with needle stuck in cloth at end of embroidery (end code 2) (Stop at the lower dead point))

T

TABLE OFFSET

It means to move the frame temporarily to the rear direction to facilitate threading. It is convenient to use this function when the frame is positioned at table cut section.

TAJIMA COMPLEMENT ERROR

Error related to composition of X and Y data (10 values: +/-1, +/-3, +/-9, +/-27, +/-81) of design data for Tajima embroidery machine. It means two values that are complemental each other (for example, +27 and -27) exist on X or Y.

TAJIMA TWO-WAY NETWORK SYSTEM

System that performs centralized control of plural machines using a personal computer. It can transmit design data or receive running condition of each machine.

TBF

Abbreviation of Tajima Binary Format

This format can correspond to more function codes compared with DST (Tajima format). It is also possible to store embroidery conditions of design data (needle bar setting, start position of design etc.).

THE NUMBER OF STITCHES

The number of needle sticks when embroidering

TIE STITCHING

It means stitching that prevents fray of thread. It is executed at thread trimming.

TUBULAR GOODS FRAME

A kind of embroidery frames. It mainly holds trainer, T-shirt, etc. to be stretched.

U

UBC

Abbreviation of Under thread Bobbin Changer. Refer to BOBBIN CHANGER.

UNDER THREAD RELEASE

Action that makes the frame perform slight reciprocating movement to pull out under thread for loosening its tension before thread trimming not to trim under thread by other sections than the thread trimming section

USB

Abbreviation of Universal Serial Bus. Spec. name of data bus that connects an embroidery machine and a key board, mouse etc.

V

VERSION NUMBER

The number that shows developing order of software or hardware of the machine

W

WEAK BRAKE

A weak brake to hold the main shaft at the fixed position when the machine stops normally with power turned ON

WRITE DESIGN NUMBER

Memory registration number to set for data management when design data is written (memorized)

X

X DATA

The data that makes the embroidery frame move right/left direction (X direction) by the X-axis drive system. The value displayed as X data indicates movement amount (mm), and the symbol indicates movement direction (+left, -right)

X-AXIS DRIVE SYSTEM

The drive system that makes the embroidery frame move to right and left direction against the front of the embroidery machine

Y

Y DATA

The data that makes the embroidery frame move front/rear direction (Y direction) by the Y-axis drive system

Y-AXIS DRIVE SYSTEM

The drive system that makes the embroidery frame move to front and rear direction against the front of the embroidery machine

Z

Z-AXIS

Driving shaft to change needle height (TCMX series)

ZIGZAG SWING EMBROIDERY

To sew cord-shaped material by zigzag swing. * Needle is not generally located to cord-shaped material.

1st Edition November, 2001
2nd Edition May, 2003
3rd Edition October, 2003
4th Edition February, 2004
5th Edition August, 2004
6th Edition April, 2005
7th Edition November, 2005
8th Edition February, 2006
9th Edition January, 2007

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■ **Authorized Distributor:**