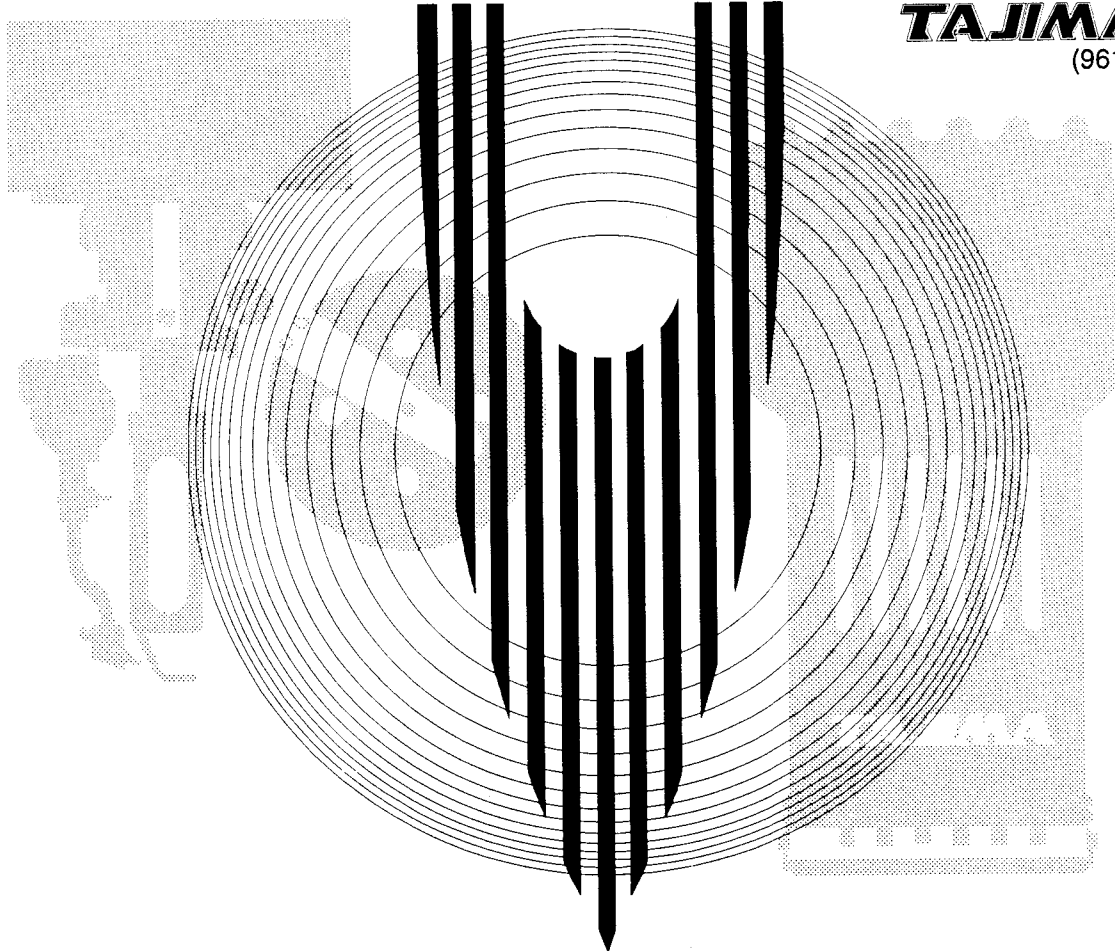
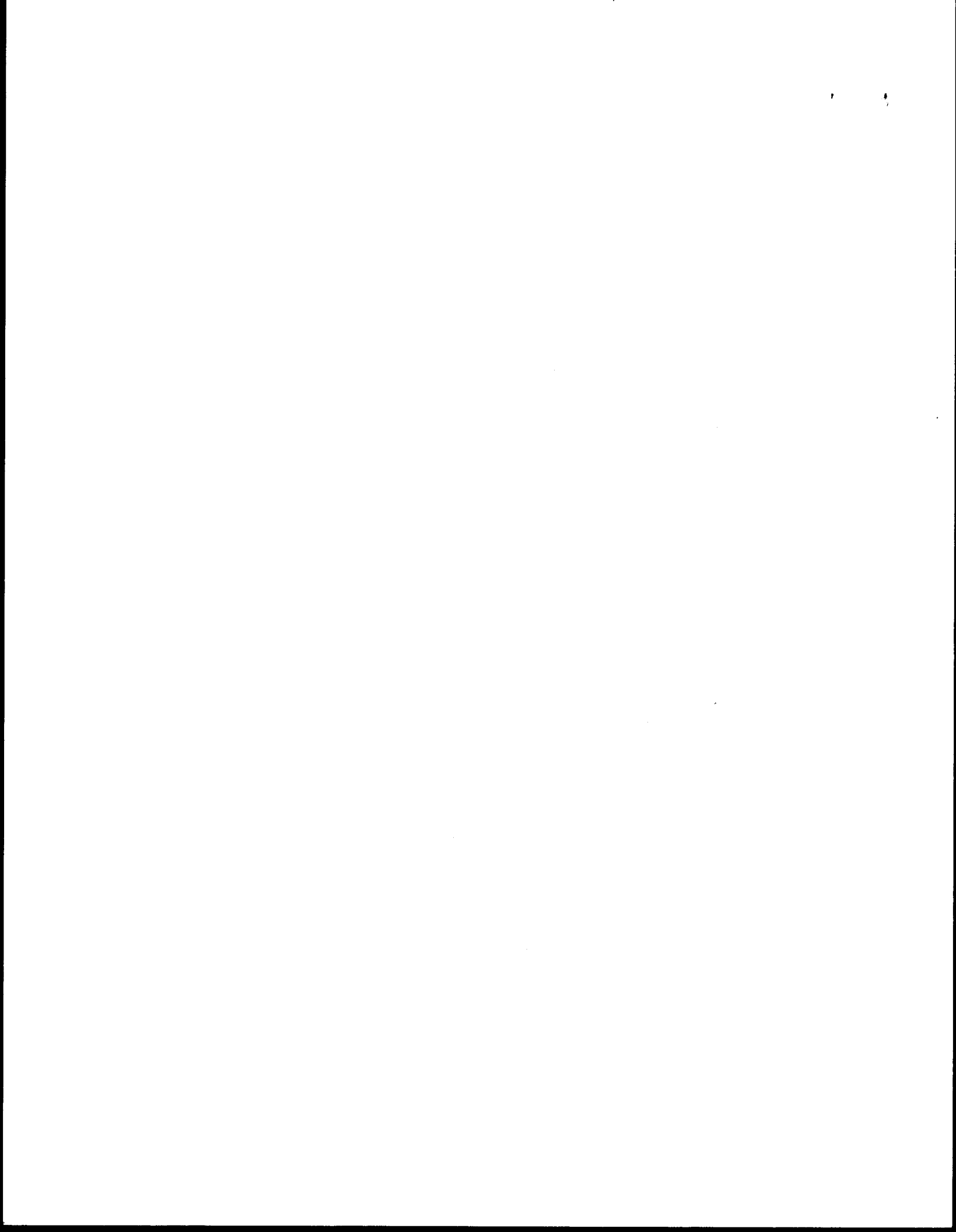


# INSTRUCTION MANUAL

# TMEX-C901, 1201

**TAJIMA**  
(9611)





## **INTRODUCTION**

This Instruction Manual contains information useful for operating TAJIMA Automatic Embroidery Machine TMEX-C. Persons who touch a TAJIMA TMEX-C for the first time, as well as those who are experienced in the embroidery machine operation, will find this manual helpful for understanding and reconfirming the machine operation procedures. Please read through this manual and understand the contents when operating the embroidery machine.

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

**IMPORTANT SAFETY INSTRUCTIONS**

**IMPORTANT WARNING ITEMS FOR SAFE OPERATION**

**FEATURES AND FUNCTIONS**

**SYSTEM INSTALLATION & SETTINGS**

**SETTINGS FOR USING OPTIONAL DEVICES**

**CAUSES OF THE MACHINE STOPS AND TROUBLESHOOTING**

**DAILY MAINTENANCE OF THE MACHINE**

**TECHNICAL INFORMATION**

Always keep this manual at hand. Read also the manuals for optional devices for installing and operating them.

This manual may contain discrepancies in detail information when compared with actual machine due to continued research and improvements. If any question about the machine or contents of this manual arises, please consult your local TAJIMA distributor.

Keep this instruction manual for future use.


## 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 which require your special attention on operation and maintenance of the machine are specified following 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 of death or serious injuries [NOTE 1] if the instruction is not observed.

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

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

*NOTE 1: A condition caused by electric shock, injury, fracture of a bone, etc., that leads to sequelae, or an injury that necessitates hospitalization or visits to a hospital over a long period.*

*NOTE 2: An injury that does not necessitate hospitalization or visit to a hospital over a long period.*

The items which supplement the information given in the explanatory texts are described following [REMARK].

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## IMPORTANT WARNING ITEMS FOR SAFE OPERATION

### IMPORTANT WARNING ITEMS FOR SAFE OPERATION

#### Machine Installation Environment

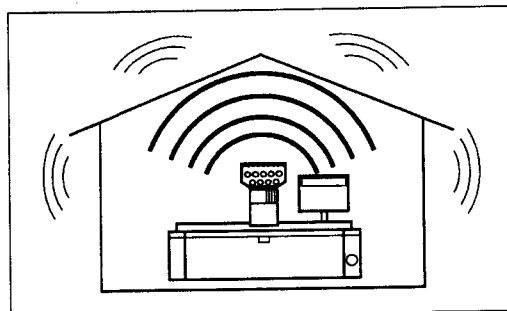
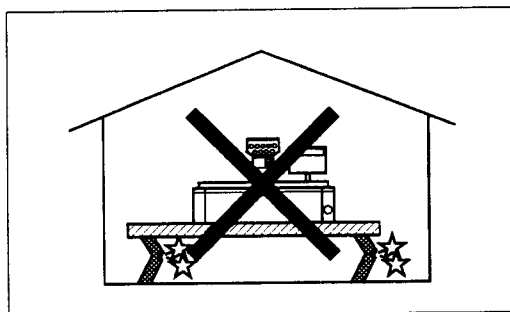
 **CAUTION**

The machine installation environment must satisfy the following conditions to prevent malfunctions, failure, and physical damage.

- **Install the machine on a sturdy floor.**
- **Prevent the operation noise in the environment.**

The floor structure must be strong enough to bear the machine weight (refer to the model name plate on the machines).

To improve the sound insulation performance of the factory in addition to the operation with reduced noise of this machine, use the interior finish materials which show high sound insulating performance for the walls, ceiling, and floor of the factory.



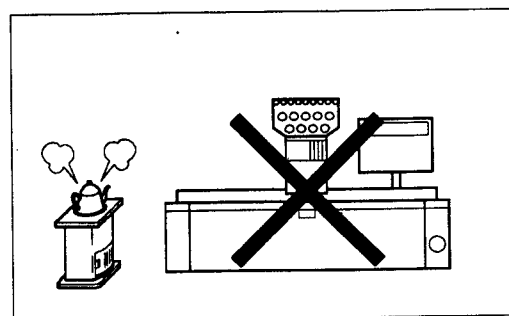
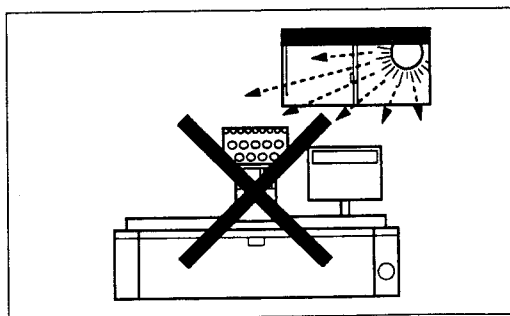
- **Avoid direct sunlight.**

If the machine is exposed to direct sunlight over an extended period of time, the machine body may cause discoloration or deformation. Put curtains or shades to stop direct sunlight.

- **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.



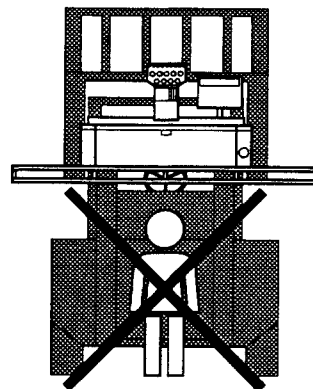
- \* Humidity : 30 to 95%RH (relative humidity), without condensation
- \* Ambient temperature : 5 to 40°C (41 to 104°F) (during operation),  
-10 to 60°C (14 to 140°F) (during storage)

## IMPORTANT WARNING ITEMS FOR SAFE OPERATION

### Lifting

 **DANGER**

When lifting (suspending) the machine, make sure that there is no person standing in the danger area around the machine, especially under the machine.

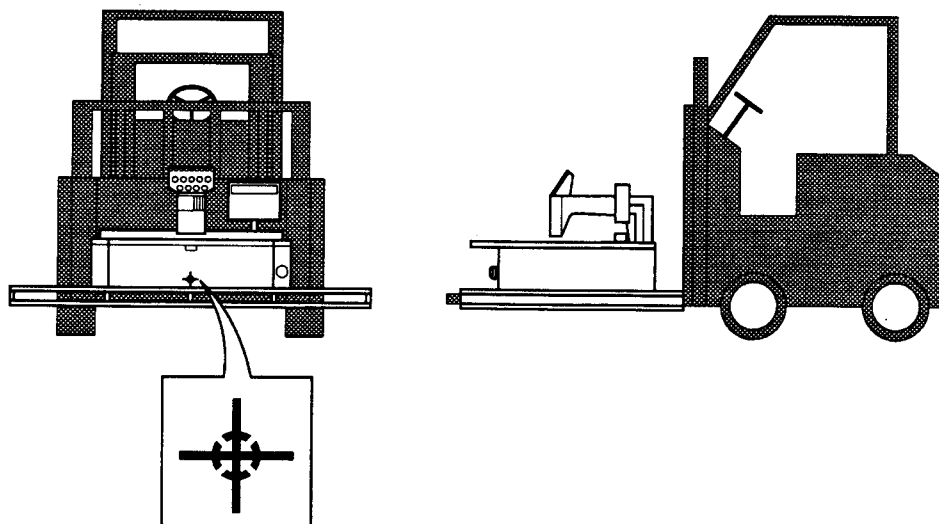


 **WARNING**

The following instructions must be observed when lifting the machine to prevent accidents resulting in injury or death and physical damage.

- When carrying the machine manually, put on safety shoes and hold the machine securely at the handles.
- When a forklift *[NOTE]* is used to lift the machine, lift the machine in the manner shown below. Make sure that the gravity center mark (indicated on the front and rear sides of the machine stand) is placed at the center between forks.

*NOTE: Use the forklift which has the sufficient capacity to lift the machine.*



# IMPORTANT WARNING ITEMS FOR SAFE OPERATION

## Installation

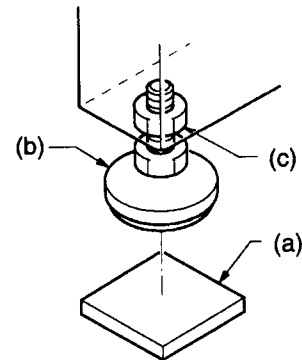
### ⚠ CAUTION

- If the machine is installed with the machine body twisted, it causes the needle locating position to fluctuate. Therefore, adjust the machine level in the back and forth (lengthwise) and right/left (crosswise) directions during machine installation.
- Place a precision level at the specified positions when adjusting the machine level.

<Procedure>

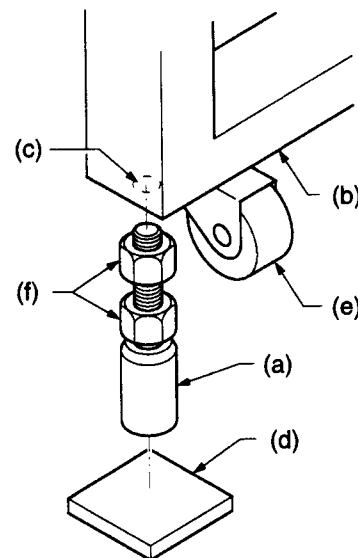
[When the machine is not equipped with the special stand (optional)]

- (1) Place the vibration preventive rubber (a) under the leveling adjuster (b).
- (2) Adjust the machine level by turning the leveling adjuster (b) while reading the precision level [NOTE]. Finally, fix the leveling adjuster with the nut (c).



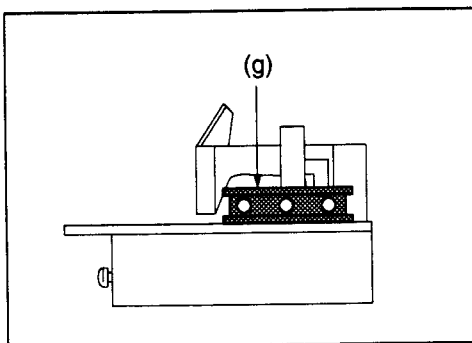
[When the machine is equipped with the special stand (optional)]

- (1) Fit the leveling block (a) in the hole (c) in the machine base (b).
- (2) Place the vibration preventive rubber (d) under the leveling block (a).
- (3) Turn the leveling block (a) to lift the caster (e).
- (4) Adjust the machine level by turning the leveling block (a) while reading the precision level [NOTE]. Finally, fix the leveling block with the nuts (f).

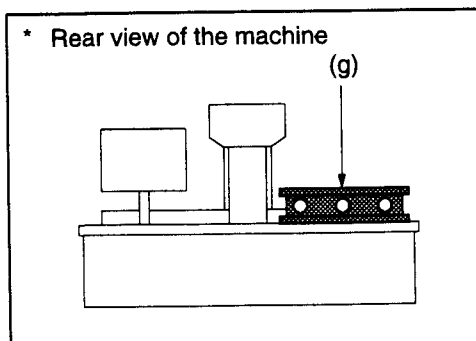


**NOTE:** Place the precision level (g) at the positions shown in the illustration below.

For adjusting the machine in the lengthwise (back and forth) direction



For adjusting the machine level in the crosswise (right and left) direction



## IMPORTANT WARNING ITEMS FOR SAFE OPERATION

### Grounding

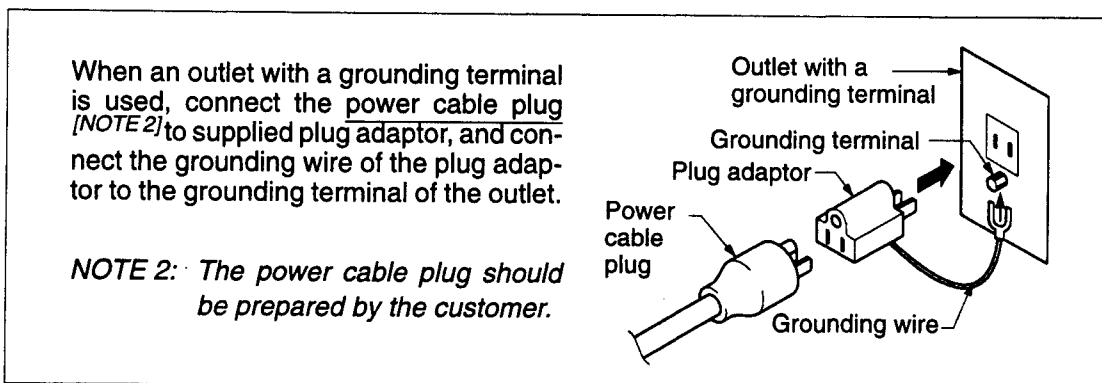
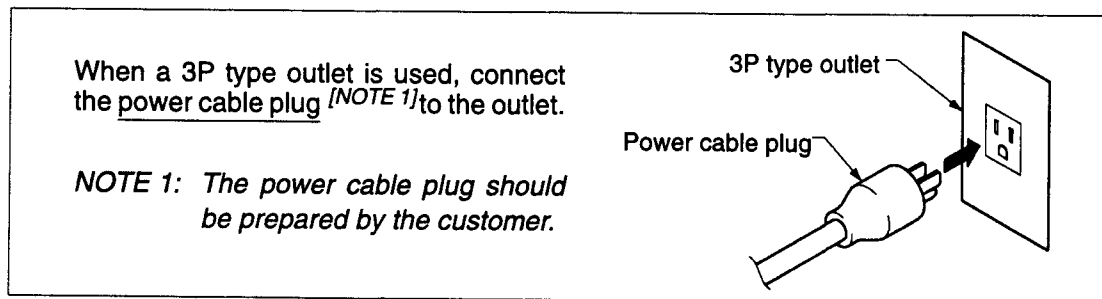
**⚠ WARNING** To prevent an electric shock due to leak current, the grounding wire must be properly connected.

Provide class 3 grounding or above (the grounding resistance must be 100 ohms or less).

**⚠ CAUTION** Before connecting the power cable plug, turn off the power switch.

<Procedure>

Ground the machine by using either of the following methods.



<Leakage breaker>

If a leakage breaker is used, select one provided with a measure against harmonics. [NOTE 3]

*NOTE 3: If a leakage breaker without this measure is used, the breaker will frequently trip (power shutdown).*

## **IMPORTANT WARNING ITEMS FOR SAFE OPERATION**

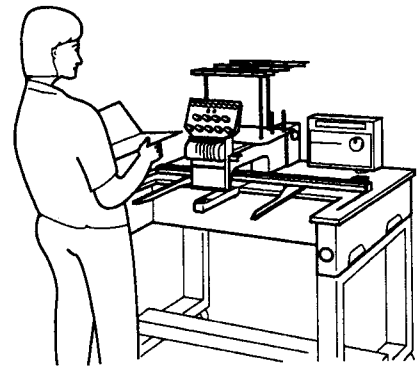
### **Cautions on Machine Operation**

#### **WARNING**

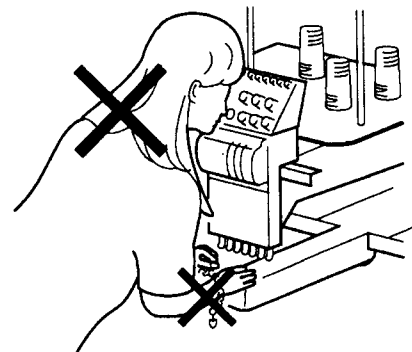
To prevent accidents resulting in injury or death and physical damage, the following must be observed when operating the machine.

#### **■ Before starting the machine**

- **This machine is for industrial use.**  
This machine has been designed to perform embroidering on semi- and final textile products and similar materials. Uses other than these must be avoided.
- **Use the machine in the environment where only authorized persons are permitted to enter, so that the machine is not manipulated by unauthorized persons.**
- **The machine must be operated only by the persons who are sufficiently trained for the operation.**
- **The working area of this machine is at the front of the machine. You are allowed to operate the machine only within the specified working area. If it is necessary to operate the machine while you are standing outside the specified working area, you must exercise due care so that you will not sustain injury.**
- **Do not stand on the machine.**
- **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.**

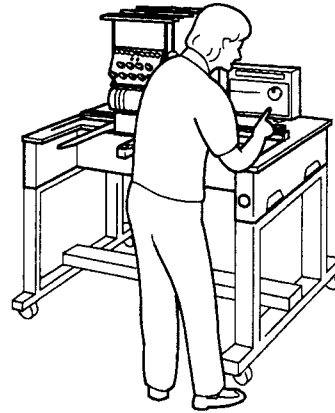


## IMPORTANT WARNING ITEMS FOR SAFE OPERATION



### WARNING

- Make sure that no one is working near the moving parts of the machine, and then, start the machine.

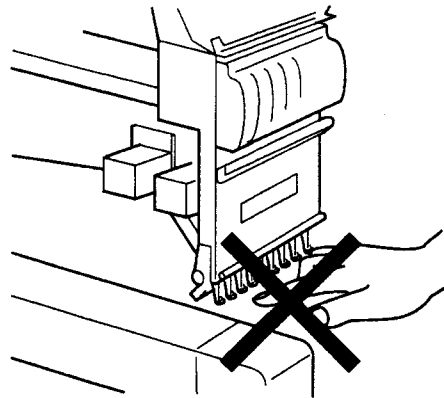


### ■ During the machine operation

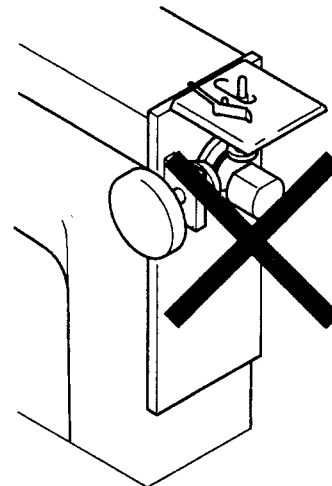


### WARNING

- Do not put your hands or face near the moving parts of the machine. Moving needle, take-up lever, and pulleys are very dangerous.



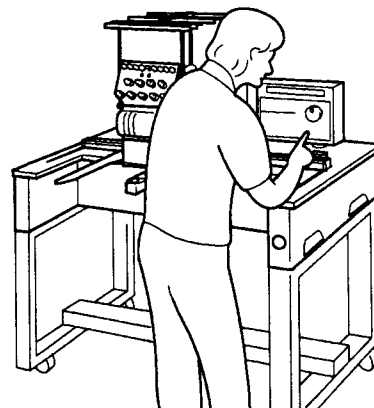
- Do not remove the covers for the shaft and pulleys when the machine is running. Do not run the machine without the cover.



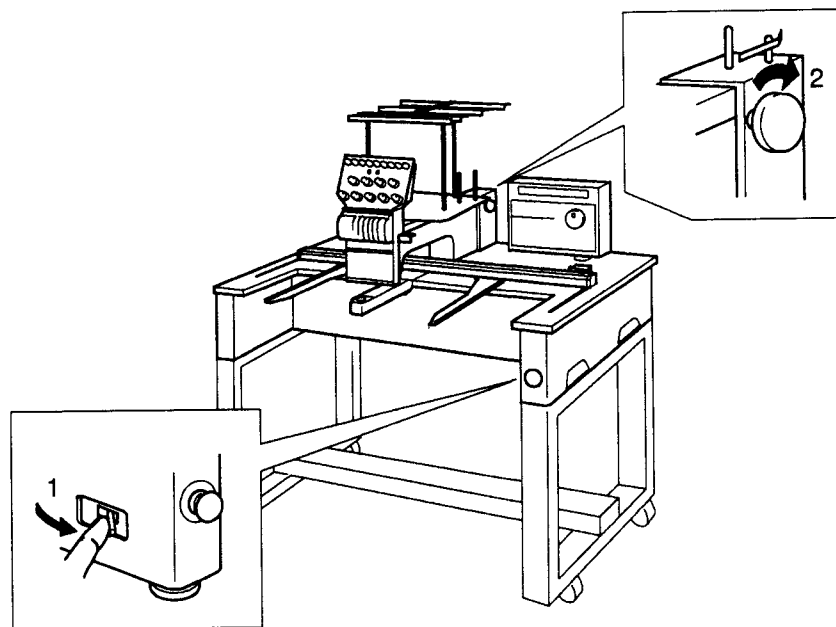
## **IMPORTANT WARNING ITEMS FOR SAFE OPERATION**

### ■ During machine adjustment

- **Disconnect the power supply to the machine before opening the electrical boxes. Be sure to turn off the power switch of the machine before disconnecting the power to the machine.**
- **Be sure to stop the machine before carrying out work near the needles (threading the needle, checking the finish of embroidery, etc.).**



- **Be sure to turn off the power switch before manually turning the main shaft.**



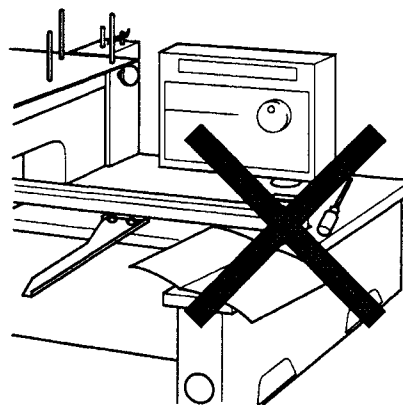
## **IMPORTANT WARNING ITEMS FOR SAFE OPERATION**



### **CAUTION**

**When operating the machine, observe the following items to prevent machine damage.**

- **Do not put things on the table.**



- **Do not use bent or broken needles.**
- **Use the proper needle plate.**



## IMPORTANT WARNING ITEMS FOR SAFE OPERATION

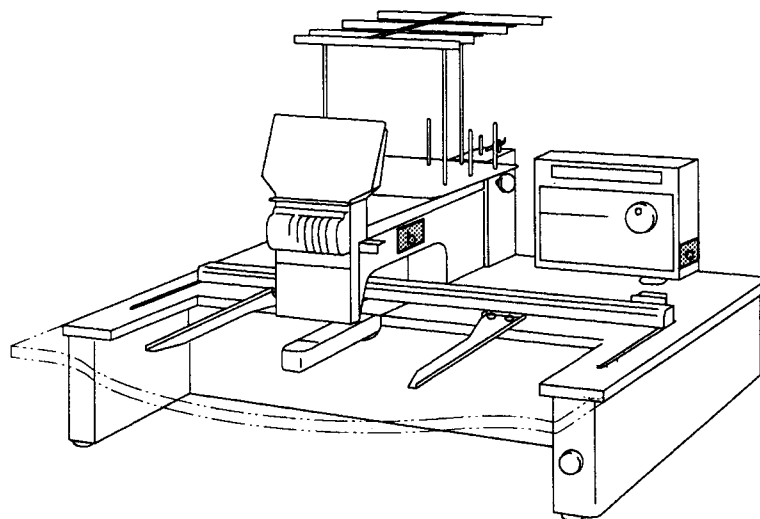
### Safety labels

**IMPORTANT:** The machine has safety labels which bear instructions for safe operation. Machine operators must follow these instructions when operating the machine. Do not detach these labels, nor make them illegible by such as painting.

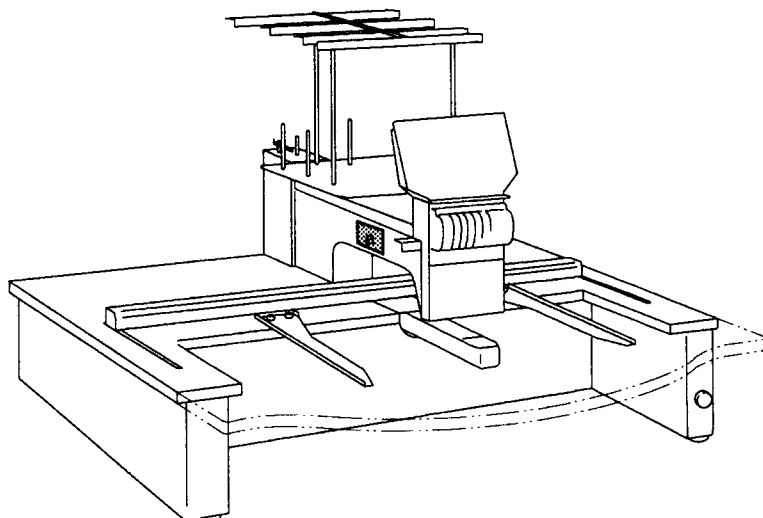
**REMARK:** If the safety label is missed or damaged, please contact TAJIMA's distributor.

#### ■ Safety Label Position

[Machine Front (Machine left front)]





[Machine Front (Machine right front)]



# IMPORTANT WARNING ITEMS FOR SAFE OPERATION



## ■ Contents of Safety Labels

(a)

 <b>WARNING ATENCION</b>		
	<p><b>Moving parts</b> can cause severe injury.</p> <p>Do not take off the safety covers nor put your hands etc. close to the moving parts during machine operation.</p>	<p><b>Las partes en movimiento</b> pueden ocasionar <b>lesión grave.</b></p> <p>No retirar las cubiertas de seguridad ni poner las manos, etc., cerca de las piezas en movimiento mientras la máquina esté en funcionamiento.</p>

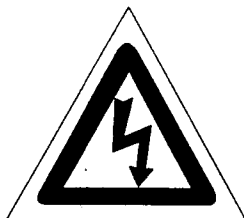
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(b)

 <b>WARNING ATENCION</b>		
	<p><b>Exposed needles</b> can cause severe injury.</p> <p>Stop the machine before working near the needles.</p>	<p><b>Las agujas expuestas</b> pueden ocasionar <b>lesión grave.</b></p> <p>Detenga la máquina antes de trabajar cerca de las agujas.</p>

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(c)



### HIGH VOLTAGE

Can cause shock, burn, or death.

- The cover can be opened only by the service persons authorized by Tajima.
- When opening the cover, turn the power switch OFF and wait at least 4 minutes.

# **1. FEATURES AND FUNCTIONS**

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## **1. FEATURES AND FUNCTIONS**

- (1) **Accurate frame driving and high-speed capability**  
High-precision special pulse motors perform frame driving with improved quietness and stability. The maximum main shaft speed has been increased up to 1200 rpm.
- (2) **Easy-to-install/remove table**  
The sub table can be easily installed and removed so standard embroidering and embroidering on finished products can be freely performed.
- (3) **Multiple purposes**  
Beautiful embroideries can be produced on both material fabric and finished products such as T-shirts, knitted sweaters, sweat shirts, and caps.
- (4) **Compact body design**  
The machine body is compactly designed and portable.
- (5) **Quiet operation**  
Noise-reducing mechanisms successfully decrease noise and vibration during operation.
- (6) **Automatic needle bar selector (Patent pending)**  
The needle bar order can be selected for maximum efficiency. Up to 99 color changes can be set.
- (7) **Independent take-up lever (Patent pending)**  
Only the take-up levers in use move and those not in use do not move. Threads are smoothly supplied at stable tension and upper/under thread trimming is done accurately.
- (8) **Individual tension base**  
The tension base moves together with the needle bar case at the time of color change so thread tension is stably maintained.
- (9) **Built-in floppy disk driver (3.5-inch FDD)**  
TAJIMA format design data can be read from and written on a floppy disk. Design data of other formats can also be read. Up to 111 designs can be stored in a floppy disk, and the maximum memory capacity is 240,000 stitches.
- (10) **Ternary and binary data (tape format) can be used**  
Data type can be automatically selected.
- (11) **Design scale up/down and rotation**  
The size of a design can be enlarged or reduced in 1% increments in 50 to 200% range independently in X and Y directions. Rotation can be set in 1° units.

# **1. FEATURES AND FUNCTIONS**

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(12) Satin stitch expansion

Stitch width can be expanded in 0.1 to 1.0 mm range wider than the tape data.

(13) Automatic repeat

A design can be repeated up to 99 times respectively in X and/or Y directions.

(14) Large memory capacity (max. 640,000 stitches)

Up to 99 designs can be stored in memory. Available memory size is indicated in the number of stitches. (Standard memory: 128,000 stitches)

(15) Speed changes

Stitching speed can be set using either jog dial. Speed is automatically adjusted according to stitch length.

(16) Automatic/manual offset

The frame moves aside so applique placement, frame changing, etc. can be done easily. The frame can be easily returned to the original position after such operations are completed. Even after the frame has been moved manually during embroidering, the frame can be easily returned to the previous stitch point.

(17) Origin return

The frame can be returned to the start point of the design. Even though the start point does not coincide with the end point, the stitching point can be returned to the start point.

(18) Frame back

The frame can be moved backward in one stitch unit or one color change units if thread skipping, etc. has occurred during embroidering.

(19) Frame forward

The frame can be moved forward in the stitching direction of a design.

(20) Automatic upper/under thread trimming and holding device (ATH)

This device operates as designated in design data. Quality of finish and productivity of designs can be improved. (Manual operation by using a button at desired positions is also possible.)

(21) Direct data input

The design data can be directly input to the machine for data setting from an external connected device such as FM Note and ML-50 without requiring the operation at the operation panel.

# 1. FEATURES AND FUNCTIONS

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## 1-1 Electrical Specifications and Installation Environment

Please operate your TMEX-C machine according to the electrical specifications and in the environment mentioned below.



### CAUTION

**Operating or installing the machine in a place where the following electrical specifications and/or environmental requirements are not satisfied may cause operation failure of the machine.**

#### (1) Electrical Specifications

##### (a) Allowable voltage range (single-phase only)

± 10% of rated voltage

\* The machine has an automatic transformer and can operate under the following input voltages without changing tap configuration of the transformer.  
Allowable input voltages: 100, 110, 115, 120, 200, 220, 230, and 240 VAC

##### (b) Power supply capacity and power consumption

470 VA 330 W

##### (c) Insulation resistance

10 M  $\Omega$  or over (by a 500 V megger)



### CAUTION

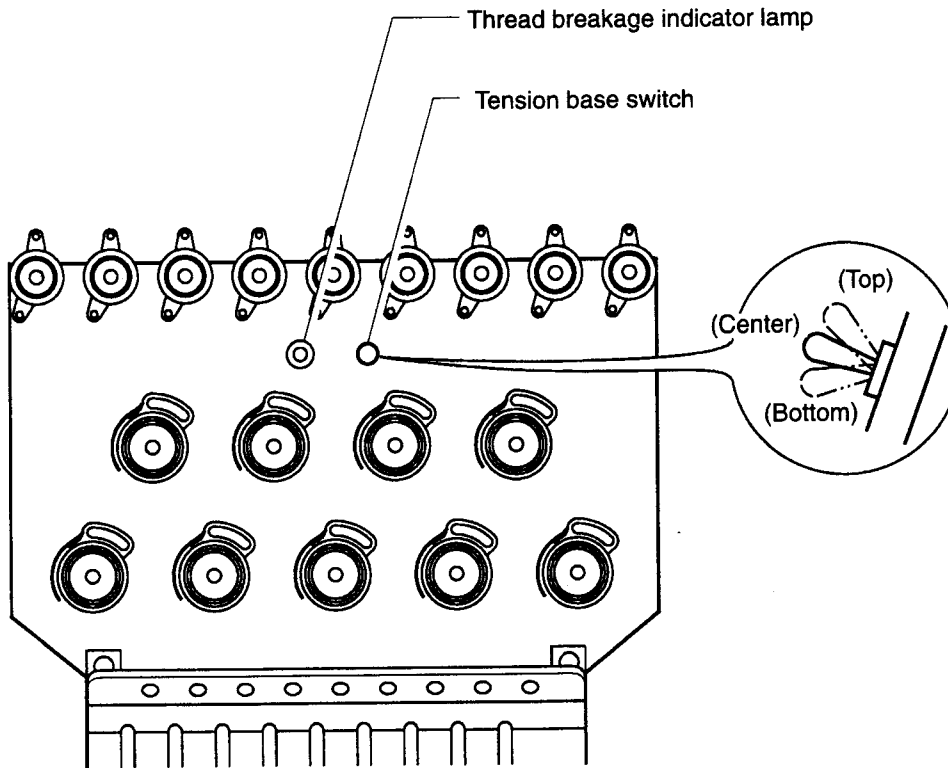
**To avoid the danger of electric shock due to leak current, be sure to connect the grounding wire of the machine to the ground.**

**Conform to Class 3 grounding (grounding resistance: 100 ohms or less) or higher class.**



# 1. FEATURES AND FUNCTIONS

## 1-3 Tension Base Switch and Thread Breakage Indicator Lamp



### Tension base switch

- (1) This switch must be in the center position during normal operation.

When the machine stopped due to thread breakage, perform frame back to the position of thread breakage and start the machine.

**REMARK:** To start embroidering beginning with a position after performing frame back, shift this switch to the top position after performing frame back. (The switch returns to the center position by a return spring when it is released.)

- (2) When this switch is shifted to the bottom position, the needle bar in the head does not move. (Embroidering is not performed.)

### Thread breakage indicator lamp

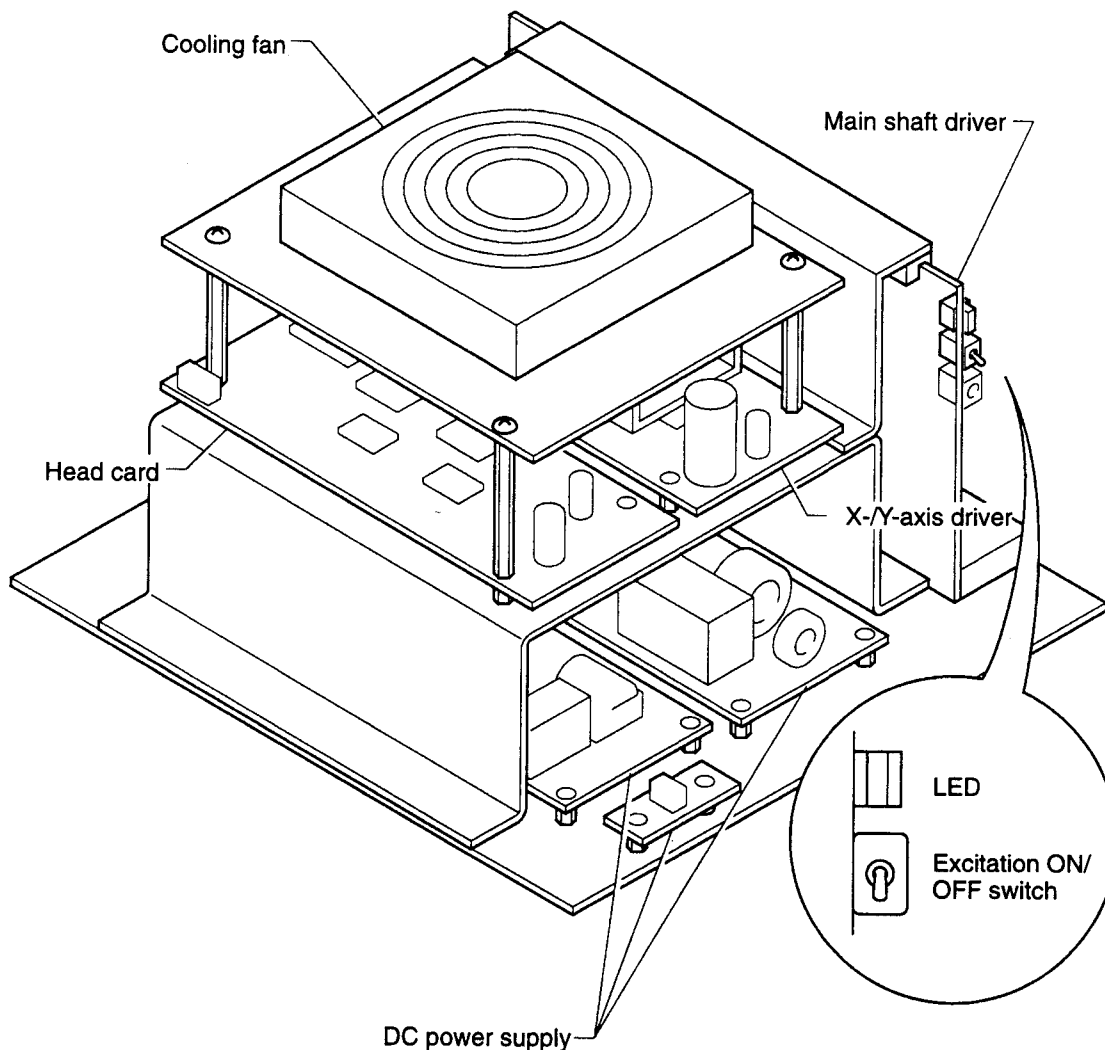
- During normal operation : green
- When upper thread breakage is detected : red

# 1. FEATURES AND FUNCTIONS

## 1-4 Power Supply/Driver Unit

 **CAUTION**

Do not put an object which will obstruct ventilation under the cooling fan. If the cooling wind flow is blocked, devices in the power supply/driver unit are overheated, causing machine malfunction.



### ■ LEDs

Indicator LEDs of driver status:

Green : Normal

Orange: Excitation OFF

Red : Abnormal (overcurrent)

### ■ Excitation ON/OFF switch positions

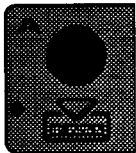
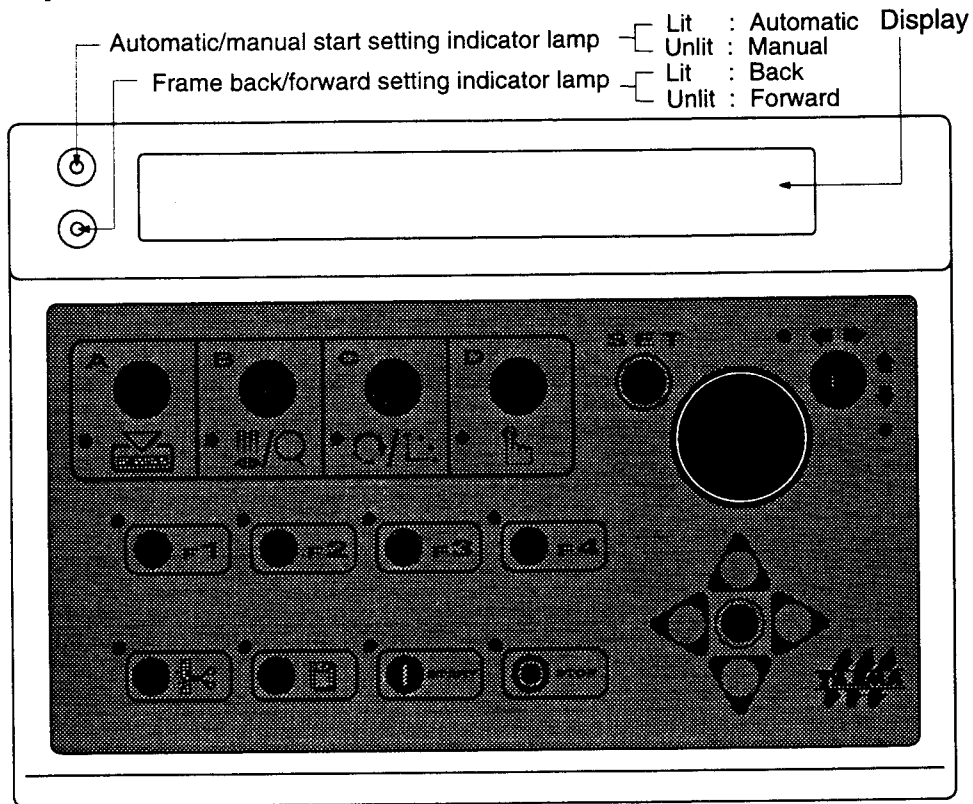
Top  Excitation OFF

Bottom  Excitation ON



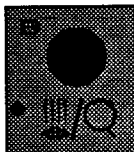
# 1. FEATURES AND FUNCTIONS

## 1-5 Key Switches and Indicators on the Operation Panel (Controller Box)



### (1) Menu key A

- (a) Data input (Memory) → page 3 – 3
- (b) Data input (Floppy Disk) → page 3 – 5
- (c) Data input (PTR) → page 3 – 7
- (d) Data input (Serial) → page 3 – 7
- (e) Memory delete → page 3 – 9
- (f) Direct data input → page 3 – 10



### (2) Menu key B

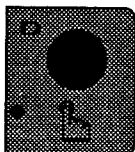
- (a) Automatic color change/automatic start → page 4 – 1
- (b) Needle bar selection → page 4 – 4
- (c) Data conversion → page 4 – 9
- (d) Repeat → page 4 – 12
- (e) Automatic offset → page 4 – 17

# 1. FEATURES AND FUNCTIONS

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- (3) Menu key C
  - (a) Maximum rpm → page 5 – 1
  - (b) Total stitch counter/design timer → page 5 – 2
  - (c) Frame back/forward → page 5 – 4
  - (d) Automatic origin return → page 5 – 5

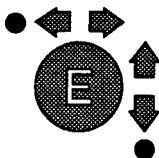


- (4) Menu key D
  - (a) Manual color change → page 6 – 1
  - (b) Manual ATH → page 6 – 2
  - (c) Manual origin return → page 6 – 3
  - (d) Manual offset → page 6 – 4



- (5) SET key

Press this key after inputting each setting item or when selecting a setting item.



- (6) Manual frame travel key

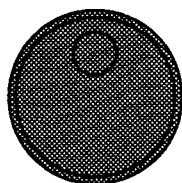
Press this key to switch to the manual frame travel mode and use either jog dial or the manual frame travel keys *[NOTE 1]*. To exit the manual frame travel mode, press any operation key.

*NOTE 1: "Manual frame travel" allows the operator to manually move the embroidery frame by using the switches on the operation panel.*

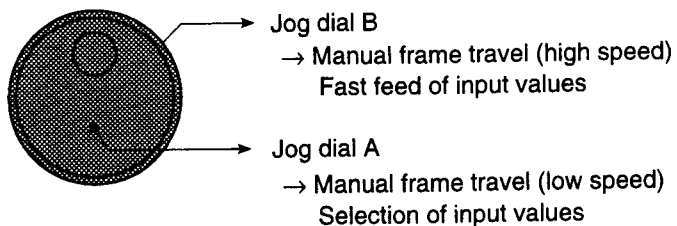
**REMARK:** By pressing this key while in the parameter setting mode, the input value can be reset to the previous set value and the display mode can be returned to the "normal display" (see page 2 – 7).

# 1. FEATURES AND FUNCTIONS

## (7) Jog dial

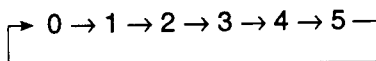


(a) The jog dial has the following two functions.

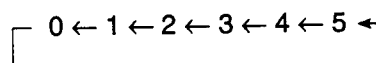


\* For example, when an input value for a setting item is 0, 1, 2, 3, 4, or 5, the value indication changes as shown below.

- When turned clockwise

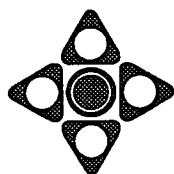


- When turned counter-clockwise



Indication changes in this order.

(b) Manually moves the embroidery frame. See "Moving the frame by using the jog dial" on page 6 - 6.



## (8) Manual frame travel key

Use this key to manually move the embroidery frame. See "Moving the frame by using the manual frame travel key" on page 6 - 5.



## (9) F1 key

- (a) Jump conversion → page 7 - 1
- (b) Automatic jump → page 7 - 4
- (c) Satin stitch conversion → page 7 - 5
- (d) Soft frame limit → page 7 - 6



## (10) F2 key

- (a) Low speed rpm → page 8 - 1
- (b) Number of start inching → page 8 - 2
- (c) Frame travel speed → page 8 - 3
- (d) Upper thread breakage detection → page 8 - 4

# 1. FEATURES AND FUNCTIONS

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(11) F3 key

- (a) ATH → page 8 – 5
- (b) UTC → page 12 – 2
- (c) Boring → page 12 – 3
- (d) Cording → page 12 – 4



(12) F4 key

- (a) Network connection → page 12 – 5



(13) Data edit key

- (a) Data editing (modify) → page 9 – 2
- (b) Data editing (insert) → page 9 – 7
- (c) Data editing (delete) → page 9 – 13



(14) Floppy disk process key

- (a) Floppy disk processing (write) → page 10 – 2
- (b) Floppy disk processing (delete) → page 10 – 5
- (c) Floppy disk processing (initialize) → page 10 – 6



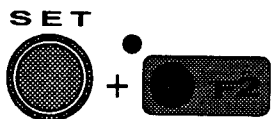
(15) Start switch

- (a) Start and Stop Switch Operations → page 1 – 12



(16) Stop switch

- (a) Start and Stop Switch Operations → page 1 – 12



(17) SET key + F2

- (a) Maximum rpm limiter → page 8 – 7
- (b) Frame drive start timing → page 8 – 8
- (c) ATH timing → page 8 – 9



(18) SET key + menu key D

- (a) Confirmation mode → page 11 – 1