

B E V S

Instruction Manual



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- 1)  and CompactFlash™ are the trade marks of SanDisk Corporation.
- 2) Ethernet is the trademark of the Fuji Xerox Inc.
- 3) WINDOWS™ is the trade mark of the Microsoft Inc.

Chapter 1. Safety Instructions

This chapter contains information on the following.

1. Important Safety Instructions
2. Grounding Instructions
3. Warning Labels

1. Important Safety Instructions

Before using the machine make sure to read this manual thoroughly and follow all instructions.

The icons in the manual show the importance of the contents.
Acknowledge the following descriptions beforehand.

Icons



Safety information about protecting yourself.



Important information about protecting The machine.

Warning

This machine is made for an industrial use.
This is an embroidery machine. Do not use for other applications.

Read the instruction manual throughly and acknowledge the operaion before running the machine.

Only those that know how to operate the machine should run the machine. Do not let other personel operate the machine.

Operate the machine from the front. Do not load work to the machine from the back side.

Keep hands and face away from needles, take-up lever, trimmer, shafts, pulley, belts, gears,etc. Do not operate the machine without the protective covers for the shaft, pulley, belt and gear in place.

Keep long hair, necklascas, and bracelets away from the machine while operating.

Only one person should operate the machine.
One operator can start the machine while another operator is working on the machine accidentally.
Be sure nobody is working on the machine before starting it.
Close attention is necessary when the embroidery machine is used by or near children.

Follow the electrical specifications instructed.

Do not modify or dismantle the machine.
It can cause fire or malfunction.

Connect this embroidery machine to a properly grounded outlet only.

Do not use the machine in the humidiated atomosphere. It can cause a fire or electrical shock.

Do not use the machine in the humidiated atomosphere. It may cause fire or electric shock.

Do not damage, modify, pull or twist the power cable. Heating or heavy load to the cable damages the cable and it can cause fire or electrical shock.
Call for a service technician to fix the cable.

Keep water or chemical substances away from the controller.
Disconnect the power to the machine and call a service technician.

 **Warning**

Keep metal and foreign objects away from the controller, to avoid a short to the circuit, fire or electrical shock.

Keep vases, flower pots, cups, cosmetics, medicine, chemical substances away from the Controller. They could cause fire or electric shocks.

Disconnect the power to the machine and call a service technician if any foreign objects go into the controller.

 **Caution** Adjustment of the machine

Stop the machine before threading the machine or checking the embroidery in process.

Disconnect the power to the machine before turning any shafts by hand.

Disconnect the power to the machine or turn OFF the machine power before opening the controller.



Caution

Avoid direct sunlight, heaters, boilers or any sources of the heat from the machine.
Do not use the machine outdoors.

Do not use the machine near the fire or flame. It may cause fire.

Clean the ventilation opening once a week.
Use vacume to clean the controller.
Poor ventilation can cause fire or damage of the machine.
Poor ventilation can cause an error for an overheating.

Unplug the power cable before servicing to the controller.
Residual power may cause electric shock. Wait for 4 minutes before opening the cover.
Some parts in the controller can be very hot. Be sure not to burn your hands.

Use only attachments and parts recommended by Barudan.
Wrong parts can damage the machine.

Do not use bent or wrong sized needles.
It can make a needle break or fabric damaged.

Do not force the fabric while sewing. It can cause the needle to break or bend.

Turn OFF all power switches and unplug the power cable after use.

*Follow the lubrication instruction on the machine.

2. Grounding Instructions

- 1) Apply grounding to the machine.

Grounding avoids electric shocks.

Power cable on the machine has plug with a grounding terminal.

Use appropriate plugs or outlet which conform to the requirements of the power company or the law.

Danger! : Not grounding the machine may cause electrical shock.

- 2) Ask for a service call if the power connection is not clearly understood.

- 3) Do not use adaptor to the power plug.

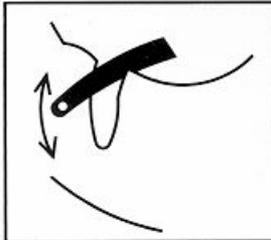
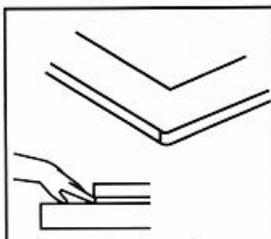
Ask for a service call to connect the machine to another power source.

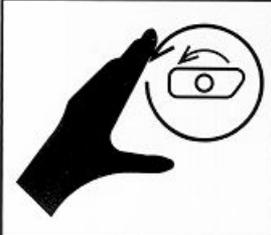
- 4) Ask for a service from the power company to check the connection from the ground to the power outlet.

*Check the voltage and capacity of the power source before plugging the power cable.

3.Warning Labels

Give attention during operation to the parts labeled.

Warning Labels	Contents
 <p>⚠ WARNING Pointed needle will cause severe injury. Keep hand away from sewing head while operating.</p>	Needle Hazard Warning Lable
 <p>⚠ WARNING KEEP COVER CLOSED. Moving part can catch hair, finger, hand or clothes and will cause severe injury. Turn off power before servicing machine.</p>	Hair Warning Label
 <p>⚠ WARNING Moving part can cause injury. Keep hand away from sewing head while operating.</p>	Take-Up Lever Warning Label
 <p>⚠ WARNING Moving frame can cause severe injury. Keep hand away from table top while operating.</p>	Frame Warning Label

Warning Labels	Contents
 <p data-bbox="494 347 965 582"> ⚠ WARNING Rotating hook can cause severe injury. Keep hand away from rotating hook while operating. </p>	<p data-bbox="1077 448 1332 481">Hook Warning Label</p>
 <p data-bbox="494 705 965 940"> ⚠ WARNING KEEP COVER CLOSED. Nip point will catch hair, finger, hand or clothes, and will cause severe injury. Turn off power before servicing machine. </p>	<p data-bbox="1077 784 1332 817">Belt Warning Label</p>

Chapter 2. Introduction

This chapter contains the following information.

1. Specifications
2. Advantages

1. Specifications

- 1) Design Capacity : 30 designs
- 2) Stitch Capacity : 10 million stitches
- 3) Display : LCD 320 x 240 16bit Color LCD
- 4) Power Source : AC200-415 Single / 3 Phase (+/-10%, 50/60Hz)
- 5) Power Consumption : Varies for each model
- 6) Temperature : 5 - 45 Degree Centigrade (Active)
-20 - 60 Degree Centigrade (Storage)
- 7) Humidity : 20 - 80 %RH, No condensation allowed
- 8) Grounding : Grounding resistance to be less than 1000hm (Type 3 grounding)
- 9) Main Motor : 3 Phase 200V Induction Motor
1.5k / 750 / 550 / 200W
Inverter Drive
Max 1.5kW Inverter (AC Servo Pantograph Motor Model)
Max 750W Inverter (Pulse Pantograph Motor Model)
- 10) Pantograph Drive Motor : 800W AC Servo Motor or
Micro Step 5 Phase Motor
- 11) Number of Heads : 1 - 30
- 12) Speed : 200 - 1200rpm (Max Speed is defined for each model)
- 13) Number of Needles : Max.9 (Rotary Head Model)
Max.15(In-Line Head)
- 14) Floppy Disk Drive : 3.5" x 1 (DOS/V)
- 15) CF Card Slot x 1
- 16) Trimmer Compatible : Mark 4, 5, 6
- 17) Thread Break Detection
- 18) USB Port : USB1.1(USB Board required)
- 19) Networking System : Ethernet(Ethernet Board required)

- 20) COM Port : 9600 - 115200bps(COM Board required)
- 21) Capable to drive Cap Frames (Cylinder Bed Model)
- 22) Capable to drive borer
- 23) Compatible to Roll-to-Roll Embroidery (Automatic / Manual, Factory Option)
- 24) WS System (Factory Option)
- 25) Compatible to Sequin Device(Factory Option)
- 26) Compatible to a Barcode Reader(Option)
- 27) Automatic Lubrication (Factory Option)
- 28) Emergency Stop Switch (Factory Option)

2 . Advantage

1) Easy Operation

The controller has a microcomputer and it is designed for the embroidery machine, Making it more reliable than multipurpose control system.
Graphic User Interface with icons makes operating the machine easy.

2) High Speed Drive

The microcomputer chooses most efficient speed automatically(200-1200rpm).
*Max. Speed may vary for each model.

3) Quiet Drive

Inverter driven main motor allows powerful and quiet drive.
It also allows accurate speed control and stop position.
AC Servo Motor or 5 Phase Pulse Motor drives the pantograph at high speed and quiet.

4) Memory Capacity

The memory capacity is 10 million stitches and in 30 memory locations.

5) Design Information

Design Information such as total number of stitches, quantity produced, size, Thumbnail of the design can be seen on the screen.

6) Networking

Optional Ethernet board allows the LAN networking of the machines.
Networked machines can share designs and monitored in real-time.

7) USB Port

Optional USB board allows a direct connection to the PC, receiving designs from a PC

8) CF (CompactFlash™) Card Slot

Read/load designs from the CF card. Compact Flash cards hold more designs and stitches than a floppy disk.

9) Compatibility with other industry formats

The controller has a Floppy Disk Drive. It reads not only BARUDAN format but other Industry formats also.

10) Rotation, Mirror, Scale of the design

The controller can rotate the design 90degree / 1degree step and can create mirror image of the design.

It also can scale the design length / width individually.

11) Automatic Origin Return

When a design is finished sewing, the pantograph returns to the start position of the design automatically. Allowing repeat work to be efficient.

12) Automatic Appliqué Position

The pantograph moves out to the programmed position, making it easier to lay the appliqué fabric correctly on the product. Can also be used to replace frames.

13) Other Functions

a. The controller allows cycle embroidery 1-200 or infinite (Setting : 201)

b. Automatic design conversion for socks.

c. Automatic layout for the Matrix embroidery
Easy setting can create a repetition design.

d. The colors (Needle No.) in a design can be easily changed and saved.

14) Start position

The start position of a pattern is saved.

15) Trace

The area to be sewn is shown on the screen and traced out by the pantograph.

16) Stitch Back Feature

Repairs stitches using the Stop key, stop the machine using the stop key, hold down the stop key till the pantograph reaches the desired position, and then let go. Press it again to stop the pantograph.

Pressing the Start switch runs all heads at once to fix the embroidery.

17) Automatic speed control, Jump

The controller varies the speed of the machine automatically depending on the setting and stitch length for better stitch quality. The controller gives automatic Jump Stitched as the stitch length reaches to set value. It also creates higher stitch quality.

18) Float

The pantograph can be moved without sewing to have the designated position to start sewing.

It also can move the pantograph directly to the designated position by typing in the stitch count.

20) Error Code

Errors are displayed on the screen in icon form.

21) Stand-By(Resume)

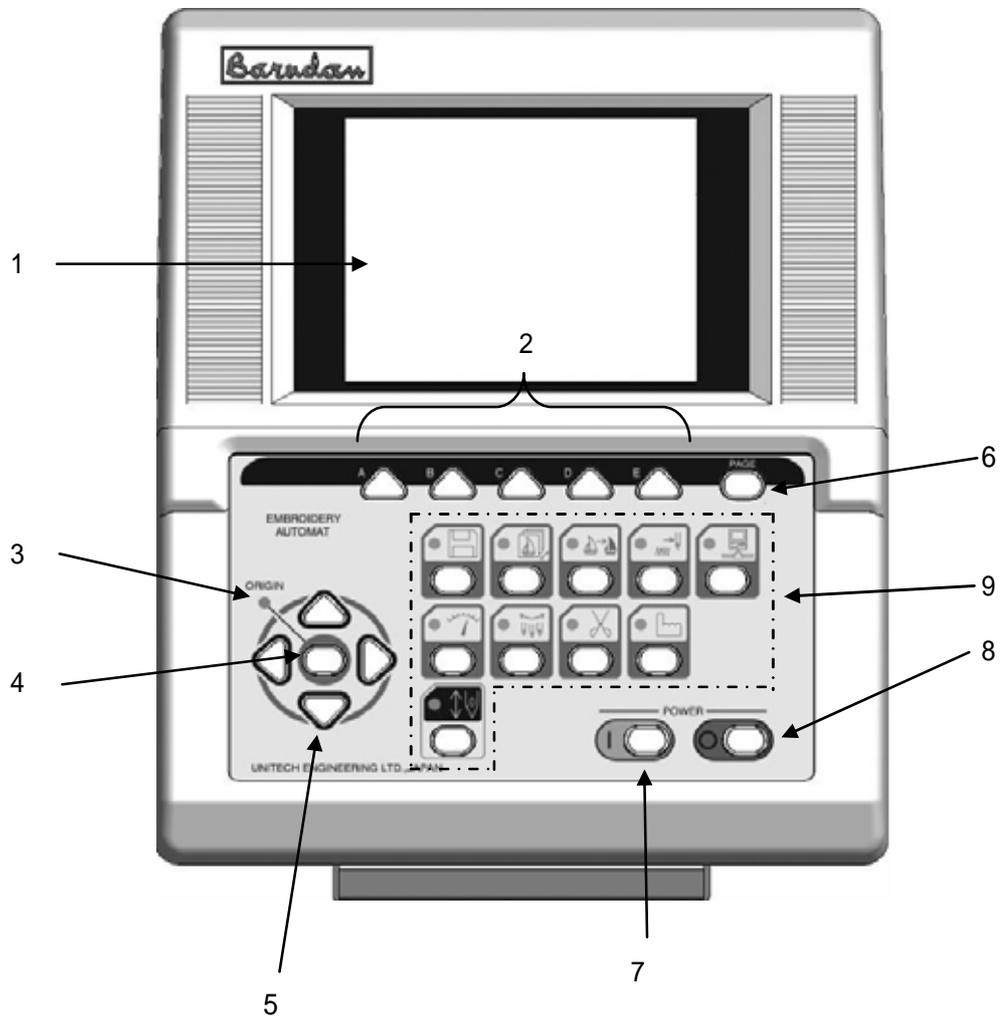
The machine can be turned OFF in the middle of a design. The machine resumes the position where embroidery was stopped.

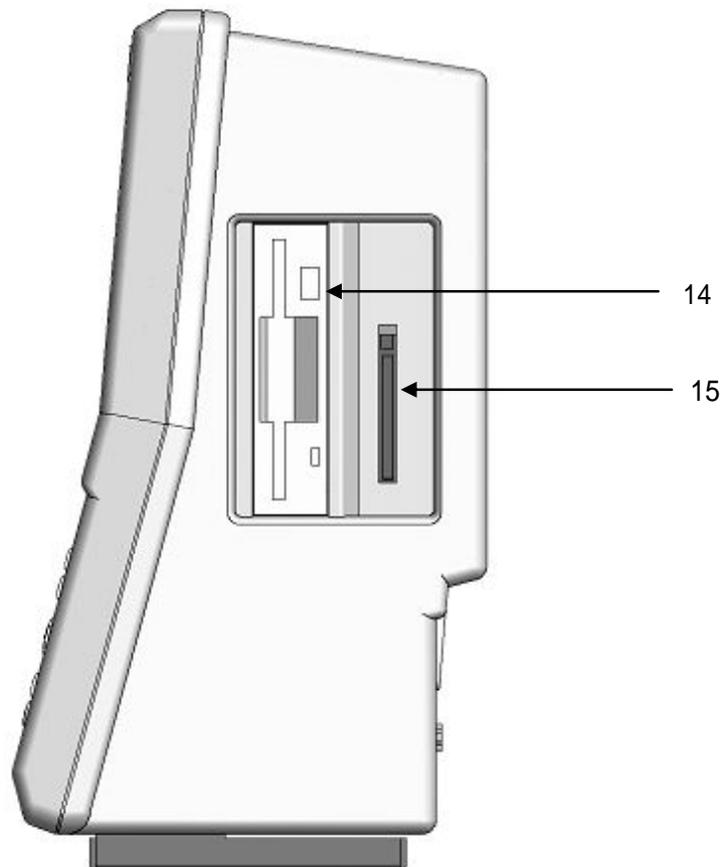
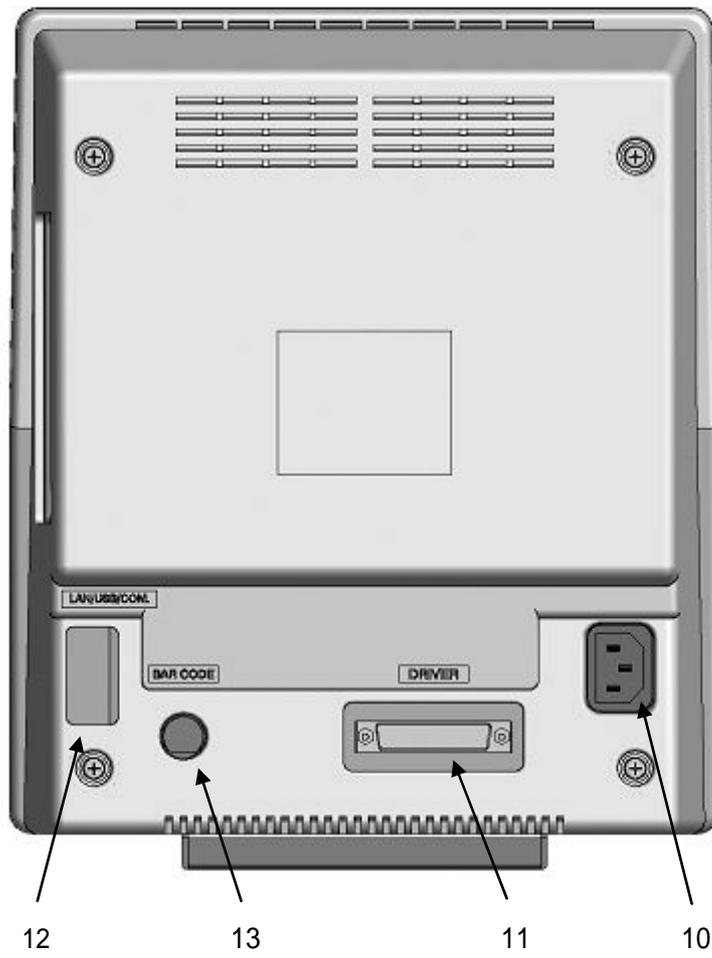
Chapter 3. Before Use

This chapter includes information on the following:

1. Appearance and Denominations
2. Panel Switch
3. Turning ON /OFF the Machine
4. Origin Setting
5. Stand-by and Drive State
6. Switching Screens
7. The Information on the Screen
8. The Information on the Extension Screen
9. Messages
10. Message to Start the Machine
11. Color Setting of the Display

1. Automat Components





1. LCD Display

Shows machine status, icons, design information

*Refer to “ Contents on the display ”

2. Icon key - the A, B, C, D, E-keys

The operation buttons assigned to functions displayed by icons.

3. Origin LED

When lit the pantograph is located at the origin.

Blinks when the Jog Keys are assigned to other functions.

4. Origin Key

Moves the pantograph to the origin.

When the pantograph is located at origin, it moves the pantograph to the previous position, the position of the last stitch while the machine was in Drive mode.

5. Jog Keys

Moves pantograph. Single stroke gives 0.1mm movement. Holding the button gives continuous movement and speed of the pantograph gradually increases.

Used to move the cursor for selecting items from a list.

6. Page Key

Switches screen

*Refer to “ Paging Screen ”

7. Power ON Key

Turns the machine ON.

8. Power OFF Key

Turns the machine OFF.

9. Panel Switch

*Refer to “ Panel Switch ”

10. Power Inlet

Power inlet for AC100V

11. Driver port

I/F Port to V series driver box

12. COM / LAN / USB

The slot to mount COM / LAN / USB board

13. PS / 2 Port

The PS / 2 port for optional barcode reader.

Using barcode can skip some operations.

14. Floppy Disk Drive

3.5 " Floppy Disk Drive (DOS/V)

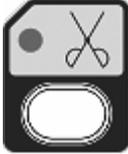
15. CF (CompactFlash ™) Card Slot

The CF Card slot

Designs are loaded/saved onto the CF card. It also loads the system software of the automat.

2. Panel Switch

The description of the keys with icon.

- 1)  Speed Key
Varies the machine speed.
- 2)  Needle Change Key
Manually changes the needle (Color).
- 3)  Trimming Key
Manually trim the thread.
- 4)  Manual Key
Shows manual operation menu and parameter setting icon.
- 5)  FD (Floppy Disk) Key
Loads the design data from the FD or other media.
- 6)  Memory Key
Shows designs in the memory and C. Output the design.
Shows drive condition.
- 7)  Color Key
List the color change code in the design memory and allow them to change.
- 8)  Float Key
Runs pantograph with out stitching. (standard and high speed)

9)  Network Key
Reads design data from the server.

10)  Drive Key
Switches the stand-by and drive state.

3. Turning the Machine ON or OFF

Turning the machine ON

- 1) Turn the breaker on the driver box to the ON position.
- 2) Turn the Automat On with the the ON (1) Key.

Turning the machine off

- 1) Turn the Automat OFF with the OFF key.
- 2) Turn the breaker to the OFF position if the machine will be unused a while.

*The breaker must be in the ON position for the Automat to be ON.

4. Setting the Origin

When the machine is initially turned on the origin must be set.

- 1) Refer to "Turning ON /OFF the machine, turn ON the machine.
- 2) The display shows the screen below after showing BARUDAN logo.

Press the E-Key to move the pantograph to the origin.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

*No operation would be allowed until the origin is set.

5. Stand-By and Drive Mode

The description of 2 states, the Stand-By and Drive. The machine has two modes Stand-By, when it is not in a sewing mode but turned on and the Drive mode, ready to begin sewing

Refer to “Drive” in “Start Sewing” .

1) Stand-By state : The machine is turned on but NOT in Drive mode.

It is the mode when sewing preparation takes place.

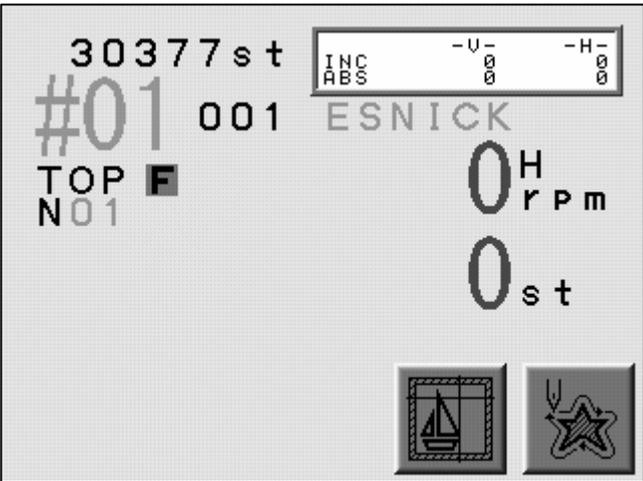
In this mode, the design data can be selected and loaded.

Stand-by mode screen.



2) Drive mode : A design is chosen and it is ready to sew.

Typical appearance of the drive mode.

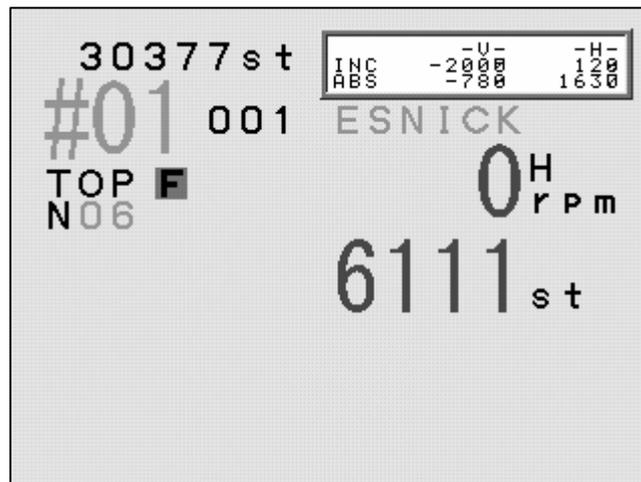


6. Switching the Screens

Press the Page Key to change the screen.

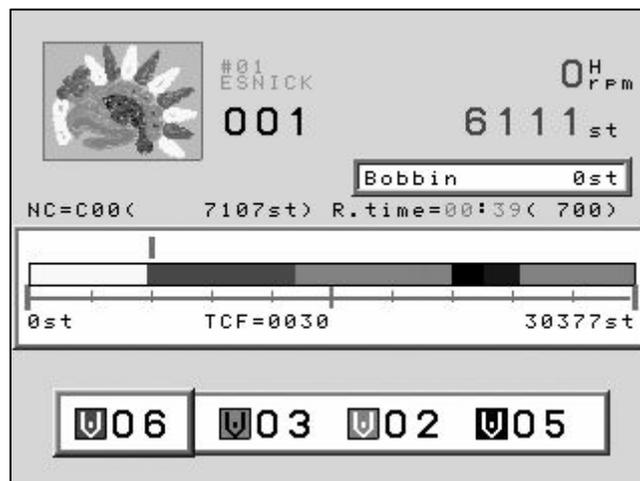
Refer to “ Information on the screen ” about the contents of the screen.

1) Basic Screen



2) Extension Screen 1

Design Information such as total stitch count, next color change, estimated run time.



The Page Key gives the Basic Screen in the Stand-By state.

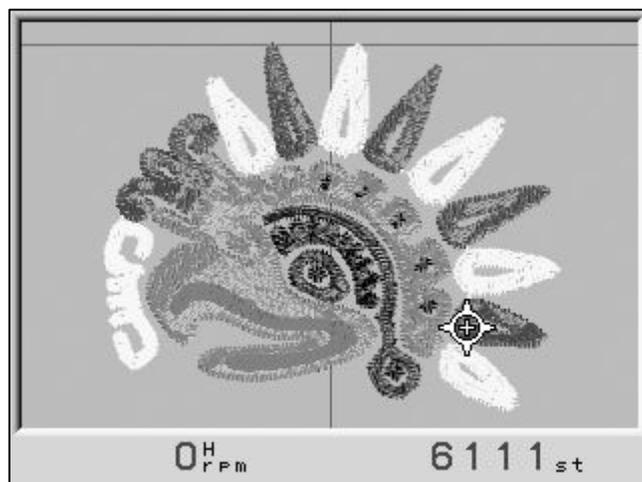
It gives the Extension Screen 2 when in the Drive mode.

*The screen changes to show the messages.

The screen goes back to the extension screen after any operations when the Page Key is pressed once.

3) Extension Screen 2

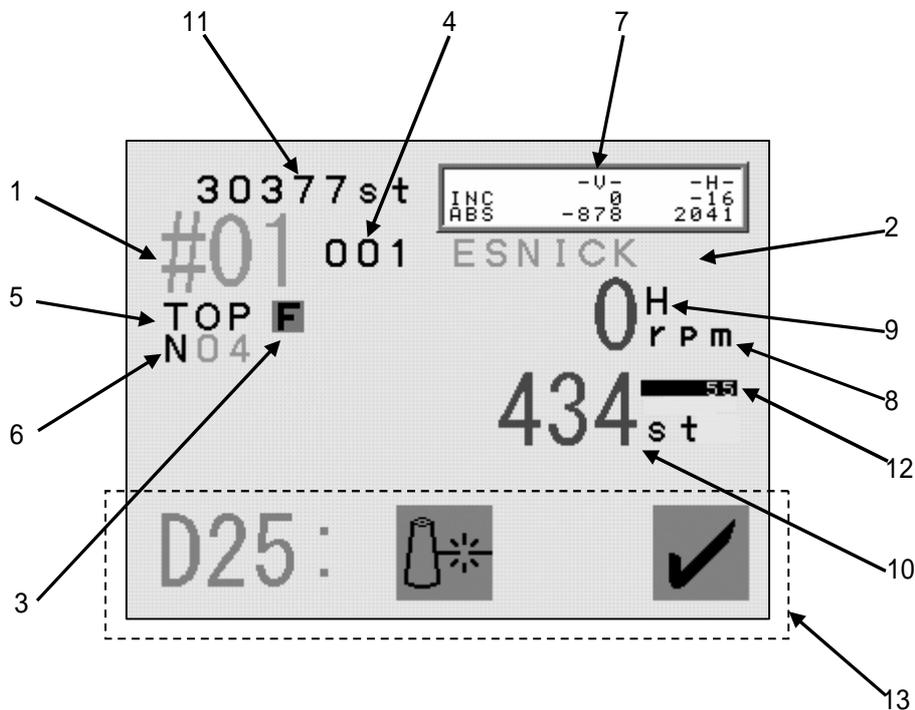
Press Page Key twice to show the extension page 2. It shows the design and current needle location as it is sewing, the machine speed, and the total stitch count.



The Page Key shows the Basic Screen. Going back to the Stand-By mode automatically switches the screen to the Basic Screen.

7.Screen Information

Basic Screen Information



*The screen shows design information for the currently selected design..

1. The Memory location of the Designnumber

The number blinks when there is no design in the memory location.

The number would is highlighted when the design is rotated, scaled or mirrored.

2. Design Name

3. Programmed Rotation (Can be changed in the Drive Condition Menu)

4. Programmed Repeats set in the Drive Condition.

5. Indicates the correct stop position when it shows "TOP".

6. Indicates the needle No.

Shows "NO" when the position of the needle is incorrect.

7. Shows the distance the pantograph moved.

INC : The distance from the last stitch.

ABS : The distance from the start position.

8. Shows the speed of the machine when it is running.

9. Shows whether the data has High or Low speed Function.

10. Shows the current stitch count when in Drive mode.

11. The total stitch count available in the memory.

12. Shows the number of stitches backtracked.

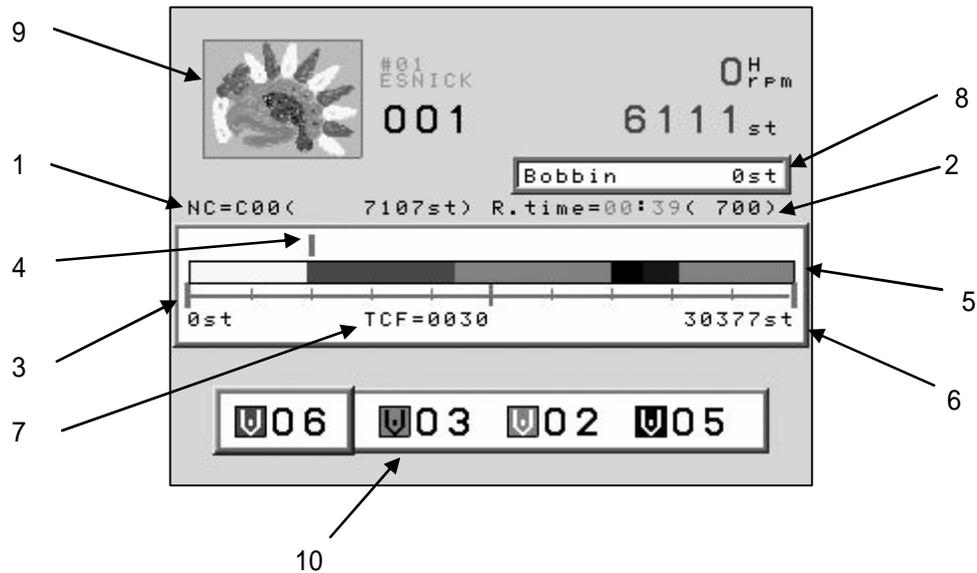
Shows the amount stitches backtracked with thread break detection, Stitch Back and Automending.

13. Displays menu icon or error messages.

8. Basic Screen Information

1) The information on the basic screen 1.

The Memory location, total number of stitches and the number of repetition are shown same as on the basic screen.



*Shows information on the currently selected design.

*In the Stand-By mode, the speed and current stitch count are not shown.

1. Shows the stitch count where next the color change exists and the needle No.

2. Shows estimated run time and max. speed.

The run time is calculated from the remaining stitches and the sewing speed.
This is an estimated run time.

3. The progress scale.

4. Stitch Progress

5. Color change marker

6. Total stitch count.

7. Total number of color changes.

8. The remaining number of stitches before the machine will stop to change bobbin.

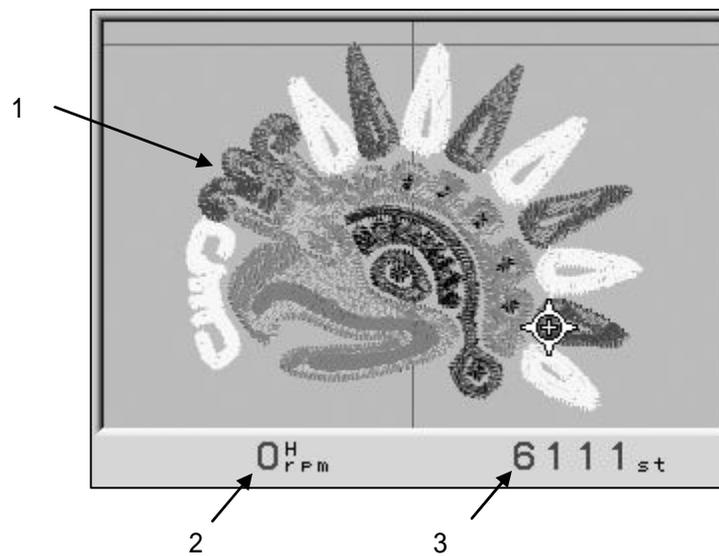
The Bobbin Counter feature must be turned on.

9. Thumbnail of the selected design.

The thumbnail reflects rotation and scale if programmed to the design.

10. Shows the next 3 color change.

2) The information on the Drive Screen 2.



1. 3D thumbnail of the design.

The rotation, scale, satin stitch, sequin position are shown in the thumbnail.

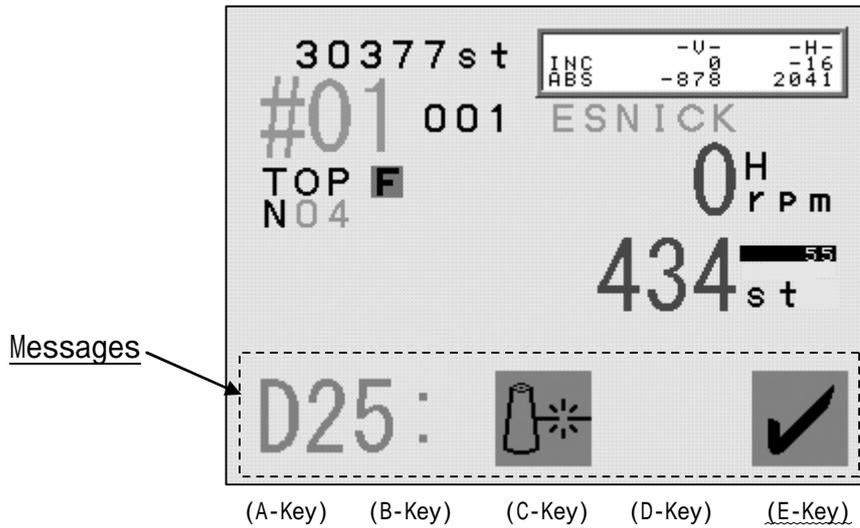
2. Shows current speed.

3. The current stitch count.

9. Messages

Error messages during operation display at the bottom of the basic screen.

For example, the figure below shows the error message for a thread break.



Clearing the Error Message

The error message must be cleared before executing any other functions.

Press the E-Key or the Page Key to clear the message.

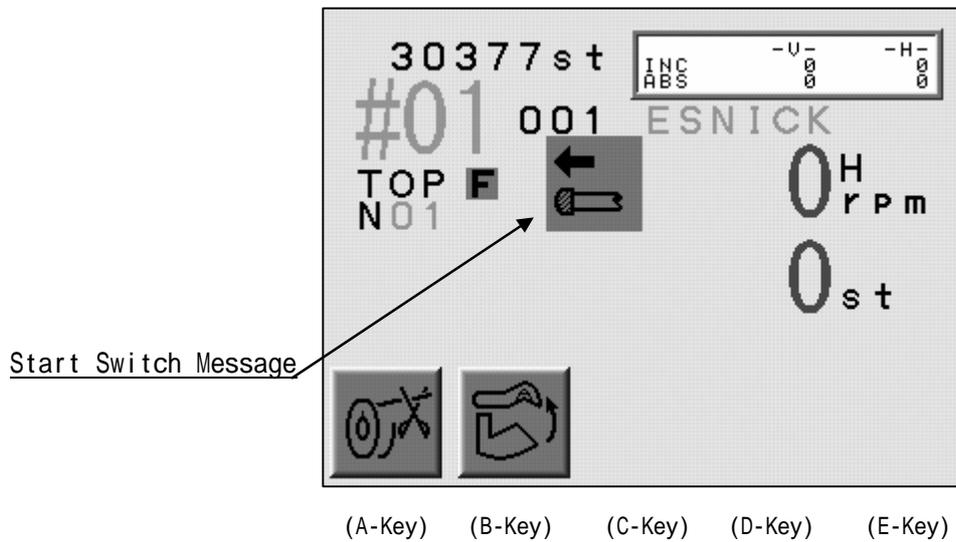
The A to D-Key are not available while a message appears on the screen.

10. Start Machine Message

Stopping the machine may be required to execute some operations.

The icon for the Start Switch is shown below.

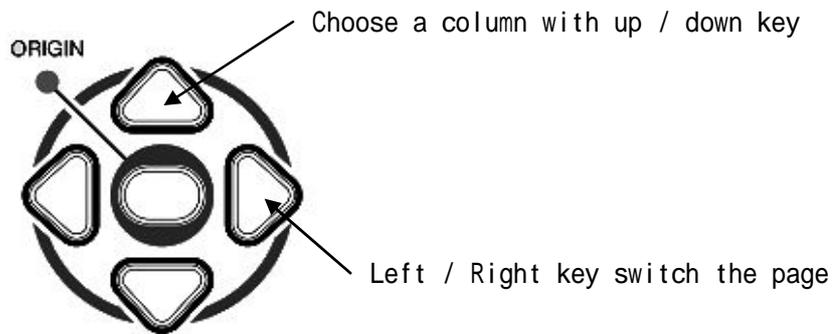
Example : The Start Switch message for a manual trim.



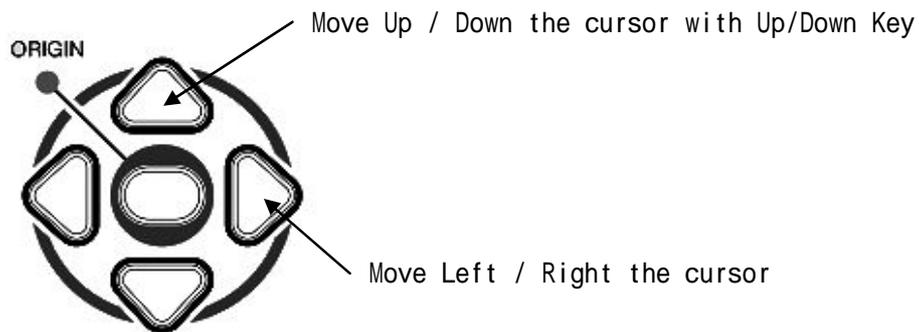
11. Setting the Display Colors

11-1. Jog Key operation

The Jog Keys move the cursor through the list.



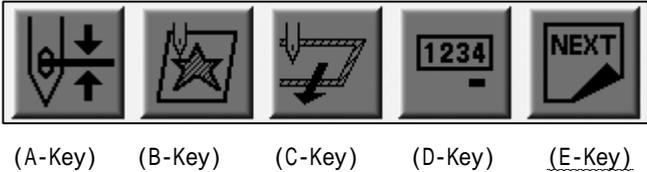
Using the Jog Keys to change the display colors



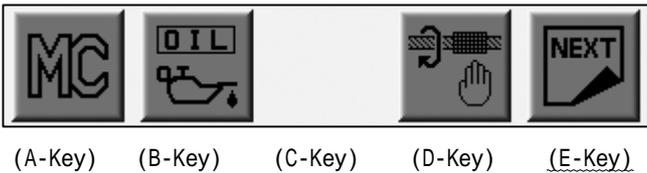
11-2. Changing the Display Colors

1)  Press the Manual Key.

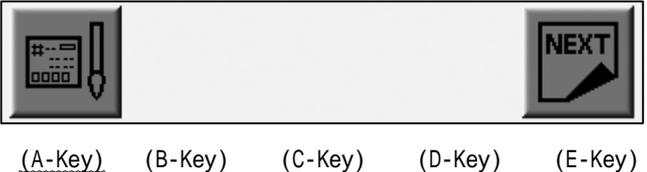
2) Press the E-Key.



3) Press the E-Key.

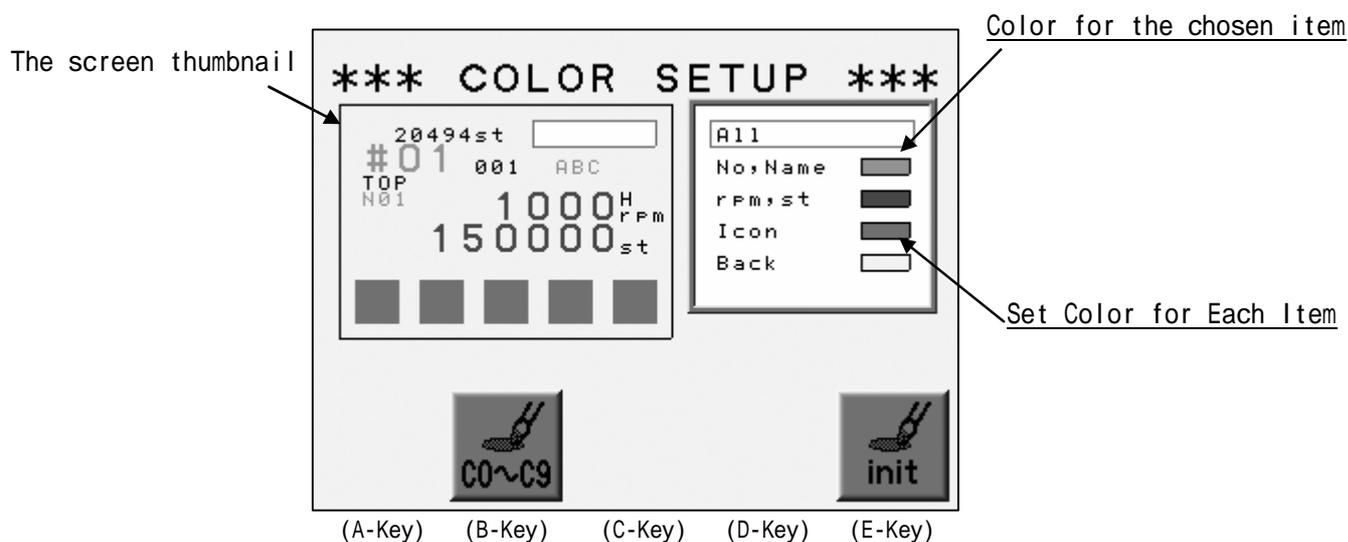


4) Press the A-Key.



5) The Color Set-Up Menu appears.

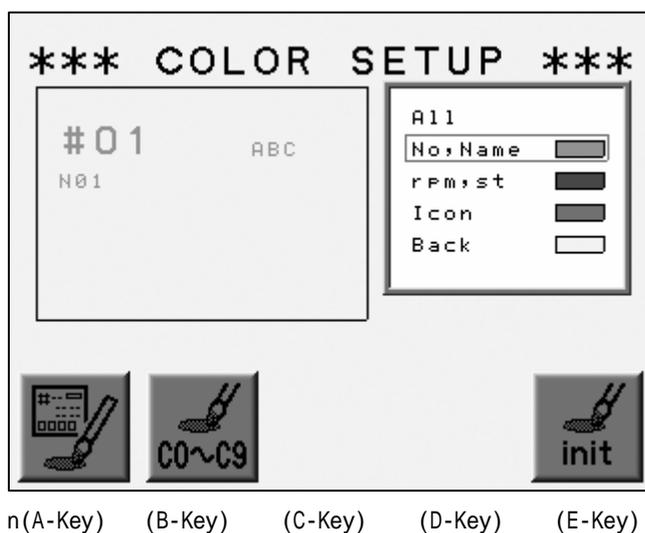
Use the Jog Keys to select a color.



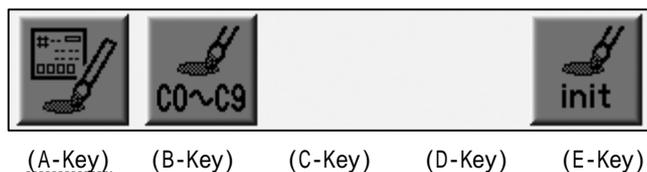
*Select ALL to reflect all the color of the thumbnail.

*Selecting items other than ALL reflects the color color chosen in thumbnail.

6) Use the jog keys to choose one of the colors.

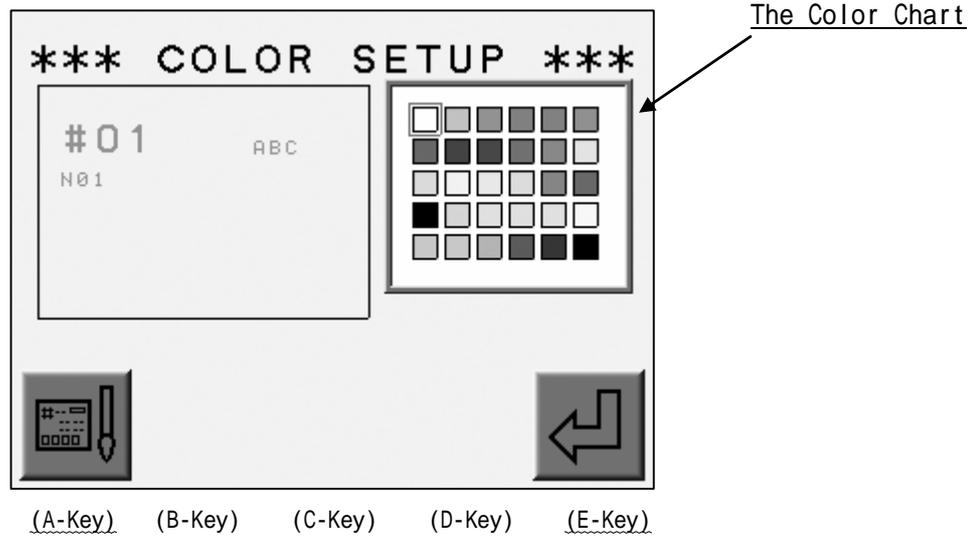


7) Press the A-Key.



8) The color chart displays.

Use the Jog keys to select a color.

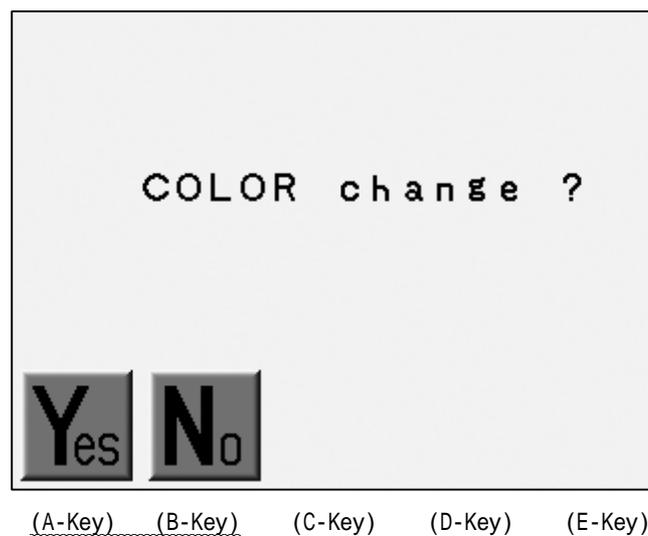


Press the A-Key to go back to the previous screen.

Press the E-Key to save the change and return to the previous screen.

9) Press  the Manual Key to exit the Color Set-Up Menu.

10) Press the A-Key to Save the changes.



Press the B-Key to cancel the changes.

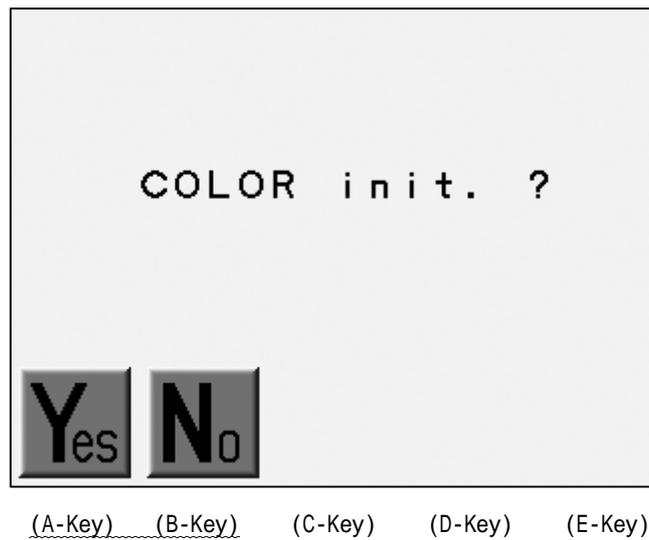
11-3. Initializing the Colors

Initializing the color display.

- 1) Refer to “ Changing the Color in the Display ” and find the Color Set-Up Menu.
- 2) Press and hold the E-Key for 2 short beeps.

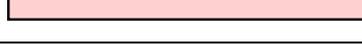


- 3) Press the A-Key to start initialization.



Press the B-Key to Cancel the initialization.

11-4. Items that can have colors changed

Item	Description	Default Color
ALL	Shows all the items in the thumbnail in set color	
No,Name	Memory Location, Design file name, Needle No.	
RPM, St	Speed and Stitch Count	
Icon	Icon	
Back	Background	
(Visual)	The back ground clor of the design thumbnail	
(Drive)	The back ground color for Drive Mode	
(Float)	The background color for Float	
(NET AB)	The back ground color for Time-Out in the Network System	

11-5. Thumbnail Color

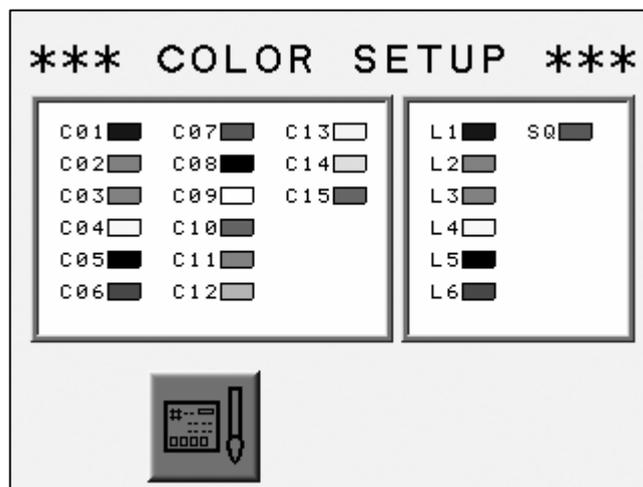
Lists the color for each code.

- 1) Refer to “Changing the color in the display” and find the Color Set-Up Menu.
- 2) Press the B-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

- 3) The color list for each code displays.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the B-Key for the previous screen.

Chapter 4. Manual Operations

This chapter contains information on the machines manual operations.

1. Color (Needle) Change
2. Trimmer
3. Thread Clamp
4. Appliqué
5. Frame Change
6. Bobbin Counter
7. Brake
8. Automatic Lubrication
9. Holding The Needle at the Dead Bottom Center
10. Manual Roll-to-Roll Feature
11. WS
12. Sequin
13. Presser Foot Height Adjustment

1. Color (Needle) Change

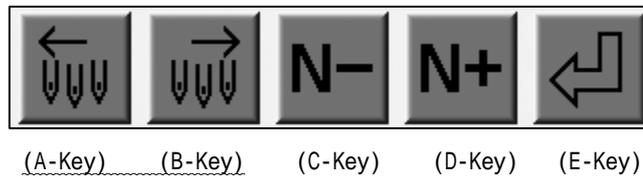
1-1. Manual Color Change

Changing a color (needle) manually.

- 1)  Press the Needle Change Key.

- 2) Press the A-Key for the needle with smaller No.

Press the B-Key to the needle with larger No.



*When the machine is first powered on, the machine must be oriented to the correct Position. After following the steps above, the D14 message displays

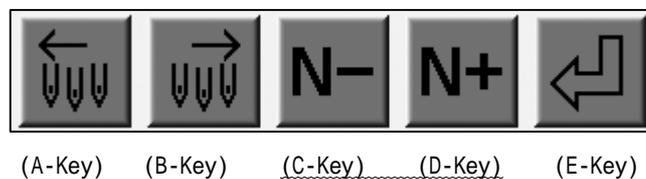
1-2. Direct Needle.

Selecting a specific needle

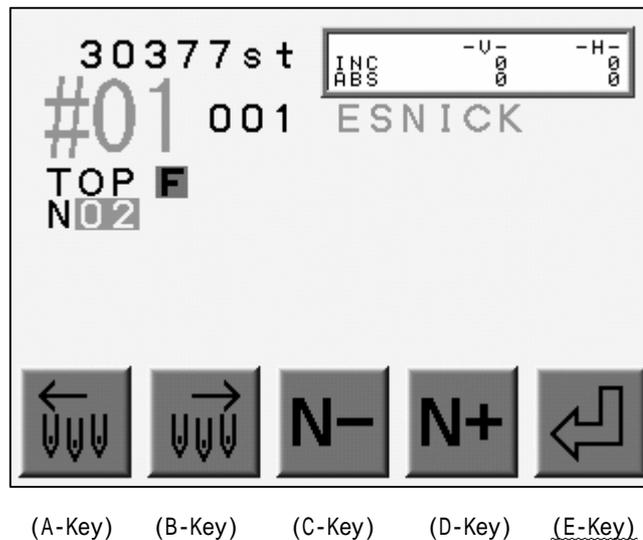
- 1)  Press the Needle Change Key.

- 2) Press the C-Key for the needle with smaller No.

Press the D-Key for the needle with larger No.



- 3) Press the E-Key to change the needle.

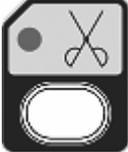


*When the machine is first powered on, the machine must be oriented to the correct Position. After following the steps above, the D14 message displays.

2. Trimmer

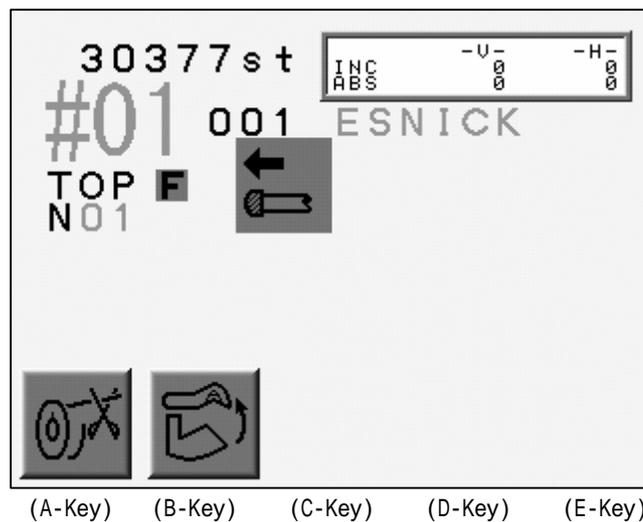
2-1. Trimmer operates the trimmers.

Manual trimming for both top and bottom thread.

- 1)  Press the Trimming Key.

- 2) The Start Switch message appears.

Push the Start Switch to execute the trimming.



*The ON/OFF switch on the each tension box (Head Switch) can also activate the trimming.

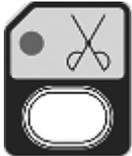
Turn the Head Switch OFF then ON. The green LED on the Tension Box blinks.
Push the Start Switch to execute the trimmer.
(Push the Start Switch while the Green LED on the Tension Box blinks)

2-2. Bobbin Trimming

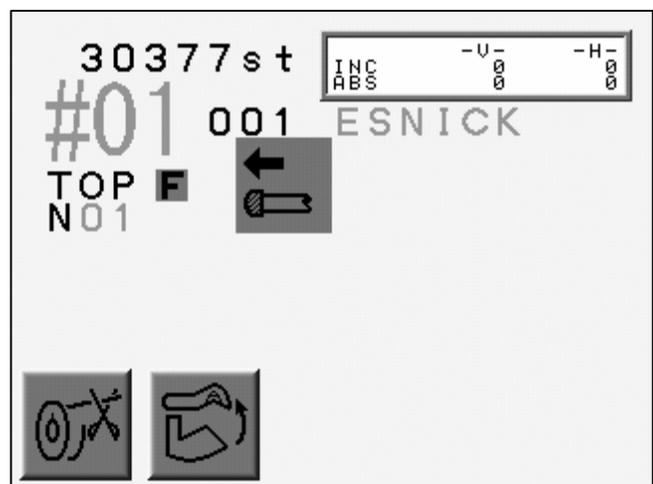
Instructions for trimming the bobbin.

*The Automending or Stitch Back without trimming may break the bobbin.

*Valid for Mark-IV trimmer only.

1)  Press the Trimming Key.

2) Press the A-Key to trim the bobbin.



(A-Key).....(B-Key) (C-Key) (D-Key) (E-Key)

Press the B-Key to clean the trimmer.

*There are some models not compatible with the cleaning function.

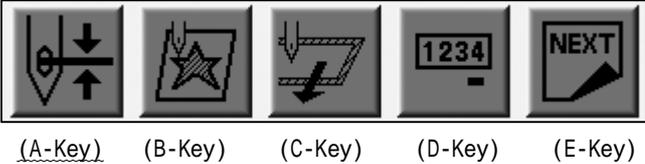
Press the B-Key again to exit cleaning.

3. Thread Clamp

Instruction for releasing the thread clamp for easy threading.

- 1)  Press the Manual Key.

- 2) Press the A-Key to Open / Close the Clamp.

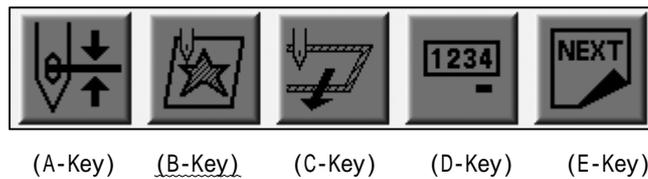


4. Appliqué

Appliqué rotates the main motor so that the presser foot can be pressed down manually to accurately position the frame or appliqué fabric.

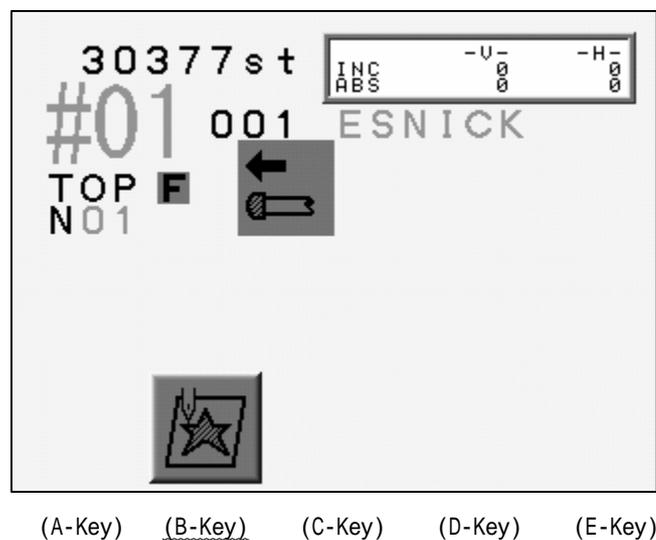
- 1)  Press the Manual Key.

- 2) Press the B-Key.



- 3) The machine requests that Start Switch be pressed.

Push the Start Switch.



Press the B-Key for previous screen.

- 4) Push down the needle bar by hand. The needle would be held closer to the fabric.

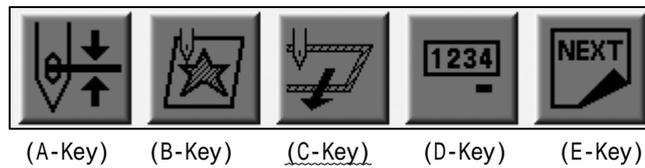
*Repeat steps 1 to 3 to retrieve the needle bar.

5. Frame Change

Frame change moves the pantograph forward to allow framing or positioning of an Appliqué. This movement, called frame offset, is automatically set at the pattern height. A different frame offset distance can be set for each pattern in the Program parameters.

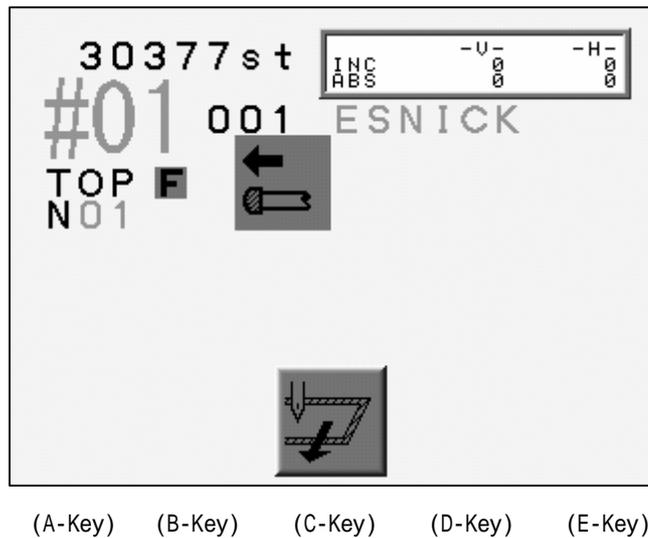
- 1)  Press the Manual Key.

- 2) Press the C-Key.

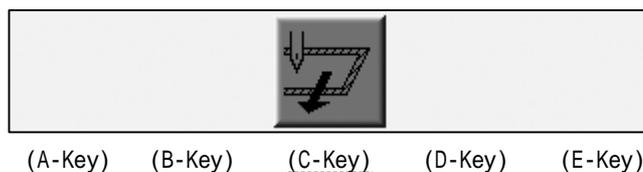


- 3) The machine requires a Start Switch.

Push the Start Switch to move the pantograph to the position pre-set.



- 4) Push the Start Switch to return the pantograph.



Press the C-Key to go back to previous screen without moving the pantograph.

6. Bobbin Counter

Bobbin Counter stops the machine when a preset number of stitches is reached.

By setting the number of stitches where a particular design normally runs out of bobbin, Bobbin can be replaced, avoiding missed stitches in a production piece.

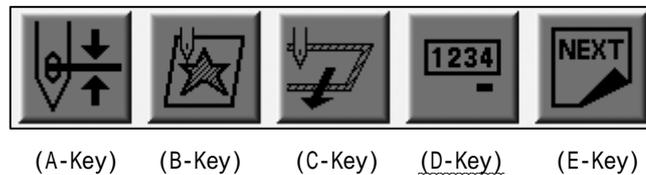
When the machine stops for the bobbin, it shows the message and the green LED on the Tension Box is lit.

The following Start Switch reset the counter.

Note : Set the counter at 0 to cancel the Bobbin Counter feature.

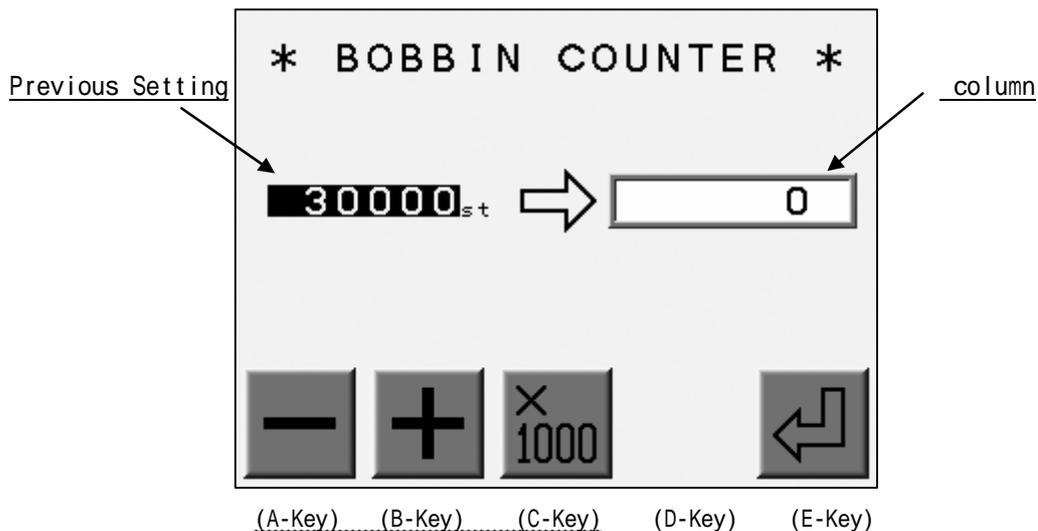
- 1)  Press the Manual Key.

- 2) Press the D-Key.



- 3) Set the stitch count to stop the machine for the bobbin.

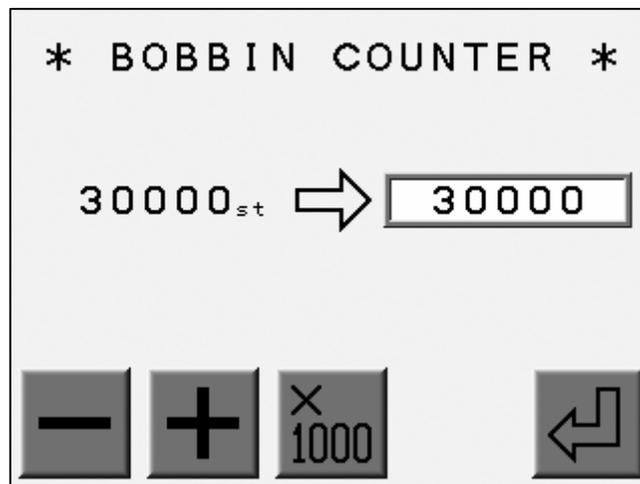
The previous setting appears on the screen.



Press the A or B-Key to increase / decrease the count by 100/stitches.

Press and hold the C-Key then press the A or B-Key for increment of 1000 stitches.

4) Press the E-Key for the 2 short beep to save the count.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the Manual Key to return to the Basic screen.

*Press the Page Key for the extension screen to find the estimated bobbin count.

Refer to "Switching Screens".

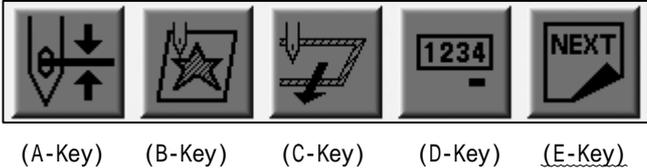
7. Brake

The feature is only for the machines, which have a main motor at the brake.

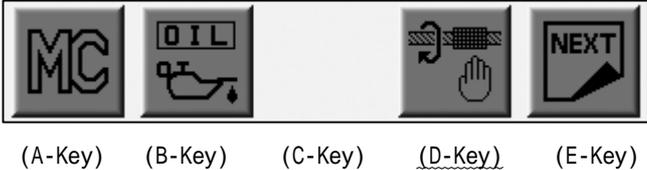
The instructions to release or activate the brake on the motor is for maintenance.

1)  Press the Manual Key.

2) Press the E-Key.



3) Press the D-Key to activate or release the brake.



*The icon above the D-Key highlights when the brake is released.



8. Automatic Lubrication

8-1. Before Using Automatic Lubrication

The feature only works for the machine with the Lubrication Device.

1) The Lubrication Device

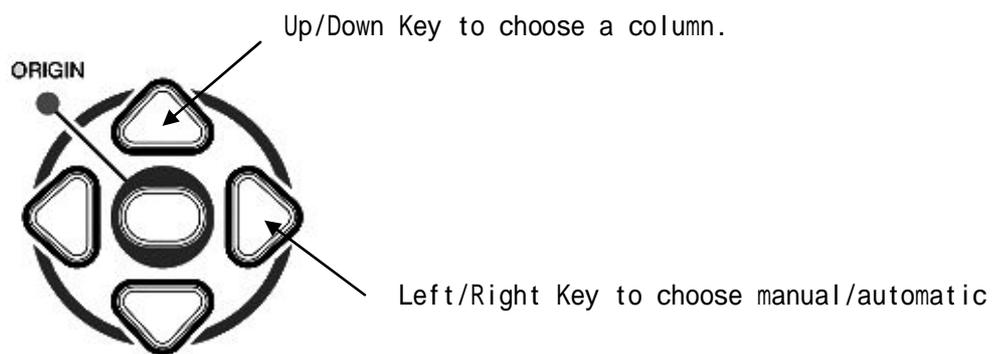
The device can lubricate sewing head and sewing bed separately.

The Automat shows the each part as follow.

The lubrication to the sewing bed : Bed

The lubrication to the sewing head : Head

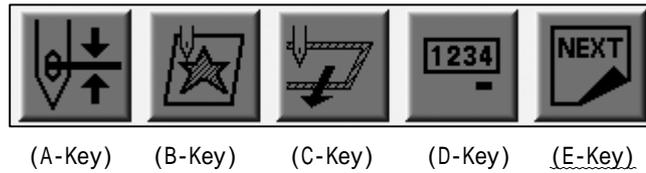
2) The Jog Key operation



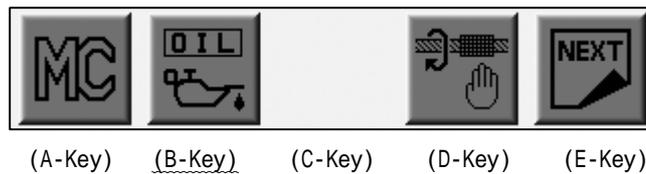
8-2 . Lubrication Menu

- 1)  Press the Manual Key.

- 2) Press the E-Key.

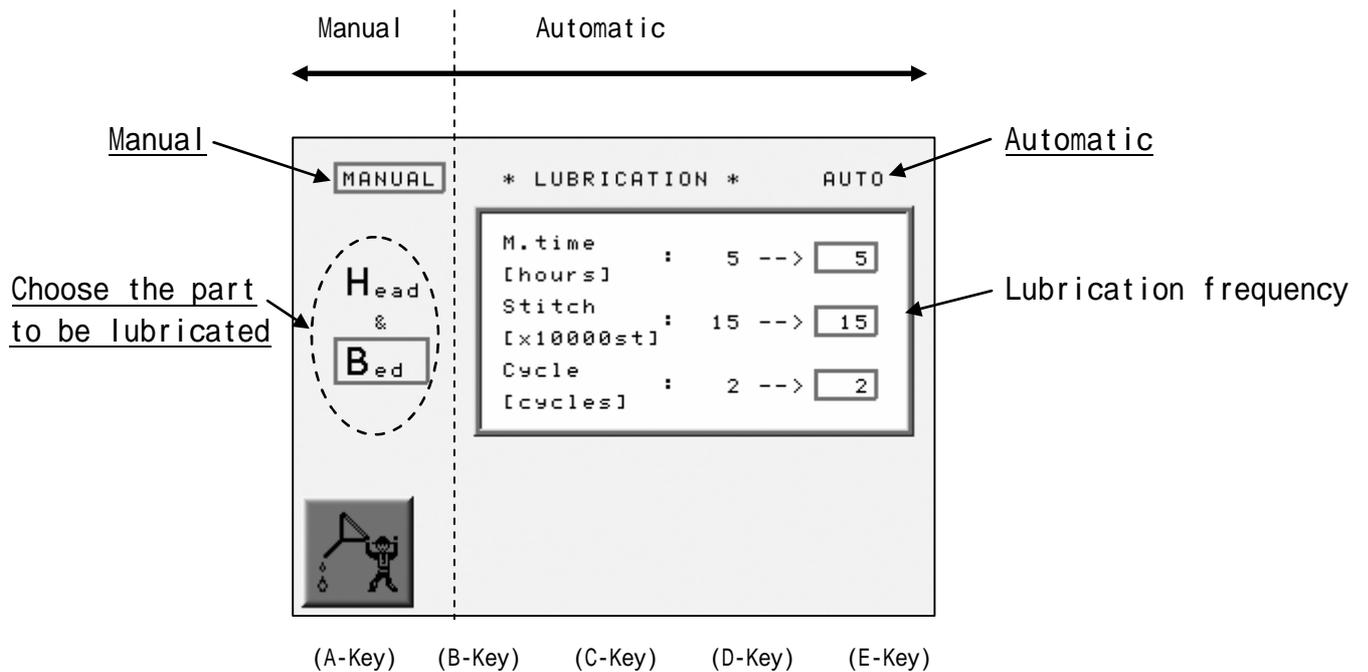


- 3) Press the B-Key.



- 4) The Lubrication Menu appears.

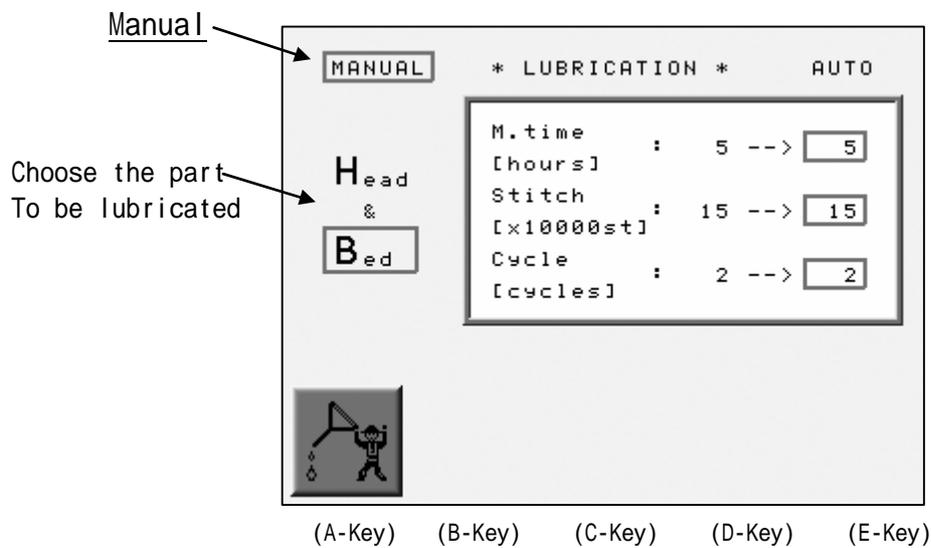
Choose MANUAL or AUTO(Automatic) with the Jog Keys.



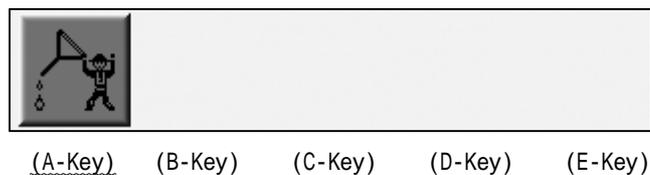
8-3. Manual Lubrication

The instruction to lubricate the parts manually.

- 1) Refer to “Lubrication Menu” to find the menu.
- 2) Choose “MANUAL” with the Jog Keys.
- 3) Choose the part to be lubricated with the Jog Keys. (Bed or Head&Bed)



- 4) Press and hold the A-Key for 2 short beep.



8-4 . Automatic Lubrication

The instruction to set the frequency of the automatic lubrication.

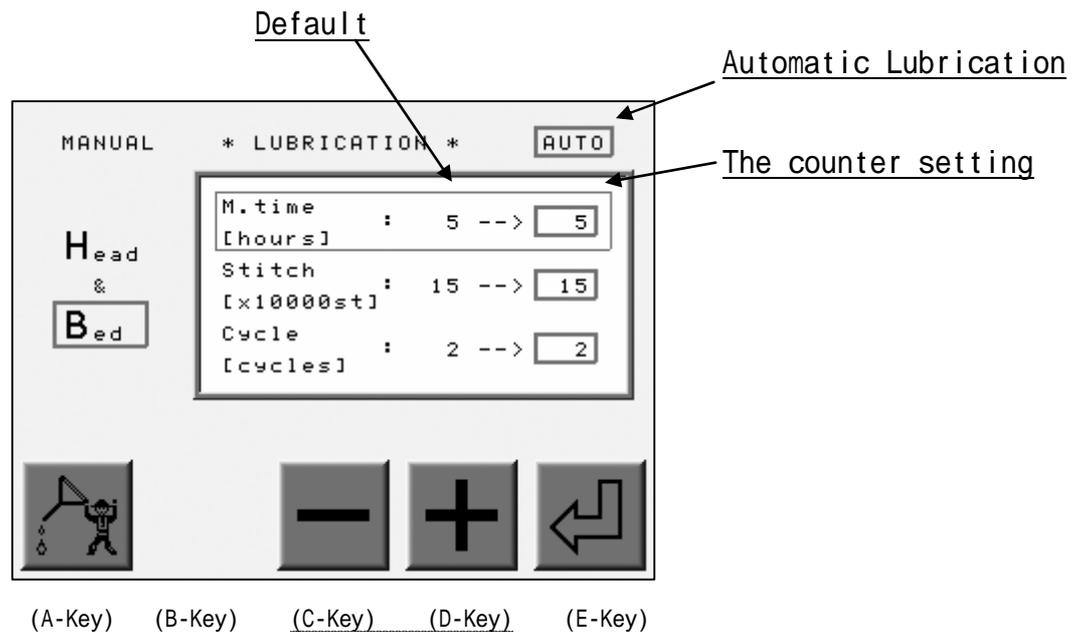
The frequency can be set in time or stitch count.

The count down of the time or the stitch count finishes the lubrication starts automatically.

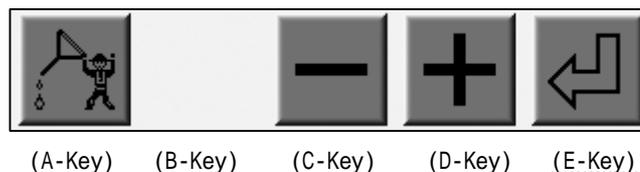
When the lubrication starts both time and stitch counter is reset.

When the value in the “Cycle” column is 0, the automatic lubrication would be inactive.

- 1) Find the Lubrication Menu.
- 2) Choose the “ AUTO ” for the Automatic Lubrication.
- 3) Choose a column and press the C or D-Key to change the value.



- 4) Press the E-Key to save the value set.



*The description of the each column

Item	Function	Range	Default
M. Time (Running Time of the machine)	The time before the lubrication	1-100 Hours	5 Hours
Stitch (Stitch Count)	The stitch count before the lubrication	1-100 *10000 stitches	15 *10000 stitches
Cycle (Frequency)	The frequency of the lubrication to the sewing head. 0 : Automatic Lubrication inactive -1: 1-10: The frequency of the lubrication to the sewing bed before a lubrication to the sewing head executed. Ex. Setting at 5 It lubricates the sewing bed 5 times before lubricates the sewing head one time.	-1-10 Cycles	2 Cycles

When a manual lubrication is executed, the counter will be reset.

When "Bed" is chosen and manual lubrication is executed, the time and stitch counter will be reset.

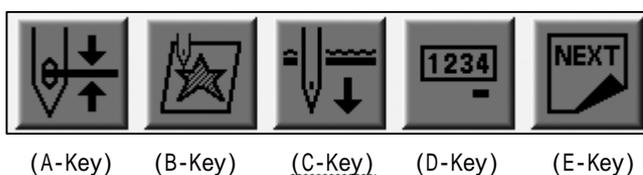
When "Head & Bed" is chosen and manual lubrication is executed, the time, stitch and Cycle counter will be reset.

9. Holding the Needle at the Dead Bottom Center

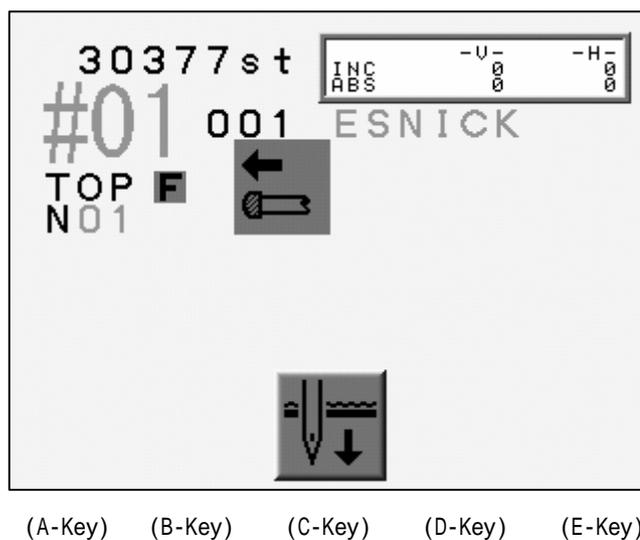
The feature is only available for the Roll-to-Roll models.

- 1)  Press the Manual Key.

- 2) Press the C-Key.

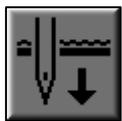


- 3) Push the Start Switch.



- 4) The machine stops as the needles penetrates the fabric.

- 5) Repeat the operation 1) - 3) to return to the standard stop position.

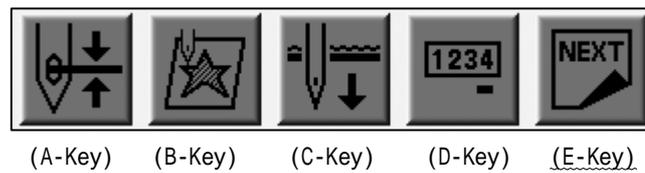
- 6) Press the C-Key  to cancel.

10. Manual Roll-to-Roll feature

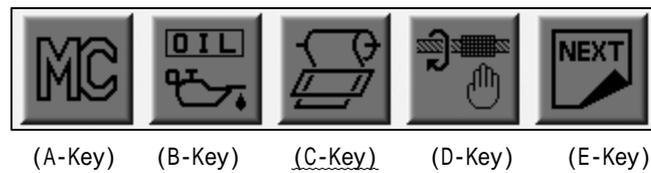
This feature is only available on models with the Roll-to-Roll feature.

- 1)  Press the Manual Key.

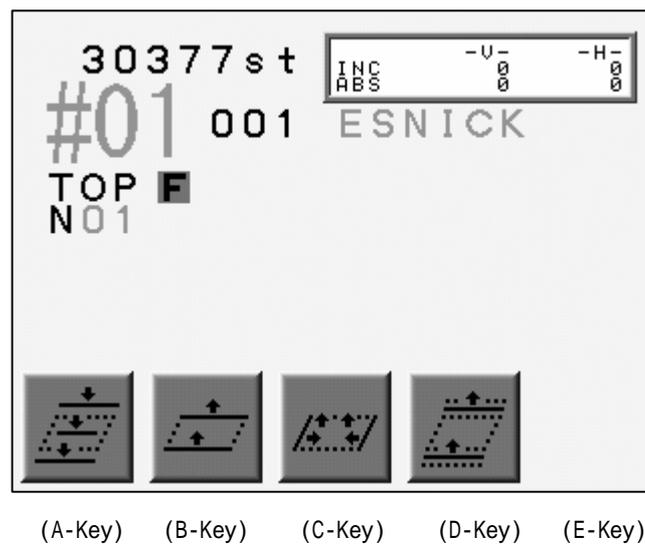
- 2) Press the E-Key.



- 3) Press the C-Key.

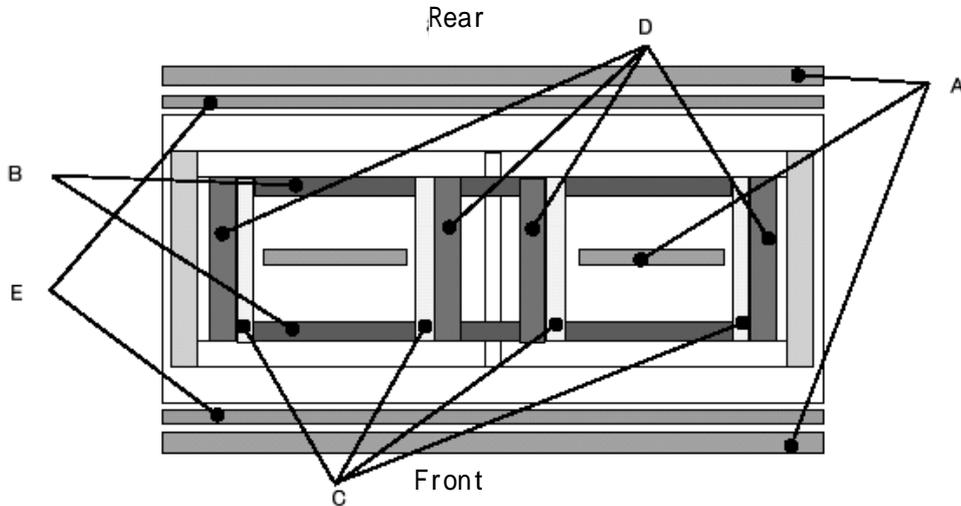


- 4) The icons to operate the fabric clamp display.

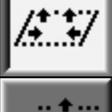
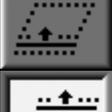


5)  Press the Manual Key to finish the operations.

6) Check the clamp to work before the operations.



- | | | | |
|---|--------------------|--|--------------------|
|  | A : Clam by Needle |  | D : Right and Left |
|  | B : Front and Back |  | E : Support Clamp |
|  | C : Right and Left | *A-E represents the clamp | |

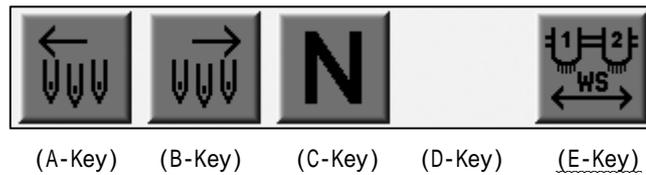
	 Clamp A Closed
	 Clamp A Opened
	 Clamp B Opened
	 Clamp E Closed
	 Clamp B Closed
	 Clamp E Opened
	 Clamp D Opened
	 Clamp C Opened
	 Clamp D Closed
	 Clamp C Closed
	Clamp E Opened
	Clamp E Closed

11. WS

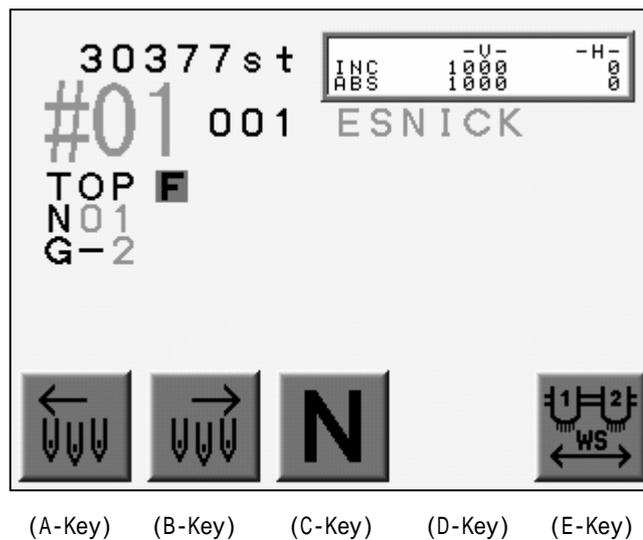
This feature is only available on WS Models.

- 1)  Press the Needle Key.

- 2) Press the E-Key.



- 3) Choose the head group and needle.

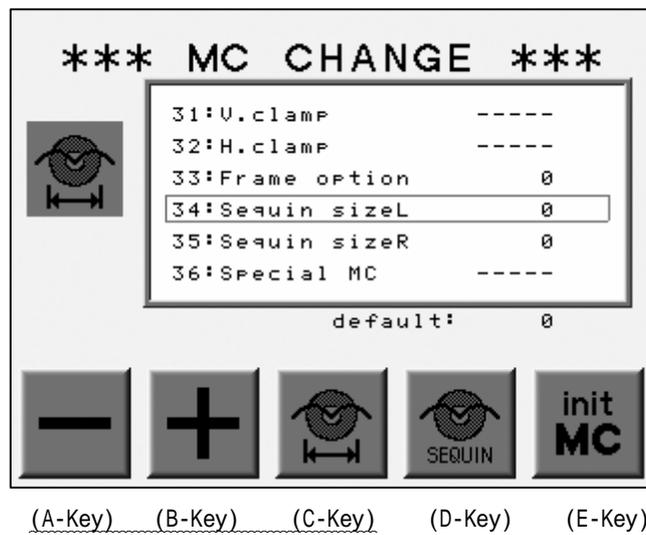


12. Sequin

12-1 Sequin Setting Menu

This feature only works with machines equipped with the sequin device.

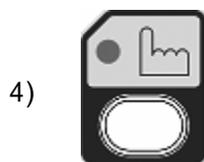
- 1) Refer to “ MC Parameter ” and find MC parameter list.
- 2) Choose “ Sequin Size L ” or “ Sequin Size R ” for the right / left hand sequin device.
- 3) Press and hold the Origin Key for the 2 short beeps. The Sequin Setting Menu appears.



Press the C and the A-Key at the same time to retrieve all the sequin head.

Press the C and the B-Key at the same time to feed a sequin on all sequin devices.

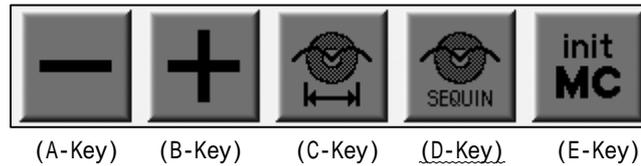
*It works while sequin device are at the bottom. (Ready to feed sequins)



- 4) Press the Manual Key to go out from the Sequin Setting Menu.

12-2. Head Adjustments

- 1) Refer to “ Sequin Setting Menu ” , find the menu.
- 2) Press D-Key to adjustment of the each head.



The ON/OFF switch on the Tension Box(Head Switch) activate the Feeder on the all Sequin Devices for the maintenance.

Head Switch ON : Feed

Head Switch OFF : Return

*It works even the Sequin Head is at top or bottom position.

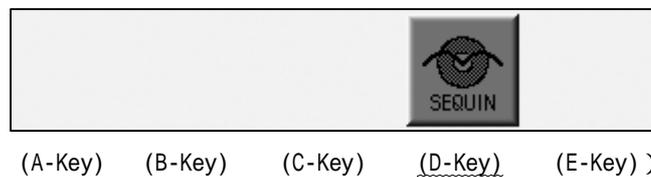
Pushing the Switch to ON/OFF drives the Sequin Head Dwn/Up.

Switch ON : The Sequin Heads Goes Down

Switch OFF : The Sequin Heads Goes Up

*It only works for the sewing head with the Head Switch ON.

- 3) Press the D-Key to go out from the adjustment.



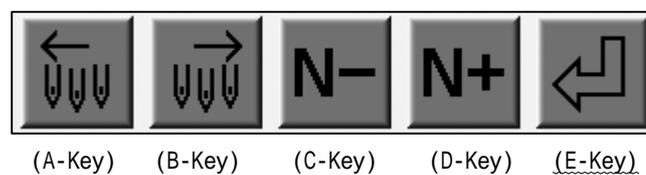
- 4)  Press the Manual Key to return to the Basic Screen.

13. Presser Foot Height Adjustment

This feature is only available for machines equipped with the adjustment device.

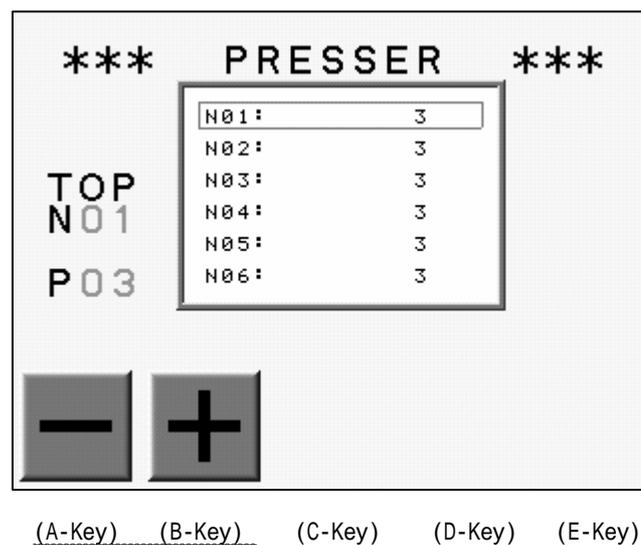
- 1)  Press the Needle Key.

- 2) Press and hold the E-Key for 2 short beeps to go into the Presser Foot Height Adjustment Menu.



- 3) Press the A or B-Key to change the setting.

Choose a needle No. to adjust the presser foot height.



Chapter 5. Loading Designs

This chapter explains how to load designs to the machines memory.

1. Before Loading Designs
2. Loading from Floppy Disk
3. ABC Drive
4. Loading from PC
5. Adding Stitches

1. Before Loading

Before designs are loaded to memory these operations must be completed.

1) Chose the device (Floppy, Com, etc.)

Press the A-Key to choose a device.



The icon above A-Key shows the currently selected device.

The selected device is shown in the upper left hand corner of the screen.

Loading by ABC and COM are not available for the machines with the LAN port.

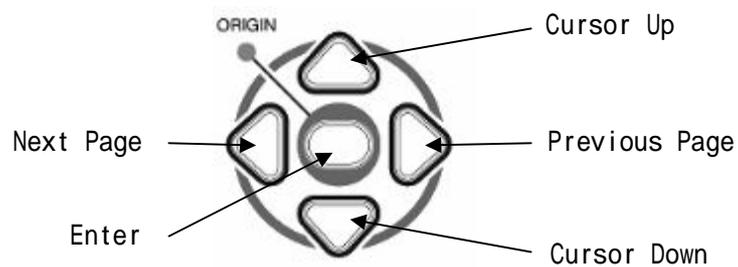
2) Selecting a design

*Same procedure as saving design.

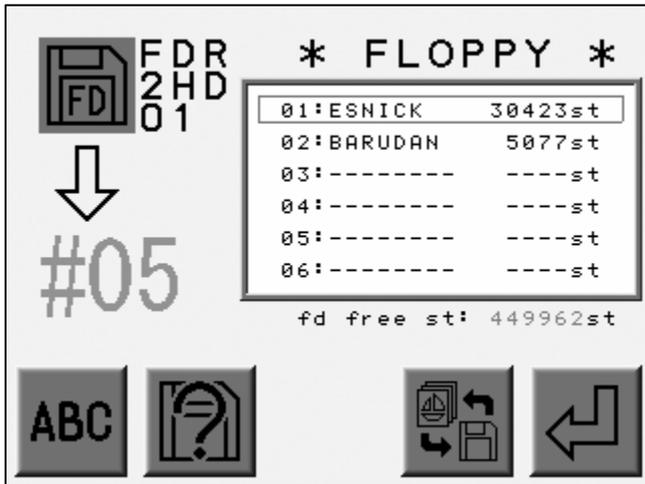
The list of the designs on the FD or the machines Memory displays during this operation.

Use the Jog Keys to select the design.

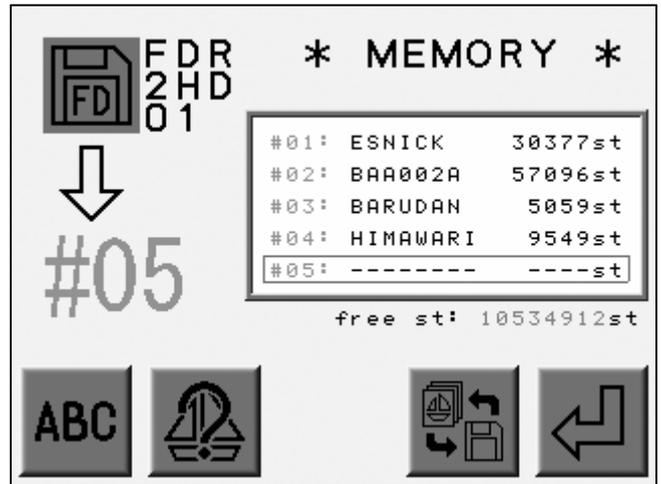
Press  below the D-Key to switch the list of the designs in the FD and the Memory.



Designs on the floppy disk



Designs in memory



3) Stop, Cancel Same procedure for saving design

The loading can be stopped or canceled.

a) Press the E-Key during the loading to stop it.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

*Hold the E-Key if it does not stop.

b) Press the D-Key during the stop to cancel the loading.

Press the E-Key to restart the loading.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

2. Loading from Floppy Disk

The automat can read the following formats.

BARUDAN	FDR-2DD	FDR
	FDR-2HD	2HD
	FMC-2DD	FMC
TAJIMA	TFD-2DD	TFD
ZSK	ZSK-2DD	ZSK
MELCO	MELCO-1S	MEL
	MELCO-2DD	MEL
HAPPY	HAPPY-2DD	HAP
TOYOTA	TOYOTA-2DD	TYO

2-1. Designs on Floppy Disk

Loading designs from Floppy Disk

- 1) Insert the Floppy Disk(FD) into the FDD(Floppy Disk Drive).

- 2)  Press the Floppy Key.

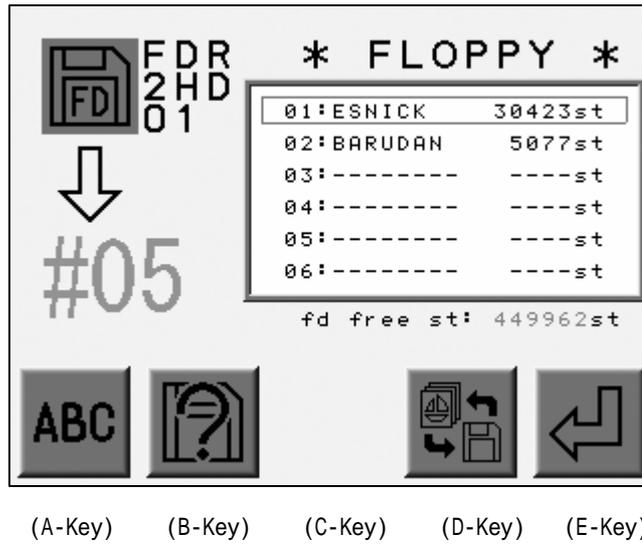
- 3) Toggle the A-Key to choose the correct device (FD).

Refer to “ Before Loading Designs ” to choose a device.



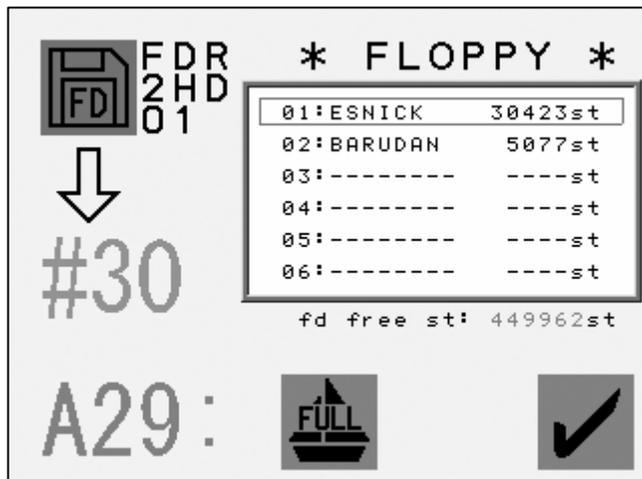
*The device icon at the upper left hand corner should be  when loading designs from a floppy.

4) List the designs on the FD.



*The stitch count on the screen may not be correct since it is calculated from the file size.

*If all Memory locations (30) are full, the following message appears.

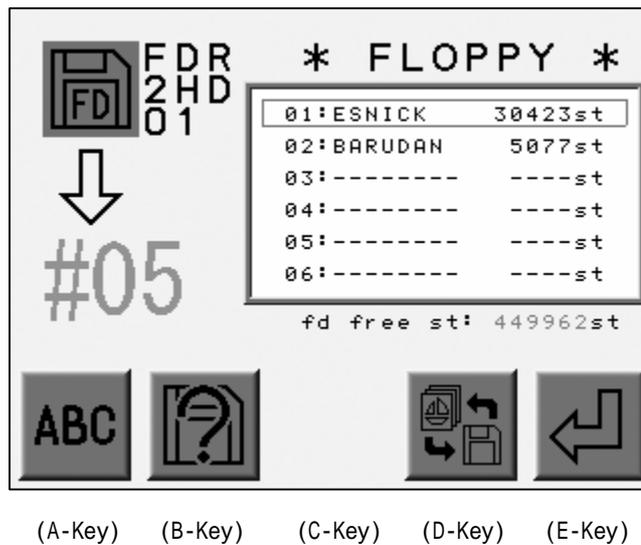


2-2. Loading Designs from Floppy Disk

Instruction for loading a design from Floppy Disk.

- 1) Refer to "List of the Design in FD", find the list.
- 2) Choose a design with the Jog Keys.

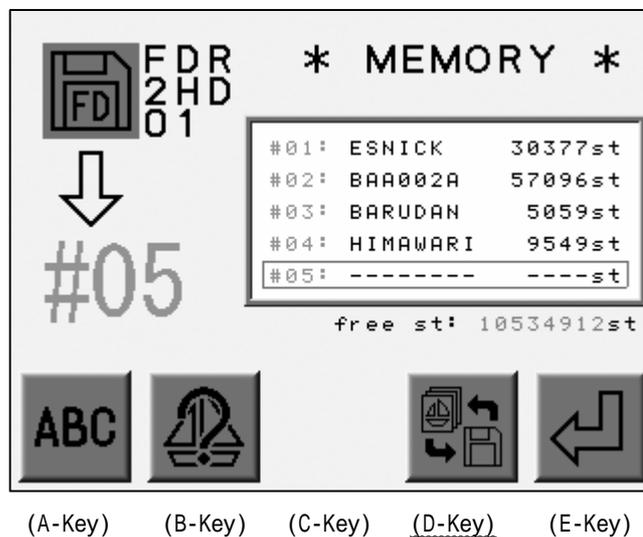
Refer to " Before Loading Designs " .



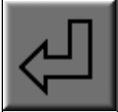
- 3) Press the D-Key.



The first available memory location is automatically selected.



4) Choose another empty Memory location if needed.

*The Enter Key  will only display if an empty memory location is selected.

5) Press the E-Key to start loading.



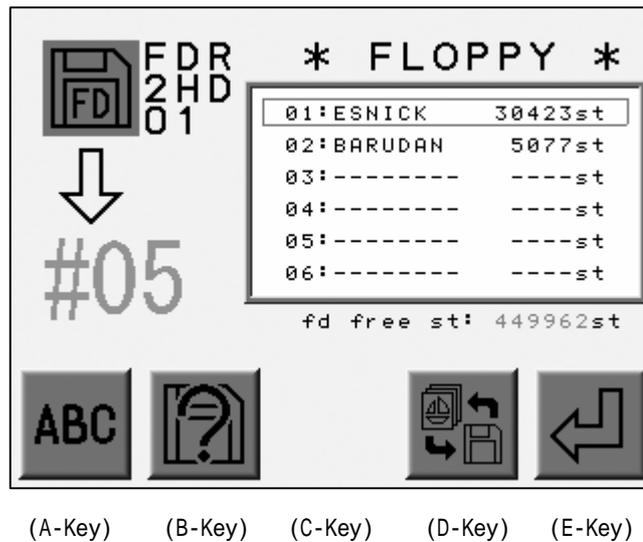
If an empty memory location is not available, you will need to delete a design from memory.

2-3. Merging a Design (FD)

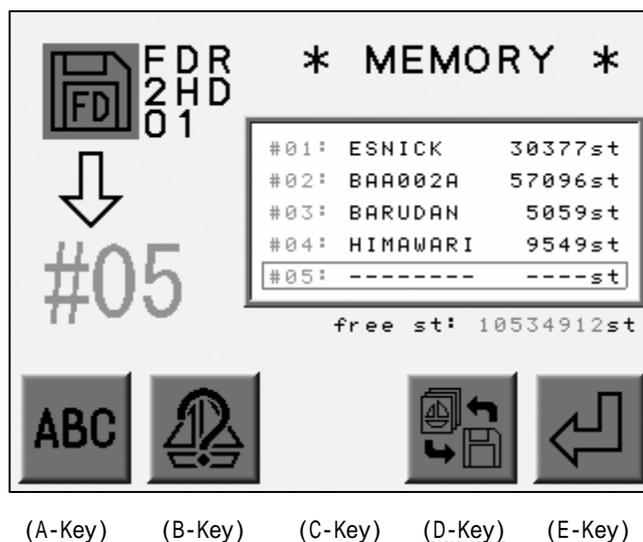
Instructions for merging designs from floppy disk.

- 1) Refer to "The design list in the FD" and find the list.
- 2) Use the Jog keys to select a design.

Refer to "Before Loading" .



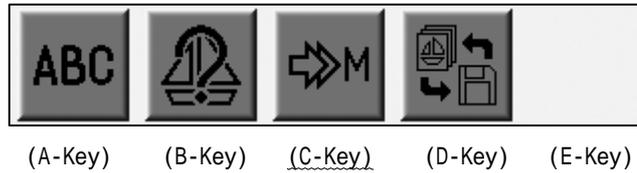
- 3) Press the D-Key.



4) Select the design to merge.

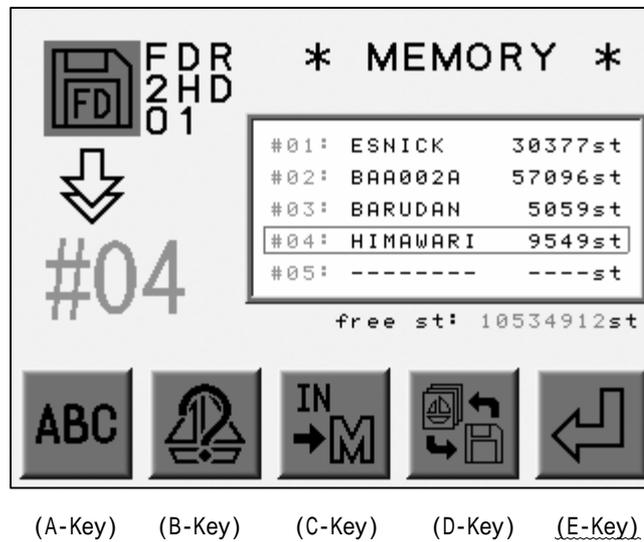
The icon above the C-Key will be  for Merging.

5) Press the C-Key to merge the design.



Press the C-Key again to cancel the merge.

6) Press the E-Key to start the merge.



2-4. Loading Multiple Designs (FD)

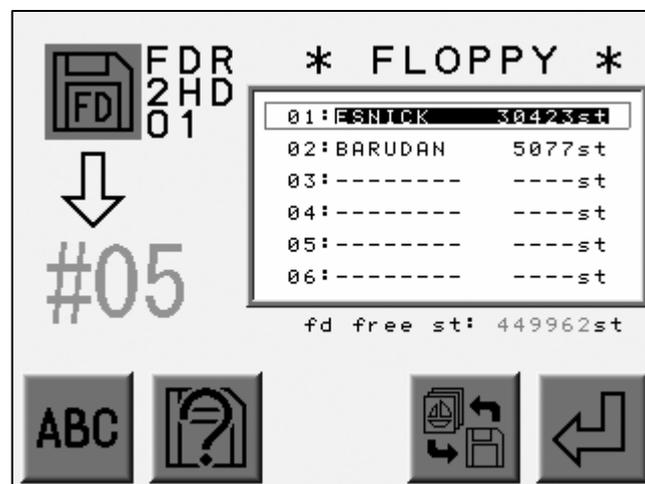
Multiple designs can be loaded at once from the Floppy Disk.

1) Refer to "The design list in the FD" and find the list.

2) Move the cursor with the Jog Keys and press the Origin Key to choose a design.

The design chosen will highlight.

Press and hold the Origin Key until it makes 2 short beeps. The design with the cursor and the following files will be all chosen.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Move the Cursor to another design and press the Origin Key again to release.

3) Choose other designs using the same procedure.

4) Press the E-Key to start loading.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

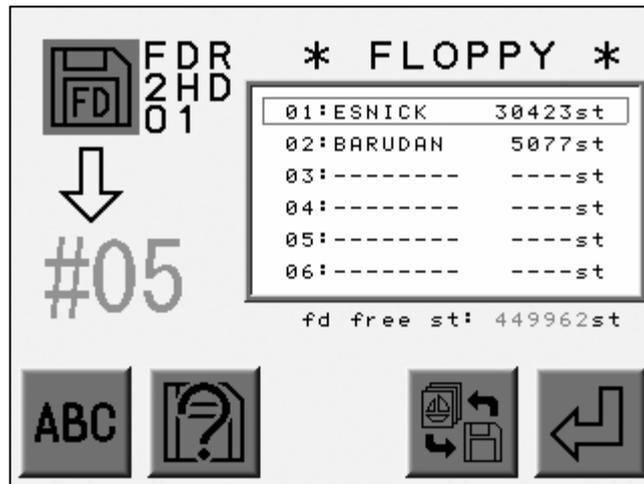
2-5. Saving Design from Floppy Disk to CF Card

Designs saved on Floppy Disk can be saved to a CF card.

1) Refer to “List of the Design in FD” and find it on the display.

2) Using the jog keys, select a design from the list.

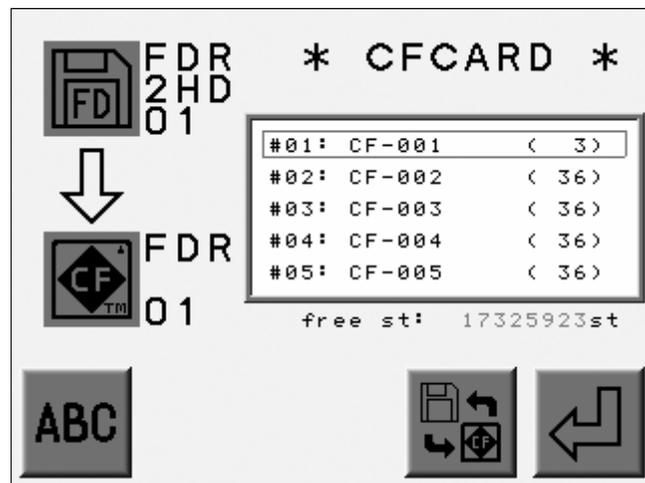
Refer to “Before Loading” .



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

3) Press and hold the D-Key for 2 short beeps.

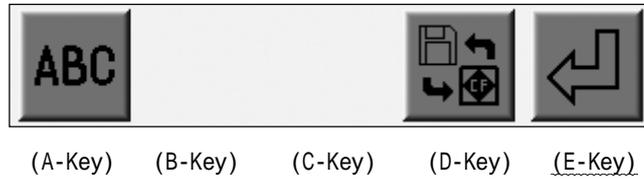
4) The list of designs on the CF card displays.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

5) Use the jog keys to select a folder to copy.

6) Press the E-Key to start copy.



3. ABC Drive

Transfers designs from an outside source to a temporary memory location to sew multiple designs quickly. Great for name dropping and quick jobs from a digitizing or editing system, uses a Memory location, therefore an empty memory location must be available.

The design file from the COM overwrite a Memory Slot automatically. The machine MUST be out of Drive mode.

ABC Drive will not work when the machine is in Drive mode.

Refer to “Loading from PC” for the connection.

The ABC Drive mode does not work if the machine is connected with the LAN port.

1) Prepare the device to send the design.

2) Press the FD Key



to find the loading menu.

3) Press the A-Key to toggle the Device icon. Choose the ABC icon.



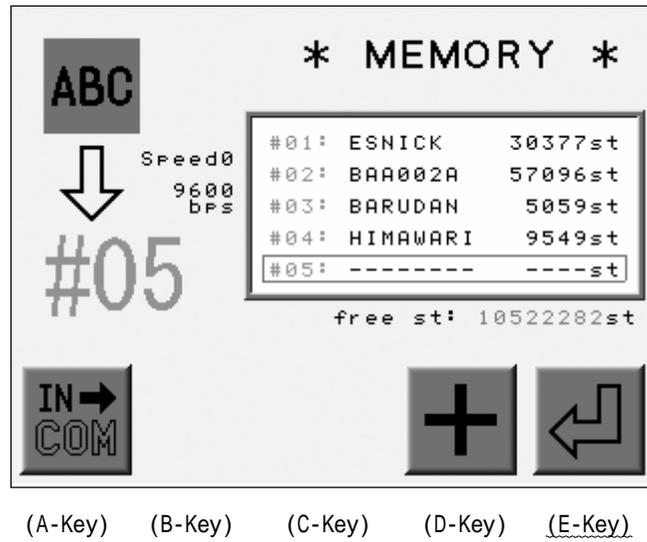
*The icon at the upper left corner of the screen should be



4) Find the list of the designs in the memory.

Use the jog keys to select a design.

The Memory locations for the ABC Drive is automatically chosen. *1

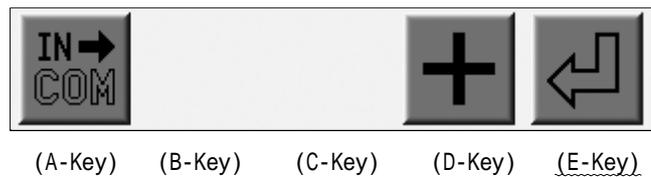


*  icon will not display if the ABC Drive is already chosen for the slot.

5) Press the D-Key to set the data transmission speed. *2



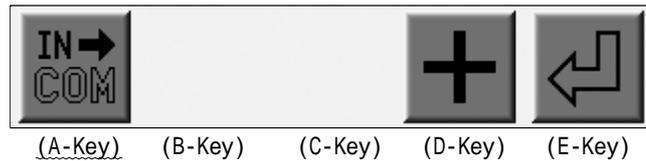
6) Press the E-Key to start the ABC Drive.*3



7) When the machine receives the ABC Drive Design, it automatically over-writes the Memory Slot.

*Proceed 2) again at first to cancel the ABC Drive.

Then press the A-Key to delete the ABC Drive Design and go out from ABC Drive.



*1 The first available Memory location will automatically be selected.

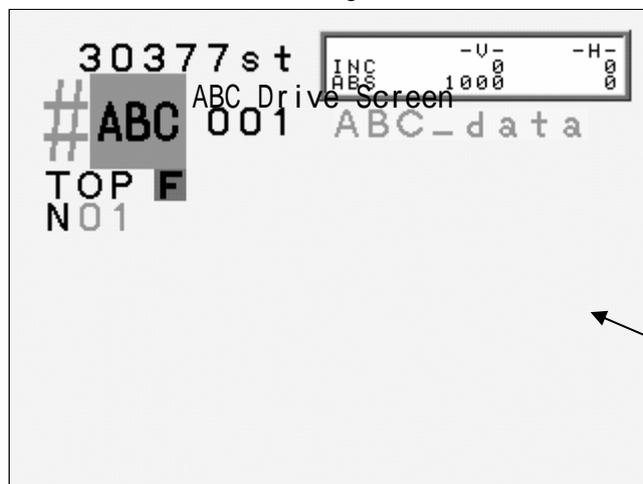
If the occupied slot is chosen manually, the design in the slot will be overwritten.

*2 Refer to the “Loading from PC” for the data transmission speed.

*3 While in ABC Drive, the other Memory locations will be inactive.

*4 The ABC Drive is only available for U Code designs (BARUDAN format).

The design name for the ABC Drive Design will be “ABC_data”.



The design name
“ABC_data”

*Refer to “Loading Design from PC” for the “data transmission speed”.

4. Loading from PC

Loading designs from PC via the COM port.

The PC needs to have an RS-232C serial port.

The cable should be a null modem cable.

Machine with LAN port can not use the COM connection.

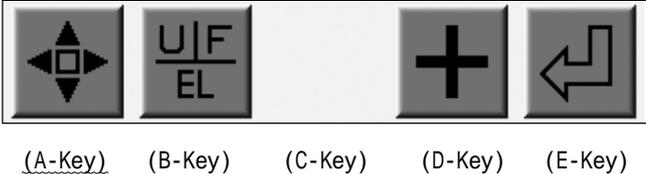
4-1. Loading Design from PC (COM)

1) Prepare the device to sending the design.

2) Press the FD key  .

3) Press the A-Key to toggle the Device icons. Choose the COM icon.

Refer to "Before Loading" .



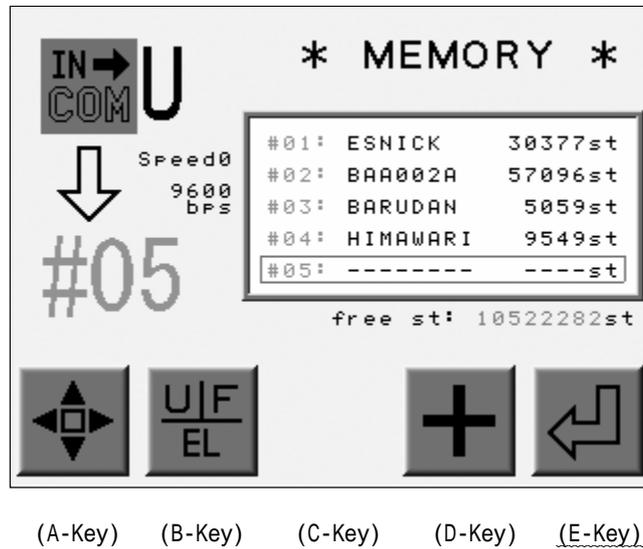
*The icon at the upper left of the screen should be



4) Display the designs in memory.

Using the Jog Keys, select an empty Memory location.

The automat automatically chooses a blank memory location. *1



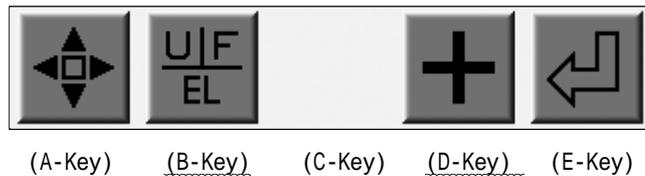
*When an occupied slot is chosen, the



icon will not display and it is not possible to load designs.

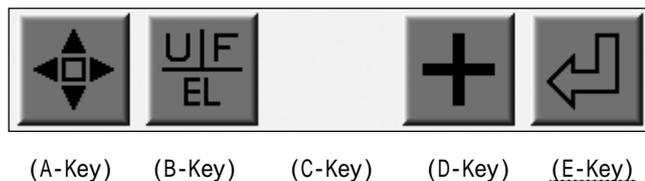
5) The B-Key toggles the Tape Code. *2

The D-Key toggles the data transmission speed. *3



6) Check if the device loading design is ready.

7) Press the E-Key to start the loading.



*1 The automat chooses an empty Memory location automatically.

Delete a design to create an empty location if the Memory is full.

*2 The B-Key toggles the Tape Code as U → F → EL. Other codes are not valid.

*3 the data transmission speed is chosen from the chart below.

The D-Key toggles the No. assigned to the speed.

No.	Speed (BPS)	
0	9600	X 1
1	14400	X 1.5
2	19200	X 2
3	28800	X 3
4	38400	X 4
5	57600	X 6
6	76800	X 8
7	115200	X 12

4-2. Merging a Design via COM

Instructions for merging a design via the COM Port

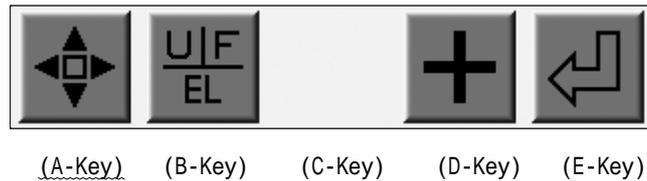
- 1) Prepare the device sending the design.

- 2) Press the FD Key



- 3) Press the A-Key to toggle the Device icons. Choose the COM icon.

Refer to "Before Loading".

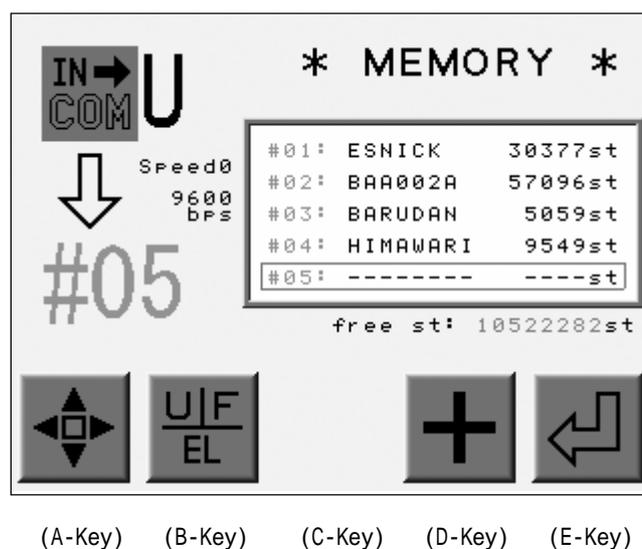


*The icon at the upper left corner should be



- 4) Find the design list in the memory.

Use the Jog Keys to select a design.



When the occupied Memory location is selected, the



icon will display above the C-Key.

5) Press the C-Key to merge the design.

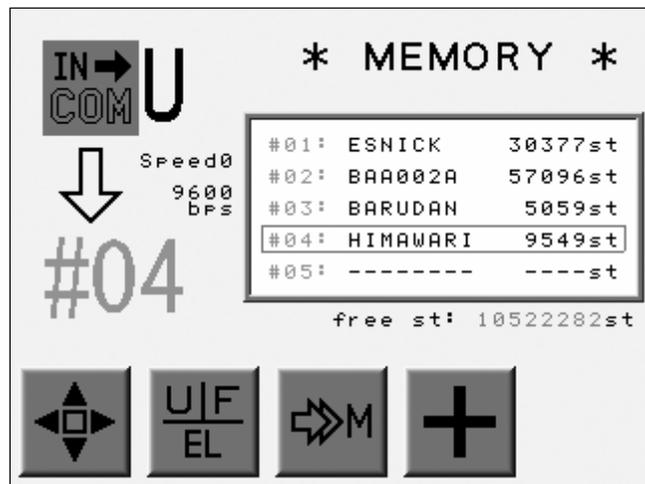


(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the C-Key again to cancel the merging.

6) Press the B-Key to toggle the Tape Code. *1

Press the D-Key to choose a data transmission speed. *2



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

7) Check if the device sending the design is ready.

8) Press the E-Key to start merging.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

*1 The B-Key toggles the Tape Code U, F, EL. Other codes are not valid.

*2 Refer to the "Loading Design from PC" for the data transmission speed.

5. Adding Stitches

The machine must be out of Drive mode.

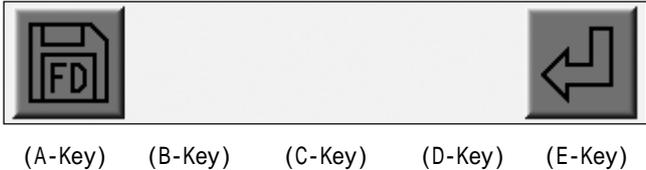
5-1. Adding Stitches using the Jog Keys

Stitches can be added using the Jog Keys. The Pantograph moves as the Jog Keys are operated.

1) Press the FD Key  .

2) Press the A-Key to toggle the Device icons. Choose the Jog icon.

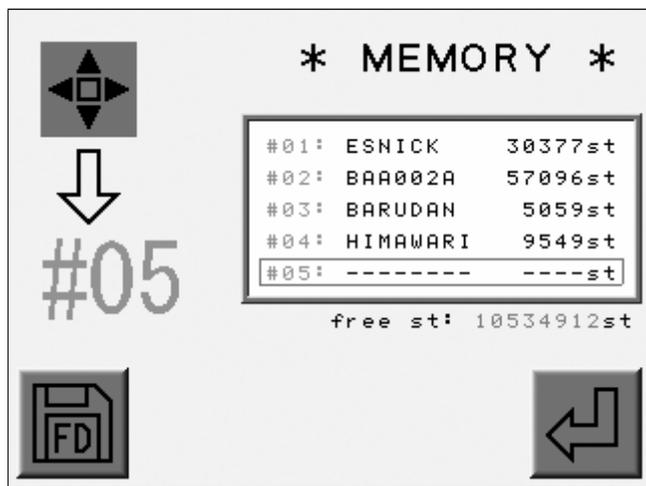
Refer to “ Before Loading ” to choose the correct device.



*The icon at up the left corner of the screen should be  .

3) The designs in memory display.

Choose a Memory location to hold the movement.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

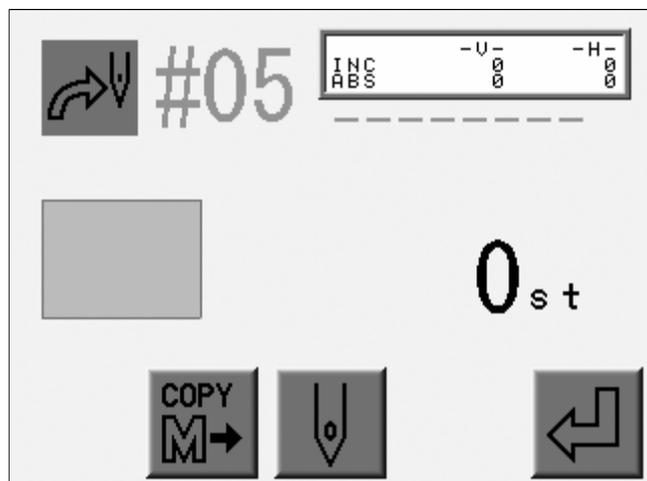
4) Press the E-Key to add the stitches.



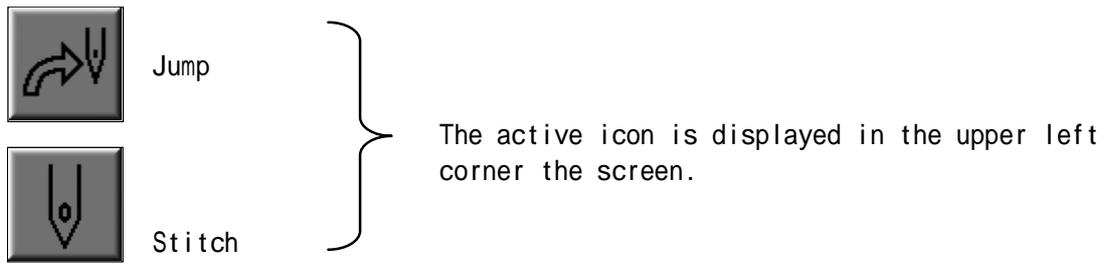
(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

5) Press the C-Key to toggle between the Jump and Stitch icon. *1

*Jump is the default setting.

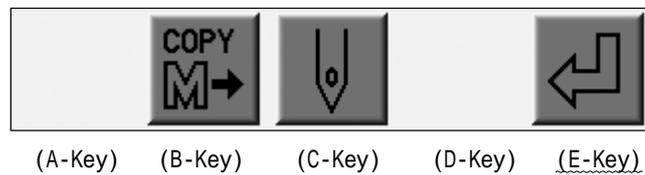


(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)



6) Use the jog keys to move the pantograph to the new location.

7) Press and hold the E-Key for a short beep to write a Jump / Stitch to the memory.
*2



*1 Choose Jump or a Stitch to save to memory.

*2 The scale, rotation will effect to the added stitches.

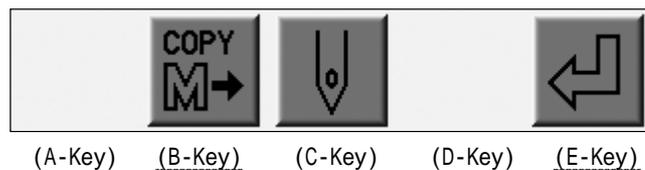
5-2. Copying a Design

Copying a design and merging it.

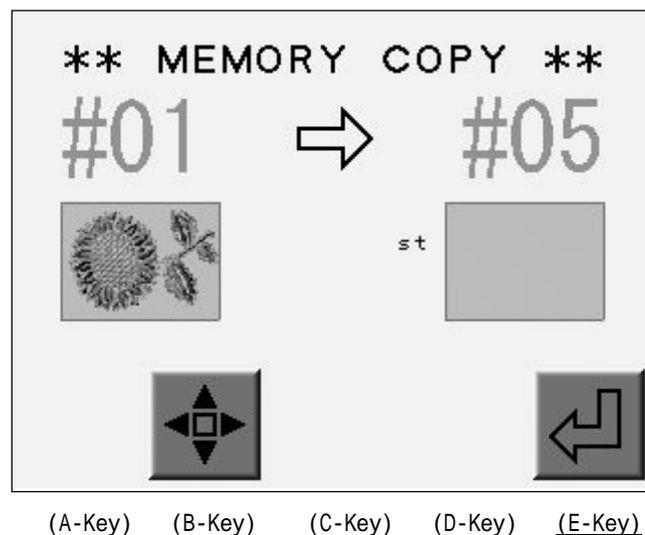
1) Refer to "Adding Stitches" 1) - 4) , find the Jog Menu below.

2) Press the B-Key to merge another design to the selected design.

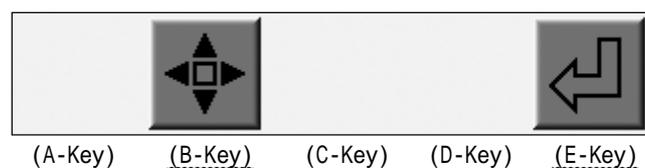
The design to be merged must be in Memory.



3) Use the jog keys to select the design to be copied.



4) Press the E-Key to start the Copy. *2



Press the B-Key to the Jog menu.

*1 The scale and rotation of the original design will be reflected in the copy.

The Jog stitches and the copied design can be added to a design.

*2 The designs are added in order they are added and will sew in that manner.

Chapter 6. Saving Designs

Saving Designs in Memory

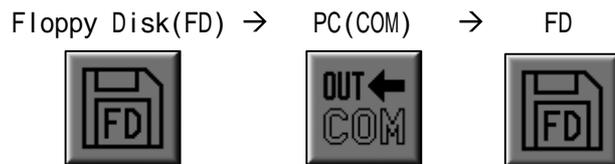
1. Before Saving
2. Saving to Floppy Disk (FD)
3. Saving to PC via COM

1. Before Saving

Operations before saving designs

1) Choose the Media

Press the A-Key to toggle the Media icons and choose a media.



The icon above the A-Key indicates the next type of media.

The icon for the chosen media appears at the upper left corner of the screen.

“COM” connection is not available for the machine with LAN port.

2) Choosing Designs to save

Refer to “Before Loading”.

3) Halting, Canceling

Refer to “Before Loading”.

2. Saving to a Floppy Disk(FD)

Patterns can only be saved in the following formats.

BARUDAN	FDR-2DD	FDR
	FDR-2HD	2HD

No other formats are available.

*The saving capacity : 2DD FD - Max. 36 designs, 217,000 stitches
2HD FD - Max. 36 Designs, 485,000 stitches

Saving patterns is not available when the machine is in Drive mode.

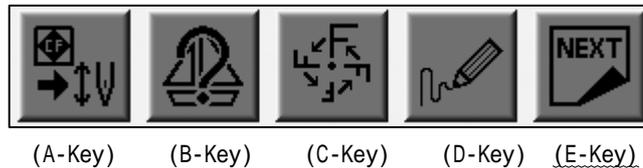
2-1. Saving to Floppy Disk(FD)

1) Insert the Floppy Disk (FD) into the Drive.

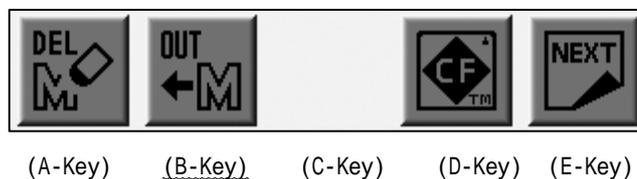
2) Press the Memory Key



3) Press the E-Key.



4) Press the B-Key.



5) Press the A-Key to toggle the Media icons and choose "FD".

Refer to "Before Saving".



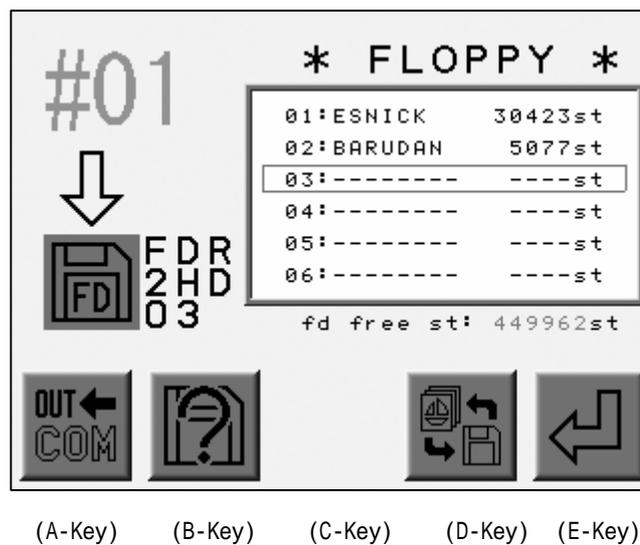
The icon at the upper left of the screen should be



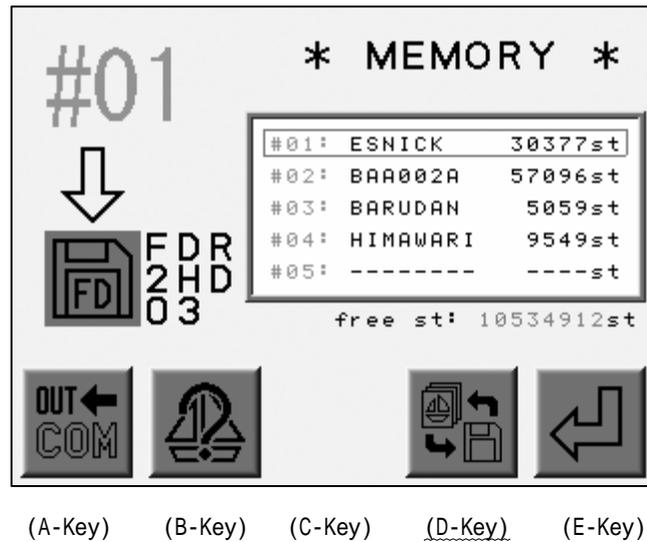
6) List the designs in the FD.

Choose a blank FD slot with the Jog Keys. *1

A blank FD slot is automatically chosen. *2

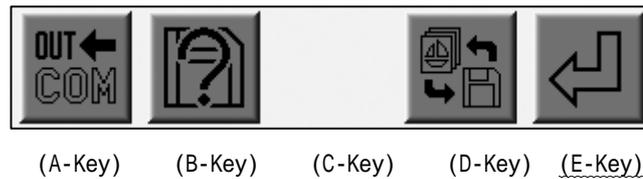


7) Press the D-Key to list the designs in the memory.



8) Choose the design to save with the Jog Keys.

9) Press the E-Key to start saving. *3



*1 Merging designs is not allowed. Choose a blank FD slot.

*2 A blank slot is automatically chosen. Delete a design and create a blank slot or use another FD when all the slots are occupied

*3 The saving design in the Drive state is not allowed.

If there is no room left for the saving design, the controller automatically stops the saving and deletes the incomplete design.

Check the capacity of the FD before saving.

Note : The Program or the Function Codes may vary the design data size.

2-2. Saving Multiple Designs to a Floppy Disk

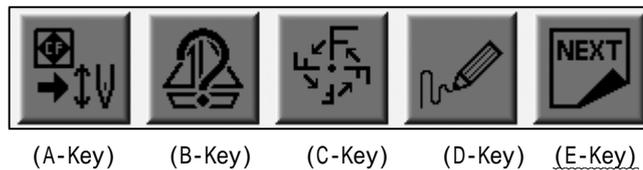
Instructions for saving multiple designs to a floppy.

1) Insert the Floppy Disk (FD) into the Drive.

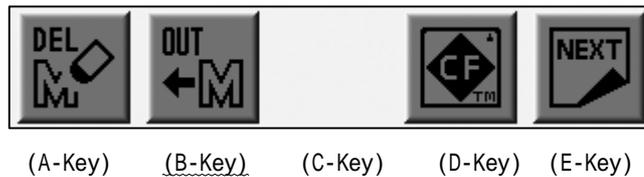
2) Press the Memory Key



3) Press the E-Key.

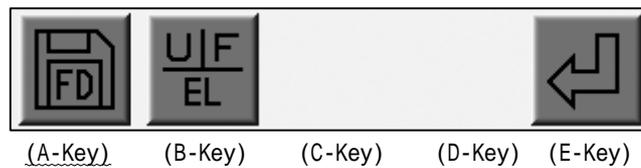


4) Press the B-Key.



5) Press the A-Key to toggle the Media icons and choose "FD".

Refer to "Before Saving".



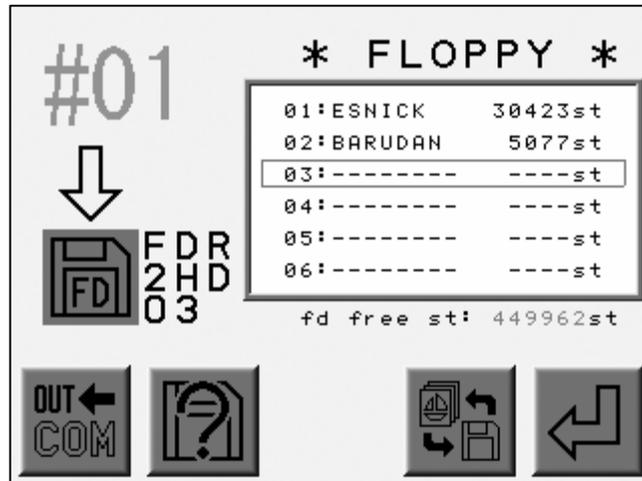
The icon at the upper left corner of the screen should



6) List the designs in the Floppy Disk (FD).

Use the Jog Keys to select an empty location.*1

A blank slot is automatically chosen by the controller. *2

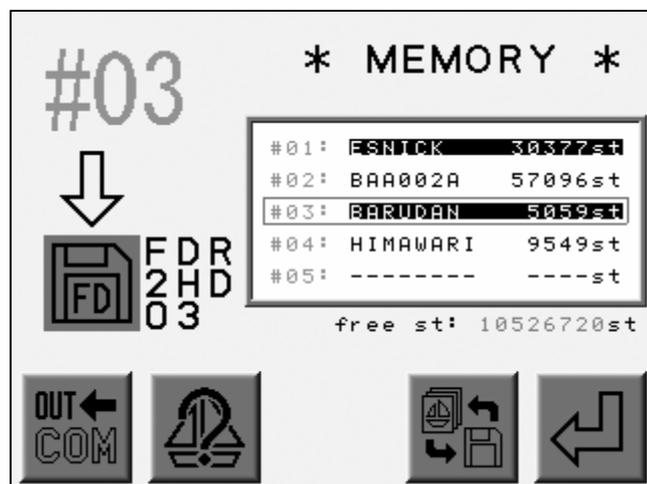


(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

7) Press the D-Key to list the designs in the memory.

Press the Origin Key to choose a design.

Press and hold the Origin Key for 2 short beeps to select all designs.

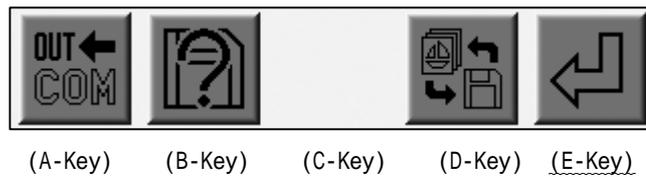


(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Choose a highlighted design with the cursor and press the Origin Key again.

The design will be released.

8) Press the E-Key to start saving. *3



*1 Merging design is not allowed. Choose a blank slot.

The designs are saved in order of the Memory Slot No.

*2 The blank Floppy Disk slots are automatically chosen by the controller.

Delete designs and create blank slots in the FD or prepare another FD if enough blank slots are not left.

*3 The saving is not allowed in the Drive state.

If there is no room left for the saving design, the controller automatically stops saving and deletes the incomplete design.

Check the capacity of the FD before saving.

Note : The Program or the Function Codes may vary the design data size.

3. Saving to PC via COM

Loading designs from PC is available through the COM port.

The PC needs to have RS-232C serial port.

The cable should be a null modem serial cable.

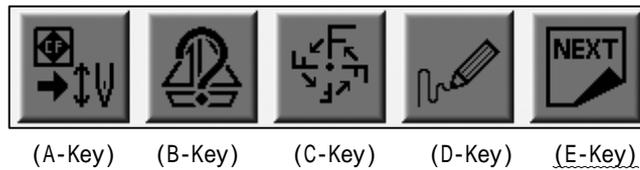
The machines with LAN ports cannot use the COM connection.

1) Prepare the device receiving the design.

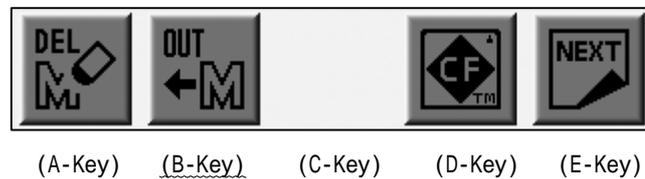
2) Press the Memory Key



3) Press the E-Key.

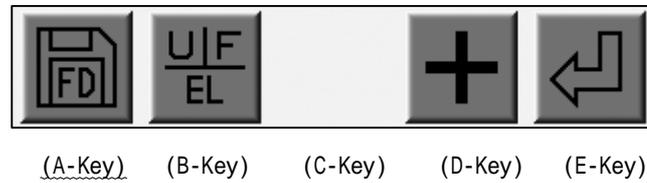


4) Press the B-Key.



5) Press the A-Key to toggle the Media icons and choose "COM".

Refer to "Before Loading".

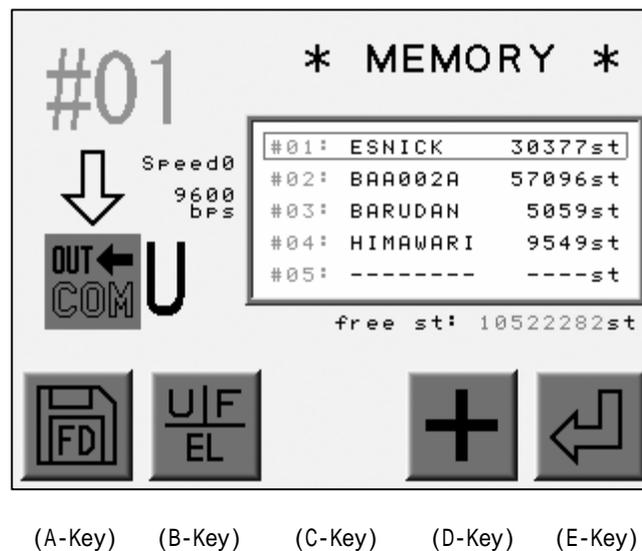


The icon at the upper left corner of the screen should be



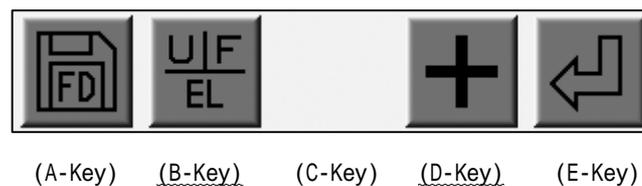
6) List the designs in the memory.

Use the Jog Keys to choose the design to save. *1



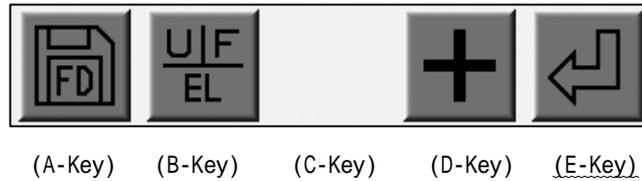
7) Press the B-Key to choose a Code. *2

Press the D-Key to choose the data transmission speed. *3



8) Check if the receiving device is ready.

9) Press the E-Key to start the saving to the PC (COM). *4



*1 The controller automatically chooses a blank Memory Slot.

Delete a design and create a blank slot if they are full.

*2 The B-Key toggles the Tape Code as U → F → EL. Other codes are not valid.

*3 the data transmission speed is chosen from the chart below.

The D-Key toggles the No. assigned to the speed.

No.	Speed (BPS)	
0	9600	X 1
1	14400	X 1.5
2	19200	X 2
3	28800	X 3
4	38400	X 4
5	57600	X 6
6	76800	X 8
7	115200	X 12

*4 Canceling the operation may take 10 seconds before it actually cancels the transmission if the connection is not properly done.

Chapter 7. Compact Flash Card (CF Card)

This chapter includes instruction on how to use the CF Card.

1. Before Using CF Card
2. The Files in the CF Card
3. Creating Folders in the CF Card
4. Saving to the CF Card
5. Loading from the CF Card
6. Memory Back-Up
7. Loading the Back-Up Design
8. Deleting Desgins on the CF Card
9. Deleting Designs on the CF Card
10. Saving Multiple Design at a one time
11. Loading Multiple Designs at a one time

Refer to “System” to use the CF Card as a System Disk.

1. Before Using the CF Card

1) Functions

CF Cards have a large capacity and send/receive data much faster than Floppy Disks.

CF Cards have the following uses on the embroidery machine.

a. Store Design Files

Saves/loads the design files in FDR format.

Saves/loads the design files in the Network format (PRJ).*

Stores the design files in TFD format. *

Bitmap image for each design file. The image can be viewed on PCs.

Back-Up all the design files stored in the machine.

b. System software update

The CF Card updates the system software quickly.

CF Cards can store multiple system softwares.

c. Editing

The design files in the CF Card can be edited on PC.

PRJ format files also can be edited with SFC Software.

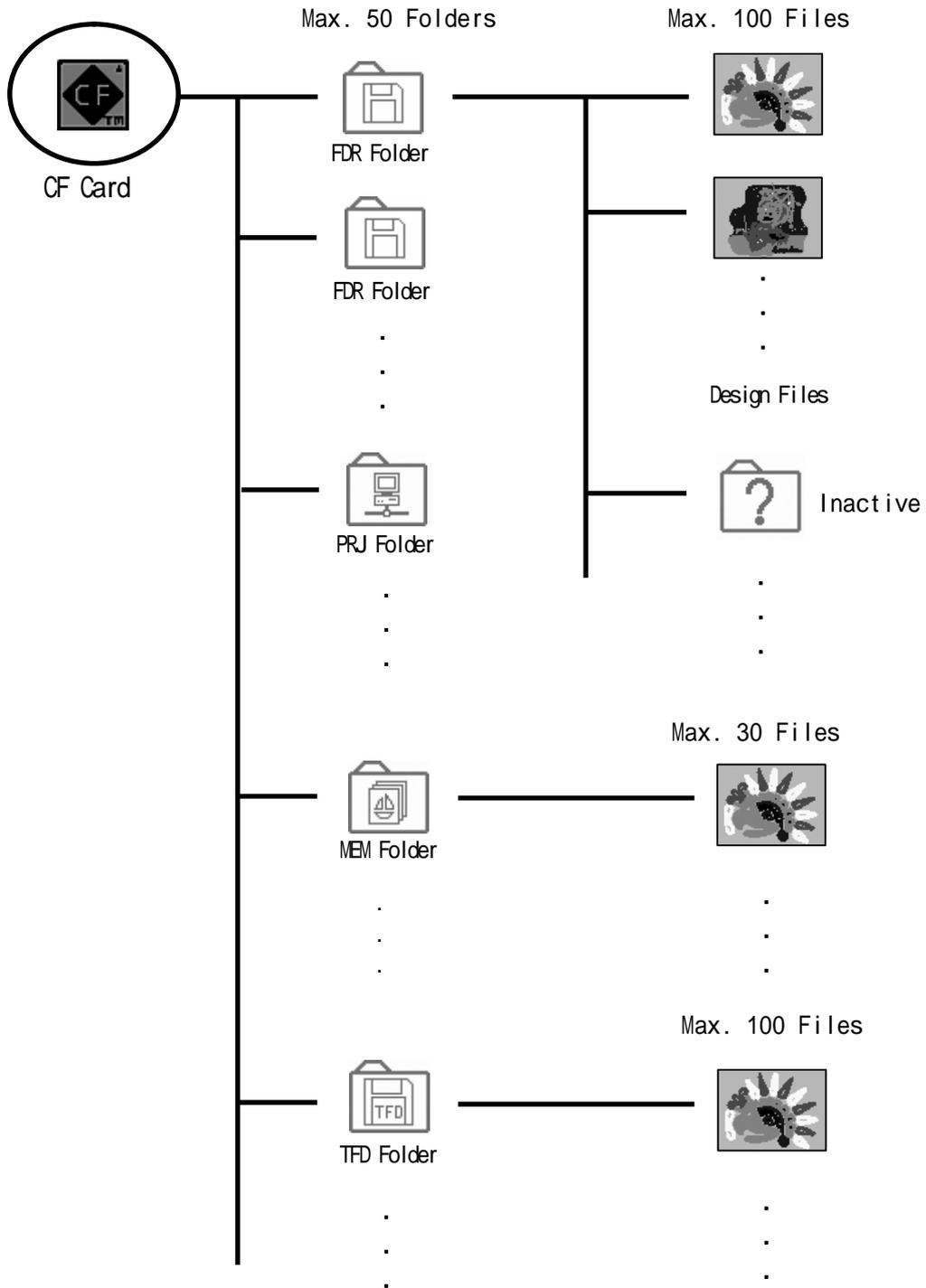
*A PRJ Format consists of a Design File, Program Parameters and a Bitmap Image File.

*The Automat cannot save the TFD format file on CF Card. Use PC to save the TFD format file on the CF Card.

2) CF Card Basics

The CF Card needs to have Folders to store files.

A CF Card can have up to 50 folders.



2) The CF Card can handle 4 kinds of folders.

1.  FDR Folder
Stores FDR format design files
A FDR folder contains 100 FDR files.
2.  PRJ Folder
Stores Network format (PRJ) files.
A PRJ folder contains 100 PRJ files.
3.  MEM Folder
Backs up the machines memory.
Merging is not allowed.
4.  TFD Folder
Stores Tajima formatted designs
Created only on PC.
5.  Files not able to be handled
The Automat cannot handle the folders within folders.

*Add extension behind of the folder name when creating folders on a PC.

Example : “ABC.fdr” for a FDR Folder (designs file MUST be in the folder)

“ABC.prj” for a PRJ Folder

“ABC.mem” for a MEM Folder

“ABC.TFD” for a TFD Folder

*Do not edit the “System” folder in the CF Card. It may damage the system software.

3) Comparison ; CF Card VS Floppy Disk

The CF Card has following advantages over the Floppy Disks.

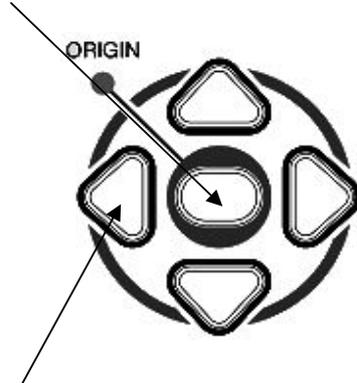
- a. Can be edited on a PC.
- b. Has a large capacity

Floppy Disks (2HD)	Approx. 480,000st,	36 Designs
CF (64MB)	Approx. 21,330,000 st,	100 x 50 Designs
CF (128MB)	Approx. 42,660,000 st,	100 x 50 Designs
CF (256MB)	Approx. 85,330,000 st,	100 x 50 Designs

- c. High speed transmission, less errors.
- d. Higher durability.

4) Basic Operations

Origin Key : Switches screens for Design and Folders.



Jog Keys : Moves the cursor.

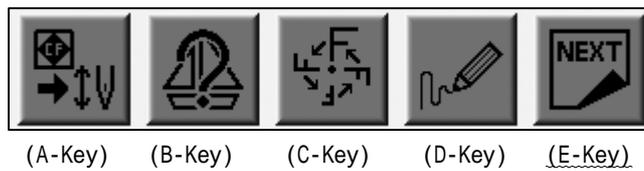
2. CF Card Screen

Viewing and editing folders/designs on the CF card.

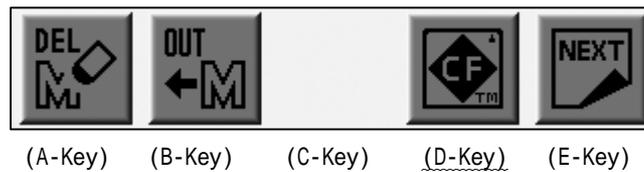
1) Press the Memory Key



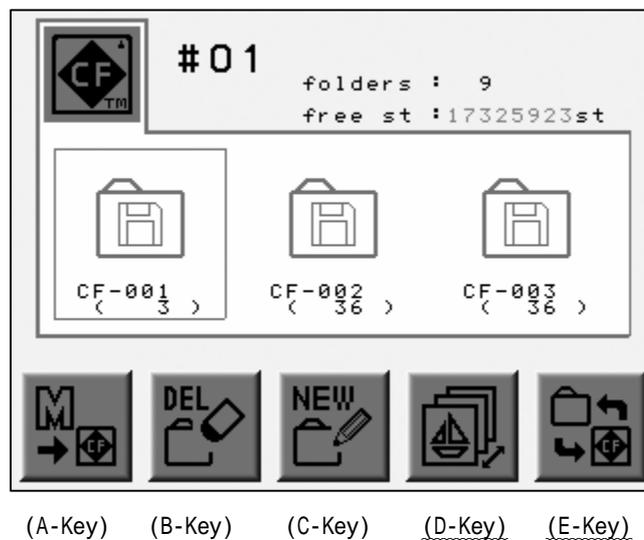
2) Press the E-Key.



3) Press the D-Key.



4) The folders on the CF display.

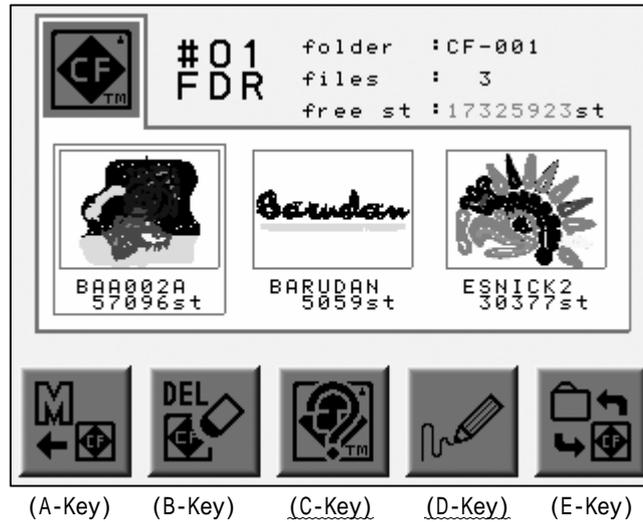


Press the D-Key to return to the previous screen.

*The folders appear in alphabetical order in each category.

*FDR Folders appears first and PRJ, MEM, TFD follow in the order.

5) Press the Origin Key or the E-Key to view the files in the folder.



Press the C-Key to view design property.

Press the D-Key to view the enlarged thumbnail.

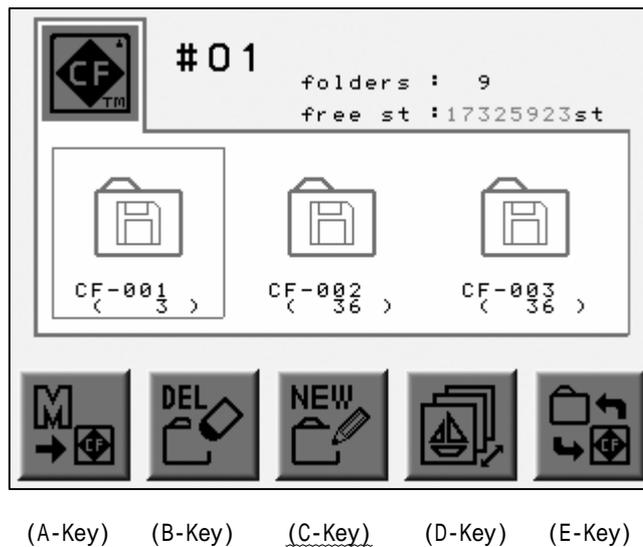
*The design files in the FDR, PRJ, TFD folders are sorted in alphabetic order.

3. Creating a Folder

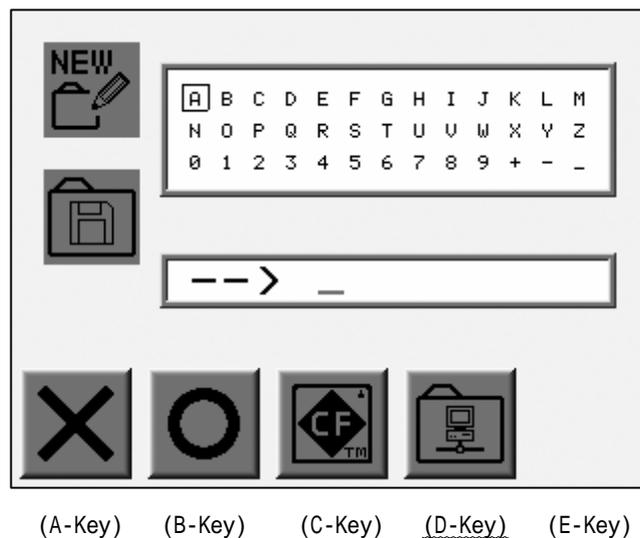
Instructions for creating folders folders on a CF Card. (FDR, PRJ, MEM Folders)

Refer to "Before Using the CF Card" for the folder format.

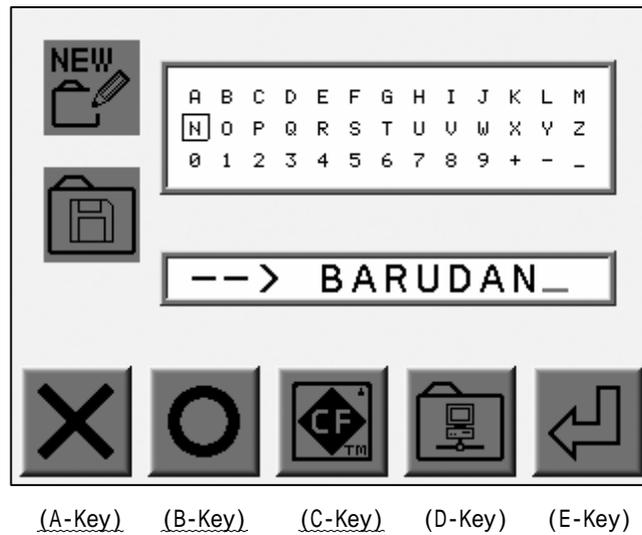
- 1) Refer to the "CF Card Screen" and find it.
- 2) Press the C-Key.



- 3) Press the D-Key to choose a folder format.



4) Type in the folder name using the Jog keys and the origin key.



Use the Jog keys to select a letter.

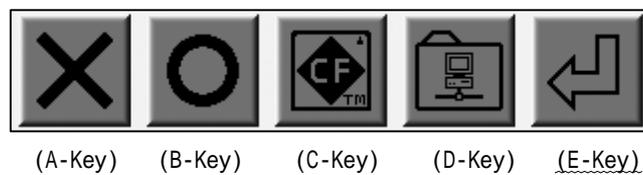
Press the Origin Key or the B-Key to enter the letter.

Press the A-Key to delete the last letter.

Press the C-Key to cancel creating a folder and go out.

*The max number of characters is 8 for a folder name.

5) Press the E-Key to create the folder.

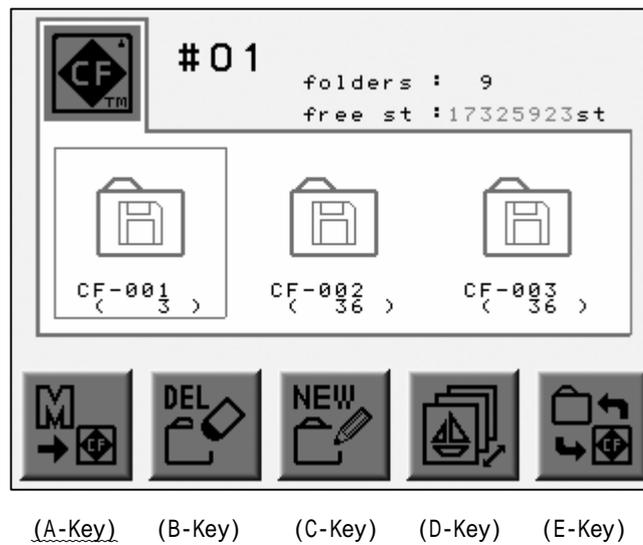


4. Saving to the CF Card

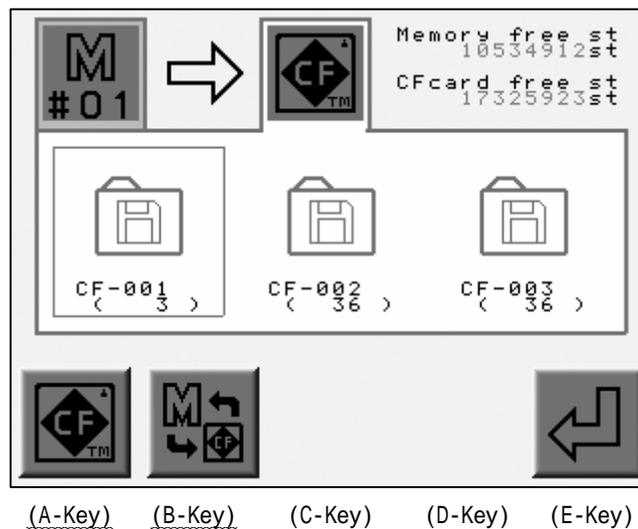
Instructions on saving design files to FDR, PRJ folders.

*PRJ folder cannot store files in same name.

- 1) Refer to the "CF Card Screen" and find it.
- 2) Press the A-Key.

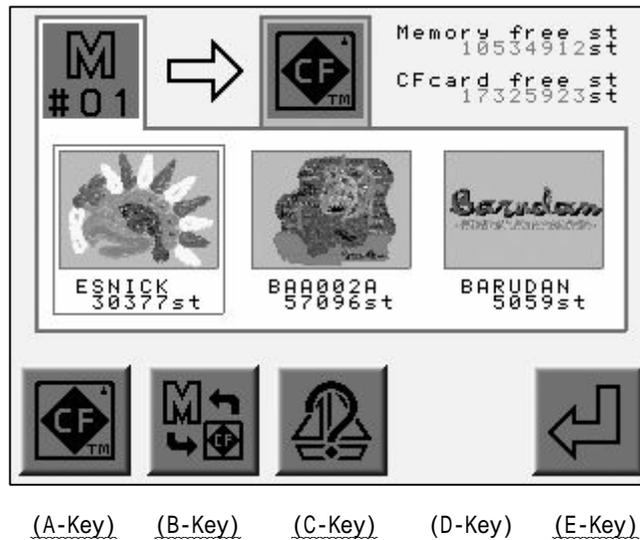


- 3) Use the Jog keys to select the destination folder.



4) Press the B-Key to view the designs in the Folder.

Use the Jog keys to select a design file to save.

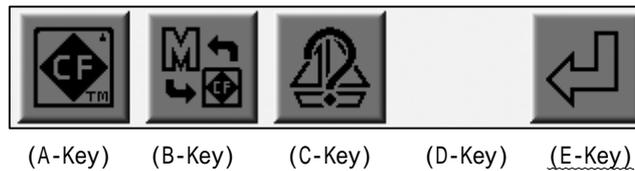


Press the A-Key for the previous screen.

Press the B-Key to toggle the CF Card and Memory screen.

Press the C-Key to view the design property.

5) Press the E-Key to start the saving.



*The design appears in alphabetic order.

*Each folder (FDR, PRJ, MEM) stores the designs in different format.

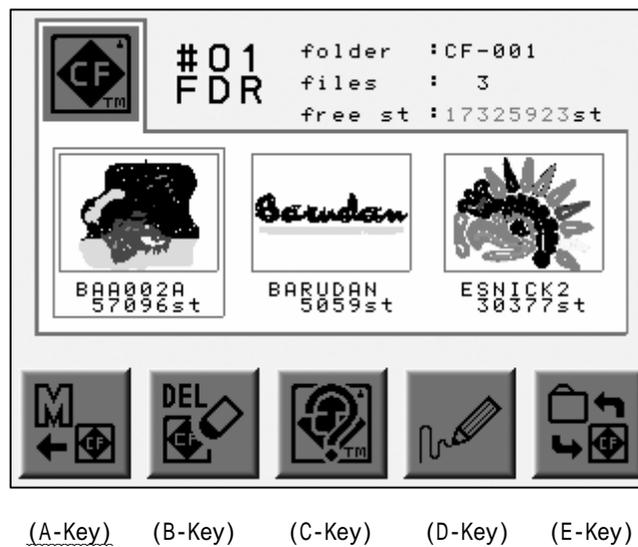
Refer to “ Before Using the CF Card ” for the difference of each folder.

5. Loading from the CF Card

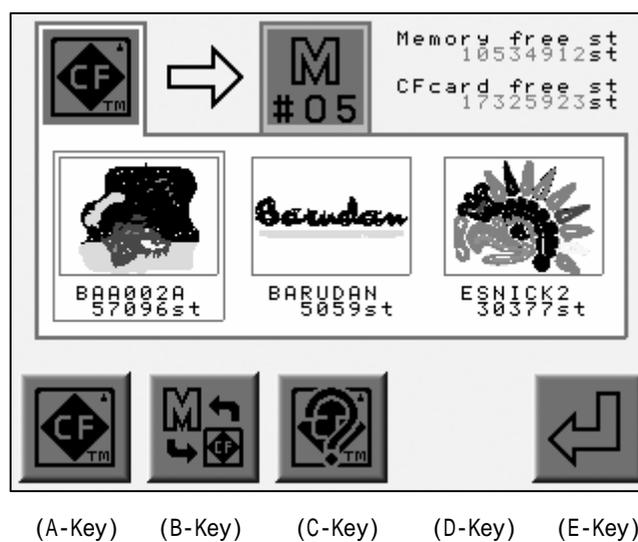
Instructions for loading designs stored in FDR, PRJ, TFD folders on a CF Card.

5-1. Loading from the CF Card

- 1) Refer to the " CF Card Screen " and find it.
- 2) Press the A-Key.

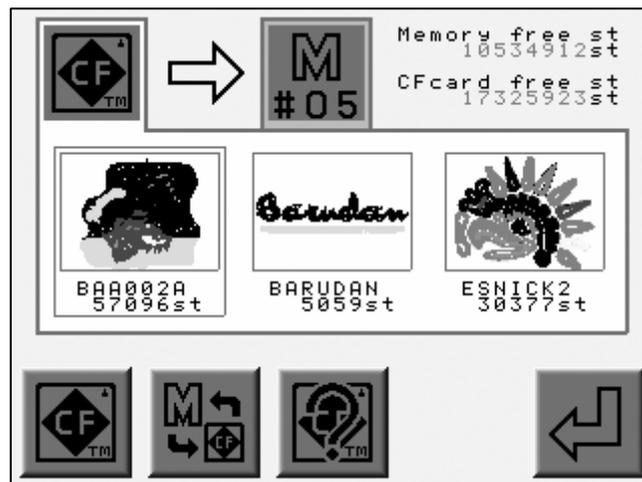


- 3) Use the Jog keys to select a design.



4) Press the B-Key.

Use the Jog keys to select an empty Memory location. *1



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the A-Key for the previous screen.

Press the B-Key to toggle the CF and Memory screen.

Press the C-Key to view the design property.

*The Enter icon



will not display when an occupied memory location is selected.

5) Press the E-Key to start loading the design to the memory.



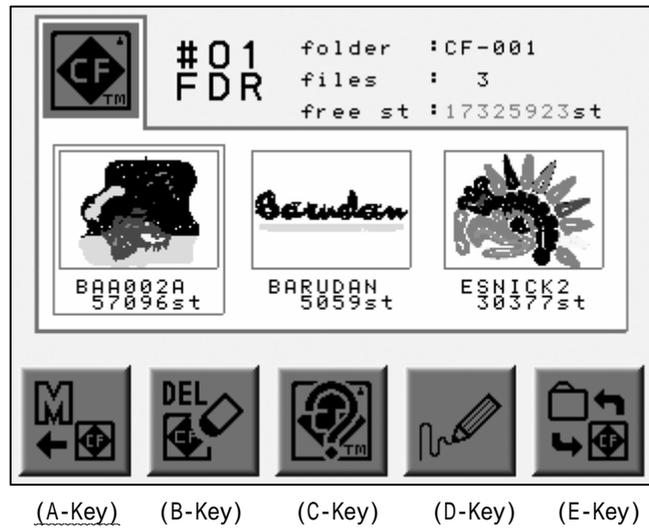
(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

*1 The first empty location is selected.

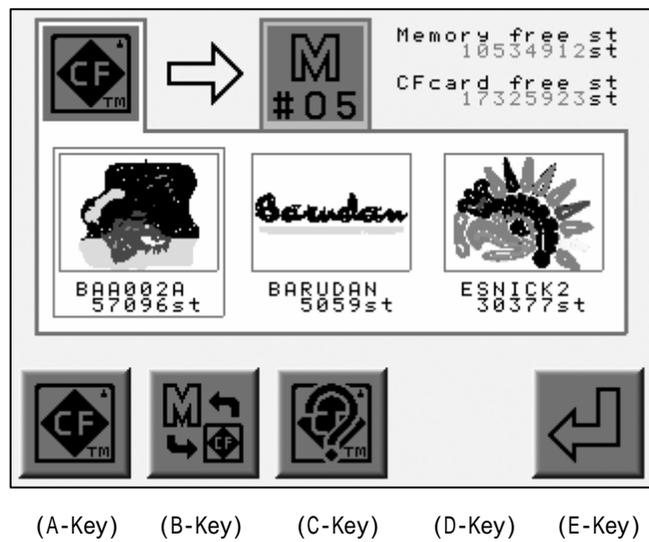
Delete designs that are no longer needed to make empty locations.

5-2. Merging

- 1) Refer to the "CF Card Screen" and find it.
- 2) Press the A-Key.

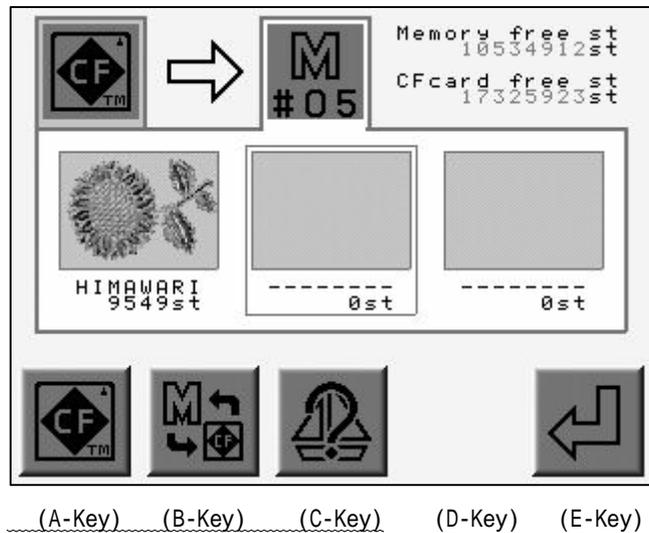


- 3) Use the Jog keys to select a design.



4) Press the B-Key to view the designs in Memory.

Use the Jog keys to select the desing to merge.



Press the A-Key for the previous screen.

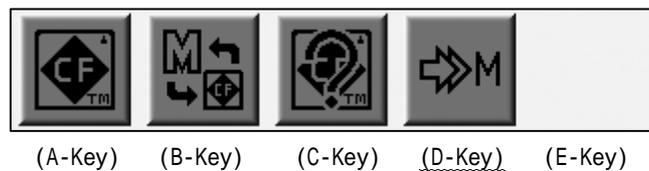
Press the B-Key to toggle the CF and Memory screen.

Press the C-Key to view the design property.

The icon above the D-Key turns into the Merging Icon

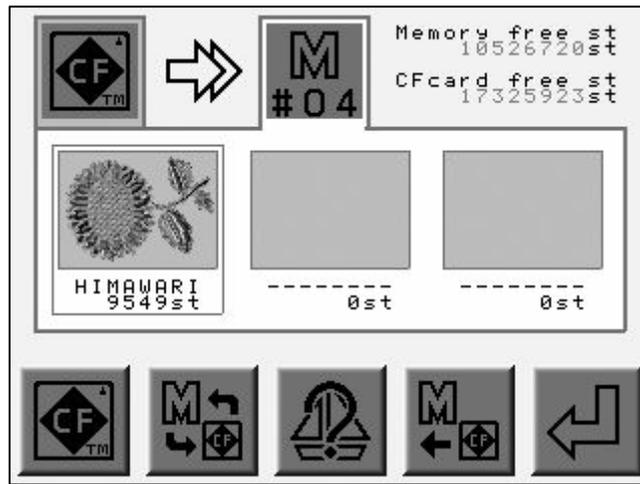


5) Press the D-Key to merge the design.



Press the D-Key again for the previous screen.

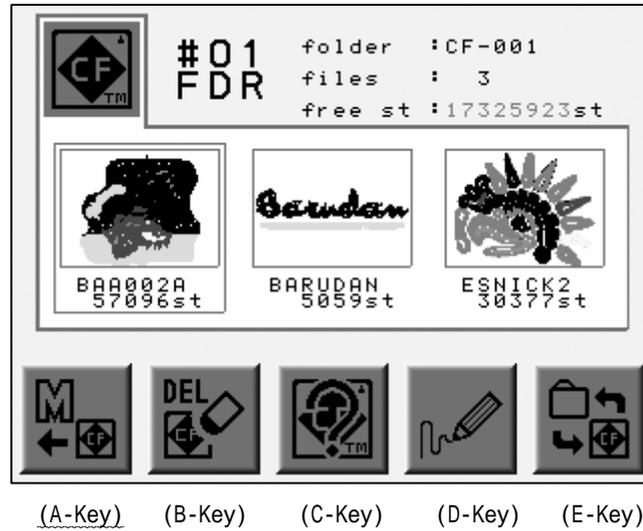
6) Press the E-Key again to start the Merging.



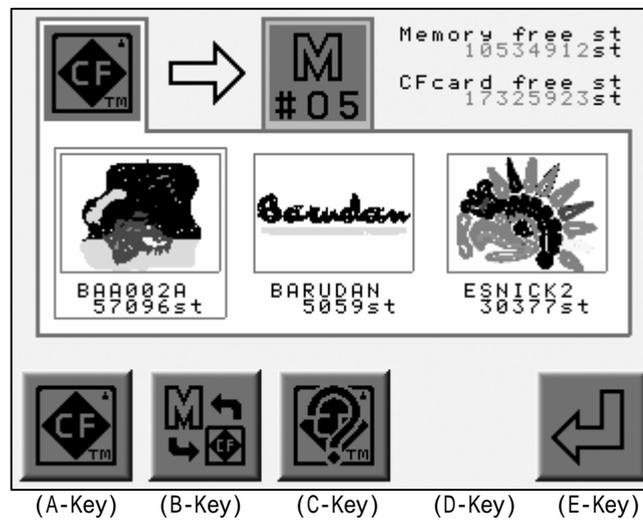
(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

5-3. Saving to Floppy Disk (FD)

- 1) Refer to the “ CF Card Screen ” and find it.
- 2) Press the A-Key.

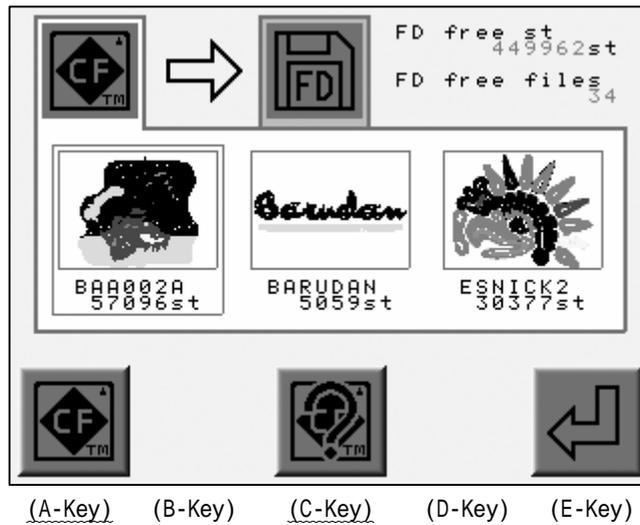


- 3) Use the Jog keys to select a design from the CF card.



4) Press and hold the B-Key for 2 short beeps.

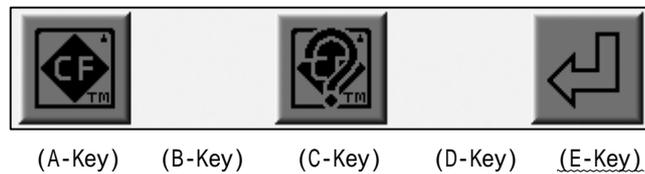
*The destination will change to Floppy Disk.



Press the A-Key for the previous screen.

Press the C-Key to view Pattern Characteristics.

5) Press the E-Key to start saving.



6. Memory Back-Up

Instructions on doing a Memory back up.

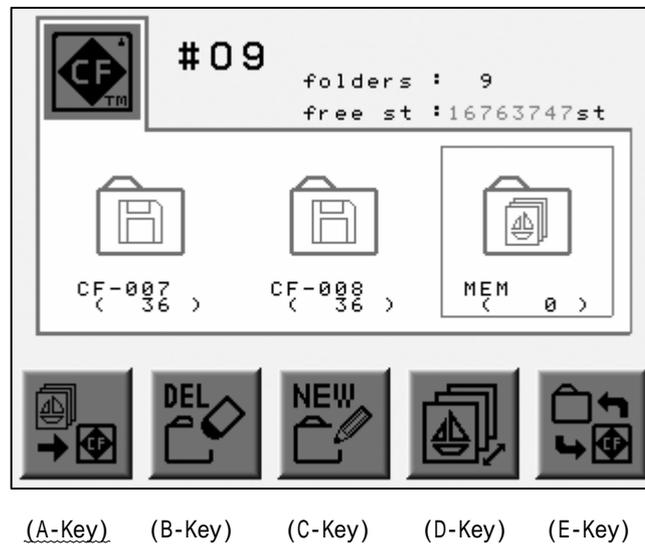
Merging is not allowed.

This operation is not allowed in the Stand-By State.

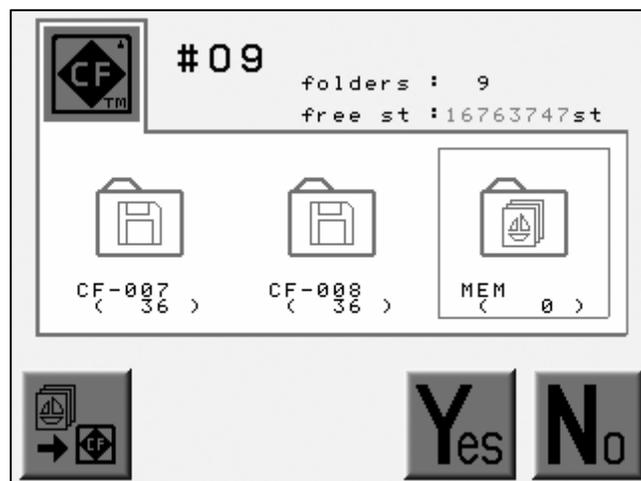
1) Refer to “Creating a Folder ” and create a MEM Folder.

The icon above the A-Key will be  when a MEM folder is chosen.

2) Press the A-Key.



3) Press the D-Key to start the Back-Up.



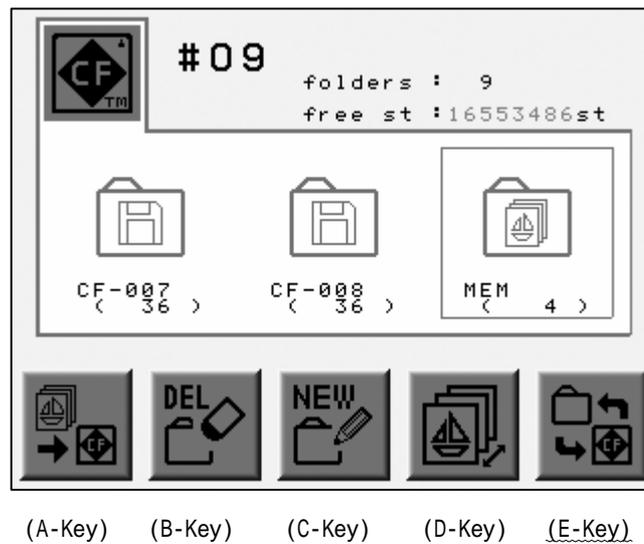
(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the A-Key or E-Key to cancel the Back-Up and go out from the menu.

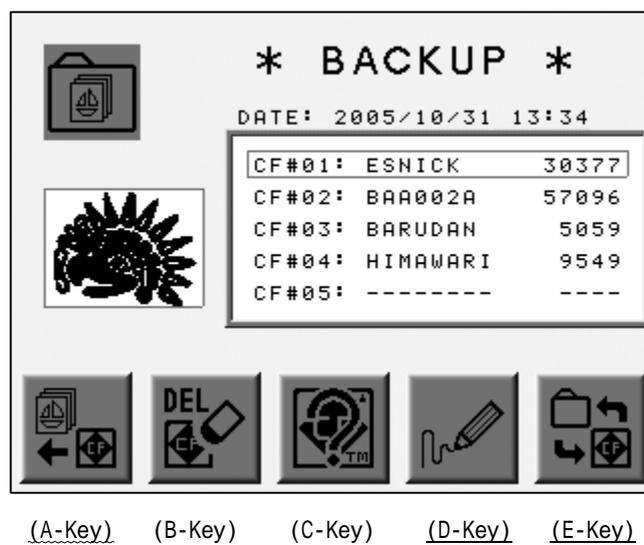
7. Loading the Design Back-Up

Instructions for loading the Memory Back-up folder.

- 1) Refer to the “ CF Card Menu ” and find it.
- 2) Choose a MEM folder to load.
- 3) Press Origin or the E-Key.



- 4) Press the A-Key.



5) Press the D-Key to start loading the Back-Up Files.

The screenshot shows a terminal-style interface for a backup operation. At the top, it says '* BACKUP *' and 'DATE: 2005/10/31 13:34'. Below this is a table of files to be backed up:

CF#01:	ESNICK	30377
CF#02:	BAA002A	57096
CF#03:	BARUDAN	5059
CF#04:	HIMAWARI	9549
CF#05:	-----	----

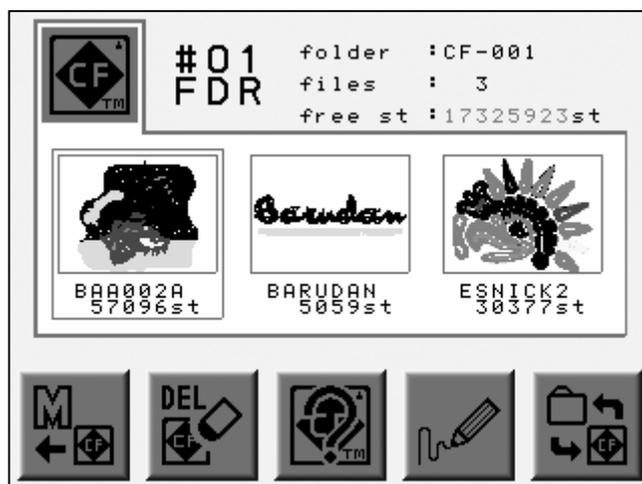
At the bottom of the screen, there are two large buttons labeled 'Yes' and 'No'. Below the screen, there are five labels: (A-Key), (B-Key), (C-Key), (D-Key), and (E-Key). The (D-Key) label is positioned directly below the 'Yes' button.

Press the A or E-Key to cancel the loading and go out form the loading menu.

8. Deleting the Designs on the CF card

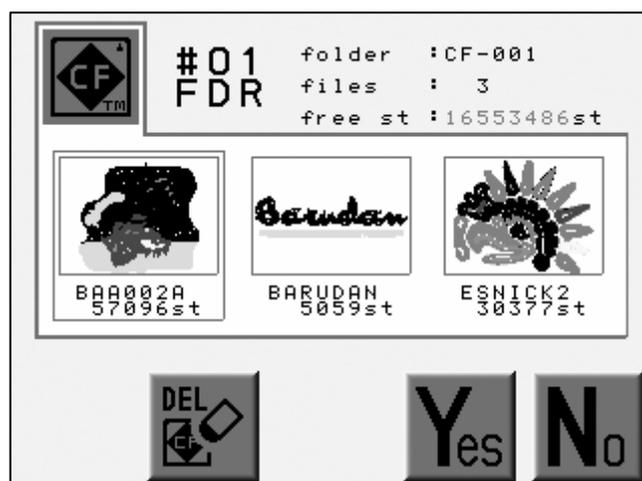
Instructions on how to delete files from the CF card.

- 1) Refer to the “ CF Card Menu ” and find it.
- 2) Choose a design to delete with the Jog Keys.
- 3) Press the B-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

- 4) Press the D-Key to delete the design.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

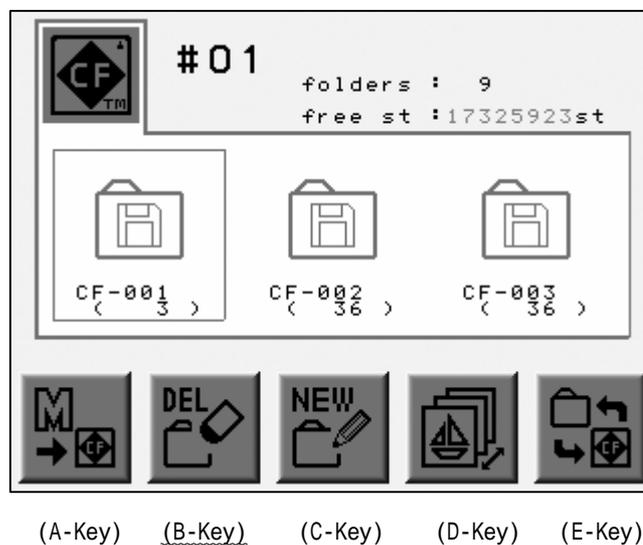
Press the B or E-Key to cancel the deletion and go out from the menu.

9. Deleting a Folder

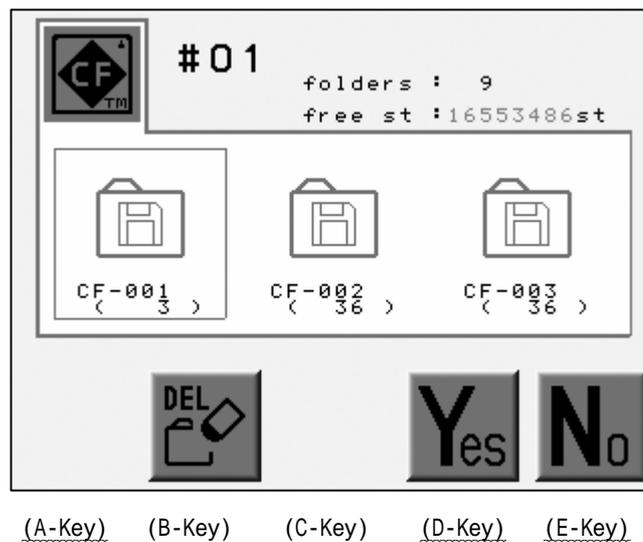
Instructions on deleting a folder on the CF card.

*When a folder is deleted, the files in the folder will be deleted as well.

- 1) Refer to “ CF Card Menu ” and find it.
- 2) Use the Jog Keys to select the pattern to delete.
- 3) Press the B-Key.



- 4) Press the D-Key to delete the folder.

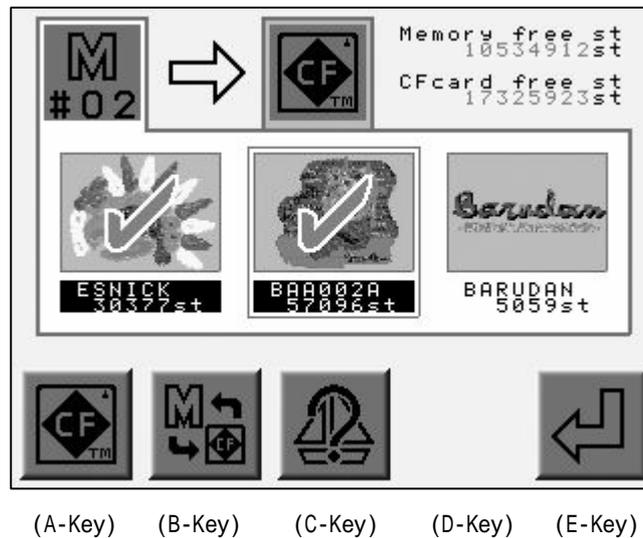


Press the B or E-Key to cancel the deletion and go out from the menu.

10. Saving Multiple Designs at one Time

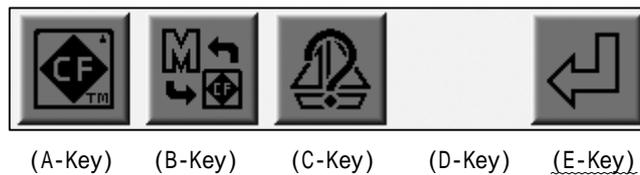
- 1) Refer to "Saving to the CF Card", find the screen .
- 2) Press the Origin Key to choose a design. A check mark appears.

Press and hold the Origin Key to check the chosen and all following designs.



Choose a checked design and press the Origin Key to retrieve it.

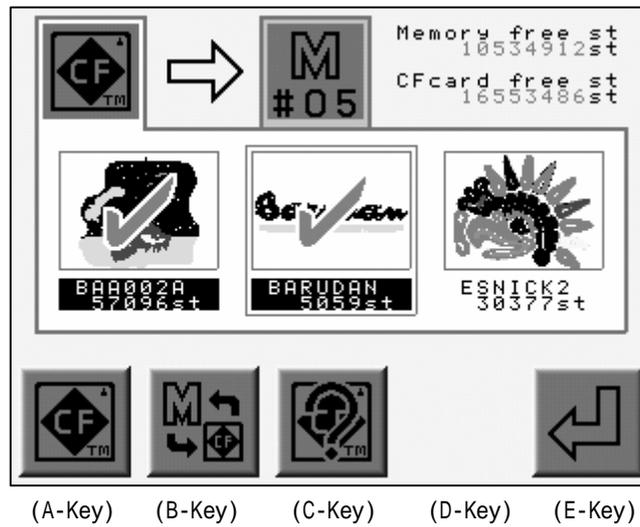
- 3) Press the E-Key to start saving the designs.



11. Loading Multiple Designs at One time

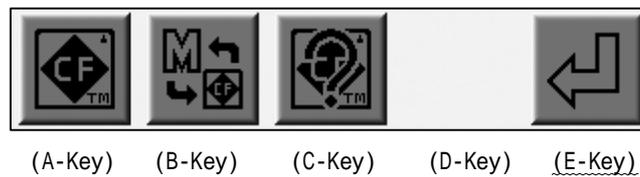
- 1) Refer to " Loading from the CF Card " .
- 2) Press the Origin Key to check the design.

Press and hold the Origin Key to check the selected and all the designs that follow.



Choose the checked design with the Jog Keys and press the Origin Key to retrieve it.

- 3) Press the E-Key to start loading designs.



Chapter 8. Floppy Disk (FD)

The chapter contains information about Floppy Disk Operations.

1. Design Information
2. Design Thumbnail
3. Deleting a Design
4. Formatting the FD

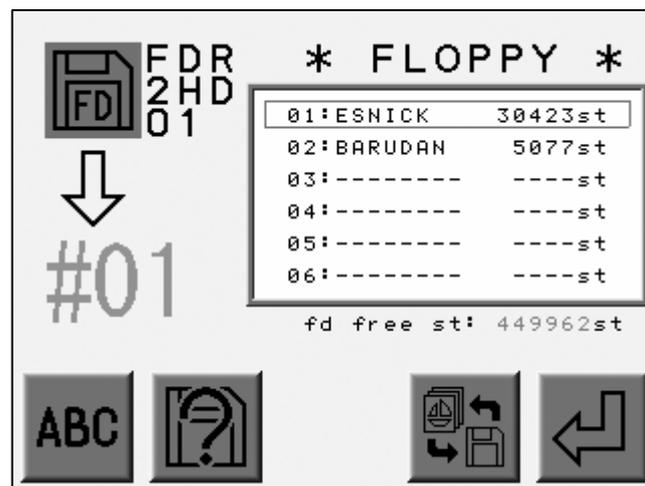
1. Design Information

Instructions on how to view Floppy Disk Design Information

Refer to the "Design Information" for the contents of the information.

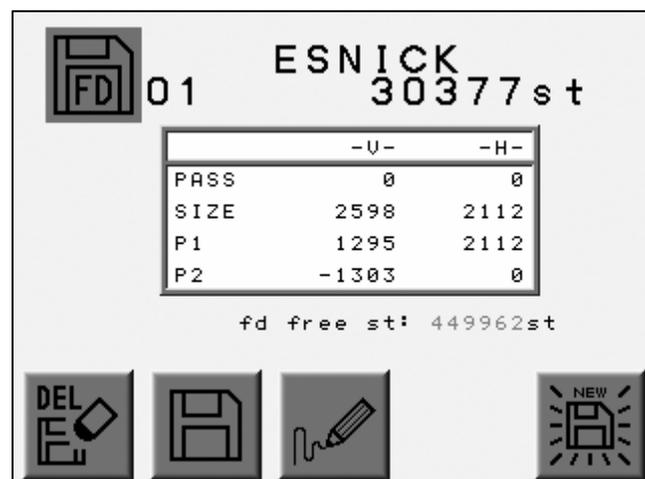
1) Refer to the "The list of the Designs in the FD" to find the list.

2) Choose a design with the Jog Keys.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

3) Press the B-Key.

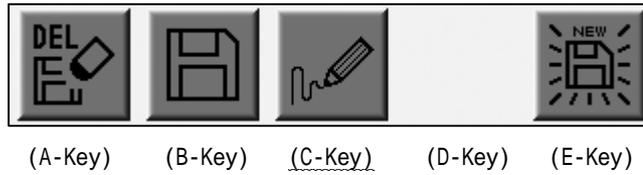


(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

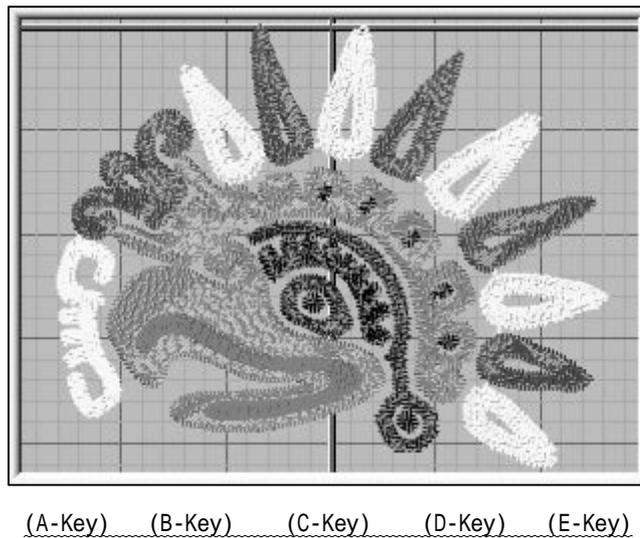
2. Design Thumbnail

Instruction on how to view the design on floppy.

- 1) Refer to the “The list of the Designs in the FD” and find the menu.
- 2) Press the C-Key.



- 3) The Design Thumbnail displays.



Press either A, B, C, D, E-Key for the previous screen.

3. Deleting a Design

Instructions on Deleting a design from Floppy Disk

1) Refer to the “The list of the Designs in the FD” and find the menu.

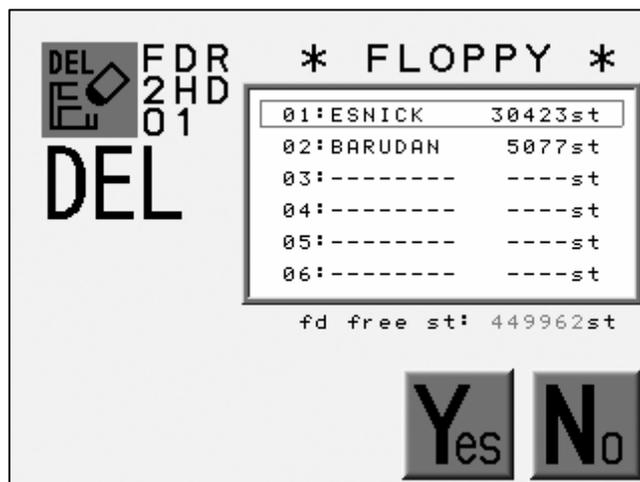
2) Press the A-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

3) The list of the designs in the FD appears.

Choose a design with the Jog Keys.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the E-Key to cancel the deletion and return to previous screen.

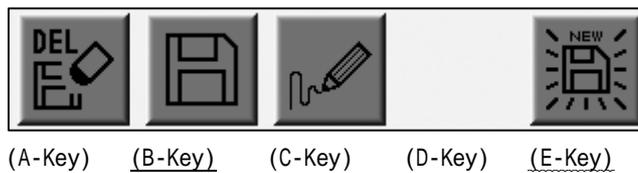
4. Formatting the FD

Instructions on how to format the floppy

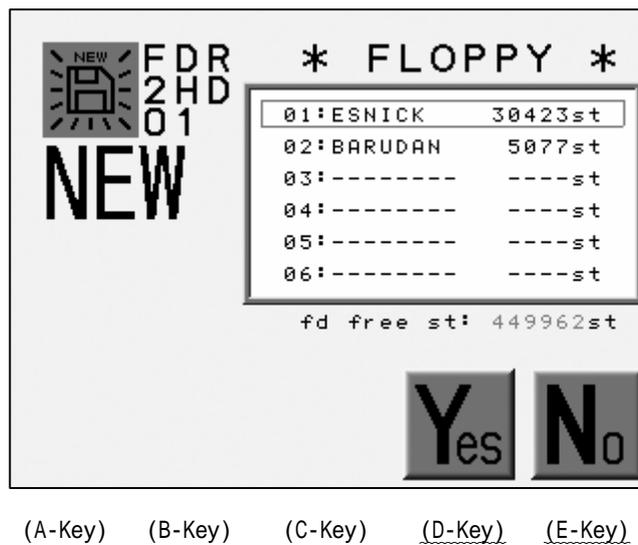
Designs formatted on the automat can only be formatted in FDR format.

1) Refer to the "The list of the Designs in the FD" and find the menu.

Press the E-Key.



2) Press the D-Key to start the Formatting.



Press the E-Key to cancel the formatting and return to the previous screen.

Chapter 9. Memory

This chapter contains information on the following Memory functions.

1. Switching Designs
2. Design Information
3. Design Thumbnail
4. Production
5. Changing the Design Name
6. Color Change Function Code
7. Thread Consumption
8. Deletion of the Design
9. CF Direct Drive
10. Design Stitch Processor (DSP)

Memory capacity is 10 million stitches and 30 memory locations.

1. Switching Designs

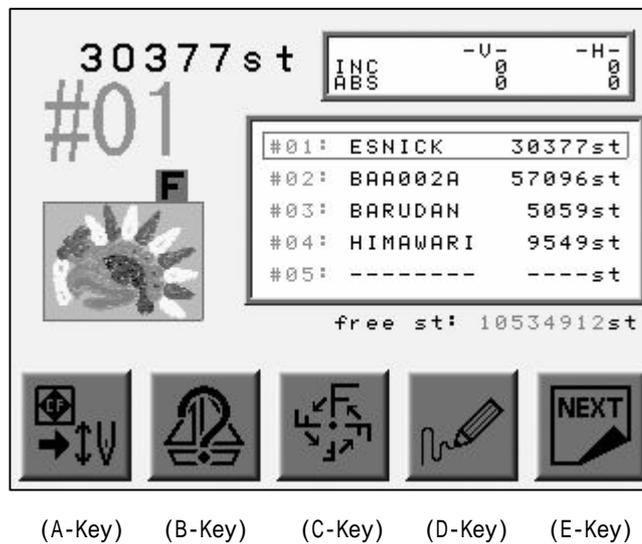
Select a design from Memory.

The machine must be out of Drive mode.

1) Press the Memory Key .

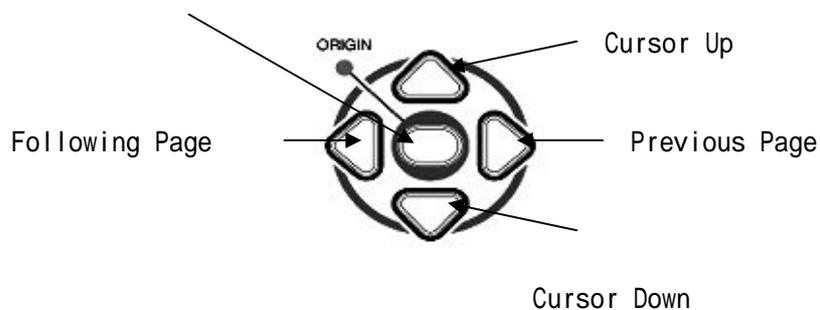
2) The screen shows the list of designs in the memory and displays, memory location, design name, and stitch count.

When a location is empty it is shown with " --- " .



3) Use the Jog Key to select a design.

Press the Origin Key to move the Pantograph to the Start Point of the design. *1



*1 Refer to "The Start Point" to locate the Pantograph to the Start Point.

2. Design Information

Viewing design information

The Design Information Screen has following contents.

Design No.	: The memory location of the design.
Stitch Count	: The stitch count of the design.
Pass	: Distance between the start and end points, shown as horizontal and vertical values, measured in tenths of millimeters.
Size	: Distance between the overall dimensions of the design measured in tenths of millimeters.
P1	: Distance from the start point to the bottom left corner of the design, measured in tenths of millimeters.
P2	: Distance between the start point and top right corner of the pattern measured in tenths of millimeters.
Free St	: Total number of stitches available in memory.

*The unit of measurement is 1/10mm.

*The screen shows " --- " when the memory location is not occupied.

1) Press the Memory Key .



2) Press the B-Key.



(A-Key)

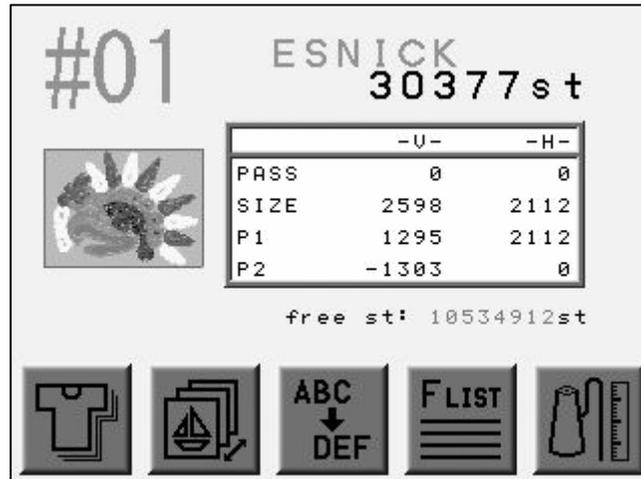
(B-Key)

(C-Key)

(D-Key)

(E-Key)

3) The Design Information Screen displays.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the B-Key for previous screen.

*In the Stand-By mode, the Jog Keys toggle the Design Information Screen for all Memory locations.

3. Design Thumbnail

Instructions for viewing the design thumbnail.

1) Press the Memory Key



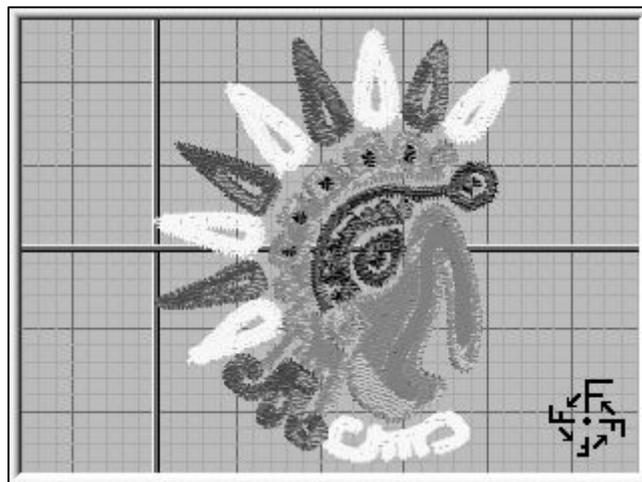
2) Press the D-Key to view the Design Thumbnail of the chosen design.
The Thumbnail will reflect any Program changes. (Scale, Rotation and etc.)



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

3) The Thumbnail appears.

Thumbnail of design, with Program parameters changed.



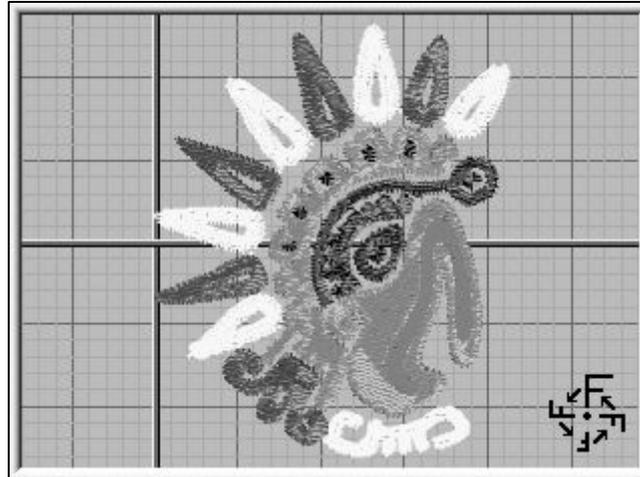
(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press either A - D Key to go back to the previous screen.

4) Press the E-Key to view the thumbnail of the Original Design Data.

When program parameters have NOT been changed, this feature is not available.

The Thumbnail of the Original Design



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the either A - D Key to go back to the previous screen.

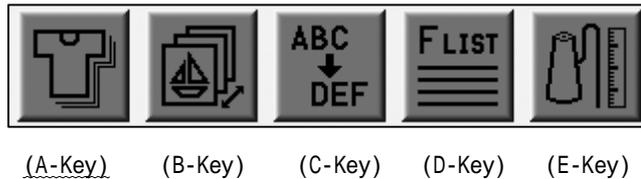
Press the E-Key for the previous screen.

4. Production Statistics

Instructions for displaying Production Statistics for patterns in memory.

1) Refer to the “Design Information” and find it.

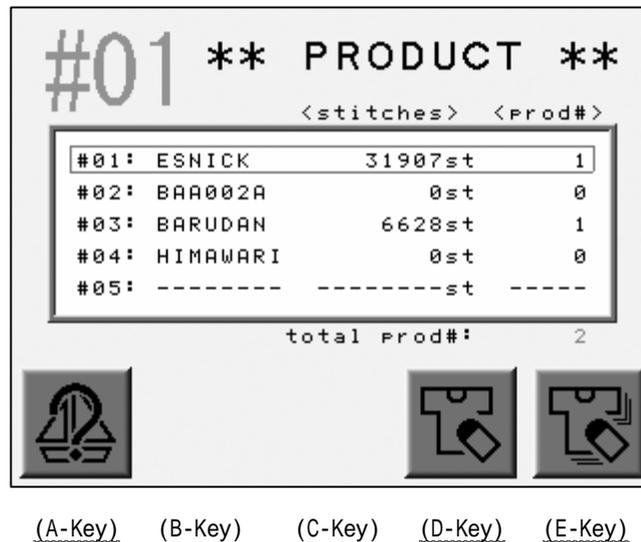
2) Press the A-Key.



3) Shows information on each pattern in memory. Tracks how many times each was sewn, Total stitches sewn for each pattern, and total number of times all patterns in the memory (combined) have been sewn.

Press the D-Key until a long beep is heard, to reset the Stitch count and piece Count for the selected design.

Press the E-Key until a long beep is heard to reset the Stitch count and Piece count for all designs in memory.



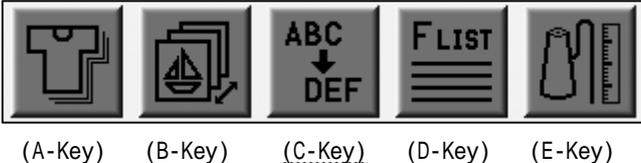
Press the A-Key for the previous screen.

5. Renaming th Design

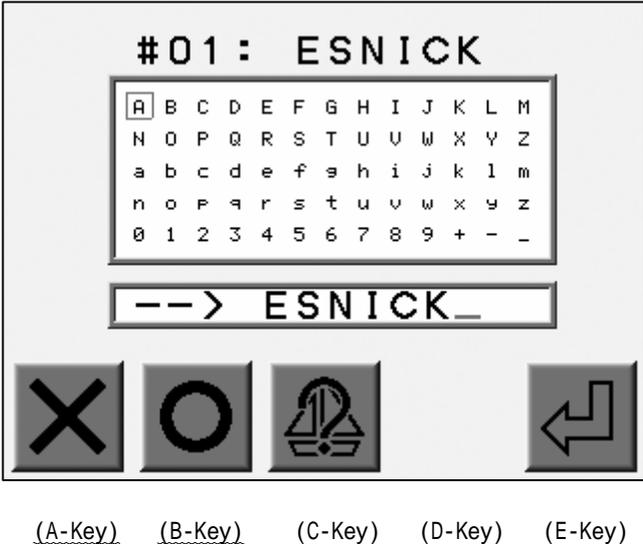
Instructions on how to rename designs in memory

The machine must be out of drive mode in order to rename a design.

- 1) Refer to the "Design Information" and find it.
- 2) Press the C-Key.



- 3) The Naming Screen appears.



Use the Jog Keys to select a letter.

Press the Origin Key or the B-Key to enter the letter. *1

Press the A-Key to delete the last letter.

4) Press the E-Key to save the new design name and and exit the Rename function. *2



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the C-Key for the previous screen.

*1 The design name can have up to 8 characters.

The first letter of the name must be a character, digits can be used after the first character.

When saving the design to either a CF card or a floppy disk the characters are converted to capital letters.

Memory Back-Up does not convert the letters.



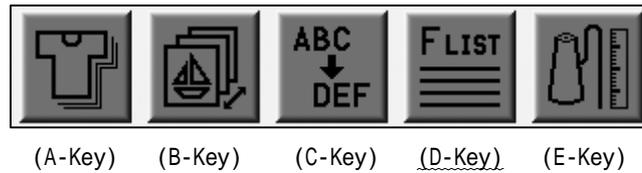
*2 Press the Memory Key to cancel the name change and exit the menu.

6. Changing the color Codes of a Design

Instruction on changing the color codes of the design using F-List.

1) Refer to the “Design Information” and find it.

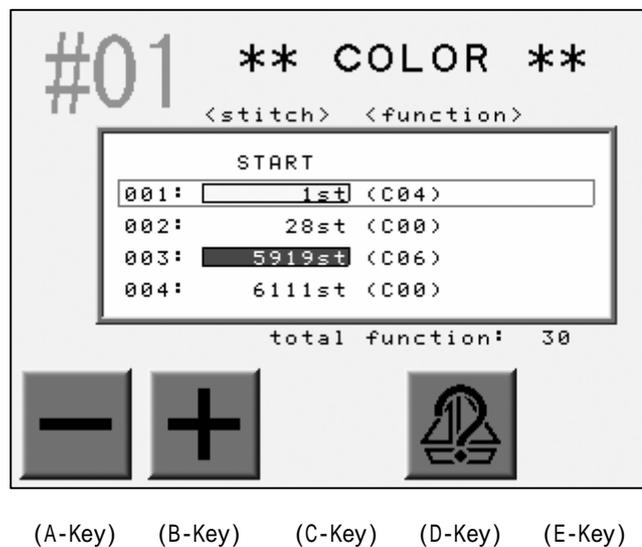
2) Press the D-Key.



3) The list of the color change Function Codes appears.

The list displays the total color change functions

Use the jog keys to select a code.

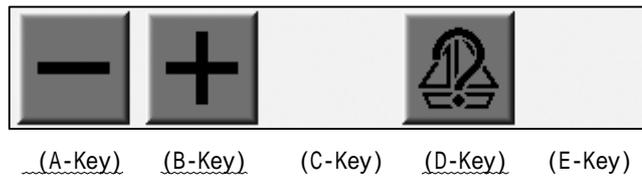


The background color of the stitch count is same as the color in the thumbnail.

Refer to the “Changing the Colors in the Display” to change the color.

4) Press the A or B-Key to change the code.

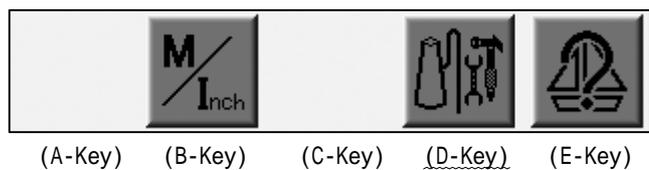
*The code changed would be high lighted.



Press the D-Key for the previous screen.

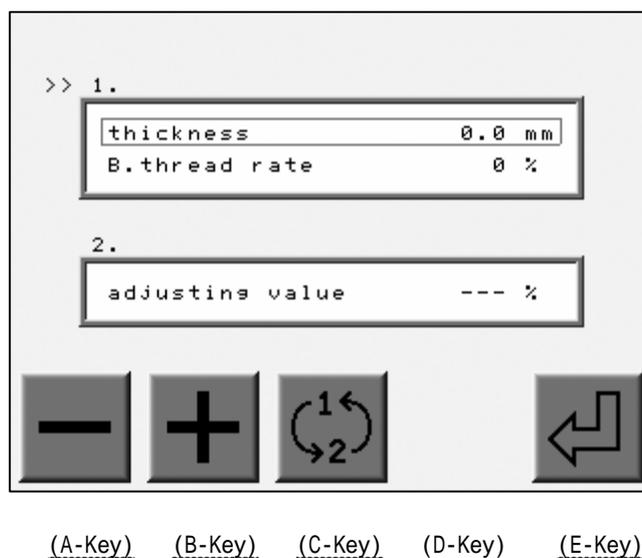
*A design can have up to 400 Color Change Codes.

4) Press the D-Key.



5) The thread consumption settings display.

The thread consumption settings display.



Press the A-Key to decrease the value.

Press the B-Key to increase the value.

Press the C-Key to change the set-Up method. *1

Press the E-Key to enter the value and go back to previous screen.

*1 2 Methods are available. The first is setting the fabric thickness and percentage of the bobbin thread against the top thread. The second is to change the ratio of the calibration.

Item	Function	Range	Default
Thickness	The thickness of the fabric measured in millimeters..	0.0 - 9.9mm	0.0mm
B. Thread Rate	The ratio of the bobbin thread against the top thread in satin stitches.	0 - 100%	50%
Adjusting Value	The calibration ratio of thread consumption.	100 - 200%	100%

8. Deleting a Design

Instructions on deleting a design from memory.

*The machine must be out of Drive mode to delete designs.

1) Press the Memory Key



2) Press the E-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

3) Press the A-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

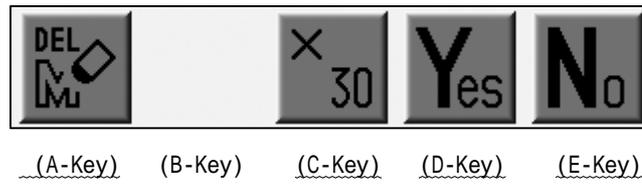
4) Refer to the “Switching Designs” and find the menu.

Use the jog keys to select a design.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

5) Press the D-Key to delete the design file.



Delete all the design files in the memory by pressing the D-Key and C-Key together.

Press the A or E-Key to cancel the deletion and go back to previous screen.

9. CF Direct Drive (Sewign Directly from the CF Card)

9-1. Sewing Directly from the CF Card

Designs stored on the CF card can be sewn directly from the card without loading the pattern into memory

1) Press the Memory Key

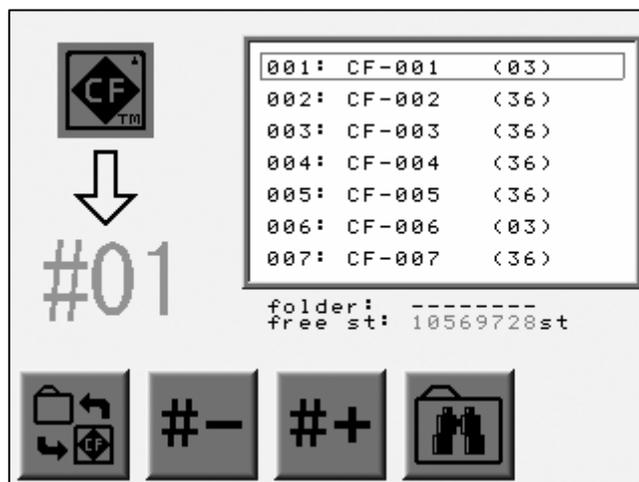


2) Press the A-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

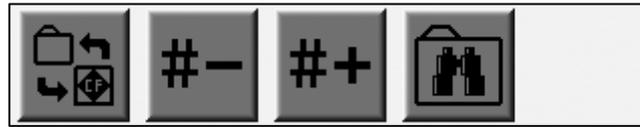
3) The list of Folders in the Compact Flash (CF) Card display.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

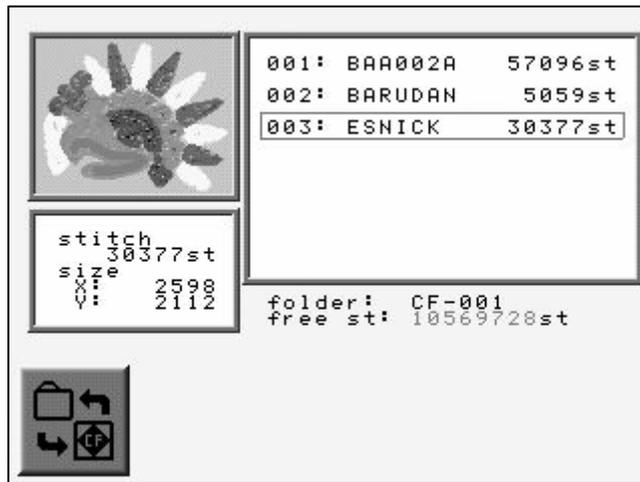
Press the B or C-Key to choose the Memory to load the design.

4) Press the A-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

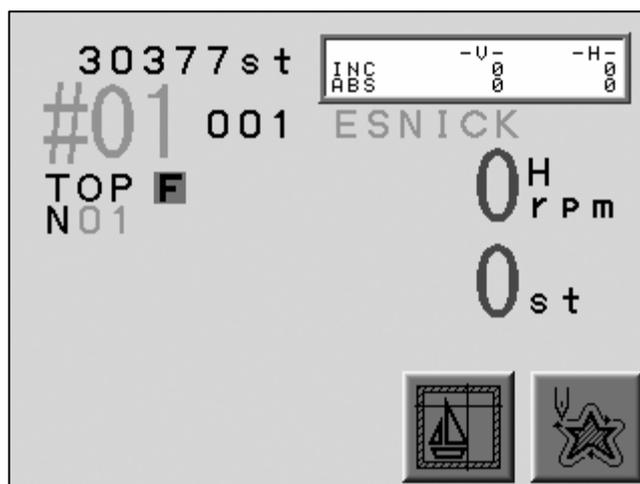
5) The design file is listed in the Folder.
Use the jog keys to select a design.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

6) Press the Drive Key  for the Drive State.

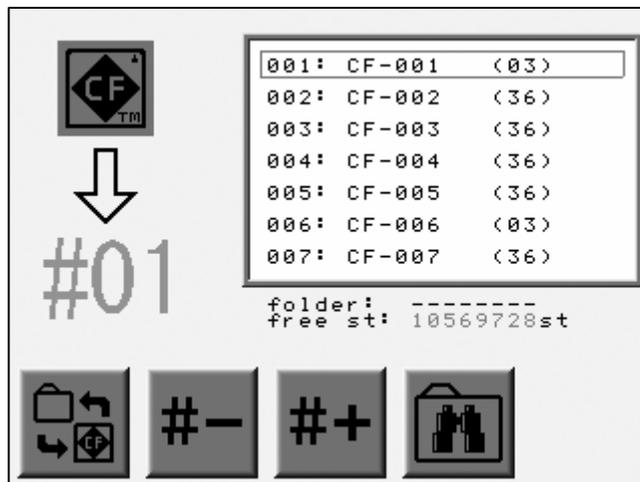
The selected file is loaded and the controller goes into the Drive state.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

9-2. Searching a Design on the Compact Flash (CF) Card

- 1) Refer to the "CF Direct Drive" and find the menu.
- 2) Press the D-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

- 3) The Lettering Menu pops up.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

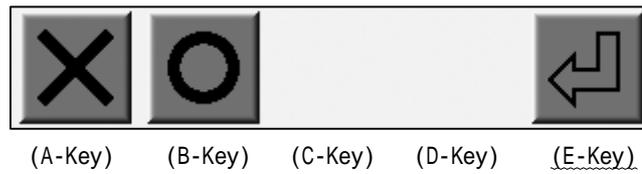
Use the jog keys to select a letter.

Press the Origin Key or the B-Key to enter the letter.

Press the A-Key to delete the last letter.

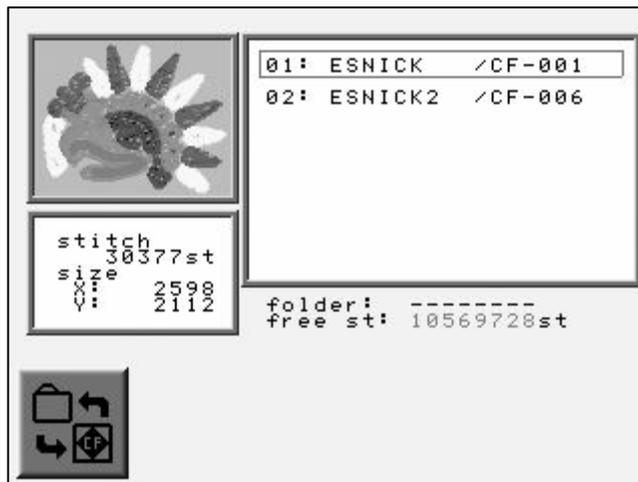
Enter a Design File Name to be searched.

4) Press the E-Key to start searching.



5) The search result appears.

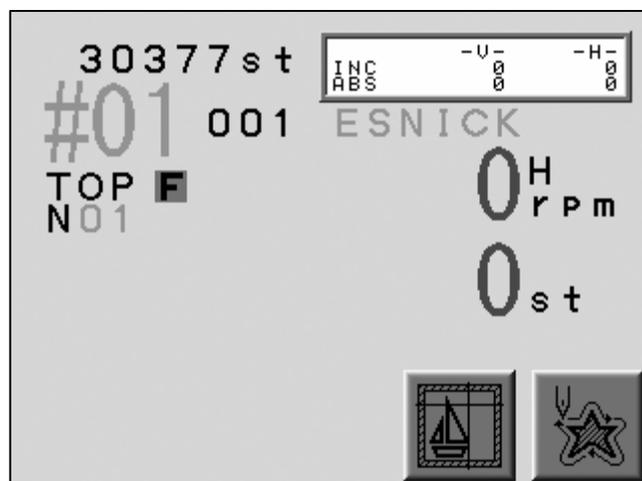
Choose a design file to load with the Jog Keys.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

5) Press the Drive Key  for the Drive State.

The found file is loaded to the Memory and the controller goes into the Drive state.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

10. Design Stitch Processor (DSP)

10-1. Setting up the Design Stitch Processor

The DSP scales the design changing the stitch density.

The DSP also set the Maximum stitch length, the gap between the thread in the Satin/Tatami stitches and the Line Stitch pitch.

1) Press the Memory Key



2) Press the E-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

3) Press the E-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

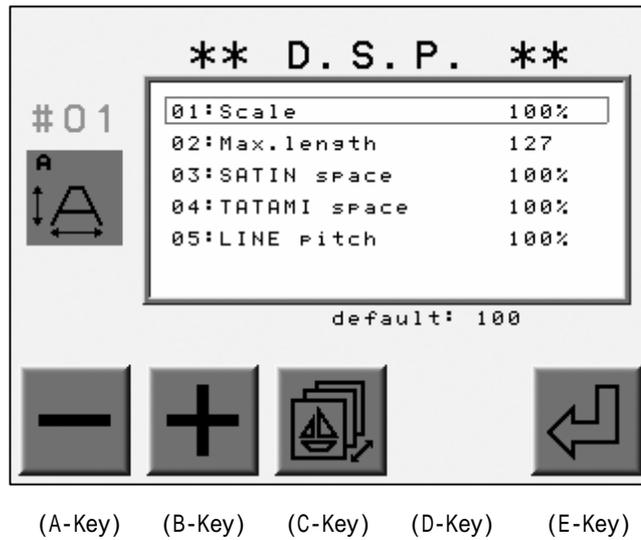
4) Press the C-Key.



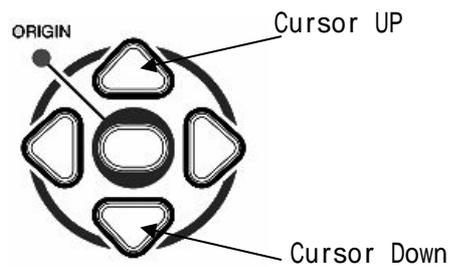
(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

5) The list of the DSP parameters appears.

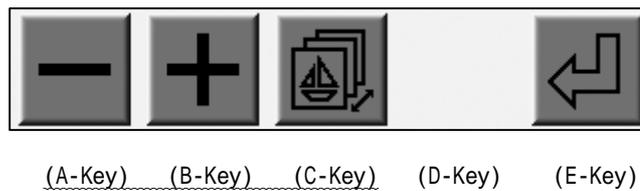
Choose a column with the Jog Keys.



*The Basic Operations

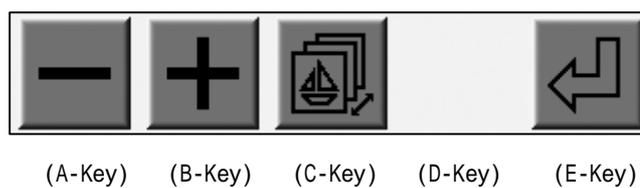


6) Press the A or B-Key to change the value.



Press the C-Key for the previous screen.

7) Press the E-Key.

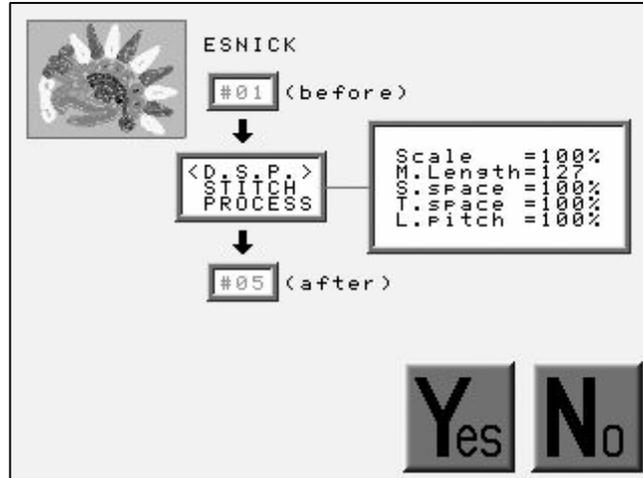


*Delete a design file and create a blank Memory Slot before operating DSP.

*The E-Key would not work when no blank Memory Slot is left.

8) View the No. of the Memory Slots.

(The design to be converted and the one to store the converted design.)



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the D-Key to start conversion.

Press the E-Key to cancel the conversion and go back to previous screen.

9) Press the E-Key to stop the conversion.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

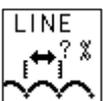
10) Press the D-Key to cancel the conversion.

Press the E-Key to resume the conversion.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

10-2. DSP Parameters

No.& Icon	Item	Function	Range	Def
1 	Scale	Enlarge / Reduction	50 - 200%	100%
2 	MAX. Length	The maximum stitch length	40 - 127	127
3 	SATIN Space	The gap between thread in the SATIN and TATAMI stitch. The larger the gap will be larger.	70 - 130%	100%
4 	TATAMI Space			
5 	LINE Pitch	The adjustment of the stitch length of the line stitches. The larger, The stitch length will be larger.	70 - 130%	100%

Chapter 10. Program

This chapter contains instruction on Program parameters.

1. Changing the Program
2. Setting the Sub-Soft Limit
3. Matrix Embroidery Set Up
4. Program Parameter List

1. Changing the Program Parameters

Program parameters can alter the Scale, Rotation and Origin Return of patterns in memory.

Changes to the Program parameters cannot be made when the machine is in Drive mode.

Program parameters can ONLY be viewed while the machine is in Drive mode.

1) Refer to “Switching Designs” and find the list.

*The list of Program Parameters will not display if the machine is in Drive mode.

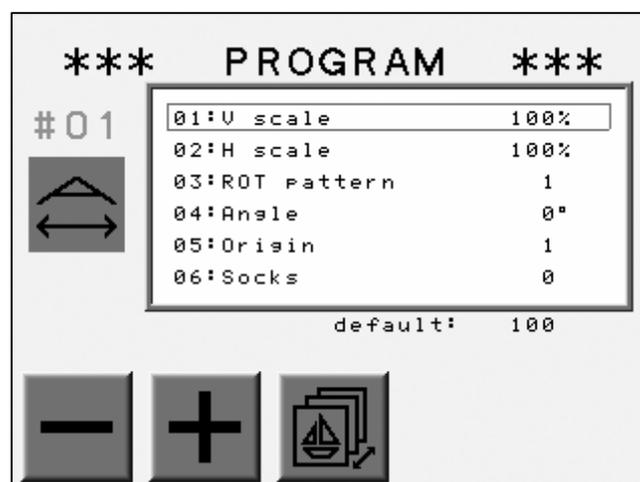
2) Press the C-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

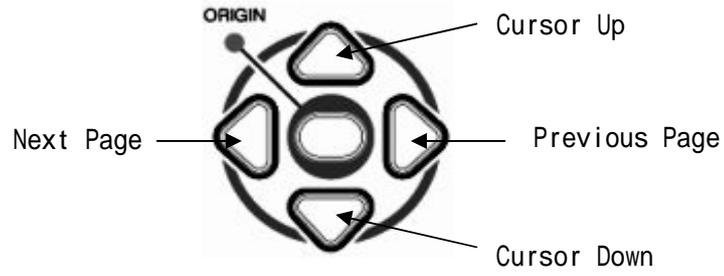
3) The Program List displays.

Use the Joy keys to select a parameter.

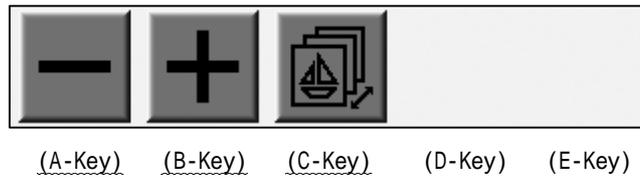


(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

*The Basic Operations



4) Press the A or B-Key to change the value.



Press the C-Key to return to the previous previous menu.

2. Setting the Sub-Soft Limits

The controller memorizes 3 embroidery areas to limit the movement of the Pantograph. This feature is called Sub-Soft Limits.

Register the Lower Left Corner (P1) and Up Right Corner (P2) for each area. The pantograph movement will be limited to the rectangular area created by the 2 corners.

*The registration of the 2 corners is done by moving the pantograph using the Jog keys.

*The area for the Sub-Soft Limit is no larger than the Soft Limit Area in the Machine Condition Parameters (MC).

1) Refer to the “ Changing the Program ” and find the list.

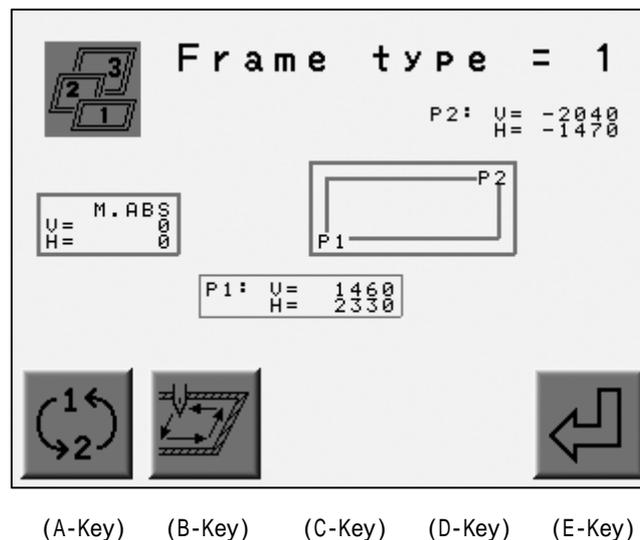
2) Move the cursor to parameter No. 14. “ Frame type ” with the Jog Keys.

3) Choose the value either 1 to 3.

*0 makes the Sub-Soft Limit inactive.

4) Press the Origin Key to display the screen below.

*The screen below is for the value 1 (Sub-Soft Limit 1).



Press and hold the Origin Key for 2 short beeps when the Sub-Soft Limit is turned OFF. It shows the Soft Limit range set in the MC.

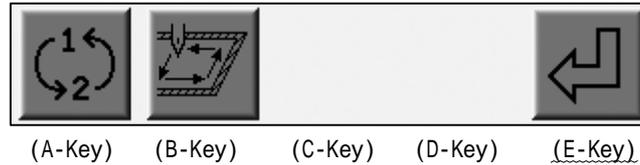
5) Move the Pantograph to find the lower left corner of the area with the Jog Keys.

*Check if the P1 and V, H are surrounded by a rectangular. (P1 is chosen.)

6) Press the E-Key to register the position as P1.

The screen automatically chooses the P2 to change.

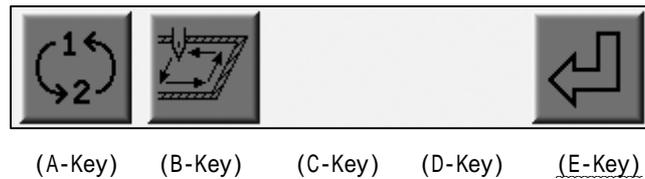
(P2 and V, H are surrounded by a rectangular)



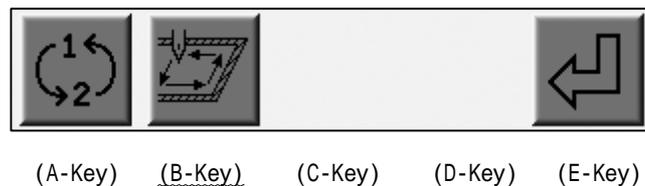
7) Register P2 (Upper Right Corner of the area).

Move the Pantograph to find the Upper Right corner of the area.

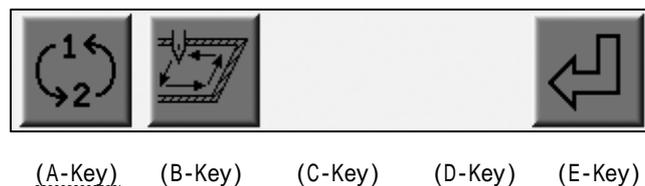
8) Press the E-Key to register the location as P2.



9) Press the B-Key to start tracing the area.



10) Press the A-Key to toggle the setting menu for P1 and P2.



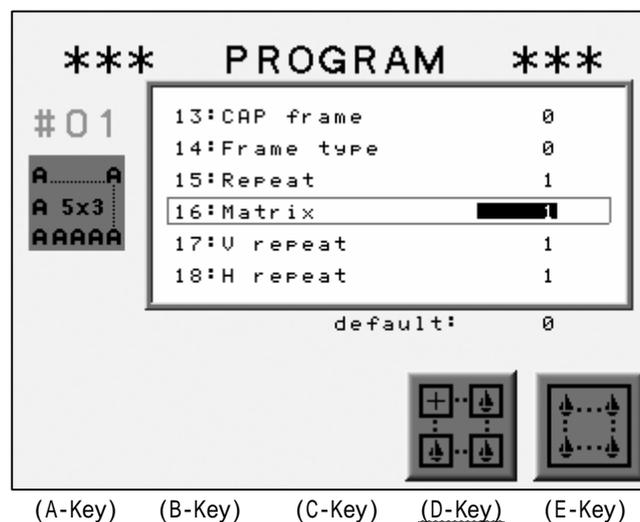
3. Matrix Embroidery Set Up

3-1. Design Repeats

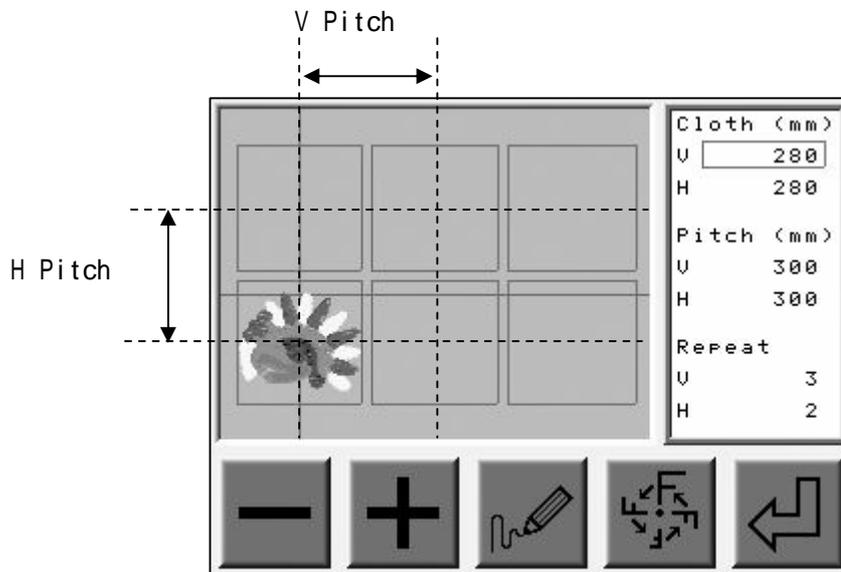
The feature automatically repeats the design in the Embroidery Area.
The layout is calculated from the distance between the centers of the pattern and the quantity entered.

* This setting resets the Program setting #06 : Socks and #15 : Repeat.

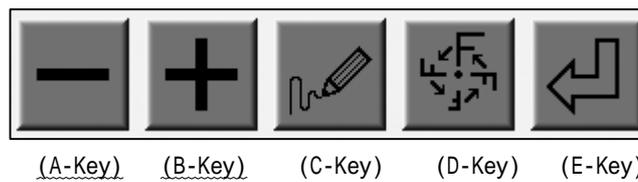
- 1) Refer to the “Changing the Program” and find the list.
- 2) Use the Jog keys to select Program parameter#16.
- 3) Change the value to “ 1 ” .
- 4) Press the Origin Key to find the menu below.
- 5) Press the D-Key.



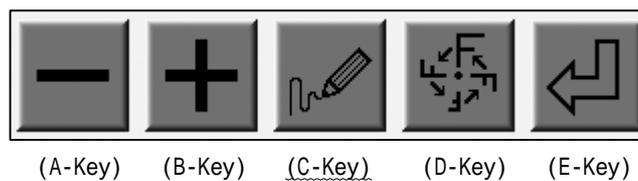
6) The setting menu appears.



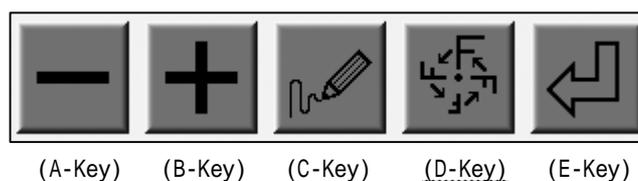
7) Choose a column with the Jog Keys and press the A or B-Key to change the value.



8) Press the C-Key to redraw the screen for the new setting.



9) Press the D-Key to go back to the Program List.



10) Press the E-Key to change the following parameters automatically referring to the new setting.

MC Parameter #17 : V repeat
 #18 : H repeat
 #19 : V space
 #20 : H space



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

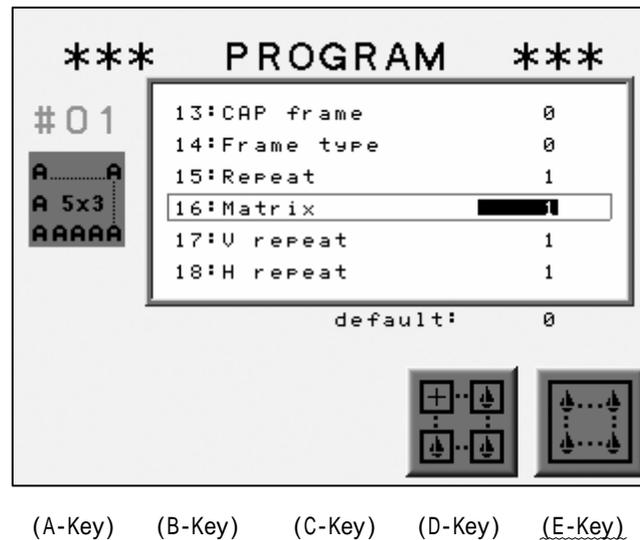
Item		Function	Range	Default
Cloth	V	The Pantograph movement to V(X) in mm.	Regarding the Soft Limit setting	100
	H	The Pantograph movement to H(Y) in mm.	Regarding the Soft Limit setting	100
Pitch	V	The pitch of the pattern to V(X) Direction in mm.	Regarding the Soft Limit setting	0
	H	The pitch of the pattern to H(Y) Direction in mm.	Regarding the Soft Limit setting	0
Repeat	V	The pattern repetition V(X) direction.	1 - 400	0
	H	The pattern repetition H(Y) Direction.	1 - 400	0

3-2. Automatic Repetition Setting

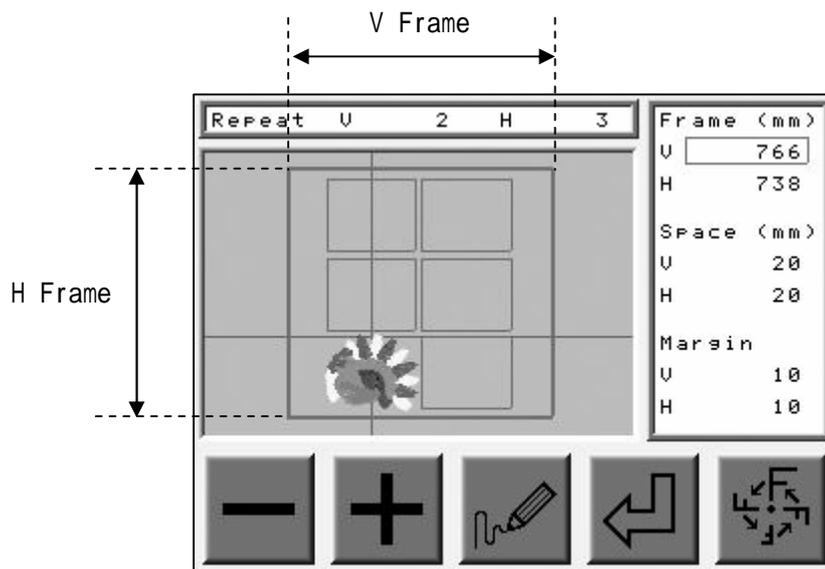
The feature automatically lays the maximum number of patterns in the embroidery area.

*This setting resets the Program setting #06 : Socks and #15 : Repeat.

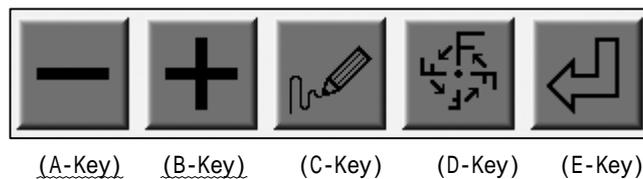
- 1) Refer to the “Changing the Program” and find the list.
- 2) Move the cursor to column #16 with the Jog Keys.
- 3) Change the value to “1”.
- 4) Press the Origin Key to find the menu below.
- 5) Press the E-Key.



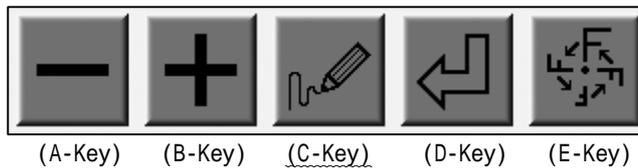
6) The setting menu appears.



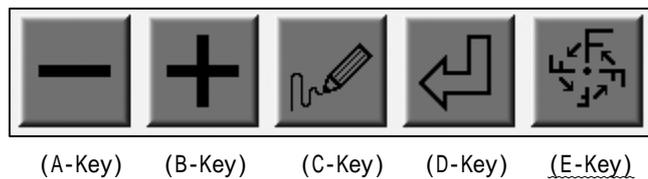
7) Choose a column with the Jog Keys and press the A or B-Key to change the value.



8) Press the C-Key to redraw the screen for the new setting.



9) Press the E-Key to go back to the Program List.



10) Press the D-Key to change the following parameters automatically referring to the new setting.

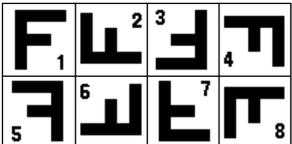
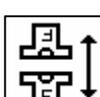
MC Parameter #17 : V repeat
 #18 : H repeat
 #19 : V space
 #20 : H space

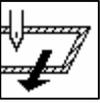
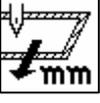
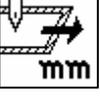


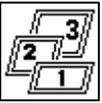
(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

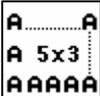
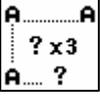
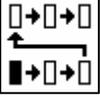
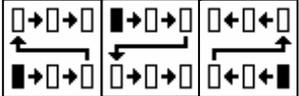
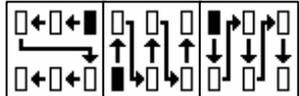
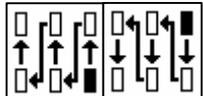
tem		Function	Range	Default
Frame	V	The Pantograph movement to V(X) in mm.	Regarding the Soft Limit setting	Regarding the Soft Limit setting
	H	The Pantograph movement to H(Y) in mm.	Regarding the Soft Limit setting	Regarding the Soft Limit setting
Space	V	The number pattern repeats to V(X) Direction in mm.	-1000 to 1000	0
	H	The number of pattern repeats to H(Y) Direction in mm.	-1000 to 1000	0
Margin	V	Set the margin along the frame to V(X) direction in mm.	Regarding the Soft Limit setting	10
	H	Set the margin along the frame to H(Y) direction in mm.	Regarding the Soft Limit setting	10

Program List

No.& Icon	Item	Function	Range	Default
1 	V Scale Width Scale	Scales the design in the selected direction..	50 - 200 %	100%
2 	H Scale Depth Scale			
3 	ROT(Rotation) Pattern	90 Degree Rotations and Mirror images. 	Pattern 1→ 0 deg. 2→ 90 deg. 3→ 180deg. 4→ 270deg. Mirror Image Pattern 5→ 0 deg. 6→ 90 deg. 7→ 180 deg. 8→ 270 deg.	1
4 	Angle	Rotate in 1 degree increments.	0 - 89 degree	0 deg
5 	Origin	The automatic return to the origin when the origin and the end point are different.	1 : Active 0 : Inactive	1
6 	Socks	Automatically repeat the pattern in different position. The gap between the 2 patterns is set with the Jog Keys after goes into the Drive state. Creating the mirror image or the rotation for the original pattern is available.	0 : Inactive 1 : Active  2: Mirror  3 : Rotation 	0

No. & Icon	Item	Function	Range	Default
7 	Appliqué	When the controller finds the "STOP" code, the Pantograph automatically moves as programmed in the following 2 parameters.	1 : Active 0 : Inactive	0
8 	A. H. Offset	When the "Appliqué" parameter is active(1), the pantograph comes out (H, Positive) and moves to Right (V, Negative) as much as the value set. When A. V. Offset is "0", the Pantograph does not move to side.	-3000 to 3000mm	0mm
9 	A. V. Offset			
10 	Frame	The Pantograph offset at the end of the design.	1 : Active 0 : Inactive	0mm
11 	F. H. Offset	When the "Frame" parameter is active, the Pantograph comes out (H, Positive) and moves to Right (V, Negative).	-3000 to 3000mm	0mm
12 	F. V. Offset			
13 	CAP Frame	The setting for the Cap frames. The setting automatically changes the speed of the machine and rotates the design 180 deg.	0 : standard 1-3 : Cap Frame	0

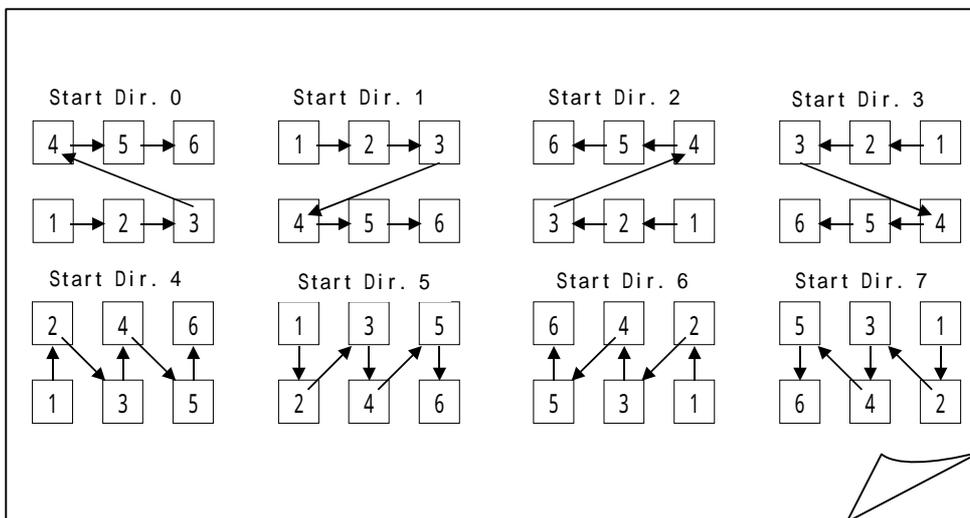
14 	Frame Type	Choosing the Sub-Soft Limit. 0 for not using it.	0 - 3	0
---	------------	--	-------	---

No. & Icon	Item	Function	Range	Default
15 	Repeat	The parameter sets the Repetition of a design.	1 - 201 201 for infinite	1
16 	Matrix	It activates the automatic layout.	0 : Inactive 1 : Active	0
17 	V(X) Repeat	Sets the repetition of the pattern in the Matrix layout.	Total of repetition (V + H) = 400	1
18 	H(Y) Repeat			
19 	V Space Width Direction	Sets the gap between the pattern.	-1000 to 1000mm	0mm
20 	H Space Depth Direction			
21 	Start Dir.	The order to sew patterns.  0 1 2  3 4 5  6 7	0 - 7 The black rectangular represents the first pattern to be sewn.	0

No. & Icon	Item	Function	Range	Default
22 	Swing Type	Sets the direction to scale the stitch length with the "Swing" parameter in the "MC" setting.	0 : V and H 1 : V(X) Only 2 : H(Y) Only	0

Matrix Sewing Order

Example. 3 patterns in width and 2 patterns in depth



Chapter 11. Sewing

This chapter contains information on sewing patterns in memory.

1. Start Point
2. Drive Mode
3. Speed
4. Trace
5. Float
6. High Speed Float (By Stitch Count)
7. High Speed Float (By Color Change Code)
8. Color Change Code (Teaching)
9. Function Codes
10. Stitch Back
11. Automending
12. Stand-By Mode (Resume)

1. Start Point

Instructions on registering the design start point. Each design can have its own start point.

- 1) Select a design from the Memory, use the Jog keys to the location where the design should start sewing.
- 2) Press the Drive key to put the machine in Drive mode. The start point is registered for the design.

Refer to “Drive Mode” for the details.

*The design first to be sewn does not have the Start Point.

- 3) Press the Origin Key to move the Pantograph to the Start Point already registered.

*In the Stand-By state, the Pantograph can move to the Start Point of each design chosen with the Origin Key.

*The Pantograph moves to the machines origin.

2. Drive Mode

Instructions for putting the machine in Drive mode.

The machine can only sew when the machine is in Drive mode.

1) Move the Pantograph to the Start Point with the Jog Keys,

Refer to the “ Start Point ” .

2) Press the Drive Key  to go into the Drive mode.



3) Push the Start or Stop Switch to start/stop the sewing.

4) Press and hold the Drive Key for 3 seconds to exit Drive mode.

*The controller beeps before going out.

*Going out to the Stand-By mode.

3. Speed

Instructions on changing the machine speed. The sewing speed can also be changes while the machine is sewing.

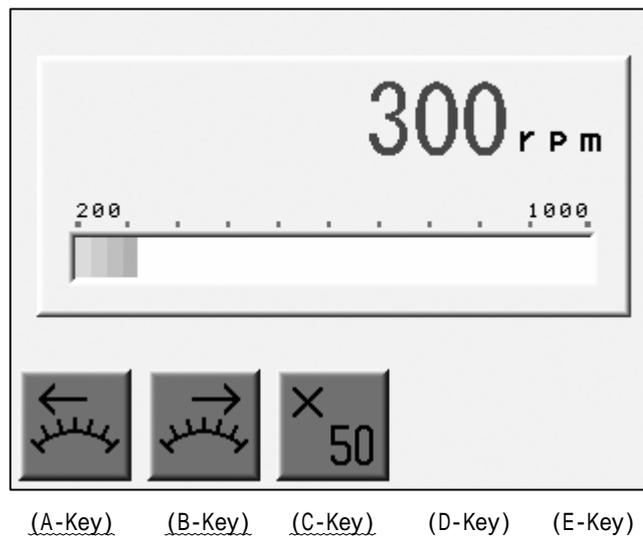
1) Press the Speed Key



2) Speed Menu appears.

Press the A or B-Key to change the speed by 10 rpm step.

Press and hold the C-Key and then press A or B-Key to change the speed by 50 rpm step.



4. Perimeter Trace

4-1. Perimeter Trace

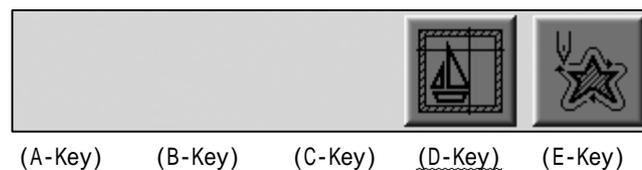
*Be sure the Frame Limit parameters in the MC (Machine Condition) are correctly set before using this feature.

The Pantograph make a 4 corner trace of the design to ensure proper placement of the pantograph.

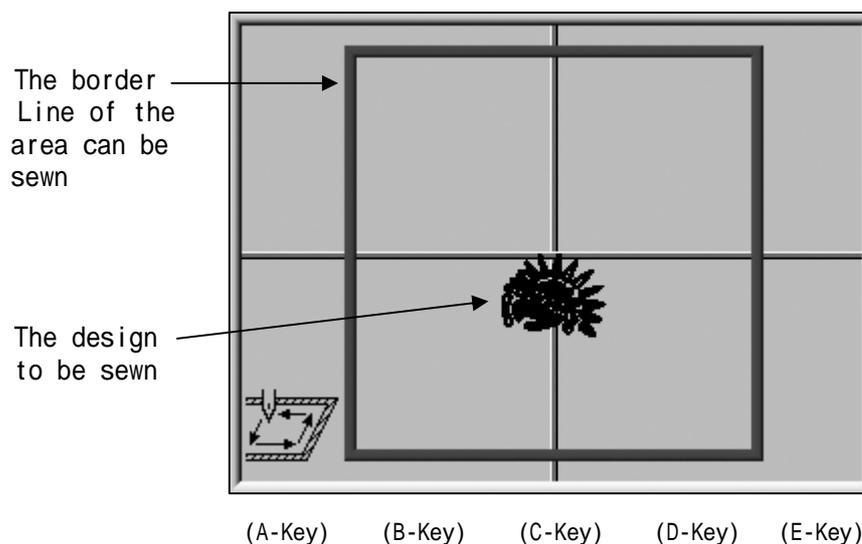
This feature is only available in Drive mode and SHOULD be done before sewing.

*The 4 corner trace takes into consideration any of the Program parameters that may have been altered.

1) Press the D-Key.

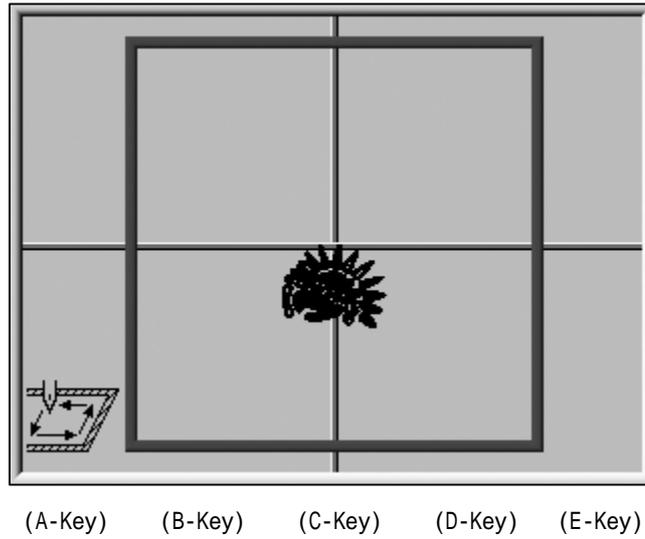


2) The Trace Screen appears.



The screen shows whether the design fits into the area traced.

3) The design moves as the Pantograph moves with the Jog Keys.



The Border Line normally is blue.

It turns yellow then red, as the design gets closer to the line.



4) Press the A-Key to start the Trace.



*If the design interferes the border, the machine makes a beep and stops the trace to the direction. Relocate or resize the design as it fits in the border.

4-2. Outline Trace

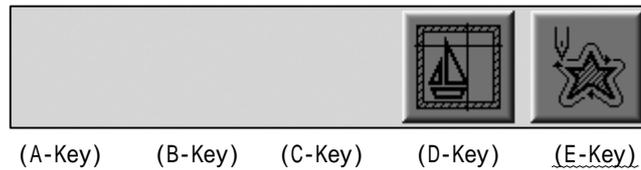
*Be sure the Frame Limit parameters in the MC (Machine Condition) are correctly set before using this feature.

The Pantograph traces the outline of the design to be sewn to see if the machine is sewing at the right position and right size.

This feature is only available in Drive mode and BEFORE sewing begins.

*The outline reflects the Program parameters that have been changed.

1) Press the E-Key to start the Outline trace.



*If the design does not fit within the border, the machine makes a beep and stops the trace in that direction. Re-position the pattern or resize the design so that it fits within the border.

5. Float

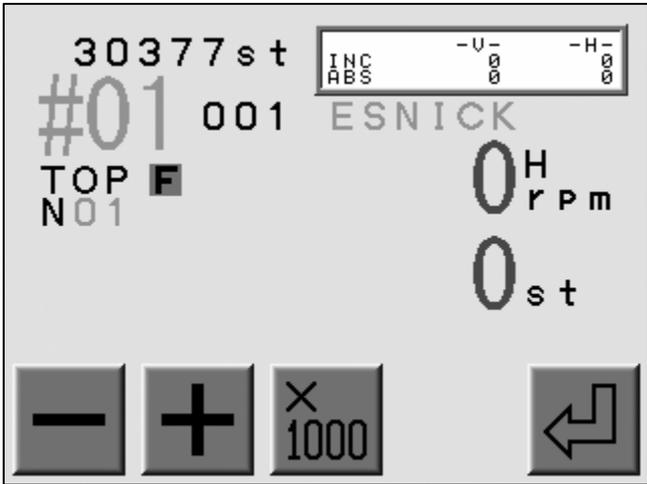
Float moves the pantograph through the design without sewing.

1) Press the Float Key



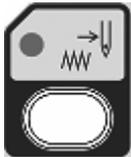
2) The Float Screen appears.

Push the Start Switch for the Float.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

*Stop the machine and press the Float Key



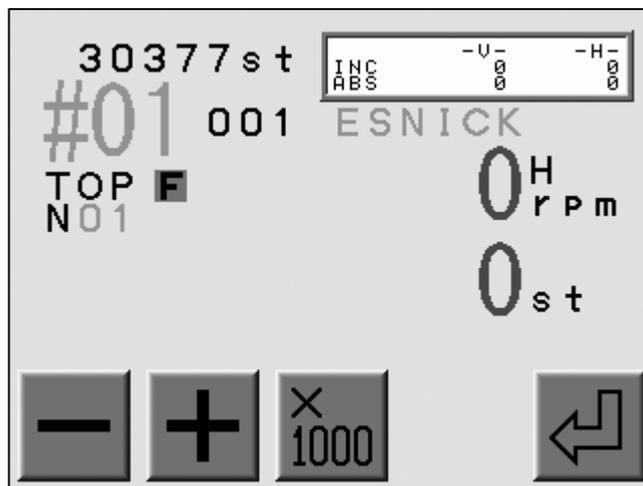
to finish.

6. High Speed Float (By Stitch Count)

Instructions on floating to a specific stitch count.

- 1) Refer to the "Float" and find the Float Screen.
- 2) Press the A or B-Key to change the stitch count by 1.
(The stitch count on the screen blinks)

Press and hold the C-Key then press the A or B-Key to change the stitch count by 1000.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

- 3) Press the E-Key to move the Pantograph to the stitch number selected.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

*Press the Float Key



to finish.

8. Color Code Change (Teaching)

Instruction on changing the color sequence while sewing.

1) Press the Color Change Key



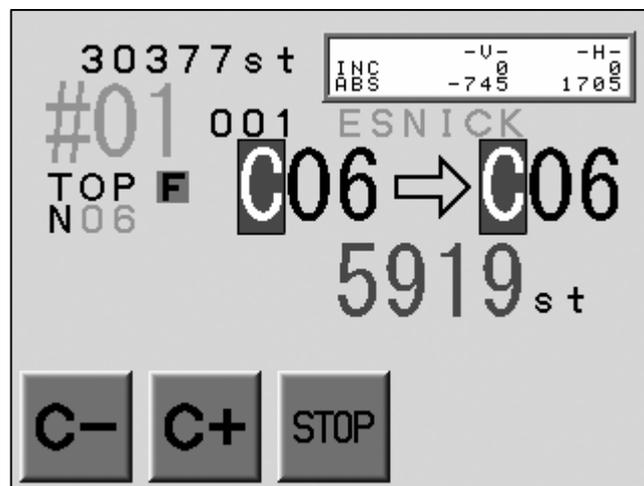
2) Push the Start Switch.

3) The sewing stops at the stitch count where the Color Code or the Stop Code is appointed.

4) The controller shows the current code appointed.

Press the A or B-Key to change the Color Code.

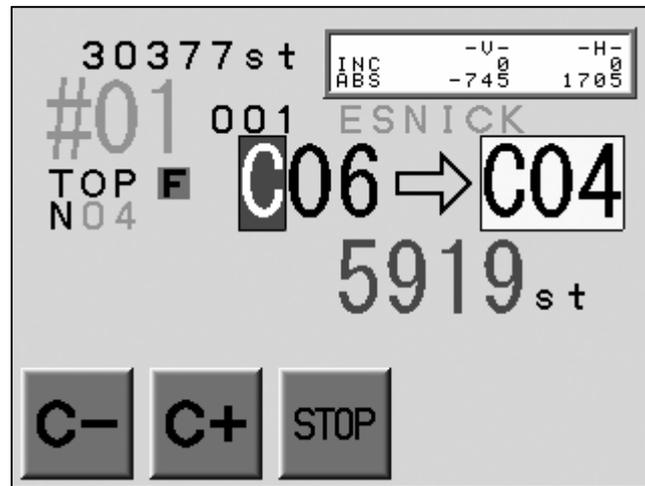
Press the C-Key to convert it into the Stop Code.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

5) Push the Start Switch to resume the sewing with the new code.

The figure below shows how the Color Code changes.
C06 → C04



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

*Stop the machine and press the Color Change Key



to finish.

9. Function Codes

Instructions on changing all functions codes while the machine is sewing.

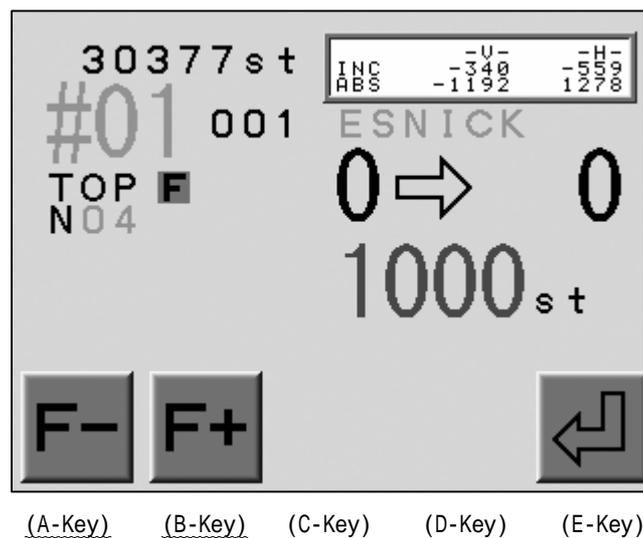
Use this feature with the High Speed Float (By Stitch count) to change the Function code of the desired stitch.

Refer to the “Function Codes” for the detail of the Function Codes.

1) Press and hold the Color Change Key  for 2 short beeps.

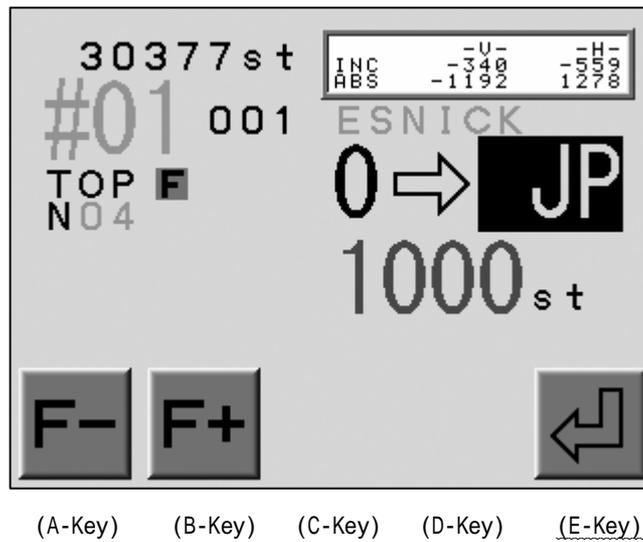
2) The Function Code Screen appears.

Press the A or B-Key to change the Function Code.



3) Press the E-Key to update the Memory for the new Function Codes.

The figure below shows how the function code changes.
None (Standard stitch) → Jump(JP) stitch



*Press the Color Change Key to finish.



10. Stitch Back

Instructions on back tracking the design in order to repair the embroidery.

1) Stop the machine with the Stop Switch.

2) Push and hold the Stop Switch to start the Stitch Back.

The Pantograph goes back the sewing track and stitch count will follow.

3) Hold the Stop Switch as it Stitch Back for 30 stitches, it continues it even the Stop Switch is released.

Push the Start Switch to stop the Stitch Back.

The Pantograph can go further back by holding the Stop Switch again.

4) Push the Start Switch to cover the stitches already sewn with the new stitches.

11. Automending

The Automending is the Stitch Back feature for the appointed sewing head.

Press and hold the Automending Switch at the Tension Box while the machine stops.

The Pantograph back track the sewing and the stitch count will follow.

The Pantograph stops back tracking, as the Automending Switch is released.

The sewing head on the Automending has the red LED on the Tension Box lit.

The Start Switch starts the cover sewing with the appointed sewing head only.

- 1) Stop the machine with the Stop Switch.
- 2) Press and hold the Automending Switch at the Tension Box on the sewing head which need to do the cover sewing. Release the Stop Switch as the Pantograph reaches to the position desired.
- 3) Push the Start Switch to start the cover sewing with the sewing head.
- 4) The MC settings work after the Automending.

#12 : Overlap - Overlap stitches after the Automending, Default : 4

#13 : Auto Start - The automatic start after the Automending, Default : Inactive

The Auto Start option makes the machine stops after Automending or not.

When it stops : The machine stops where the Automending ends and makes Stitch

Back automatically for the stitch count which the Overlap parameter sets.

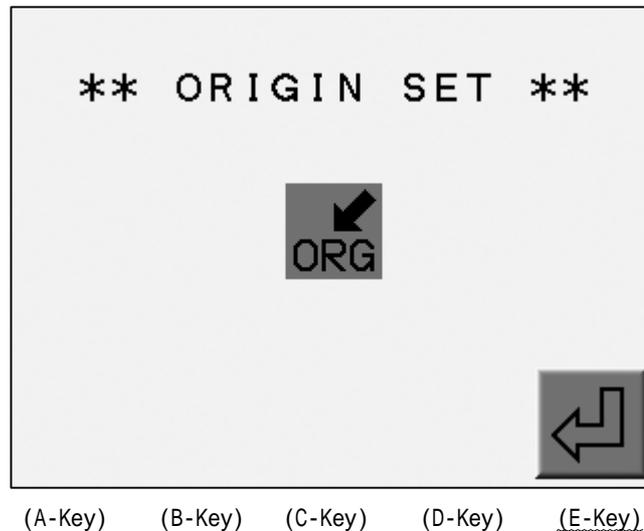
When it goes on : The machine would not stop at the end of the Automending and All the heads starts sewing.

*Back track with the Automending and then hold the Stop Switch for the Stitch Back when many stitches need Automending. The Stitch Back back tracks without holding the Stop Switch after 30 stitches.

12. Stand-By State (Resume)

When power to the machine is cut while in the Drive state, the machine resumes sewing in the position where it had left off. This is called Stand-By.

- 1) Turn ON the power of the machine.
- 2) Press the E-Key to search the Origin.

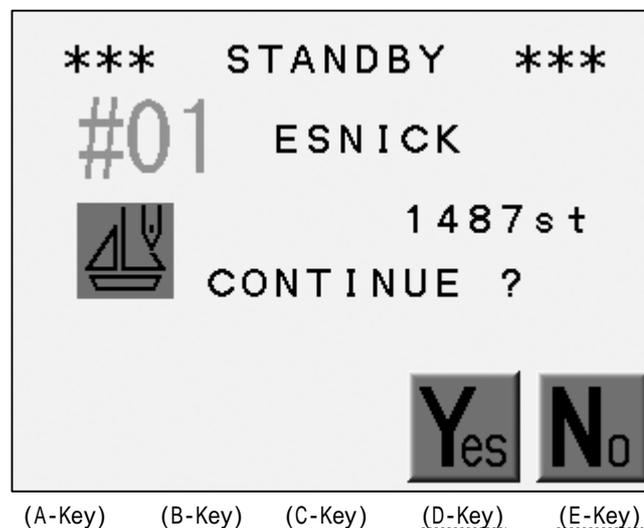


- 3) The Stand-By Screen appears.

Press the D-Key to continue the sewing.

Press the E-Key to exit Stand-By.

The machine does not continue the sewing, until the Start key is pressed.



Chapter 12. Teaching

This chapter contains instructions on the Teach feature.
A quick and easy way to change codes before sewing.

1. Color Codes
2. All Function Codes

1. Color Codes

Searching Color Change codes and changing them.

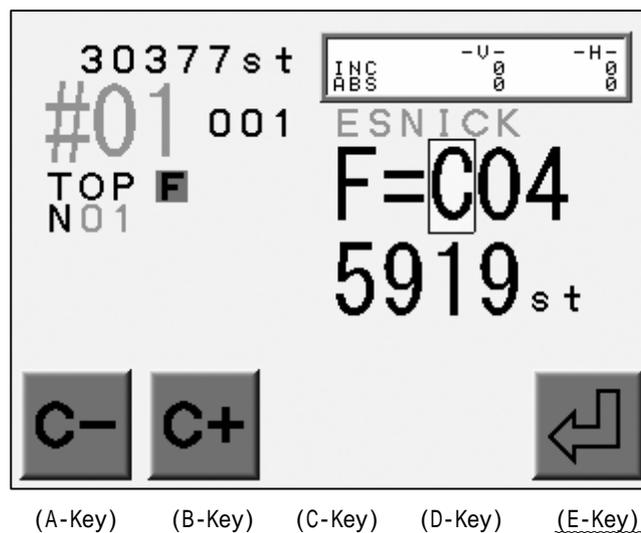
The machine must be out of Drive mode.

Refer to the "Function Codes" for the description of the Codes.

1) Press the Color Change Key  .

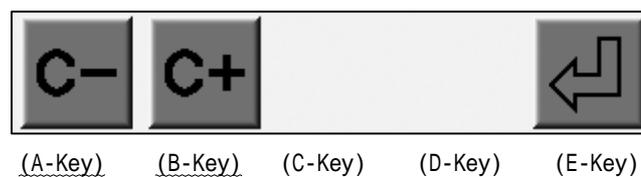
2) The Color Code Screen displays.

Press the E-Key to search the next Color Change Code.



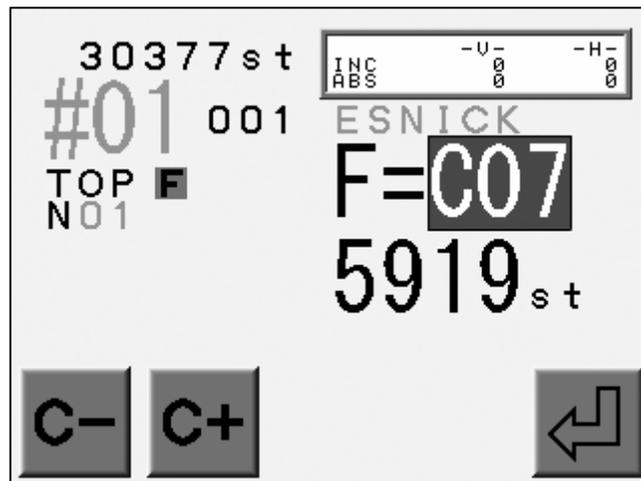
*The screen automatically closes if no Color Change is found.

3) Press the A or B-Key to change the Code.



4) Press the E-Key to save the change and search next Code.

The figure below shows how the Code was changed. → C07



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

2 . All Function Codes

It is also possible to change all function codes in a design with the Teach function.

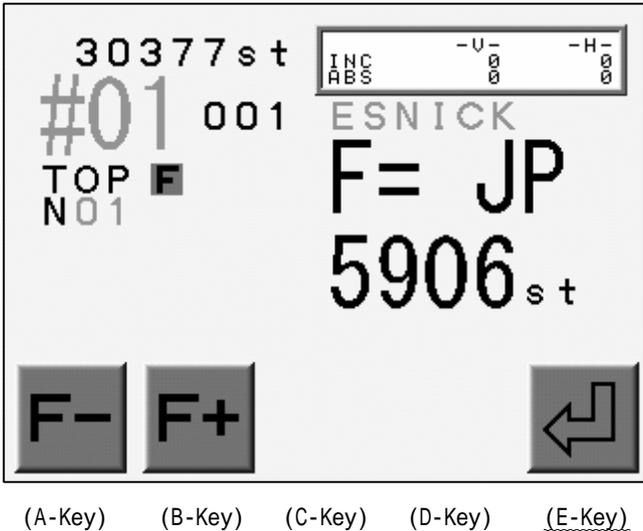
The machine must be out of Drive mode.

Refer to the “Function Codes” for the descriptions of the Codes.

1) Press and hold the Color Change Key  for 2 short beeps.

2) The Function Code Screen Appears.

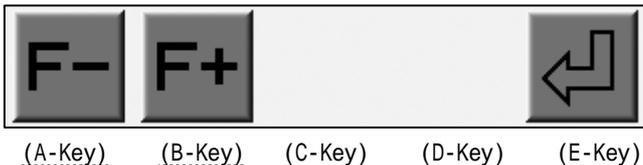
Press the E-Key to search the next Code.



*The screen automatically closes if a function code is not found.

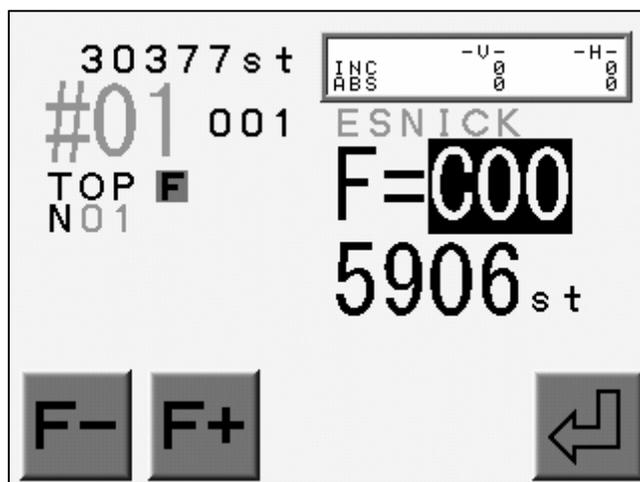
*It searches only consecutive jumps more than the “Trim Jump” setting in the “MC”. The machine automatically trims the thread when the consecutive jumps more than the setting exists in the design.

3) Press the A or B -Key to change the Function Code.



4) Press the E-Key to save the change and search the next Function Code.

The figure below shows how the Function Code was changed. → C00



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Chapter 13. MC (Machine Condition)

This chapter contains information on the Machine Condition Parameters.

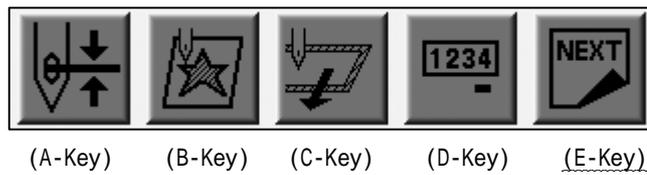
1. Changing Machine Conditions (MC)
2. Resetting Machine conditions (MC)
3. Machine Condition (MC) List

1. Changing the Machine Conditions

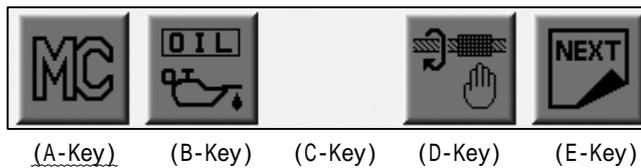
Instructions on how to change the Machine Condition parameters.

1)  Press the Manual Key.

2) Press the E-Key.

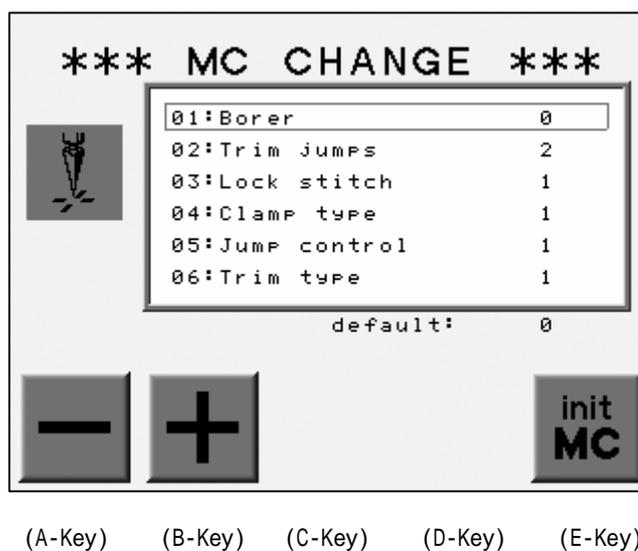


3) Press the A-Key

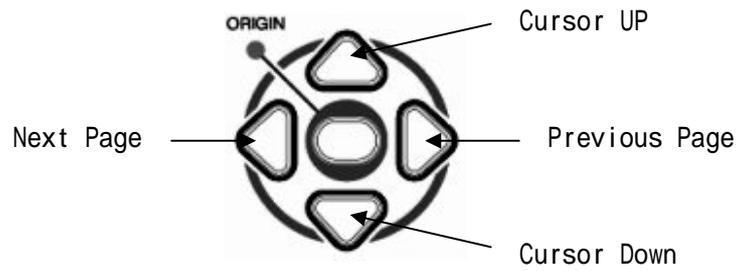


4) The Machine Conditions (MC) List displays.

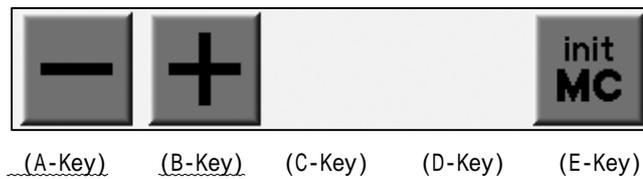
Use the jog keys to select a parameter.



*Basic Operations



5) Press the A or B-Key to change the value.

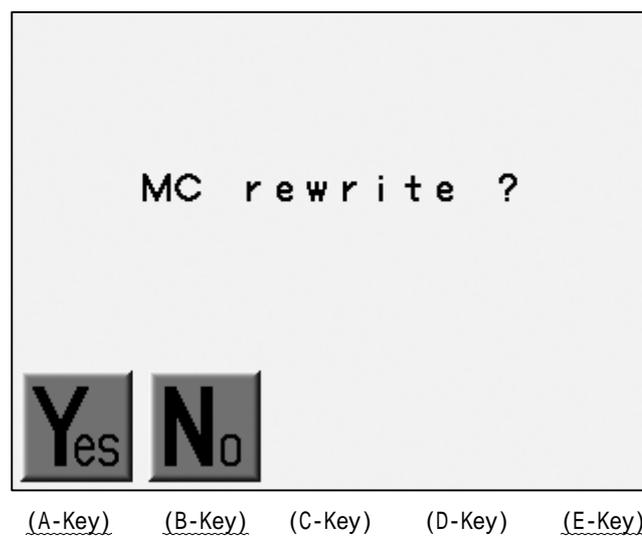


*The new values are not saved at this time. They are saved when MC is exited.

*The new values would not be valid if the power is cut before saving.

6) Press the Manual Key  when all the settings are done.

7) Press the A-Key to save the new values.



Press the B-Key to cancel the change and close the list.

2. Resetting the Machine Conditions

Instructions on resetting the machine conditions to the factory defaults.

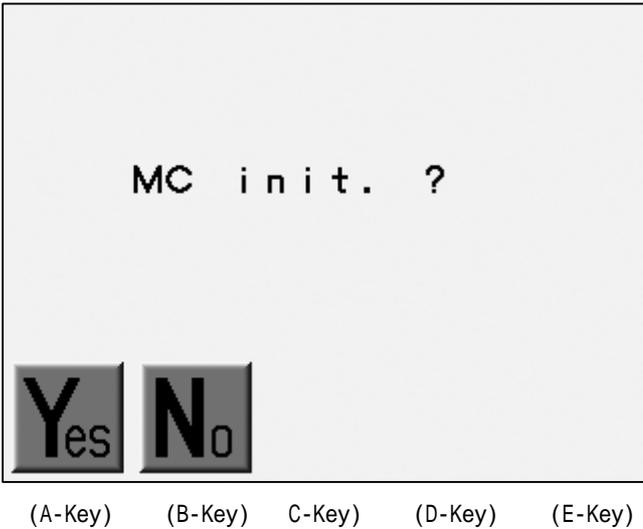
The machine must be out of Drive mode.

1) Refer to the “MC Change” to find the MC List.

2) Press and hold the E-Key for 2 short beeps.

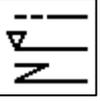
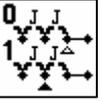


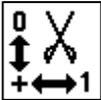
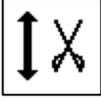
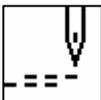
3) Press the A-Key to initialize the MC Parameters.

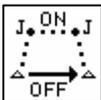
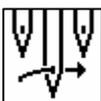


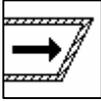
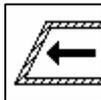
Press the B-Key to cancel the initialization.

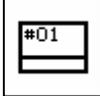
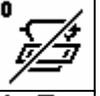
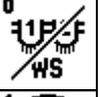
3. MC List

No. & Icon	Item	Function	Range	Default
1 	Borer	Enter the needle number that has the borer. 0 : No borer used	0 - Max Needle No.	0
2 	Trim Jump	Controls the number of jump stitches above which the thread trimmer will cut the thread. If set at 3, when the machine sees 3 consecutive jump stitches it will jump and trim. 0 : No trimming for jumps	0 - 9	2
3 	Lock Stitch	On starting up after a trim, the machine does lock stitches in the following manner. 1 : Split stitch 2 : Triangle stitch 3 : Reverse stitch 4 : No lock stitch Add 10 to the values above to create a stitch and convert it into a lock stitches.	1 - 4 & 11 - 14	1
4 	Clamp Type	Controls the thread clamp when the machine starts sewing after a trim. 1 : Opens for 1 st stitch, Close at the DBC. Opens for 2 nd stitch. 2 : Opens for 2 nd stitch 3 : Opens for 1 st stitch	1 - 3	1
5 	Jump Control	Inactive	0 or 1	1
6 	Trim Type	0 : Stops trimming 1 : Moves the Pantograph 0.4mm to right before trimming. 2 : Reverse the Pantograph then trimming. 3 : Pull the thread with the Slider then trimming as 1. 11 : Same as 1 only the thread behind the fabric is shorter.	0 - 11	1

No. & Icon	Item	Function	Range	Default
7 	Trim Dir	The direction of the pantograph after a trim. 0 : H(Y) direction to the Absolute Origin 1 : V(X) direction to the Absolute Origin	0 or 1	0
8 	Trim Vector	Determines the distance in mm that the pantograph moves before a trim. (0.1mm increment)	0 - 50	15
9 	Low Speed	Selects the speed at which the Low Speed function will operate.	200 - Max .Speed	450rpm
10 	Jump Divide	Selects the maximum stitch length that the machine sews in single head revolution. (0.1mm increment)	30 -127	127
11 	Stitch Back	Controls the number of stitches the machine will automatically back up at a thread break.	0 - 7 st	4 st
12 	Overlap	Designates the number of stitches to overlap during aubomend.	0 - 7 st	4 st
13 	Auto Start	If on, during autotmend, the machine automatically starts all heads without the operator moving the Start/Stop bar when it has sewn the total number of stitches to mend. Use with Caution! 0 : Starts after the Automending Stops after the Appliqué Framing 1 : Stops after the Automending Stops after the Appliqué framing 2 : Starts after the Auto mending Starts after the appliqué Framing. 3 : Stops after the Automending Starts after the Appliqué framing.	0 - 3	1

No. & Icon	Item	Function	Range	Default
14 	Swing	The distance in tenths of millimeters that is added or subtracted from the length of the stitch	-5 to 5	0
15 	Frame Start	Determines when the pantograph starts to move in relation of the needle (45 - 135	70
16 	S. Frame (Spectacle Frame)	Sets the machine up for a spectacle frame allowing to execute pantograph movements exactly as programmed. 0 : Off 1 : Makes jumps as programmed. Origin return, Trace prohibited. 2 : Makes jumps as programmed. Origin return, Trace allowed. *The Jog Key operation is always allowed.	0 - 2	0
17 	Needle Down	Determines if the needle is lowered after a thread break, for easier threading. 1 : Active 0 : Inactive	0 - 1	1
18 	Appliqué	Sets presser foot height when Appliqué command is executed. Parameter is set in degrees.	60 - 120	80
19 	T. Break	The machine is designed to stop automatically when top thread is broken. Value determines the number of consecutive thread break detections before stopping.	1 ~ 9	3

No. & Icon	Item	Function	Range	Default
20 	0 Admit	Determines the number of 0 data stitches allowed when the pattern is read into memory. 0 : No 0 data allowed. 1 - 8 : The consecutive Null data as set value allowed. 9 : Loads all Null data	0 - 9	0
21 	Combine Data	Determines the smallest stitch length allowed when the pattern is read into memory. Stitches smaller than the allowed length are combined into larger stitches. 0 : No combination. 1 - 9 : Combines the stitch smaller than set length. (0.1mm/unit) Ex. The setting 5 combines the 0.4mm or smaller.	0 - 9	0
22 	Right Limit	Allowable distance the pantograph can move to the right of the mechanical origin.	0 - 3200mm	500mm
23 	Left Limit	Allowable distance the pantograph can move to the right of the mechanical origin.	0 - 3200mm	500mm
24 	Back Limit	Sets back soft limit - allowable distance panto can move to the front of the mechanical origin.	0 - 3200mm	500mm
25 	Front Limit	Sets back soft limit - allowable distance panto can move to the back of the mechanical origin.	0 - 3200mm	500mm

No. & Icon	Item	Function	Range	Default
26 	LCD Mode	Sets the background color scheme. 0 : Top-Standard, Bottom-Standard  1 : Top-Standard, Bottom-The Icon color 	0 - 1	0
27 	LCD Bright	Sets the brightness level of the LCD screen.	1:Dimmest 2:Normal 3:Bright	2
28  	Roll to Roll	Activates the Roll-to-Roll feature. *Factory Option 0 : Inactive 1 : Active	0 or 1	0
29  	WS System	Selects use of the WS system. 0 : Inactive 1 : Active	0 or 1	0
30 	Clamp Frame	Not Active	N/A	N/A

No. & Icon	Item	Function	Range	Default
31 	V. Clamp	Not Active	N/A	N/A
32 	H. Clamp			
33 	Frame Option	<p>The Servo Motor parameter setting for each frame.</p> <p>0 : Portal Frame 1 : Spider Frame 2 : One-Touch Frame</p> <p>*Cannot change in the Drive state.</p>	0 - 2	2
34 	Sequin Size L (Left hand Device)	<p>Adjust the feeding stroke of the Sequin Device.</p> <p>*Factory Option</p> <p>Ex. 17 → Sequin Size D5 30 → D9</p>	0 - 50	0
35 	Sequin Size R (Right hand device)			
36 	Special MC	It leads to the setting for the special models.	N/A	N/A

Chapter 14. Network

This chapter contains information on utilizing the optional networking system.

*LAN Boards are the extension board equipped with an Ethernet Port.

1. Before Using the Network System
2. Registration of the Operator Code
3. Break Call
4. Operator Call
5. Time-Out
6. Downloading Design (Direct Download)
7. Downloading Design (Scheduled Download)
8. Scheduling
9. Information on the Designs Scheduled
10. Automat ID
11. LAN Board Set-Up
12. Initializing the LAN Board
13. LAN Board Parameters

1 . Before Using the Network system

This feature is only available for the machine with the LAN Board.

1) Introduction

A network between a Server (PC) and embroidery machines through LAN.

*LAN Board for each machine required.

The advantages of the Network System

The server can send designs to designated machine.

Operators can download the designs from the Server.

The machines can upload the designs to the Server.

The Server logs the machine status on a real time basis.

The Network System automatically recovers the connections between the Server and the embroidery machines.



The blinking LED on the Network Key shows that the Network has been made.

*It turns OFF when the Network is broken.

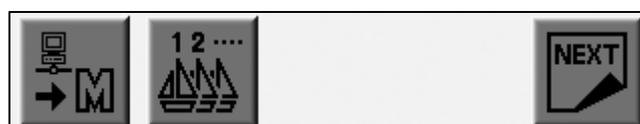
2) The Operations

The Network has 2 major functions.

Logging the machine status



Uplaoading/Downloading the designs



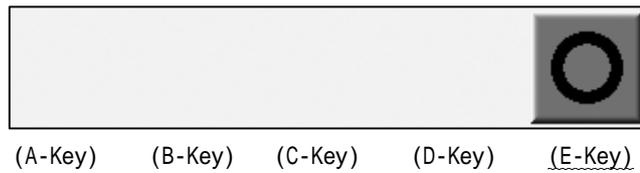
3) File Formats for the Networking System

The file downloaded from the Server is converted into the PRJ file. *1

4) Stop/Cancel of the design file transmission

The Uploading/Downloading can be stopped or canceled during the transaction.

a) Press the E-Key to stop the transmission. *2



b) The D-Key cancels the operation while the transmission is stopped.

Press the E-Key to resume the transmission.



5) The following equipment is required to build the Network System.

BEVS Automat

Barudan Options

LAN Board

Server Software

The Items to be prepared by Users

PC with Windows 2000 or XP preinstalled. LAN Port required.

*Refer to the instruction manual of the Server Software.

LAN Cable *3

Hub *4

*1 Refer to the instruction manual for the server software.

*2 A PRJ File contains the design data file, Program Parameters and a bitmap image of the design.

*3 Hold the E-Key if the transmission does not stop.

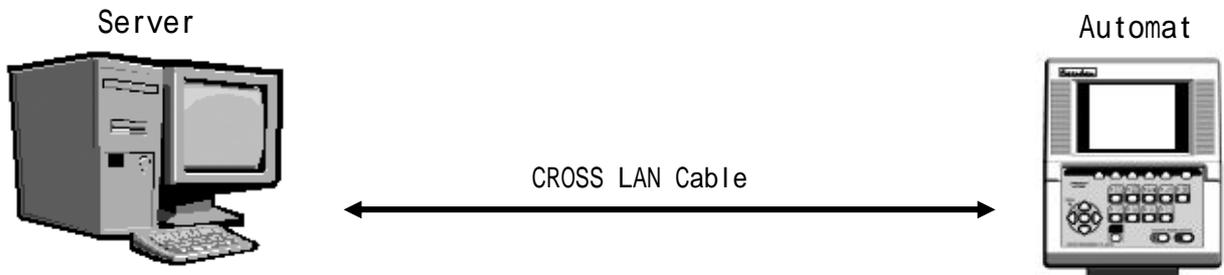
The controller cancels the transmission only when it is stopped.

*4 The LAN cable may vary up to the connection schematic.

Refer to the following examples.

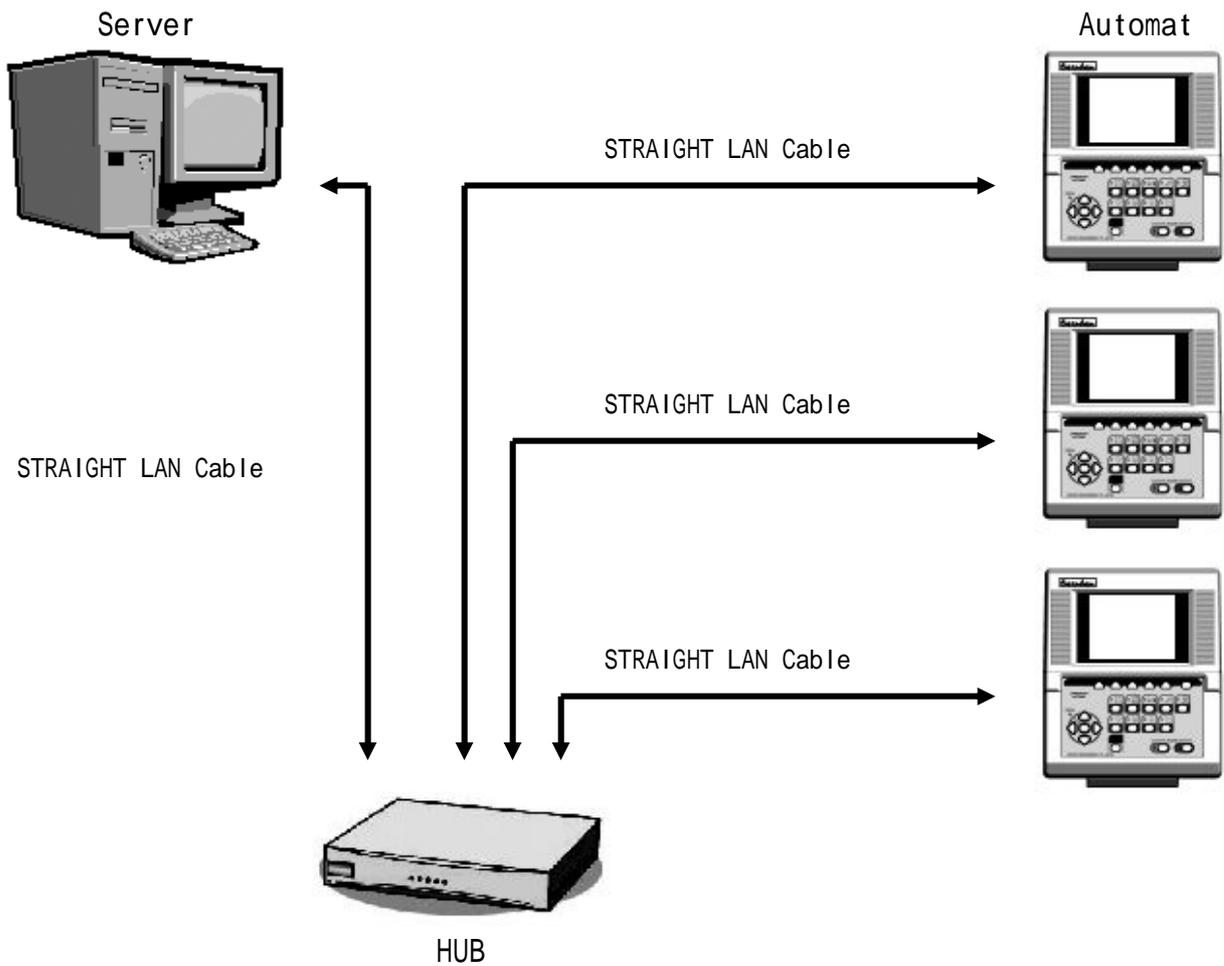
Ex. 1 : A Server VS an embroidery machine

*Use the " CROSS " LAN Cable



Ex. 2 : The Server VS multiple embroidery machines

*Use the " STRAIGHT " LAN Cable



*The schematic with multiple embroidery machines requires HUB(s).

2. Registering the Operator Code

Instructions on registering the operator code with the Automat.

*The Serve logs the machine status with the operator code.

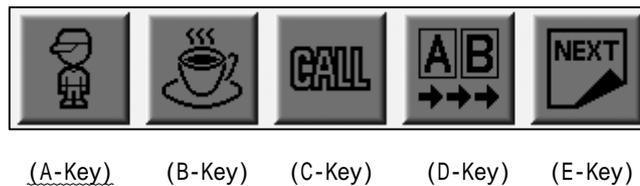
*Refer to the instruction manual of the Server Software for its operation.

2-1. Reporting the Operator Code

Reporting the current operator to the server.

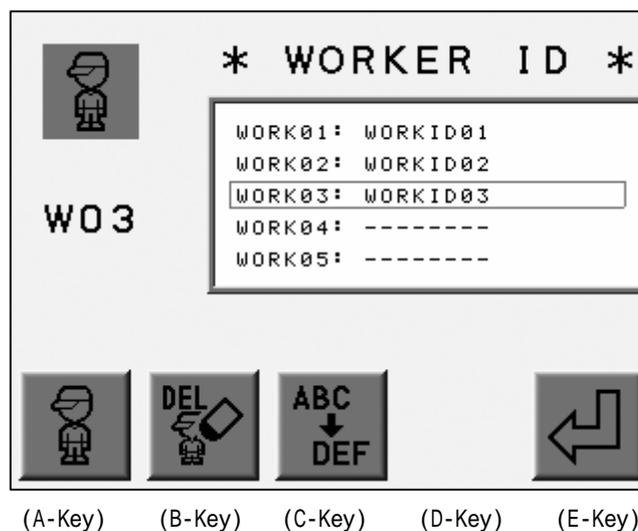
1) Press the Network Key .

2) Press the A-Key.

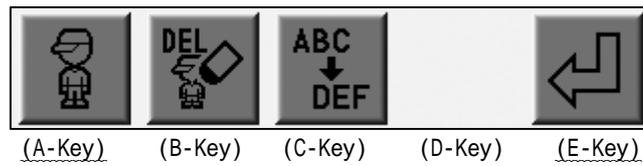


3) The Operator Code List appears.

Choose an Operator Code with the Jog Keys.



4) Press the E-Key to report the current operator code to the Server.



Press the A-Key to cancel the report and goes back to previous screen.

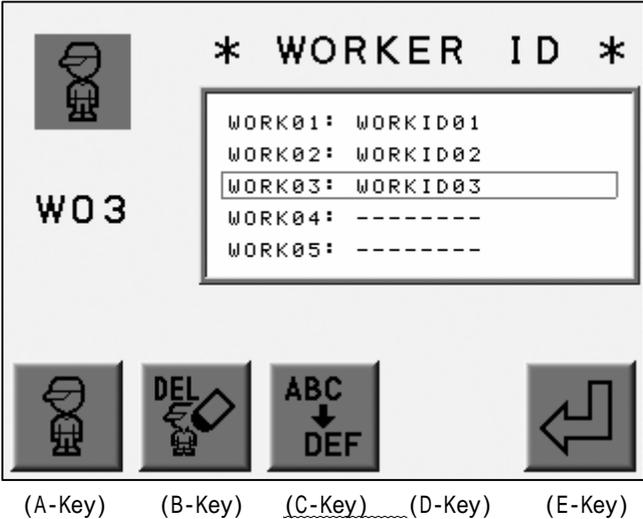
2-2. Registering the Operator Code

1) Instructions on registering the operator code with the Automat.

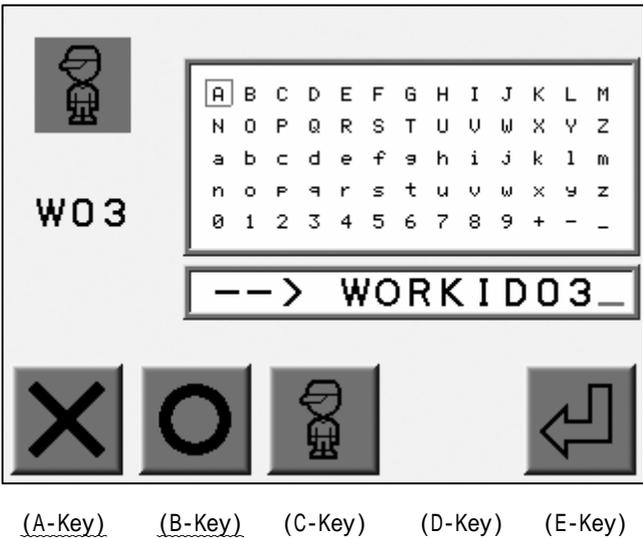
2) Use the jog keys to select an operator code.

*Select a blank id to register a new code, select an occupied id to edit it.

3) Press the C-Key.



4) The Registration Screen displays.

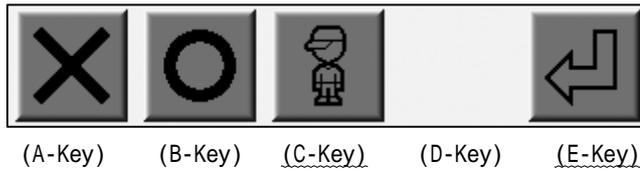


Use the jog keys to select a letter.

Press the Origin Key or the B-Key to enter the letter. *1

Press the A-Key to delete the last letter.

5) Press the E-Key to register / finish editing the Operator Code. *2



Press the C-Key to cancel the Registration/ Edit of the Code and return to the previous screen.

*1 An operator code can have a maximum of 8 characters.

*2 Press the Network key



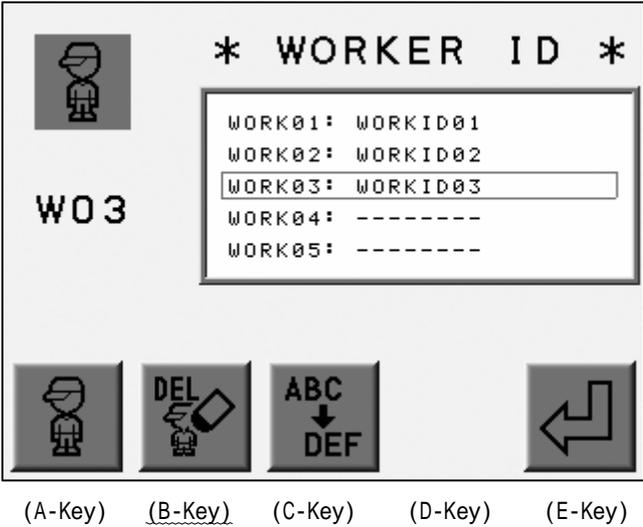
to cancel the Registration/Edit.

2-3. Deleting the Operator Code

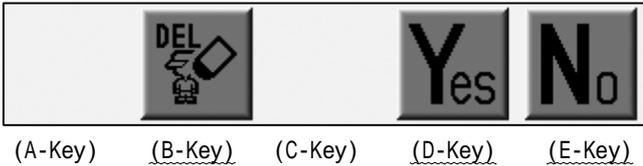
1) Refer to “Reporting the Operator Code” and find the Operator Code List.

2) Use the jog keys to select a code.

Press the B-Key to delete the Code.



3) Press the D-Key to confirm and delete.



Press the B or E-Key to cancel and return to the previous screen.

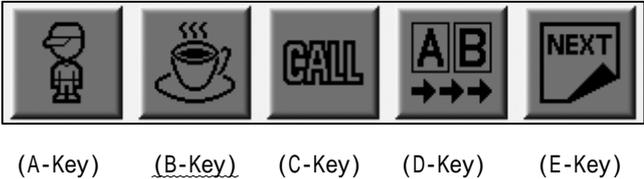
3. Break Call

Instructions on how an operator reports he is on break and that the machine is not sewing.

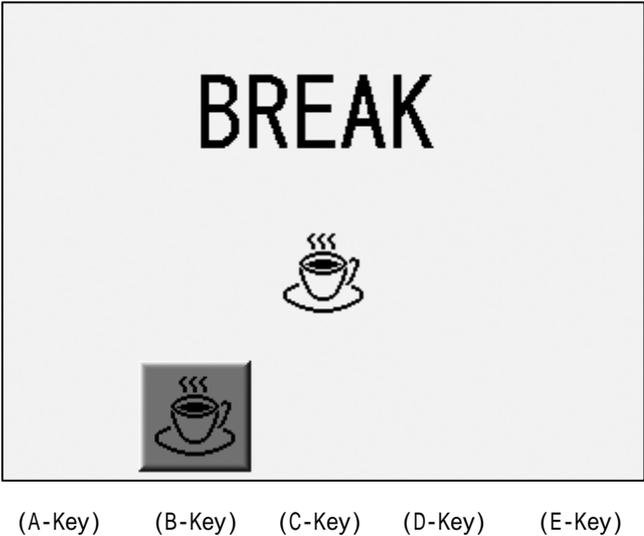
*Refer to the Server Software instruction manual for operation instructions.

1) Press the Network Key .

2) Press the B-Key.



3) The controller reports the break to the Server.



4) Press the B-Key again at the end the break.



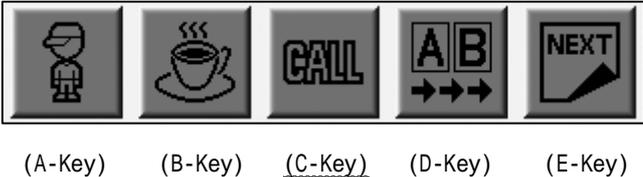
4. Operator Call

The instruction for placing a call to the server.

*Refer to the instruction manual of the Server Software for its operation.

1) Press the Network Key  .

2) Press the C-Key to call the Server.



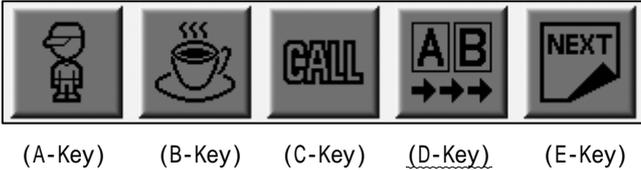
5. Time-Out

Instructions to report that the machine is not in production.

*Refer to the instruction manual of the Server Software for its operation.

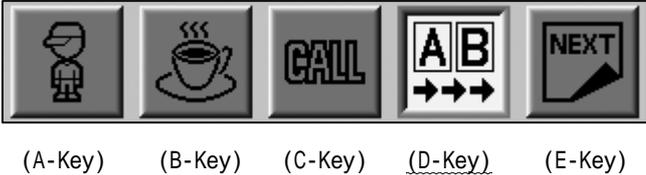
1) Press the Network Key  .

2) Press the D-Key to report the Time-Out.



*The icon above the D-Key is highlighted during the Time-Out.

Press the D-Key again to report that the machine is ready for production.



6. Downloading Design (Direct Downloading)

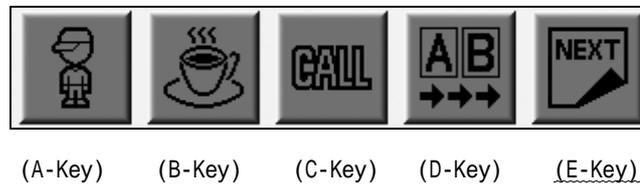
Designs that will be downloaded need to be at their specific location before downloading.

*Refer to the instruction of the Server Software for its operation.

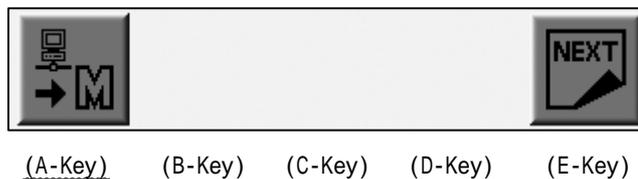
1) Press the Network Key



2) Press the E-Key.

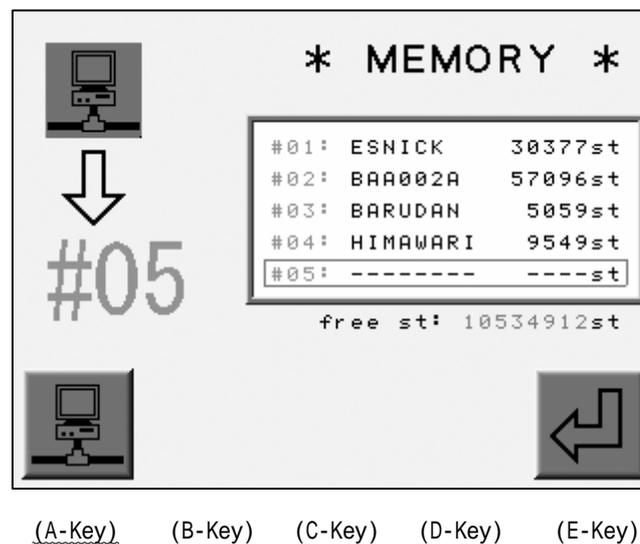


3) Press the A-Key.



4) The list of the design in the Memory display.

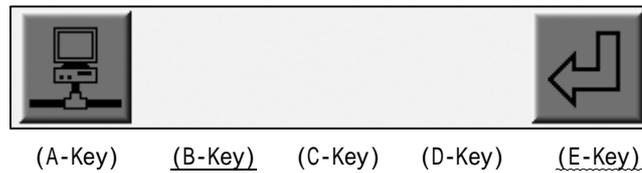
Choose a blank Memory Slot with the Jog Keys to download a design.



Press the A-Key for the previous screen.

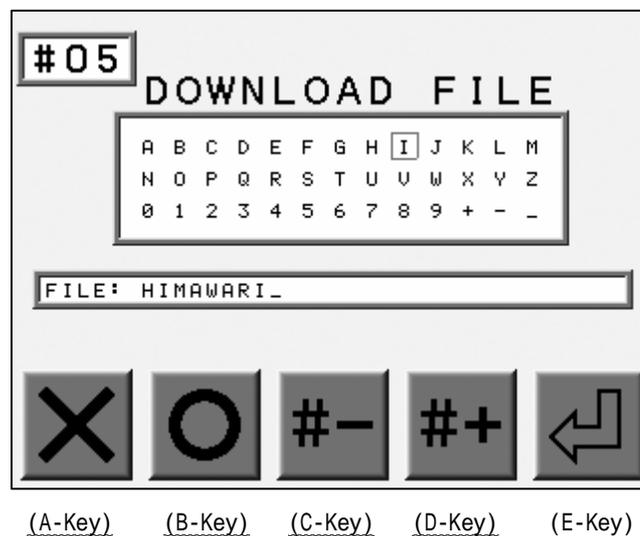
*Choose an occupied memory location to delete the design file and download another design.

5) Press the E-Key.



6) The Lettering Screen for the design file name displays.

Type in the file name of the design to download.



Use the Jog Keys to select letters.

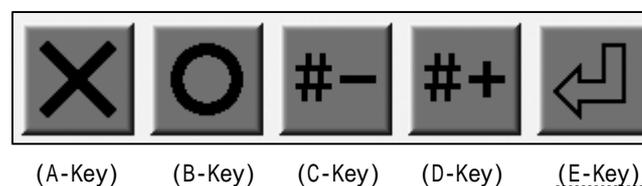
Press the Origin Key or the B-Key to enter the letter.

Press the A-Key to delete the last letter.

Press the C-Key to move to a lower numbered Memory location.

Press the D-Key to move to a higher numbered Memory location.

7) Press the E-Key to start downloading.



7. Downloading Design (Scheduled Downloading)

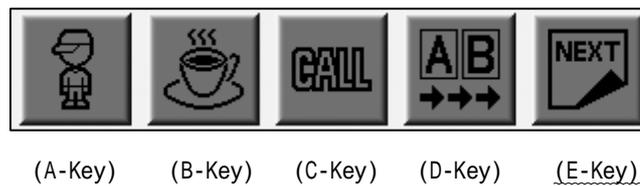
Designs need to be appointed to machines before downloading.

*Refer to the instruction manual of the Server Software for its operation.

1) Press the Network Key



2) Press the E-Key.

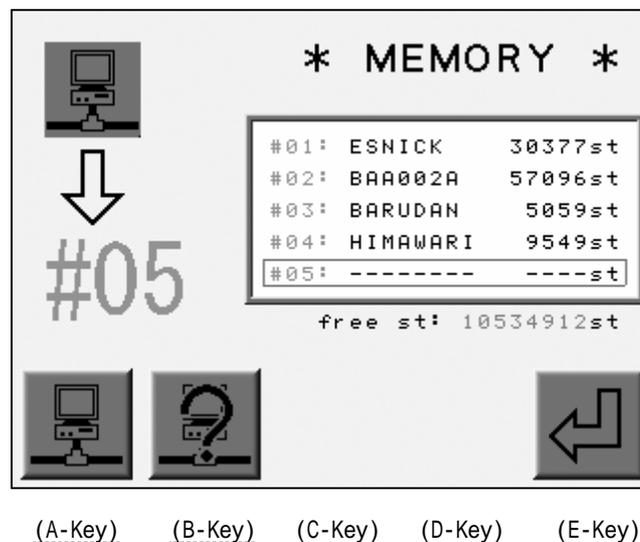


3) Press the A-Key.



4) The list of the design in the Memory display.

Use the jog keys to select an empty Memory location.



Press the A-Key to return to the previous screen.

Press the B-Key to view the information about the design to be downloaded.

5) Press the E-Key to start downloading.



(A-Key)

(B-Key)

(C-Key)

(D-Key)

(E-Key)

8. Appointed Designs

The Server appoints the design to the machines.

The machine downloads the design and sews it.

This feature provides an ideal production schedule.

1) Press the Network Key



2) Press the E-Key.



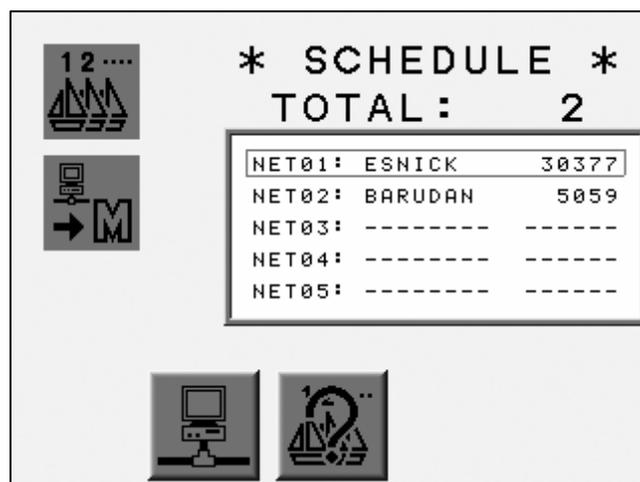
(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

3) Press the B-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

4) The list of the appointed designs displays.



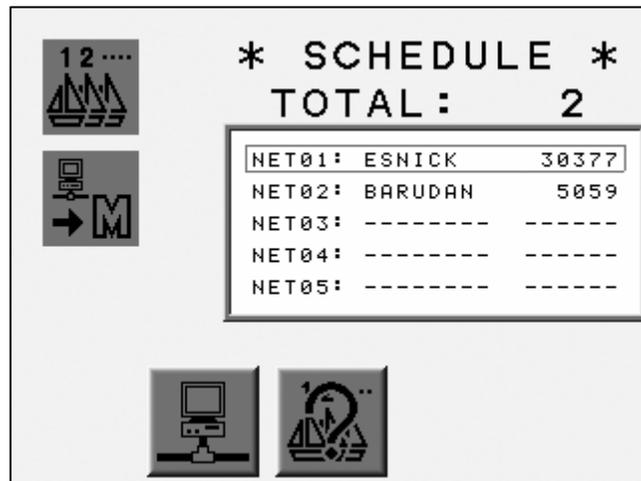
(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the B-Key to go back to the previous screen.

9. Information about the Appointed Designs

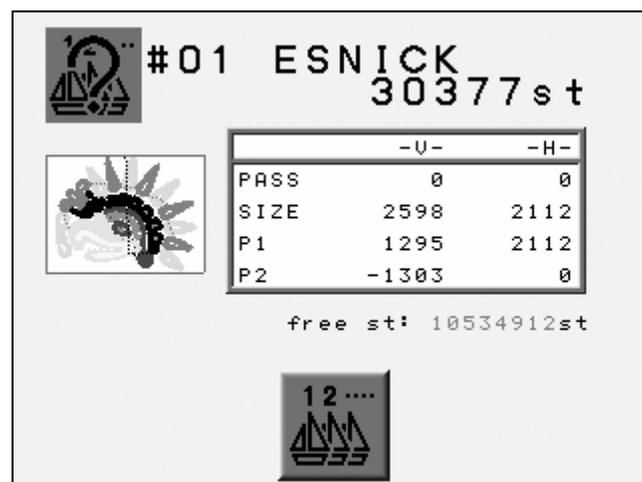
The instruction to view the information of the appointed designs.

- 1) Refer to the “Appointed Designs” and find the list of the appointed designs.
- 2) Press the C-Key.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

- 3) The design information of the appointed design displays.



(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

The Jog Keys switches the design.

Press the C-Key to go back to previous screen.

10. Automat ID

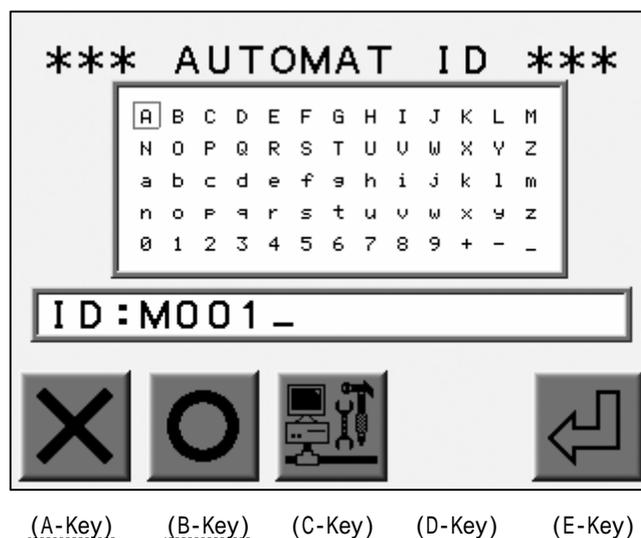
The instructions for registering the Automat ID.

- 1) Disconnect the LAN cable from the machine and turn ON the machine.

- 2) Press the Network Key



- 3) The Registration Screen displays.

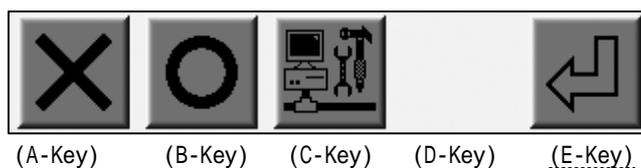


Use the jog keys to select a letter.

Press the Origin Key or the B-Key to enter the letter.

Press the A-Key to delete the last letter.

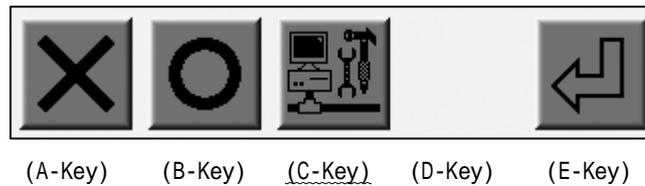
- 4) Press the E-Key to register the Automat ID and close the screen.



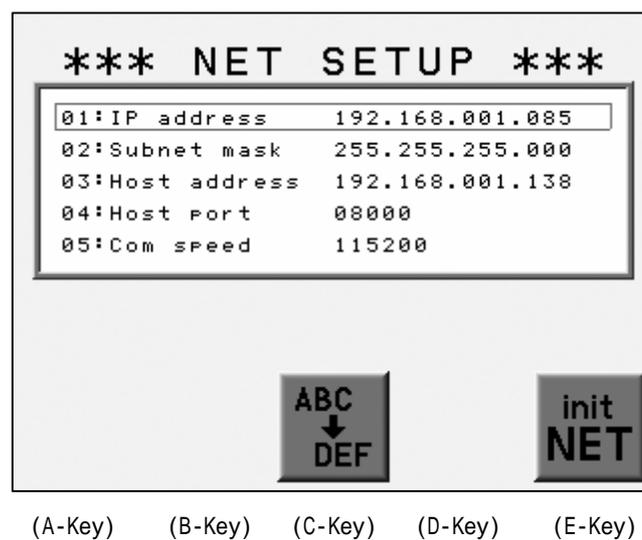
11. LAN Board Set-Up

Instructions for setting up the LAN board.

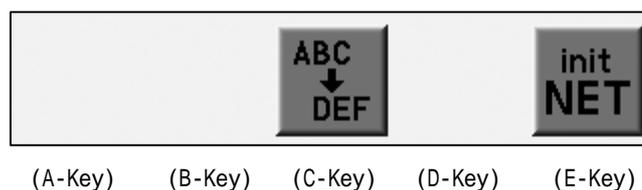
- 1) Refer to the "Automat ID" and find the Registration Screen.
- 2) Press the C-Key to find the Set-Up Screen.



- 3) Use the jog keys to scroll through the options.



- 4) Press the C-Key to display the name screen.



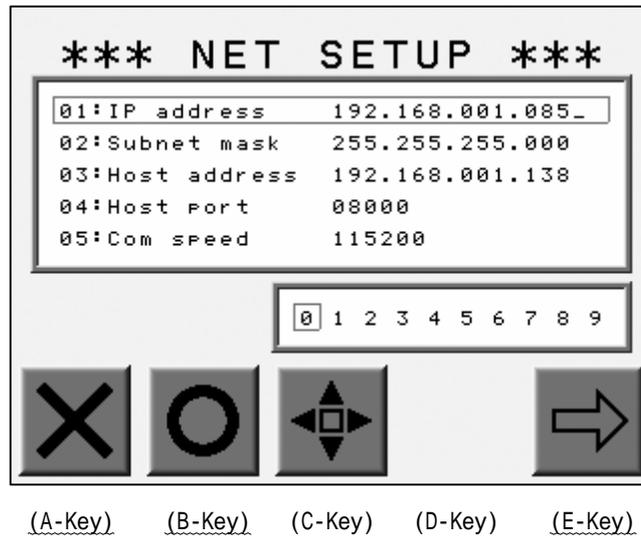
5) Use the jog keys to select a letter.

Press the Origin Key or the B-Key to enter the letter.

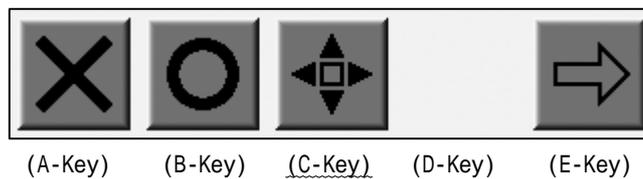
Press the A-Key to delete the last letter.

Press the E-Key to move the cursor in the column to right.

*The lettering is available only for IP Address, Subnet Mask and Host Address.

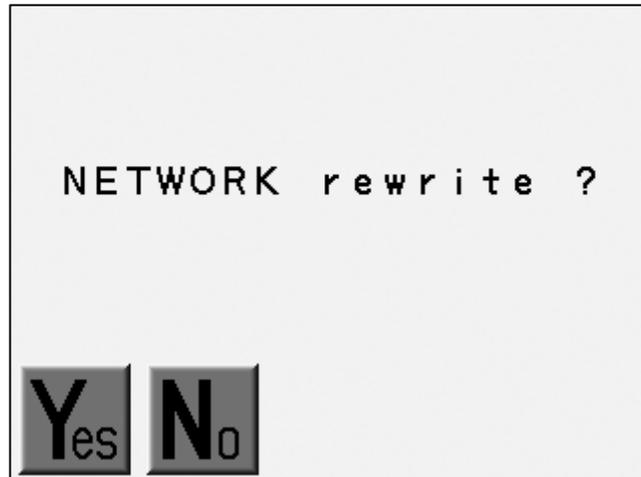


6) Press the C-Key to goes back to the previous screen.



7) Press the Network Key  again after all the parameters were properly entered.

8) Press the A-Key to save the changes.



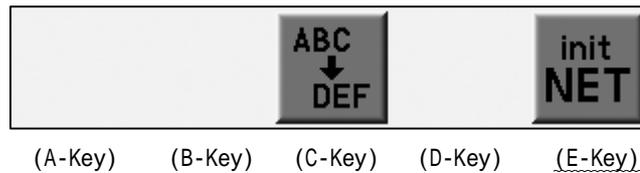
(A-Key) (B-Key) (C-Key) (D-Key) (E-Key)

Press the B-Key to cancel the Set-Up and go back to the previous screen.

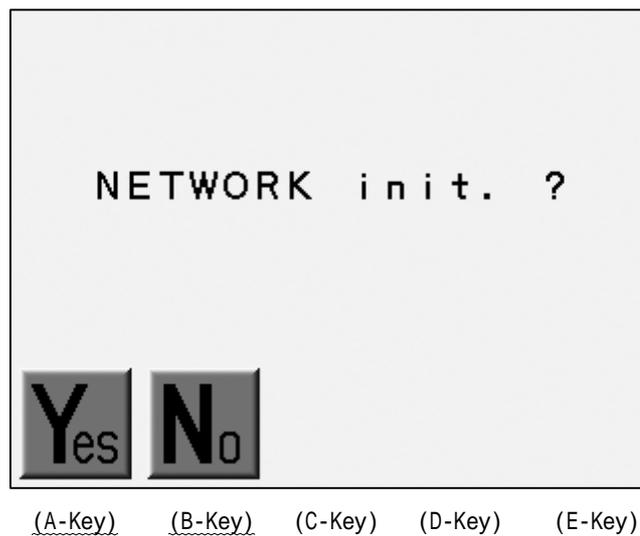
12. Initializing the LAN Board

Instructions to initialize a LAN Board.

- 1) Displays the Set-Up screen (Refer to 11.LAN Board Set-Up).
- 2) Press and Hold the E-Key until it starts beeping.



- 3) Press A-Key to start initializing.



Press B-Key to abort it.

13. The List of the LAN Board Parameters

No.	Item	Description	Default
1	IP Address	The IP Address of the Automat	0. 0. 0. 0
2	Subnet Mask	Subnet Mask	255. 255. 255. 0
3	Host Address	The IP Address of the Server	0. 0. 0. 0
4	Host Port	The Port No. on the Server	0000
5	COM Speed	Data Transmission Speed	115200

The above settings are dependent on the server settings.

Chapter 15. System

This chapter contains the instructions to load System Software on the machine.

1. System Software Update with the CF Card.
2. Initialization of the Memory.
3. Date and Time Setting

1. System Software Update with the CF Card

1) Turn OFF the machine power.

2) Insert the CF Card with the System Software into the CF Slot on the Controller.

3) Press and hold the FD Key  and turn ON the machine power.



4) Release the Key when the indication, "SYSTEM Version #=V.***" appears.

Press and hold the Memory Key



5) Choose System Software from the list with the Jog Keys.

6) Press and hold the D-Key to start updating the System Software.

7) The controller beeps a long beep then restarts if the System Software update was properly don.

2. Initialization of the Memory

Instructions to initialize the machines memory.

*Be sure to back up the data before the initialization.

1) Turn OFF the machine.

2) Press and hold the Memory Key

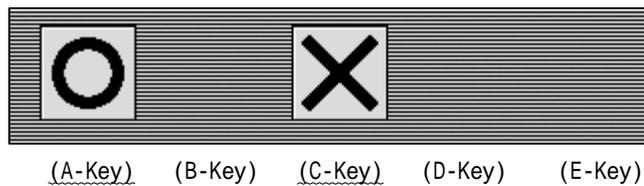


and turn ON the machine.

3) Release the Key when the controller gives a message to initialize the memory.

4) Press the A-Key to start the initialization.

Press the C-Key to stop.

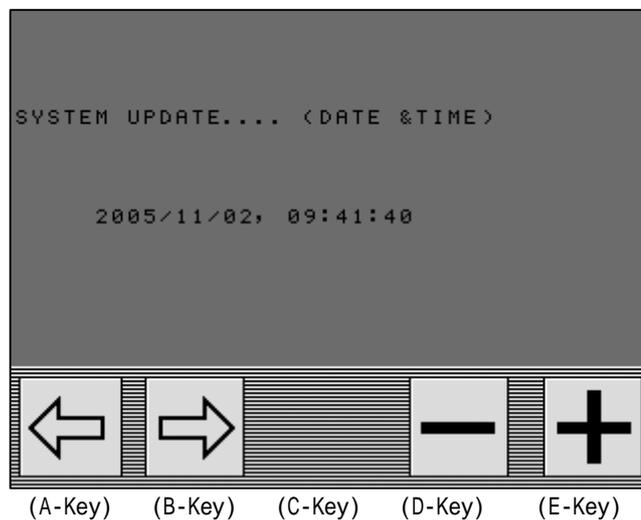


4. Date and Time Setting

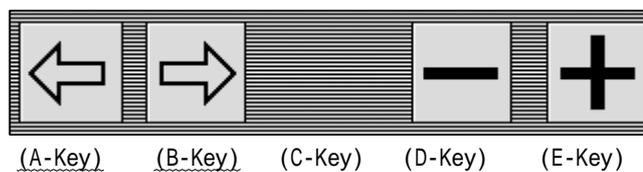
Instructions for setting up the date and time.

- 1) Turn OFF the machine.
- 2) Press and hold the A-Key then turn the machine ON.
- 3) Release the A-Key after the controller makes beeps.

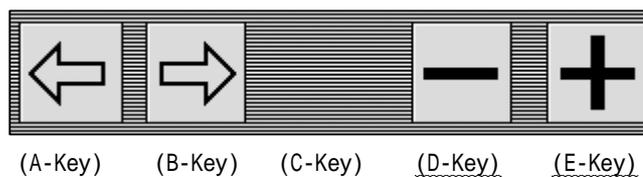
Date/Time Setting Screen appears.



- 4) Press the A or B-Key to choose the value to change.



- 5) Press the D or E-Key to change the value.



- 6) Press the Page Key to save the new setting and restart the machine.

Chapter 16. Appendix

This chapter contains the following reference information.

1. Function Codes
2. Error Messages

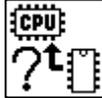
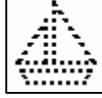
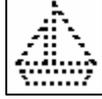
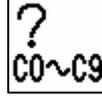
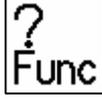
1. Function Codes

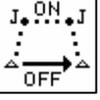
Symbol	Function
0	Normal Stitch
JP	Jump Stitch
L	Low Speed
LJ	Low Speed Jump
H	High Speed
HJ	High Speed Jump
T1	Top Thread Trimming
T2	Bobbin Trimming
G1	Group 1
G2	Group 2
SE	Sub End
C00	Stop
C01	Needle Bar 1
<hr style="border-top: 1px dashed black;"/>	
C15	Needle Bar 15
S0	Sequin OFF
S1	Sequin ON
SJ	Sequin Jump

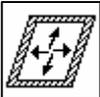
↓ The following Codes are called as The Color Change Codes.

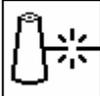
} Depends on the Needle No. of the Machine.

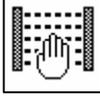
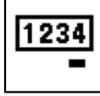
2. Error Messages

Message	Description
A01 : 	No Battery.
A05 : 	Wrong Code.
A07 : 	IC Memory Error.
A08 : 	Memory Full (Cancels the loading).
A11 : 	No peripheral device was found. Turn ON the peripheral or check the connection.
A20 : 	The Memory Slot has no design file.
A21 : 	All Memory Slots have no design file.
A24 : 	There is no Color Change Code following.
A26 : 	No blank stroke of the Pantograph for the Socks feature.
A27 : 	There is no Function Code following.
A28 : 	Calculating. Please wait.
A29 : 	Memory Full. Delete designs.

Message	内 容
A30 : 	No Floppy Disk inserted. Insert the Floppy Disk(FD).
A31 : 	Write Protection. Release the write protection of the FD.
A32 : 	Loading/Saving Error. Retry / Check the FD.
A33 : 	FD Full. Delete designs in the FD.
A34 : 	Too many color changes. The 401 st and following Color Change Codes will be deleted.
A35 : 	Operation prohibited for the Spectacle Frame Setting in the MC Parameter.
A36 : 	The operation is prohibited during Manual operation, "Appliqué" is active.
A37 : 	CF Card Full. Delete the designs in the CF Card.
A38 : 	No CF Card. Insert the CF Card.
A39 : 	Loading/Saving Error. Retry/Check the CF Card.
A40 : 	Network broken.
A41 : 	The false loading of the design information.

Message	Description
D01 : 	False Color Change due to the lock error of the Color Change Turret. Manually turn the Turret.
D03 : 	The Color Change Turret is not locked. Manually turn the Turret.
D04 : 	Needle Bar Positioner Error. Check the Board.
D05 : 	Unable to Color Change Check the Clamp/Jump Solenoid if there is no stuck.
D06 : 	Main Motor Trip. Try to restart the machine. Turn OFF the power and check the bind by turning the Main Shaft with hands.
D07 : 	Main Motor Overload. Turn OFF the machine and check the bind by turning the Main Shaft with hands.
D08 : 	Pantograph Stroke Limit. Pantograph reached a Soft Limit in the MC Parameters.
D09 : 	Start/Stop Switch error. Check the Switches.
D11 : 	Rotary Encoder Error. Check if it is working properly.
D12 : 	Slider Error. Move back the Slider to the original position. Check if the trimming is OK?

Message	Description
D13 : 	No further Stitch Back/Automending.
D14 : 	Push the Start Switch.
D16 : 	Bobbin break.
D19 : 	Machine Stopped because of a Stop Code.
D20 : 	The end of the Automending.
D21 : 	The Stop for the Stop Switch.
D22 : 	Trim Motor error. Turn OFF the machine. Check and remove the bind.
D23 : 	The Stop for the Appliqué.
D25 : 	The Stop for a thread break.
D26 : 	Pulse Motor Driver Over Heat. Turn OFF the machine to cool down. Check the Ventilation Fan and the Air Filter.

Message	Description
D27 : 	The Stop for the Temporary Repair Stop which is entered in the previous run. Turn ON the sewing head for the pattern to be fixed.
D28 : 	No further Stitch Back/Automending due to the Color Change Code. Trim the thread for further Stitch Back / Automending.
D29 : 	Servo Driver Error. Call technician.
D30 : 	Wrong Dip Switch Setting on the Head/Duct Board.
D31 : 	No Driver Box recognized. Check the connection.
D32 : 	The Stop for Sub End Code.
D33 : 	A power interruption has occurred. Turn OFF and On the machine.
D34 : 	The stop due to the Light Curtain. (Option) Check the connection if cannot restart.
D35 : 	Lubrication Error. Check the Lubrication Device.
D36 : 	The stop for the Bobbin Counter. Trim the thread. Change all the bobbins and restart the machine.

Message	Description
D37 : 	Sequin Device Error.
D38 : 	Chenille Driver Error.
D39 : 	Looper Motor Error.
D40 : 	Chenille Thread Clamp Motor Error.
D41 : 	Chenille Needle Height Error.
D42 : 	Chenille Error