

ENGLISH

ENGLISH

AVP-875

AVP-875 / AW-2

INSTRUCTION MANUAL.

No.2

2932 4605.

IMPORTANT SAFETY INSTRUCTIONS

Putting sewing systems into operation is prohibited until it has been ascertained that the sewing systems in which these sewing machines will be built into, have conformed with the safety regulations in your country. Technical service for those sewing systems is also prohibited.

1. Observe the basic safety measures, including, but not limited to the following ones, whenever you use the machine.
2. Read all the instructions, including, but not limited to this Instruction Manual before you use the machine. In addition, keep this Instruction Manual so that you may read it at anytime when necessary.
3. Use the machine after it has been ascertained that it conforms with safety rules/standards valid in your country.
4. All safety devices must be in position when the machine is ready for work or in operation. The operation without the specified safety devices is not allowed.
5. This machine shall be operated by appropriately-trained operators.
6. For your personal protection, we recommend that you wear safety glasses.
7. For the following, turn off the power switch or disconnect the power plug of the machine from the receptacle.
 - 7-1 For threading needle(s), looper, spreader etc. and replacing bobbin.
 - 7-2 For replacing part(s) of needle, presser foot, throat plate, looper, spreader, feed dog, needle guard, folder, cloth guide etc.
 - 7-3 For repair work.
 - 7-4 When leaving the working place or when the working place is unattended.
 - 7-5 When using clutch motors without applying brake, it has to be waited until the motor stopped totally.
8. If you should allow oil, grease, etc. used with the machine and devices to come in contact with your eyes or skin or swallow any of such liquid by mistake, immediately wash the contacted areas and consult a medical doctor.

9. Tampering with the live parts and devices, regardless of whether the machine is powered, is prohibited.
10. Repair, remodeling and adjustment works must only be done by appropriately trained technicians or specially skilled personnel. Only spare parts designated by JUKI can be used for repairs.
11. General maintenance and inspection works have to be done by appropriately trained personnel.
12. Repair and maintenance works of electrical components shall be conducted by qualified electric technicians or under the audit and guidance of specially skilled personnel. Whenever you find a failure of any of electrical components, immediately stop the machine.
13. Before making repair and maintenance works on the machine equipped with pneumatic parts such as an air cylinder, the air compressor has to be detached from the machine and the compressed air supply has to be cut off. Existing residual air pressure after disconnecting the air compressor from the machine has to be expelled. Exceptions to this are only adjustments and performance checks done by appropriately trained technicians or specially skilled personnel.
14. Periodically clean the machine throughout the period of use.

15. Grounding the machine is always necessary for the normal operation of the machine. The machine has to be operated in an environment that is free from strong noise sources such as high-frequency welder.
16. An appropriate power plug has to be attached to the machine by electric technicians. Power plug has to be connected to a grounded receptacle.

17. The machine is only allowed to be used for the purpose intended. Other used are not allowed.
18. Remodel or modify the machine in accordance with the safety rules/standards while taking all the effective safety measures. JUKI assumes no responsibility for damage caused by remodeling or modification of the machine.

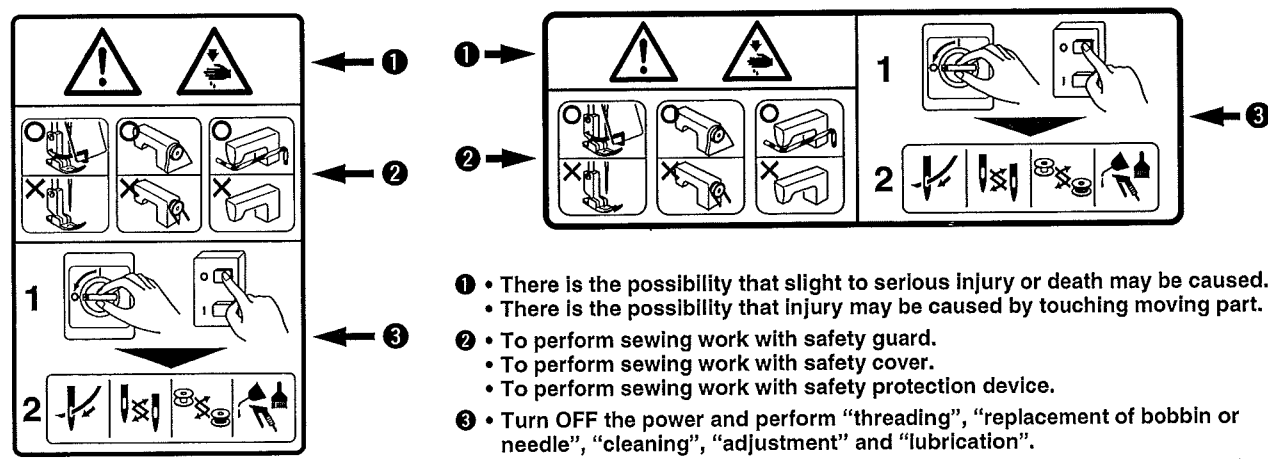
19. Warning hints are marked with the two shown symbols.





Danger of injury to operator or service staff



Items requiring special attention



FOR SAFE OPERATION

	<ol style="list-style-type: none"> 1. To avoid electrical shock hazards, neither open the cover of the electrical box for the motor nor touch the components mounted inside the electrical box while the power switch is ON.
	<ol style="list-style-type: none"> 1. So as to avoid personal injuries, do not put your fingers under the needle when turning ON the power switch or while the machine is in operation. 2. So as to avoid personal injuries, do not put your fingers under the thread take-up cover while the machine is in operation. 3. So as to prevent possible accidents caused by electrical shock hazards, do not operate the machine with the power supply earth wire removed. 4. If your machine is equipped with a servo-motor, the motor does not produce noise while the machine is at rest. To avoid possible accidents due to abrupt start of the machine, be sure to turn OFF the power to the machine. 5. If the machine is suddenly moved from a cold place to warm place, dew condensation may be observed. In this case, turn ON the power switch after you have confirmed that there is no danger of water drops in the machine so as to prevent accidents caused by damaged electrical components. 6. In time of thunder and lightning, stop your work and disconnect the power plug from the receptacle so as to prevent accidents by damaged electrical components. 7. To avoid electrical shock hazards and accidents caused by damaged electrical components, be sure to turn OFF the power switch before inserting/detaching the power plug. 8. Dust accumulating in the control box could cause a malfunction or failure of the machine. Be sure to close the cover of the control box while the machine is in operation so as to prevent possible accidents because of damaged electrical components. In addition, periodically clean the filter of the fan every week. Remember to turn OFF the power switch before opening the cover of the control box. 9. Do not check inside the control circuits with a tester. Doing so applies a tester voltage to the semiconductor components, which could damage the electrical components. 10. Be careful of handling this product so as not to pour water or oil, shock by dropping, and the like since this product is a precision instrument.

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(* 1) When the automatic bobbin winding and feeding device is provided.

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(* 1) When the automatic bobbin winding and feeding device is provided.

I . SPECIFICATIONS

- 1) Sewing area : X (lateral) direction 240 mm, Y (longitudinal) direction 250 mm
- 2) Max. sewing speed : 4,000 rpm (according to sewing specifications)
- 3) Stitch length : 0.1 to 6.0 mm (0.1 mm pitch)
(Note that the maximum sewing speed will be limited to a certain extent depending on sewing specifications in the case where the stitch length is set to 3.5 mm or more.)
- 4) Main shaft of machine head drive unit : AC servo motor
- 5) Presser plate travel : Continuous feed (AC servo motors, 2-shaft drive)
- 6) Needle bar stroke : 35 mm
- 7) Needle : SCHMETZ 134 SES SERV 7 Nm : 130
- 8) Hook : Full-rotary exclusive hook (forced lubrication)
- 9) Bobbin case : Bobbin case exclusively designed for a full-rotary 1.7-fold hook (provided with an idling prevention spring)
- 10) Lubrication oil : Machine head : New Defrix Oil No. 1
- 11) Thread trimming mechanism : Scissors cutting mechanism using a counter knife and a moving knife (grooved cam method)
- 12) Pattern data stored in memory : 2DD 3.5" floppy disk 691 pattern / disk
- 13) Dimensions : 1,860 mm (W) x 1,900 mm (L) x 1,200 mm (H)
(excluding the thread stand and stacker)
- 14) Total weight : 600 kg
- 15) Power consumption : 600W
- 16) Working temperature range : 5°C to 35°C
- 17) Working humidity range : 35% to 85% (with no dew condensation)
- 18) Supply voltage : Rating \pm 10% 50 / 60 HZ
- 19) Compressed air : 0.5 MPa
- 20) Air consumption : 20 N ℓ / min. (When the automatic bobbin winding and feeding device is not provided.)
220 N ℓ /min. (Max. value) (When the automatic bobbin winding and feeding device is provided.)

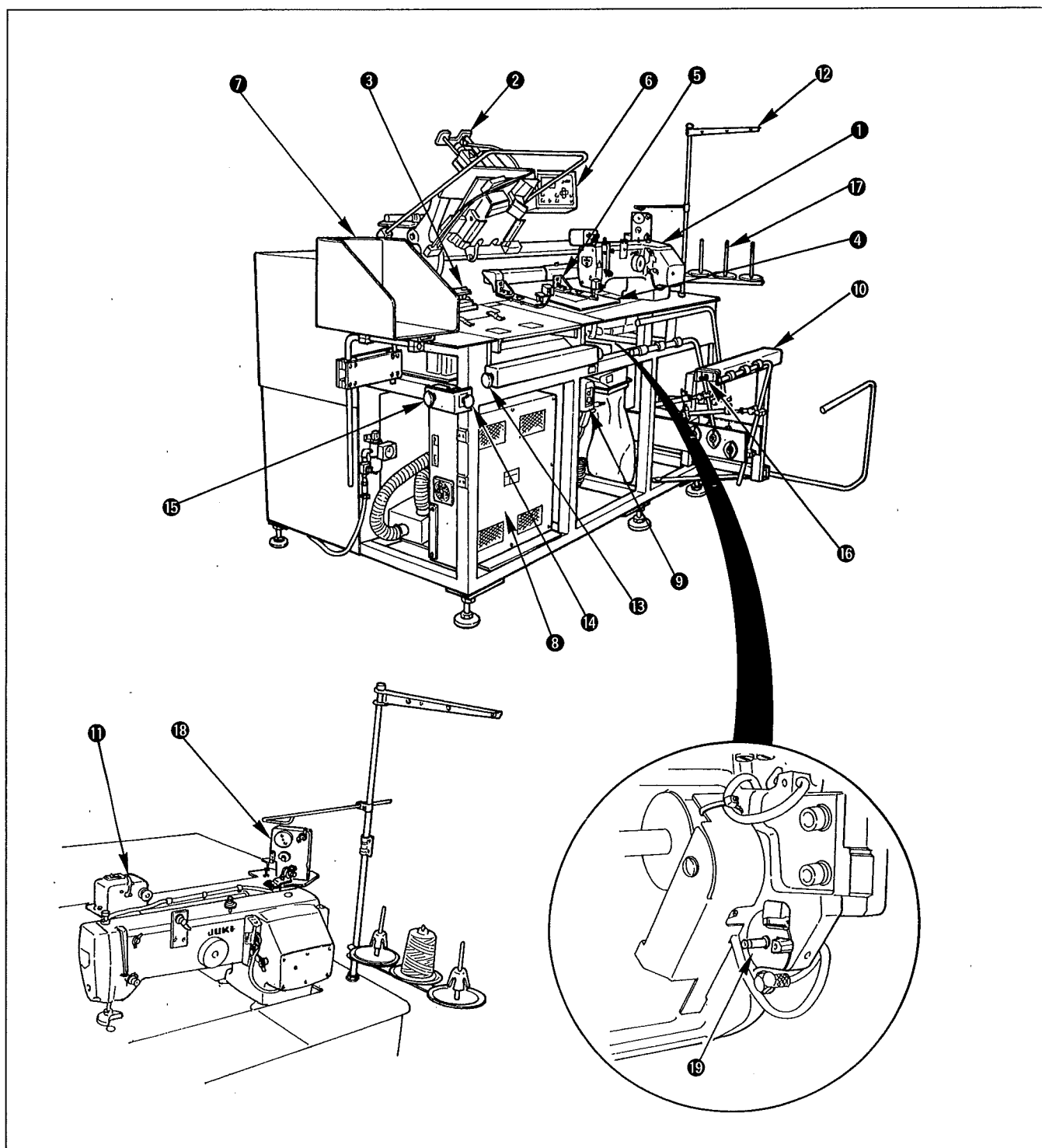
SPECIFICATIONS RELATED TO AUTOMATIC BOBBIN WINDING AND FEEDING DEVICE

- 21) Applicable bobbin : 2 pieces of 1.4-fold aluminum bobbin exclusively designed for AW are used.
- 22) Applicable bobbin case : 2 pieces of 1.4-fold bobbin case exclusively designed for AW are used.
- 23) Applicable thread count : Spun thread #20 to #50, TEX 40 to 90, TKT 30 to 75
Cotton thread #20 to #30, TEX 60 to 90, TKT 30 to 50
- 24) Time of automatic bobbin replacement : Approximately 3.5 seconds
- 25) Dimensions of device : 350 (W) x 250 (L) x 200 mm (H)
- 26) Weight of device : 8 kg or less

■ Automatic bobbin winding and feeding device

Automatic bobbin winding and feeding device (AW) is a device that is capable of limitless supply of bobbin thread of the sewing machine by means of replacing two bobbins alternately. While performing sewing with one bobbin, the AW device completes elimination of remaining thread, thread winding, threading and thread trimming of the other bobbin, and waits for the coming replacement.

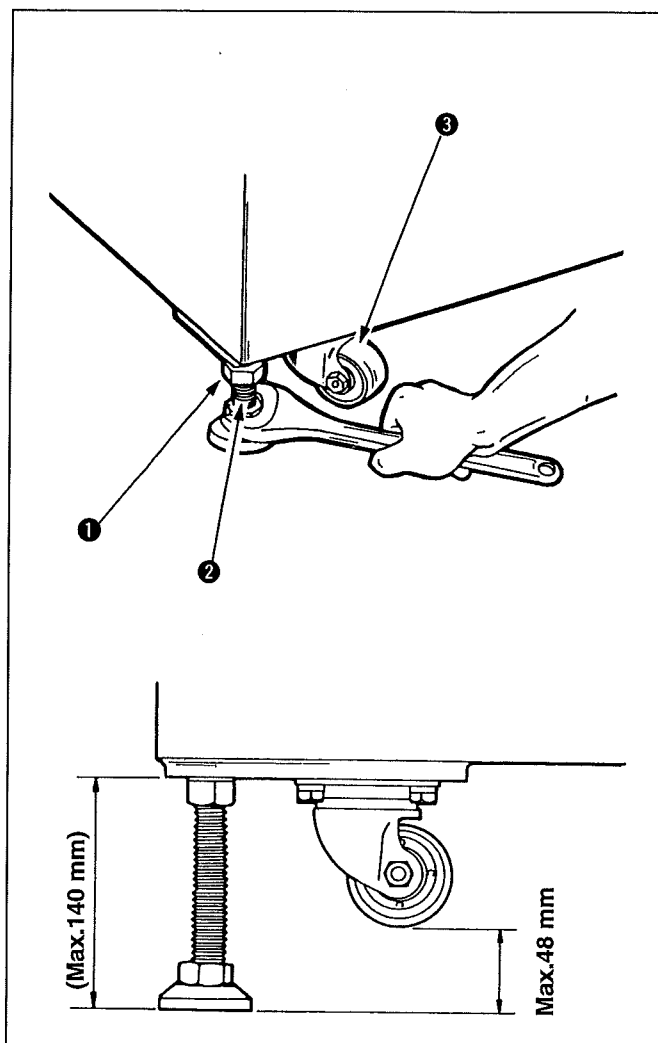
II . CONFIGURATION



- | | |
|------------------------------|---|
| ① Sewing machine head | ⑬ Setting completion switch |
| ② Crease folding unit | ⑭ Emergency stop switch |
| ③ Pattern plate | ⑮ Setting release switch |
| ④ Presser plate | ⑯ Stacker presser release switch |
| ⑤ Conveyor and X-Y unit | ⑰ Bobbin thread cone setting position (When the automatic bobbin winding and feeding device is provided.) |
| ⑥ Operation panel | ⑱ Bobbin thread feeding unit (When the automatic bobbin winding and feeding device is provided.) |
| ⑦ Pocket cloth holding board | ⑲ Bobbin case waiting position (When the automatic bobbin winding and feeding device is provided.) |
| ⑧ Electrical box | |
| ⑨ Power switch | |
| ⑩ Stacker | |
| ⑪ Bobbin winder | |
| ⑫ Thread stand | |

III . INSTALLATION

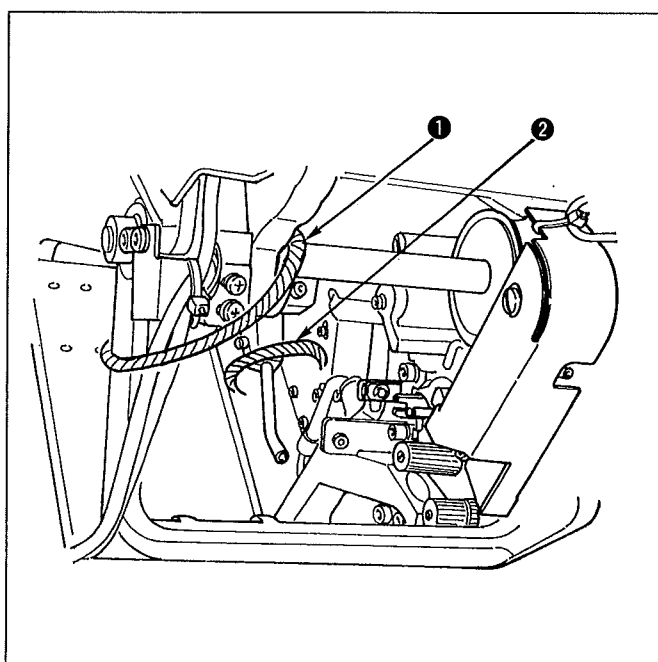
1. Setting up the machine



- 1) Install the machine on a flat place with leveled.
 - 2) Loosen nut ❶ and turn level adjuster ❷ to lift the machine until caster ❸ idles.
 - 3) After the machine has been set up properly, tighten nut ❶ and fix level adjuster ❷.
- * The machine can be lifted with the level adjuster until the caster is raised 48mm above the floor.
Be sure to adjust the height of the machine within the aforementioned range.

2. Removing the fixing material of AW

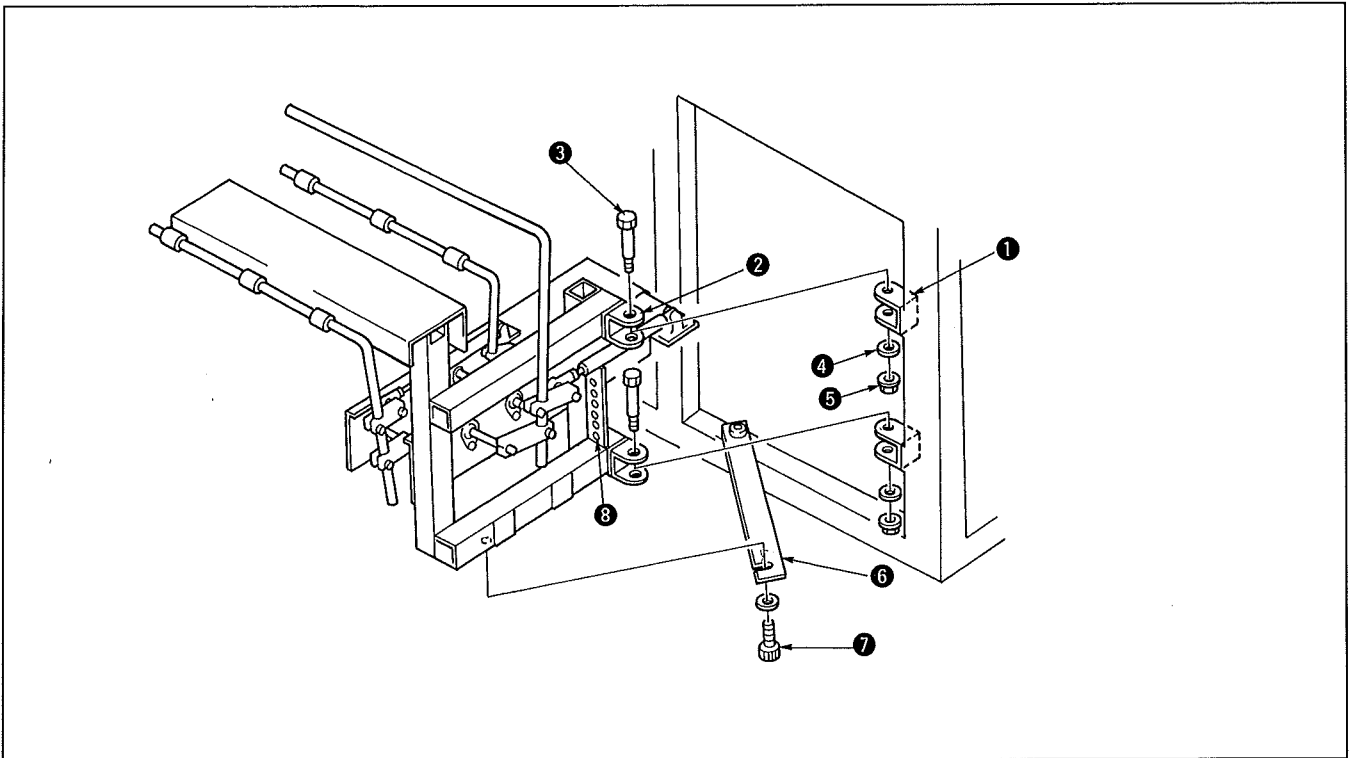
(When the automatic bobbin winding and feeding device is provided.)



- 1) Remove fixing material ❶ fixing the convey arm of AW.
- 2) Remove fixing material ❷ fixing the feeding nozzle of AW.

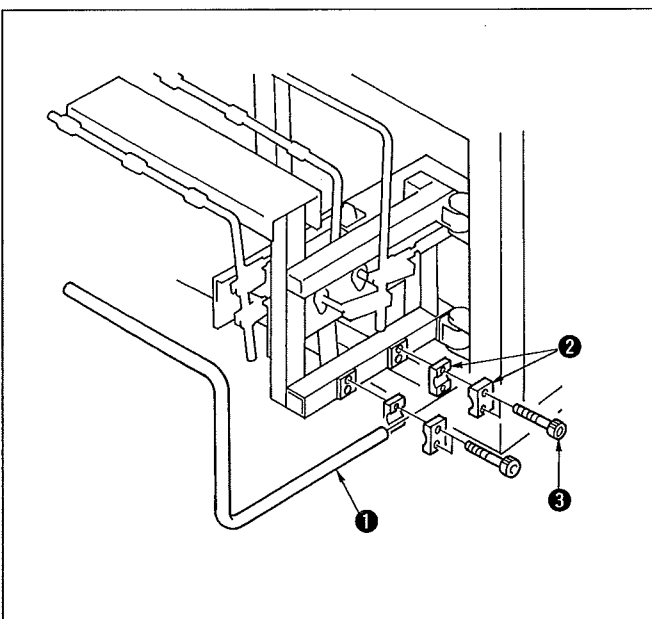
3. Installation of the stacker

(1) Installing the main unit of the stacker



- 1) Temporarily secure hinge B ① on the main unit frame.
- 2) Fit hinge A ② of the main unit of the stacker in hinge B ① and fasten them with screw ③.
- 3) Attach washer ④ and nut ⑤ in position.
- 4) Check to be sure that the main unit of the stacker can be turned in the direction of the arrow.
Then, securely tighten the screw in hinge B ①.
- 5) Secure fixing plate ⑥ on the main unit of the stacker with screw ⑦.
- 6) Connect the air tube and connector to junction plate ⑧.

(2) Assembling the stacker guard pipe

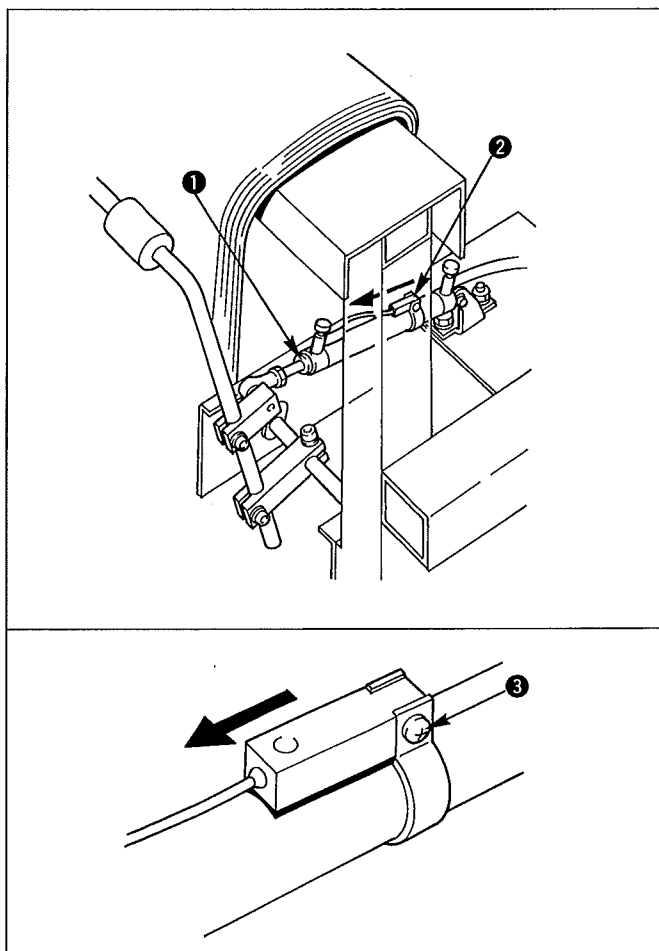


Attach stacker guard pipe ① to the main unit of the stacker using pipe clamp ② and secure with screw ③.

(Caution) Do not sit on the stacker guard or put any heavy matter on it so as to prevent the stacker guard pipe from deforming.

(3) Adjusting the stack-full sensor

The stacker of the device has a function to detect the thickness of finished products stacked on the stacking board and stop the stacker operation.



1) If sensor ② mounted on work clamp cylinder ① detects, the error message "Over stack" will be shown on the operation panel. Then, the start switch will be rendered ineffective.

2) To reset, remove the finished products and press the Reset switch on the operation panel.

(Caution) To render the stack-full detecting function ineffective, loosen screw ③ in sensor ② and shift sensor ② in the direction of the arrow until it will go no further. Then, tighten the screw to fix the sensor.

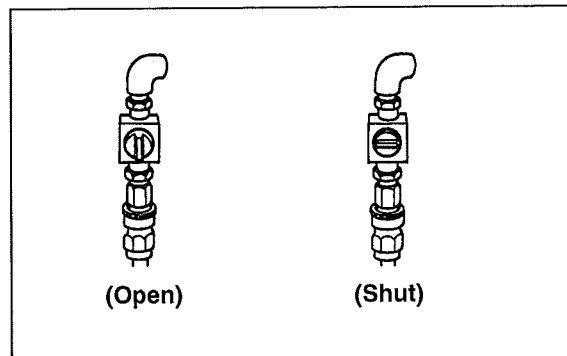
4. Installing the air hose and adjusting the compressed air pressure

(1) Connecting the air hose

- 1) Connect fitting ❶ to plug ❷. At this time, wrap sealing tape or the like round the screw.
 - 2) Insert air hose ❸ into fitting ❶ and fasten them with hose band ❹.
- (Use the correct air hose to match the fitting.)

(2) Connecting the quick-coupling joint

Shut valve ❺, and connect plug ❷ to joint ❻.



(Caution) Turn the valve until it securely stops (90°).

(3) Adjusting the supply air pressure

- 1) The operating air pressure should be set to 0.5 MPa.
- 2) Deliberately open valve ❺.
- 3) Lift regulator knob ❷ in direction A. Turning it in this state will change the supply air pressure. Turn knob in direction C (+) or in direction D (-) so that black point of pressure gauge ❸ indicates 0.5 MPa. After the adjustment, lower knob ❷ in direction B to securely lock it.

(Caution) When the compressed air is supplied to the machine, some part of the sewing machine mechanism, of stacker unit mechanism and of crease folding unit mechanism will actuate.

(4) Pressure drop signal adjustment

- 1) Set the pressure at which an emergency signal will go off if the pressure drops below it.
- 2) The normal setting value is 0.35 MPa.
- 3) Insert a small screwdriver into cap ❿ of pressure gauge ❸, and adjust screw ❾ which is inside.
Turn the screw with the screwdriver until the red needle points to 0.35 MPa.

(Caution) If the air supply source pulse is too large, even at the above setting value the emergency signal might go off.

(5) Draining

- 1) Water accumulates in the bottom of tank case ⑪. If it is allowed to accumulate for a long time without being drained, then water might also accumulate in the pipes inside the sewing machine.
- 2) Periodically push drain push-button ⑫ upward with a finger to drain the water out.

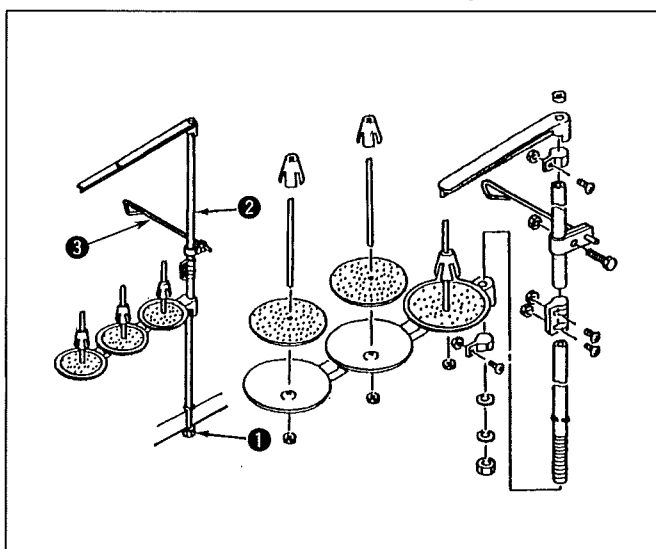
(Caution) It is recommended that the water be drained out before and after every time that the machine is operated.

(6) Air discharge

Sometimes air has to be released from inside the sewing machine to adjust the sewing machine mechanism. The procedure is to first close valve ⑤, then push drain push-button ⑫ upward just as when draining water until the black pointer on the pressure gauge reads 0.

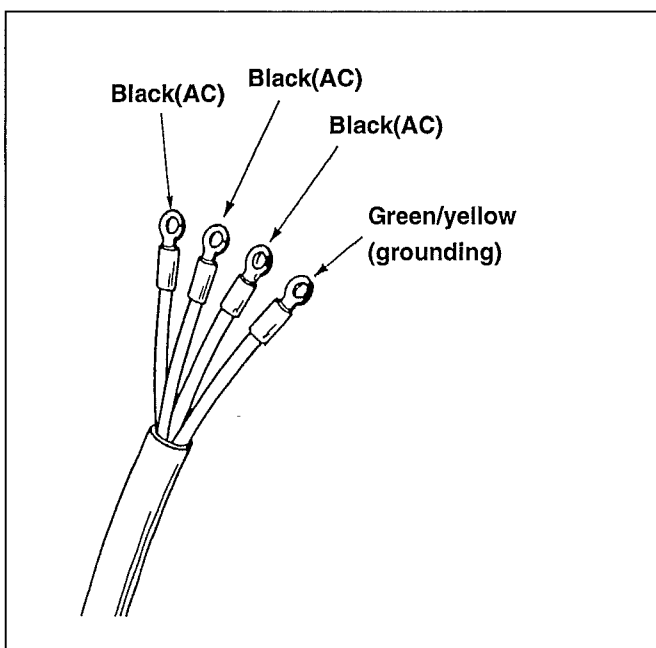
(Caution) After completing the adjustment, be sure to open valve ⑤ in accordance with (3) 2).

5. Thread stand assembly



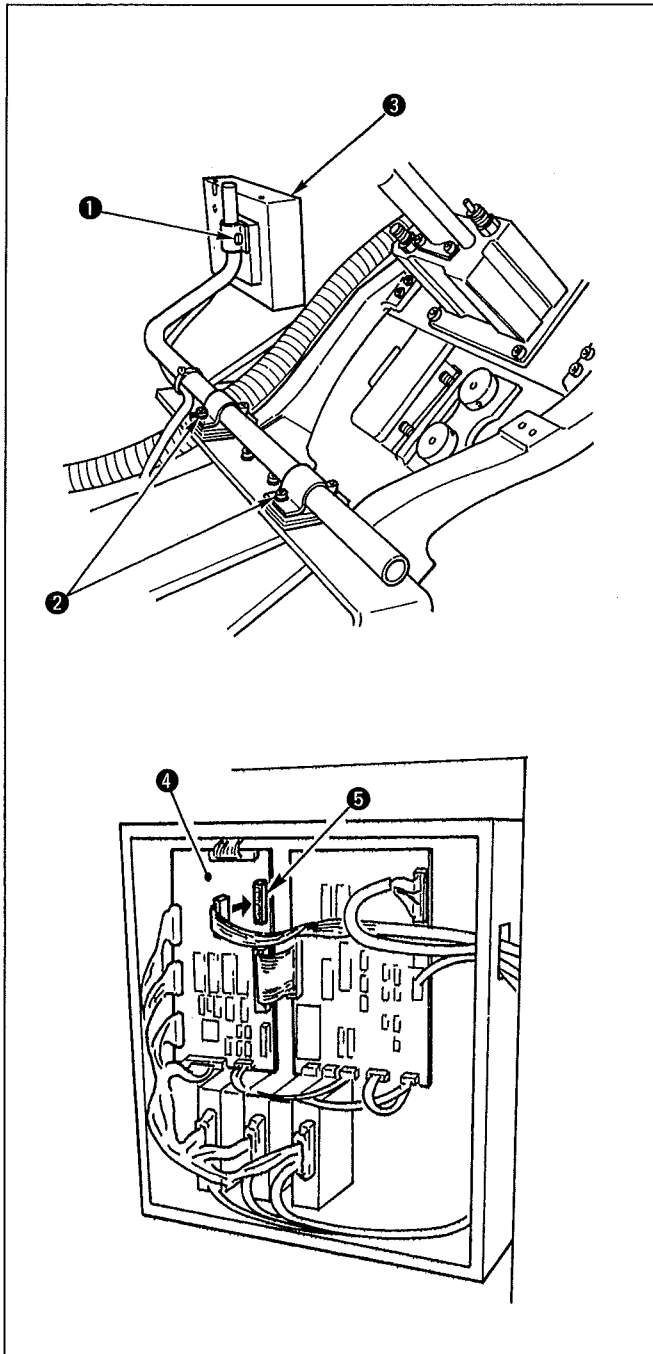
- 1) Set the thread stand in the hole at the right corner of the table.
- 2) Insert thread stand rod ② into thread stand thread guide ③.
- 3) Tighten lock nut ① so that the thread stand will not be able to move.
- 4) If ceiling wiring is possible, pass the power cord through thread stand rod ②.

6. Connecting the power supply



- 1) The machine is not supplied with a power plug. It is therefore necessary for you to select a plug that matches the receptacle available under a given operating environment and attach it to the power cable.
- 2) The machine uses a 3-phase power supply. Use a 3-phase power supply that matches the voltage specifications.
- 3) Check the direction of rotation of the blower motor. If the air is blown from the garment body setting section of the table, the blower motor rotates in the reverse direction.
Change round the wiring of two power cords to correct the direction of rotation.

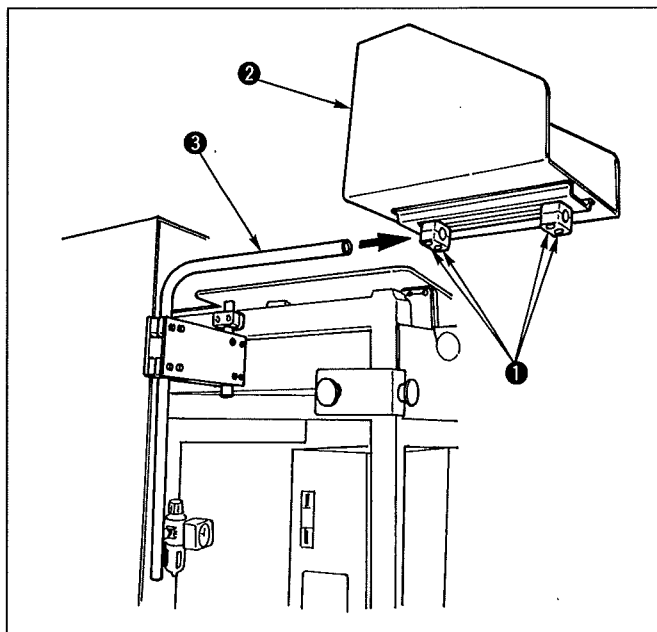
7. Fixing the operation panel



- 1) Attach the operation panel to the support column.
- 2) Connect the power connector on the operation panel to, connector plug CN29 ⑤ mounted on CPU circuit board ④.
- 3) Loosen the operation panel set screw ① and support column setscrew ②, adjust the operation panel ③ direction, inclination and height, and fix in place.

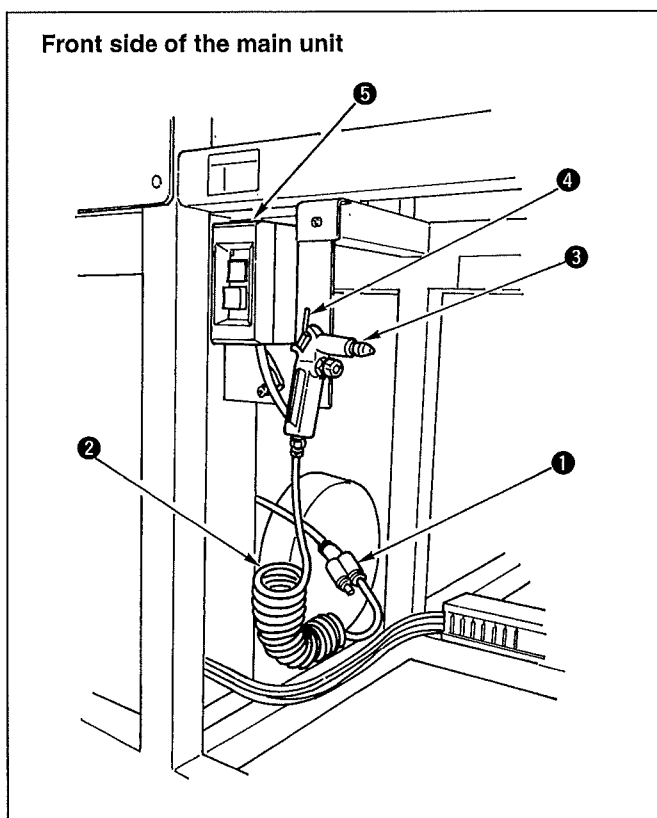
(Caution) Do not apply a strong shock to the operation panel surface.

8. Locking the Pocket Folding Board



- 1) Mount the pocket folding board ② on the pocket folding board pipe ③ .
- 2) Lock the pipe to the pocket folding board using the pipe setscrew ① .

9. Mounting the Air Gun



- 1) Insert the spiral tube ② of air gun ③ into the hollow side of Y-joint.
- 2) The air gun ③ shall be applied to the hook ④ on the right side of power switch ⑤ as shown in the figure.

10. Mounting the Pattern

For the mounting of pattern, refer to "Replacing the pattern" of V -15 (P 44).

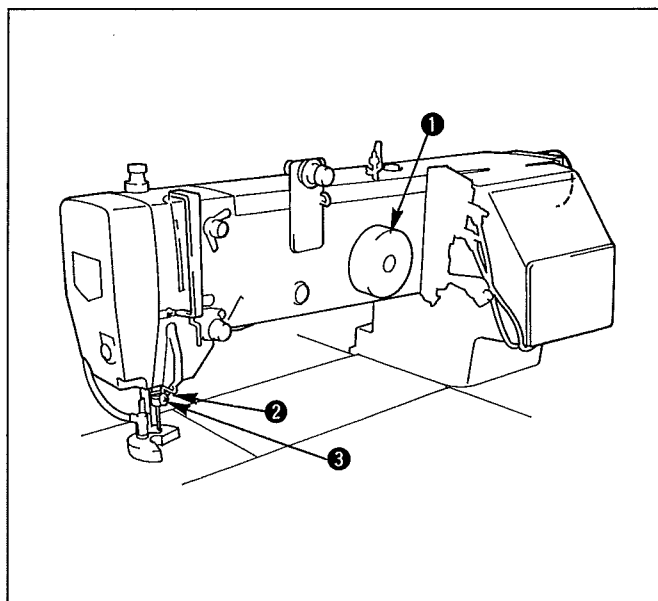
IV . OPERATION

1. How to install the needle



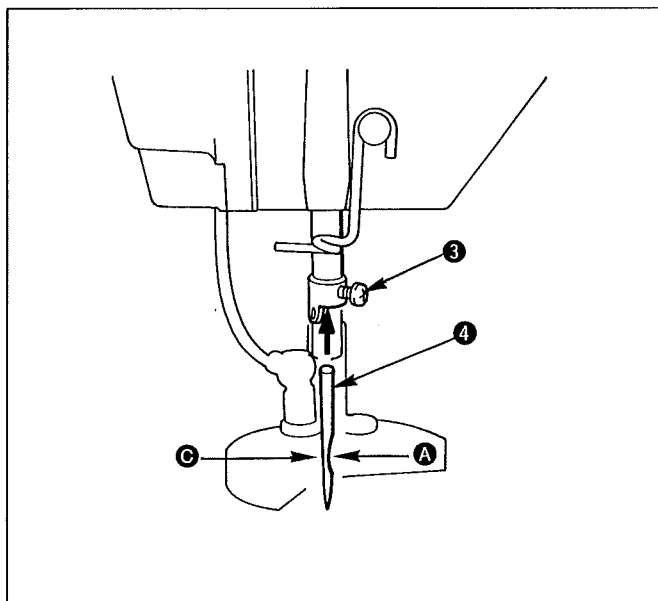
WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



Use a SCHMETZ 134 SES SERV 7 Nm : 130 needle
There are number of different size needles ; use the needle that is appropriate for the thread thickness and type of fabric.

- 1) Turn handwheel ❶ to lift needle bar ❷ to its highest position.
- 2) Loosen needle setscrew ❸ and turn needle ❹ so that its indentation A is on the handwheel side.
- 3) Push the needle deeply into the hole in the needle bar, in the direction of the arrow, until it hits the surface at the far end of the hole.
- 4) Tighten the needle setscrew very tightly.
- 5) Check to make sure that long groove C of the needle is on the face plate side.

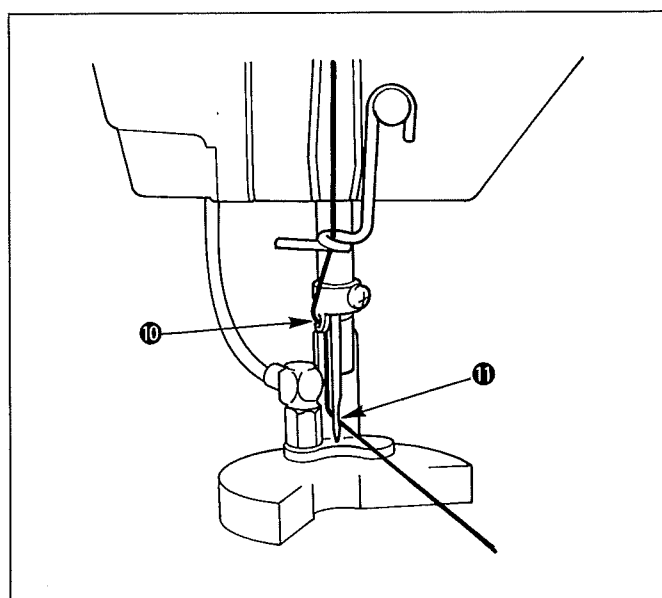
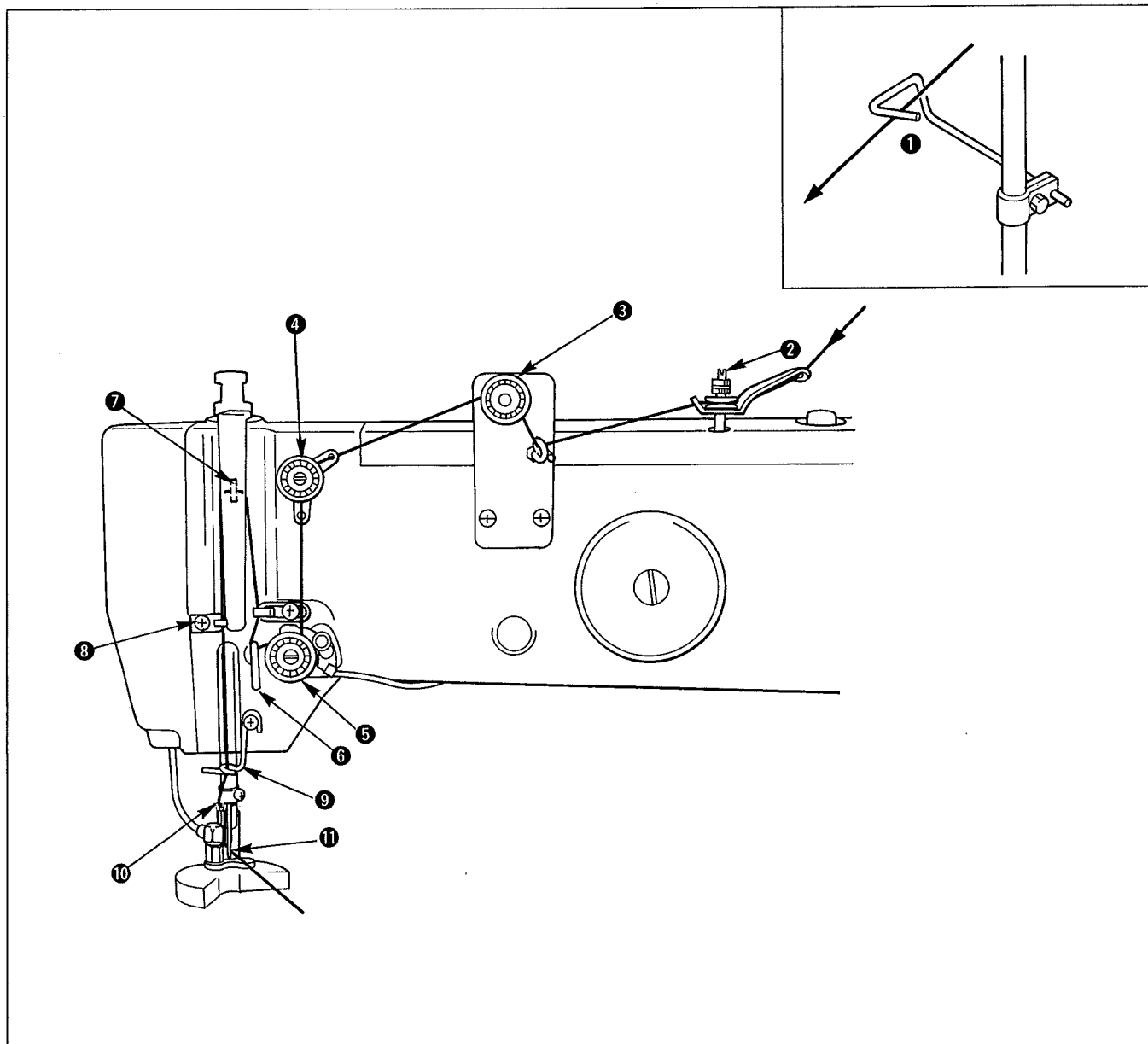


2. Threading the needle thread



WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



- 1) Thread the needle thread through the points shown in the figure, in the order of the numbers.
- 2) Pull out about 4 cm of the thread that passes through the needle.
- 3) For threading the thread while power is ON, please refer to the section on threading.

(Caution) Pass the thread over the front side of the disc of thread guide ② .

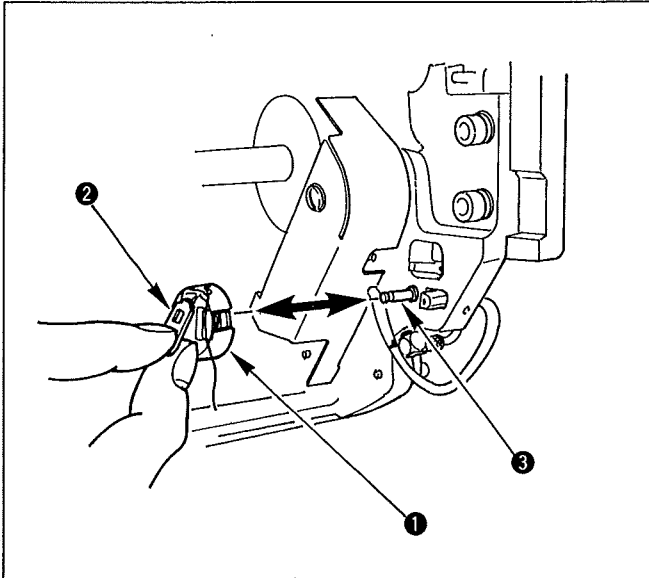
3. Installing / removing the bobbin case



WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine

- When the automatic bobbin winding and feeding device (AW) is used, install or remove the bobbin case at the bobbin case waiting position ③ of the AW device.



- 1) When taking out bobbin case ①, fully raise latch ② of bobbin case ① until it stops, and take out the bobbin case.

The bobbin fitted in bobbin case ① will not come off the bobbin case by holding latch ② with fingers.

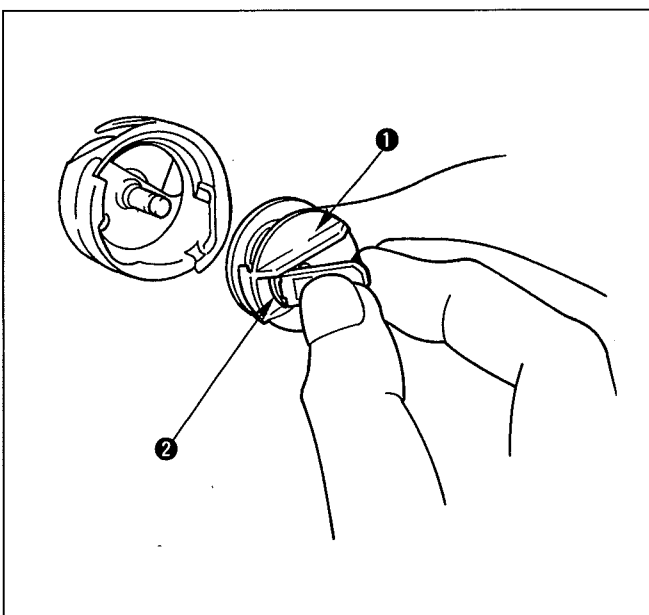
- 2) When installing the bobbin case, hold the bobbin case while pressing the bobbin.

When setting the bobbin case to bobbin case waiting position ③ of the AW device, push it to the position until you feel "click" when you push it by finger.

Hold the bobbin case in a way that it is turned clockwise by 90° to the way of normal setting of the bobbin case in the sewing machine hook, and set it.

(Caution) Please use the accessory exclusive bobbin case. Also, if it is not pushed in far enough, bobbin case ① might fall out. So, be careful.

- Perform the following procedure when manually taking the bobbin case out of or installing the bobbin case in the hook without using the automatic bobbin winding and feeding device (AW).



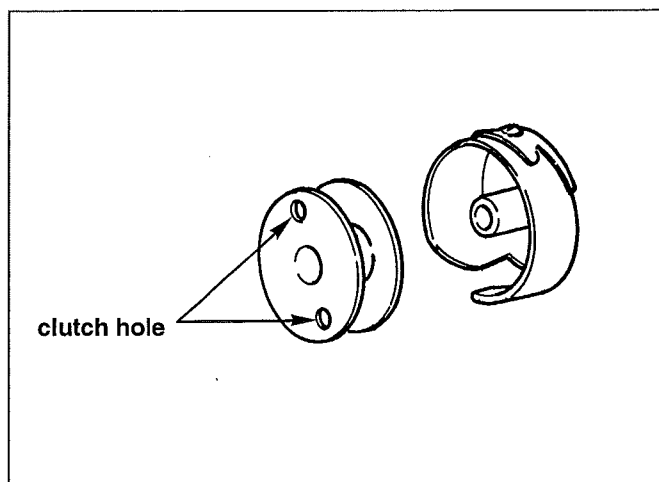
- 1) Fully raise latch ② of bobbin case ① until it stops, and take the bobbin case out of the hook. The bobbin fitted in bobbin case ① will not come off the bobbin case by holding latch ② with fingers.

- 2) To install the bobbin case in the hook, be sure to raise latch ② and fully fit the bobbin case over the hook driving shaft. Then release latch ② to let it down.

(Caution) Please use the accessory exclusive bobbin case. Also, if it is not pushed in far enough, bobbin case ① might fall out during sewing. So, be careful.

4. Setting a bobbin into the bobbin case

- Perform the following procedure when the automatic bobbin winding and feeding device (AW) is used.



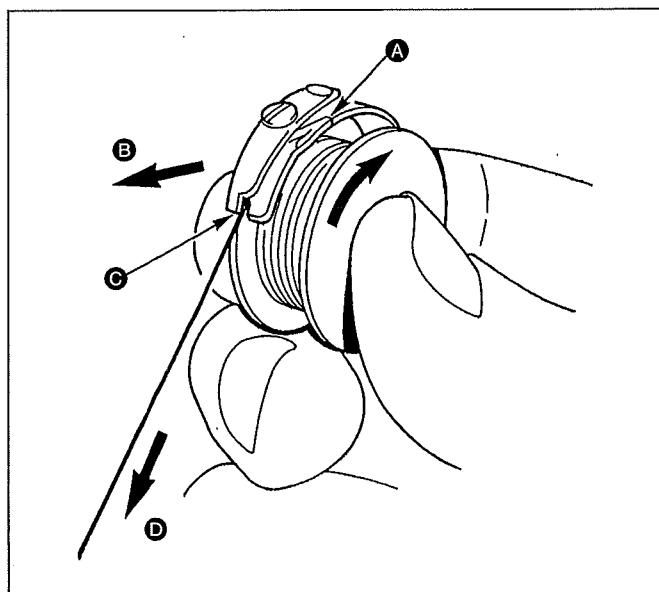
- 1) The AW device uses two sets of the bobbin that is set in the bobbin case.
- 2) Set the bobbin facing the clutch hole (2 places) in the bobbin toward the open side of the bobbin case.

(Caution) Be sure to wipe out the oil on the bobbin case before use.

Especially, wipe out the oil stuck to the inside of the bobbin case shaft.

Also, blow off, with the air gun, the oil entered under the bobbin idle prevention spring of the bobbin case.

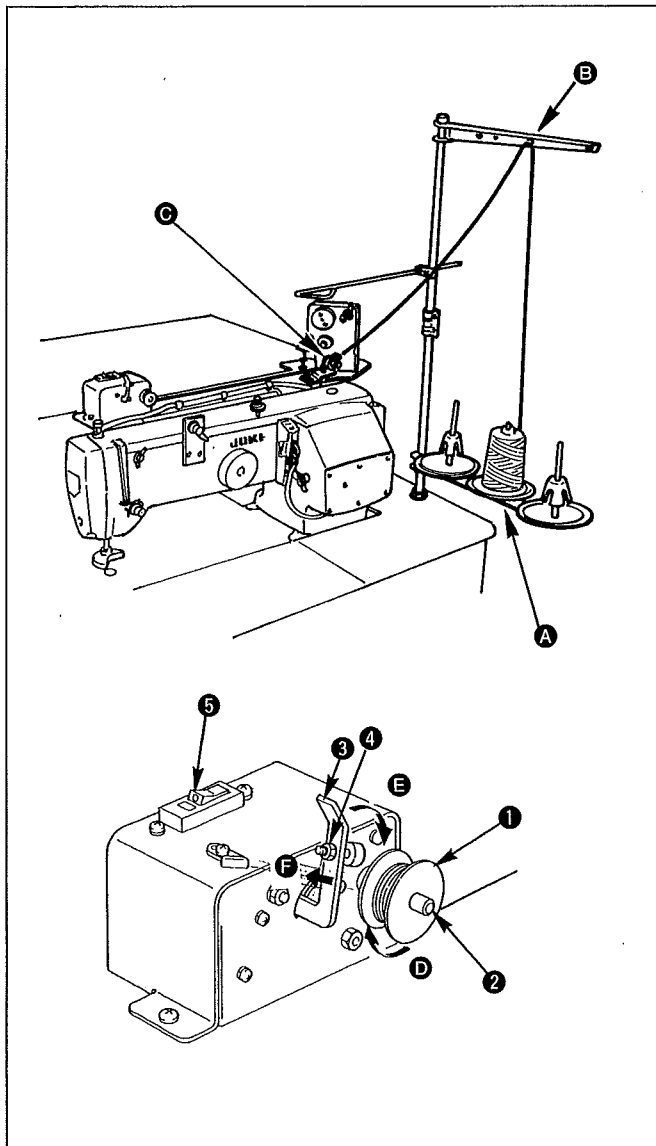
- Perform the following procedure when the automatic bobbin winding and feeding device (AW) is not used.



- 1) Hold the bobbin in a way that the thread open end is directed to the right as observed from you, and set the bobbin into the bobbin case.
- 2) Pass the thread through thread slit **A**, and pull the thread in direction **B**. By so doing, the thread will pass under the thread tension spring and come out from notch **C**.
- 3) Check that the bobbin rotates in the direction of the arrow when bobbin thread **D** is pulled.

5. Winding a bobbin

- Wind a bobbin in the following procedure when the automatic bobbin winding and feeding device (AW) is not used.

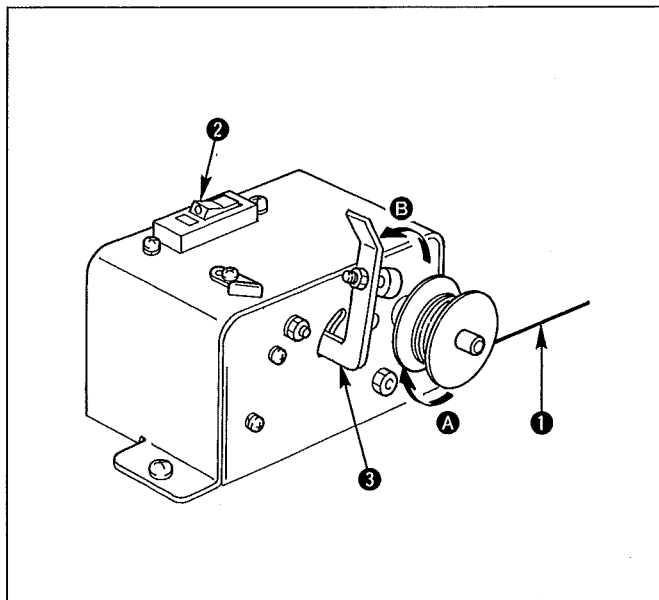


Route the thread in the order as illustrated in the figure on the lift before starting winding a bobbin. Place the thread at **A** of the thread stand, and pass the thread through **B** and tension controller **C**. Then wind the thread round bobbin.

- 1) Fit bobbin **1** over bobbin winding shaft **2**.
- 2) Pass the thread as illustrated in the figure, and wind the thread round bobbin four or five times in the direction of arrow **D**.
- 3) Push bobbin presser **3** toward the bobbin (in the direction of arrow **E**), and the bobbin winder will start winding the bobbin. It will automatically stop winding the bobbin when the predetermined amount of thread has been wound round the bobbin (80% of the outside diameter of bobbin).
- 4) To adjust the amount of thread to be wound round the bobbin, loosen screw **4** and change the position of the bobbin presser. (Moving the bobbin presser in the direction of arrow **F** will increase the amount of thread to be wound round the bobbin.)

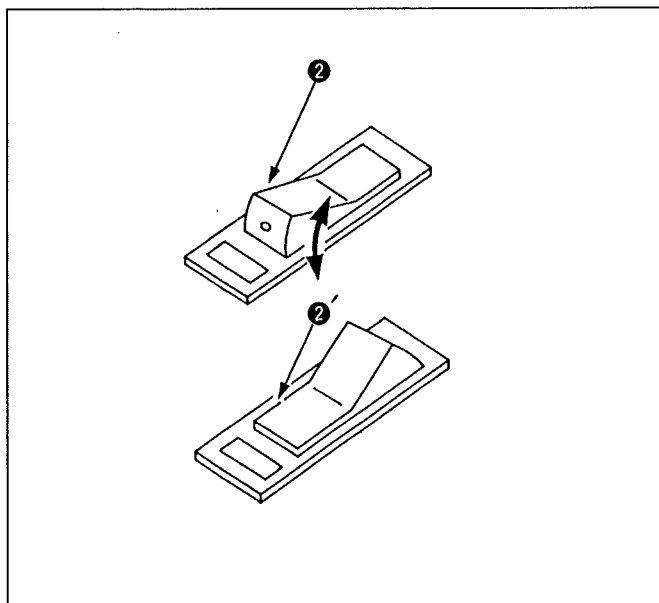
(Caution)

1. The bobbin winder will not actuate unless breaker **5** of the seesaw type switch is in its ON state (where the white engraved marker dot can be observed). It means that you can use breaker **5** as the bobbin winder switch.
2. There are times when even when breaker **5** is ON (the white dot is visible), the bobbin winder fails to operate. This means that inside, the breaker is actually OFF. Turn the breaker OFF and back ON.
3. Be sure to use the JUKI's genuine bobbins and bobbin cases.
4. When threading the bobbin thread from thread guide arm **B** to tension controller **C**, fix thread stand disc **A** in such a position that the disc **A** and arm do not interfere with the bobbin thread path between **B** and **C**.



(1) Bobbin winder circuit protector

- 1) When the bobbin winder is operated, it sometimes happens that thread ① catches on something, producing a force that tends to stop it from winding (A direction).
- 2) In such a case, to prevent the motor from burning out, circuit protector ② operates to temporarily break the circuit inside the bobbin winder, stopping the winder.

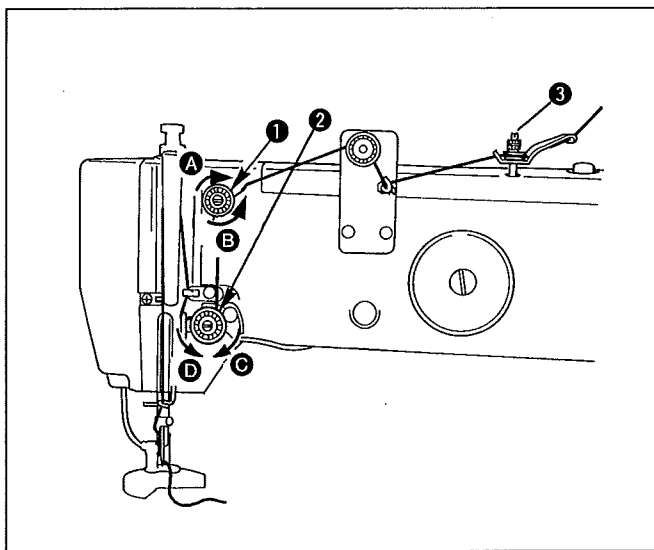


(2) Restoring the bobbin winder to operation after it stops

- 1) First flip bobbin presser ③ in the direction of arrow B, then turn the bobbin winder switch OFF.
- 2) Remove the cause of the force that tends to stop the thread from winding.
- 3) Temporarily flip the circuit protector switch from position ② to ②', then return it to ②.
- 4) Step 3) restores the circuit protector to its original status. When bobbin presser ③ is flipped back to the bobbin side and the bobbin winder switch is turned ON, the winder resume operation.

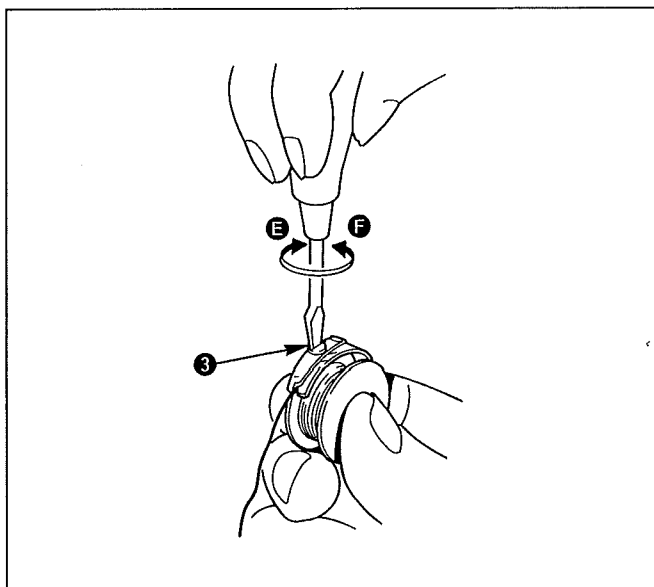
6. Thread tension

(1) Adjusting the needle thread tension



- 1) When No.1 tension controller ❶ is turned clockwise (arrow ❸), the amount of thread left on the needle tip after thread trimming is reduced.
- 2) When the tension controller is turned counterclockwise (arrow ❹), the amount of thread remaining is increased.
- 3) When No.2 tension controller ❷ is turned clockwise (arrow ❺), the needle thread tension becomes stronger.
- 4) When the tension controller is turned counterclockwise (arrow ❻), the tension becomes weaker.
- 5) Thread guide rod ❸ should apply as little tension as possible.

(2) Adjusting the bobbin thread tension

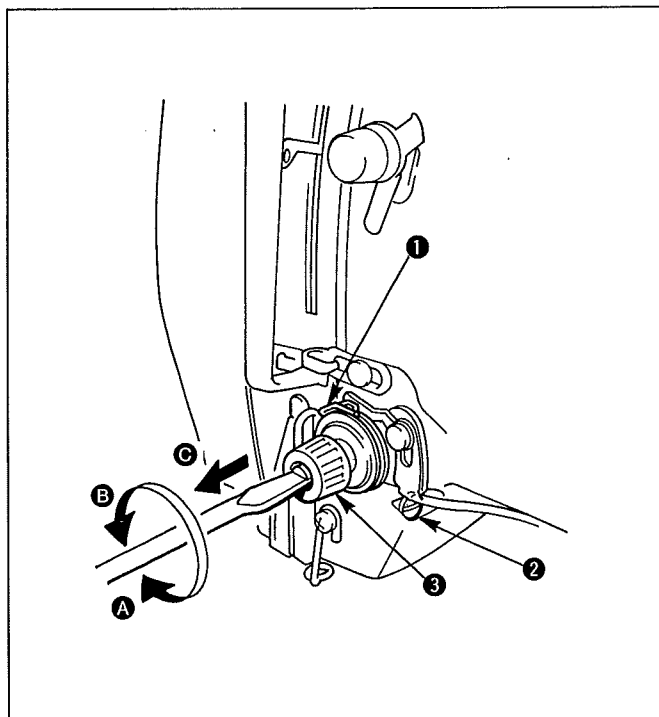


- 1) Turning tension controller ❸ clockwise (in direction ❶) will increase the bobbin thread tension.
- 2) Turning the tension controller counterclockwise (in direction ❷) will decrease the bobbin thread tension.

(Caution) When the AW device is used, adjust the bobbin thread tension of two bobbin cases used to almost the same.

7. Thread take-up spring

(1) Adjusting the stroke of thread take-up spring



- 1) The standard stroke of the thread take-up spring is 10 to 12 mm.
- 2) To change the stroke of thread take-up spring ①, loosen screw ② in the tension post socket, fit a flat-bit screwdriver in the groove in tension post ③ and turn the post with the screwdriver. Turning the post clockwise (in direction A) will increase the stroke. Turning it counterclockwise (in direction B) will decrease it.

(2) Adjusting the pressure of thread take-up spring

- 1) The pressure of the thread take-up spring should be adjusted to 0.15 to 0.25N when it starts pulling the thread.
- 2) Fit a flat-bit screwdriver in the groove in tension post ③, and turn the tension post clockwise (in direction A) to increase the pressure of thread take-up spring, or counterclockwise (in direction B) to decrease it.

(Caution)

1. When adjusting the stroke of thread take-up spring, the position of the thread breakage detecting plate should also be adjusted. Adjust the position of the thread breakage detecting plate so that it always comes in contact with the thread take-up spring when the thread take-up spring is not threaded. (Deflection of the spring is approximately 0.5 mm)
- * Do not adjust the stroke of thread take-up spring using the thread breakage detecting plate. Doing so may result in thread take-up spring breakage.
2. Confirm that the tension disc comes in close contact with the thread take-up spring after the stroke of thread take-up spring after the stroke of thread take-up spring has been adjusted. If the tension disc does not come in close contact with the thread take-up spring, loosen screw ② in the tension post socket, and draw the tension post in direction C to make the adjustment.

8. Threading the bobbin thread

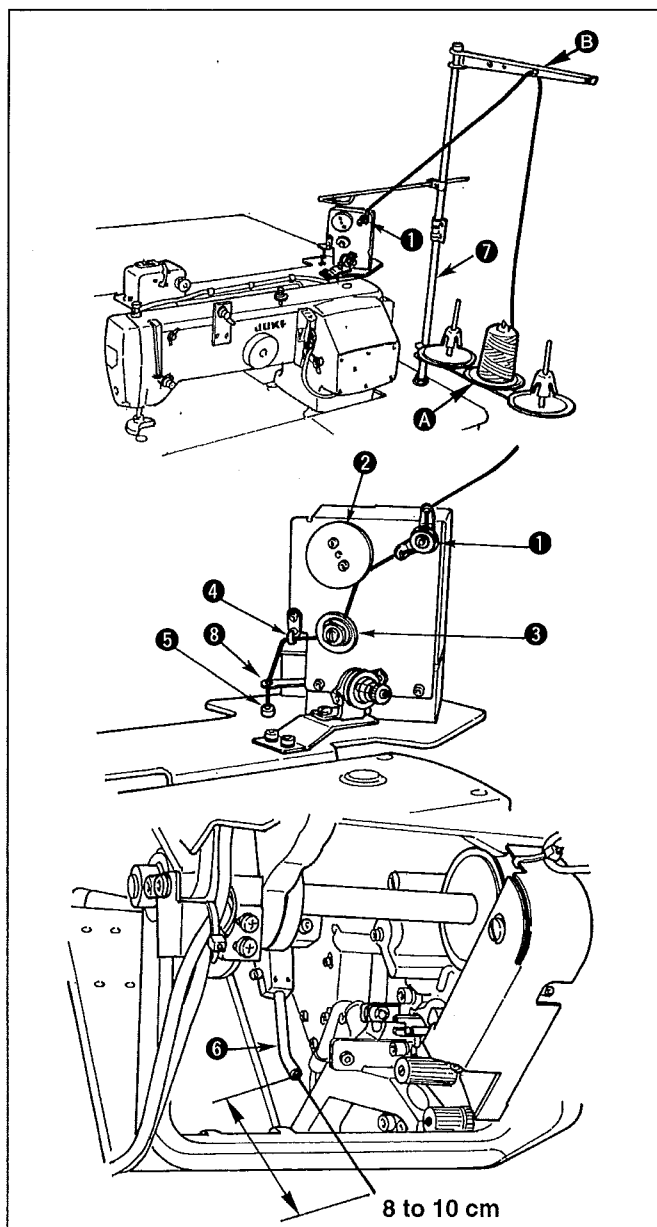
- Perform the following procedure when threading the bobbin thread through the automatic bobbin winding and feeding device (AW).

Key [0] =Manu bbn chg
Key [1] =Take out bbn
Key [2] =Wind bbn set
Key [3] =Wound bbn set
Key [4] =Nozzle air sw
Key [5] =Table sw

AW operation switch selection screen

Please check bobbin
Key [1] =Take out bbn
Key [2] =Wind bbn set
Key [3] =Wound bbn set
Key [4] =Nozzle air sw
Key [5] =Table sw

Bobbin check screen



- 1) Set the screen in the operation panel of AVP to the AW operation switch selection screen.
(See the description given in V -12.)
Or, check that the screen is the bobbin check screen.

- 2) Place the bobbin thread cone on thread stand disk **A** located in the center of the thread stand.
- 3) Pass the thread coming from the bobbin thread cone through thread guide arm **B** and thread tension **1**, and after winding the thread one turn around thread length measurement roller **2**, pass the thread through thread guides **4** and **8** via thread tension **3**.
- 4) Press the numeric key **[4]** according to the AW operation switch selection screen to discharge air from bobbin thread feeding nozzle **6**.
- 5) Draw the thread end near to suction hole **5**, gradually enter the thread into the tube, and feed the thread. Then take out the thread end of approximately 8 to 10 cm long from top end of the nozzle **6**.

(Caution) 1. When passing the bobbin thread from thread guide arm **B to thread tension **1**, fix thread stand disk **A** so that thread stand disk **A** of the thread stand and the thread guide arm do not interfere with the bobbin thread route between **B** and **1**.**

2. Set thread guide arm **B and thread stand disk **A** in parallel so that the bobbin thread can be vertically guided.**

3. Fix spool stand disk **A at the bottom of thread stand bar **7**.**

9. Replacing the bobbin thread cone

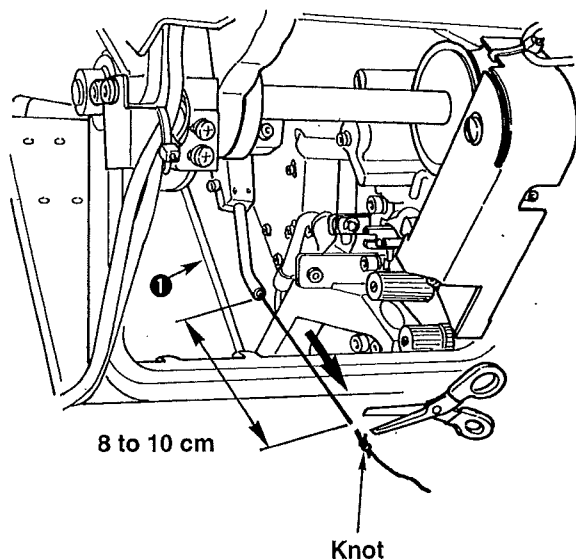
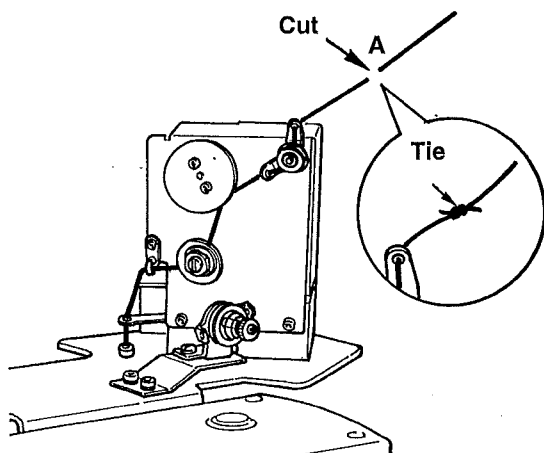
- Perform the following procedure when the automatic bobbin winding and feeding device (AW) is used.

Key [0] =Manu bbn chg
Key [1] =Take out bbn
Key [2] =Wind bbn set
Key [3] =Wound bbn set
Key [4] =Nozzle air sw
Key [5] =Table sw

AW operation switch selection screen

Please check bobbin
Key [1] =Take out bbn
Key [2] =Wind bbn set
Key [3] =Wound bbn set
Key [4] =Nozzle air sw
Key [5] =Table sw

Bobbin check screen



- 1) Set the screen in the operation panel of AVP to the AW operation switch selection screen.
(See the description given in V -12.)
Or, check that the screen is the bobbin check screen.

- 2) Cut the thread coming from the bobbin thread cone at point A.
- 3) Set a new cone and tie the thread at point A.

- 4) Press the numeric key **[4]** according to the AW operation switch selection screen to discharge air from bobbin thread feeding nozzle **①**.
- 5) Slowly draw out the knot tied the thread coming from the top end of bobbin thread feeding nozzle **①** at point A up to the length of approximately 8 to 10 cm from the top end, and cut the thread from the part of knot.

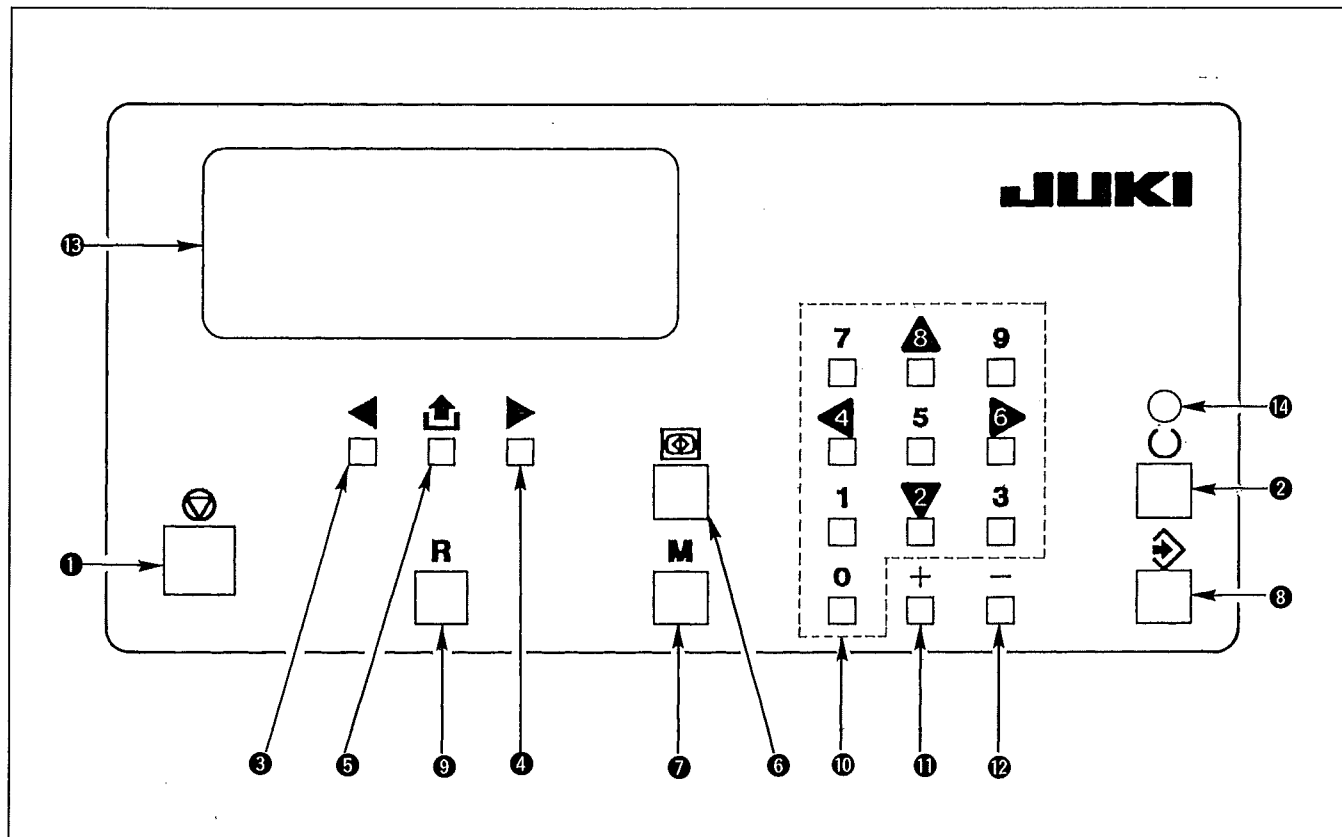
V. SWITCHES AND INDICATOR LAMPS ON THE OPERATION PANEL










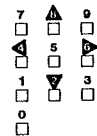
WARNING :



To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

1. Switches on the operation panel



Panel indication	Function and operation
① Pause switch 	Press this switch if you hear an abnormal noise or when you want to stop the machine at emergency while the machine is in operation or when you want to stop the machine at emergency. The sewing machine and holders stop movement.
② Machine ready key 	Used to change over the operation mode between the "Standby mode" and the "Run mode". Various data items are changed and adjusted under the "Standby mode". Sewing is performed under the "Run mode".
③ Jog key to shift data correcting position to the left 	Used to shift the pictograph that is flashing on and off to the left. (If this key is held pressed for 0.7 sec. or longer, the pictograph will be automatically shifted in succession.)

<p>④ Jog key to shift data correcting position to the right</p> 	<p>Used to shift the pictograph that is flashing on and off to the right. (If this key is held pressed for 0.7 sec. or longer, the pictograph will be automatically shifted in succession.)</p>
<p>⑤ Screen change-over key</p> 	<p>Used to change over the screen shown on the display or the setting mode.</p>
<p>⑥ Standard screen key</p> 	<p>Used to invoke the standard screen on the display.</p>
<p>⑦ Mode screen key</p> <p>M</p>	<p>Used to invoke the mode selection screen on the display.</p>
<p>⑧ Enter key</p> 	<p>Used to save entered data in the system.</p>
<p>⑨ Reset key</p> <p>R</p>	<p>Used to reset an error or to resume the operation.</p>
<p>⑩ Numeric keys (ten-digit keys)</p> 	<p>Used to specify data.</p>

⑪ Plus key 	Used to increase data by the minimum unit.
⑫ Minus key 	Used to decrease data by the minimum unit.
⑬ LCD display unit	<p>Indicates specified data, state of the machine and function used.</p> <p>Normally, pictographs 1 through 4 are shown on the LCD display unit. One of them flashes on and off at all times.</p> <p>The pictograph flashing on and off is the pictograph representing the item being corrected. Data on the item can be entered.</p>
⑭ Mode indicator LED	<p>Used to indicate either the “Standby mode” and the “Run mode”.</p> <p>Under the “Standby mode”, the LED goes out.</p> <p>When the power to the machine is turned on, the machine enters the “Standby mode”. Under the “Run mode”, the LED lights up.</p> <p>Under this mode, the sewing can be conducted.</p>

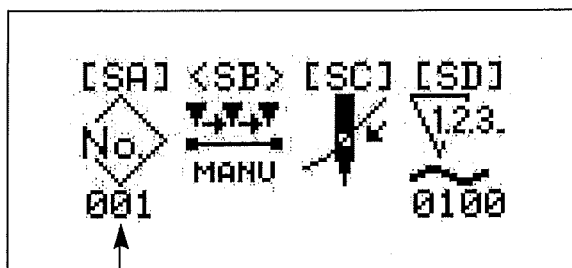
2. Setting a pattern number



WARNING :

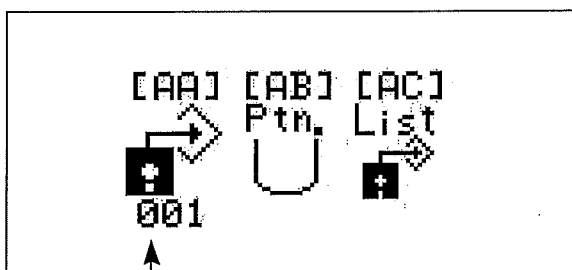
To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

Before starting the operation, a sewing pattern number has to be specified.



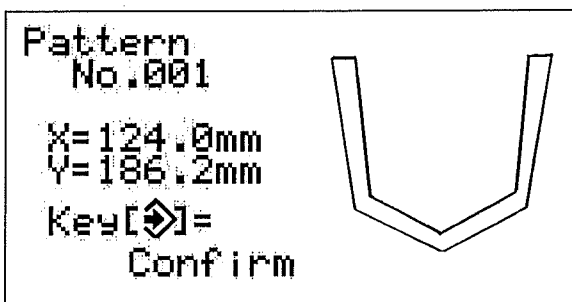
Standard screen

Pattern number



Pattern number setting screen

Pattern number




Pattern shape indicating screen

X = Lateral length of the pattern shape





Y = Longitudinal length of the pattern shape

- 1) When the power to the machine is turned ON, the display of the operation panel gives the standard screen.
- 2) If the back-up pattern number is acceptable, the pattern number setting procedure can be omitted.
- 3) Set pictograph number [SA] to the "being corrected" state (the pictograph flashes on and off) and press the Screen change-over key , and the pattern number setting screen will be shown on the display.
- 4) Set pictograph number [AA] in the "being corrected" state. Then, press numeric keys (through) to enter a pattern number.

(Example) To select pattern number 1, press the keys in the written order.
- 5) Press the Standard screen key , and the entered number will be rendered ineffective and the standard screen will be restored on the display.
- 6) Press the Enter key , and the relevant pattern will be invoked from the floppy disk and the pattern shape indicating screen will appear on the display.
- 7) Check the pattern shape and press the Enter key . This will shift the mode to the pattern check mode. If the Standard screen key or the Mode screen key is pressed, the screen corresponding to the key pressed will appear on the display.
- 8) If the pattern shape is not the one you need, press the Standard screen key to restore the standard screen on the display and re-carry out the data entry.

(Caution) 1. The pattern number setting screen will be invoked only when the mode indicator LED on the operation panel goes out (the Standby mode). If the mode indicator LED shows that the machine is in the Run mode, press the Machine ready key  to enter the Standby mode, then specify a pattern number.

2. If you have changed the pattern number, check to be sure that the pattern groove on the holder matches the sewing pattern referring to the description given in "Pattern checking procedure" of V -16 (P 46).

- 9) Set pictograph number [AB]  in the "being corrected" state on the pattern number setting screen and press the Screen change-over key , and the pattern shape stored in memory will be shown on the display.
- 10) Set pictograph number [AC]  in the "being corrected" state on the pattern number setting screen and press the Screen change-over key , and all the pattern numbers written on the floppy disk will be given on the display.

3. Setting the “manual / auto / step” mode



WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

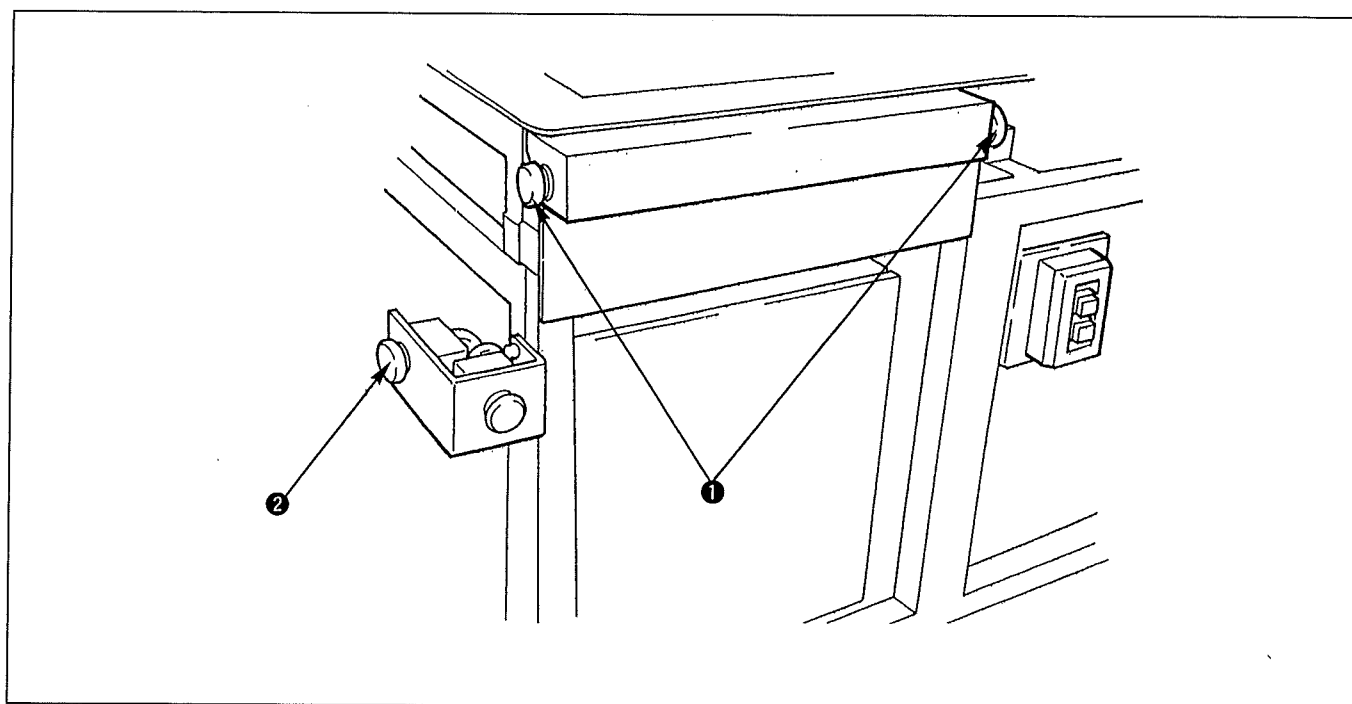
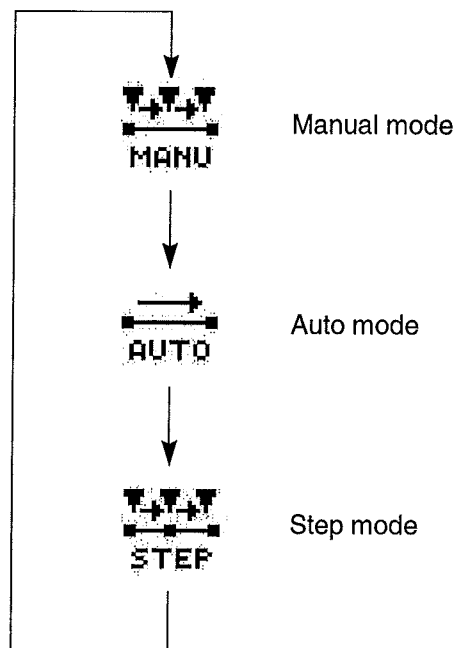
[SA] <SB> [SC] [SD]

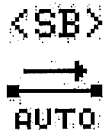
 001 0100

Standard screen

- 1) Set pictograph number <SB> to the “being corrected” state (the pictograph flashes on and off).

Now, pressing the Screen change-over key will change over the operation mode among the manual mode, auto mode and step mode.





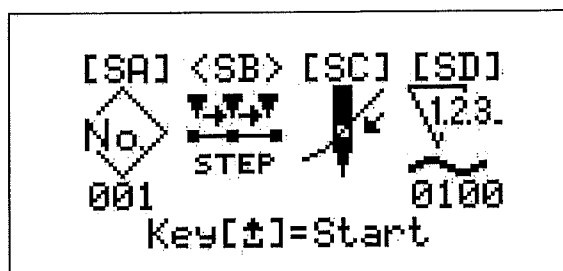
: Auto mode


After setting completion switch ❶ is pressed, the machine will perform a predetermined series of operations until stacking of the finished pocket is completed.



: Manual mode

The machine stops once upon completion of the folding and **Key[↑]=Start** is given on the standard screen of the display on the operation panel.




Then, press the Screen change-over key  to start the subsequent operation or press setting release switch ❷ to resume the initial state.



: Step mode

When setting completion switch ❶ is pressed, the folding unit comes down and **Key[↑]=Start** will be shown on the standard screen of the display on the operation panel.

The air cylinder sequence will be carried out step by step by pressing the Screen change-over key .

Sewing will also be carried out.

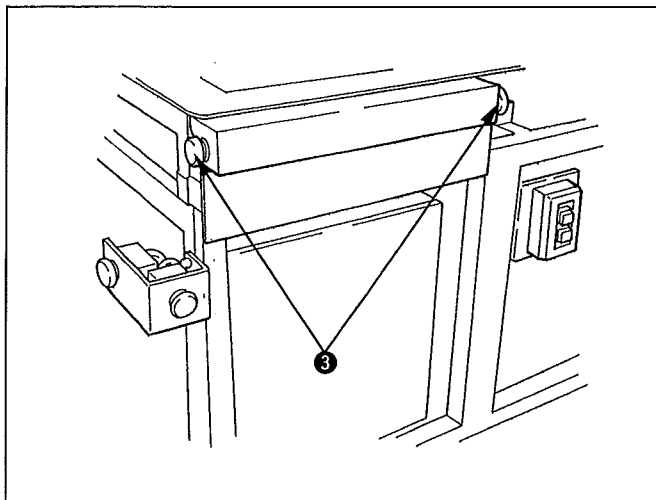
(Caution) The power switch should be turned off for the protection of the machine after the completion of the sequence (when the stacker operation completes).

4. Fabric setting, starting and removal



WARNING :

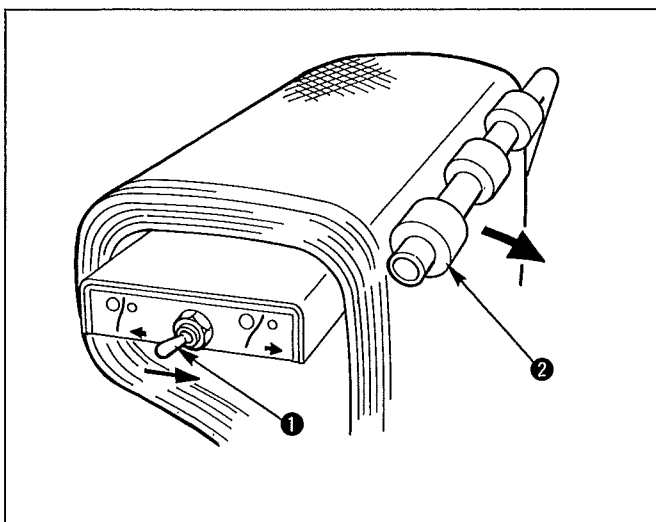
To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).



- 1) Once a pocket piece and a garment body are placed in position, press setting completion switches ③ by both hands. This will start the folding performance.

(Caution)

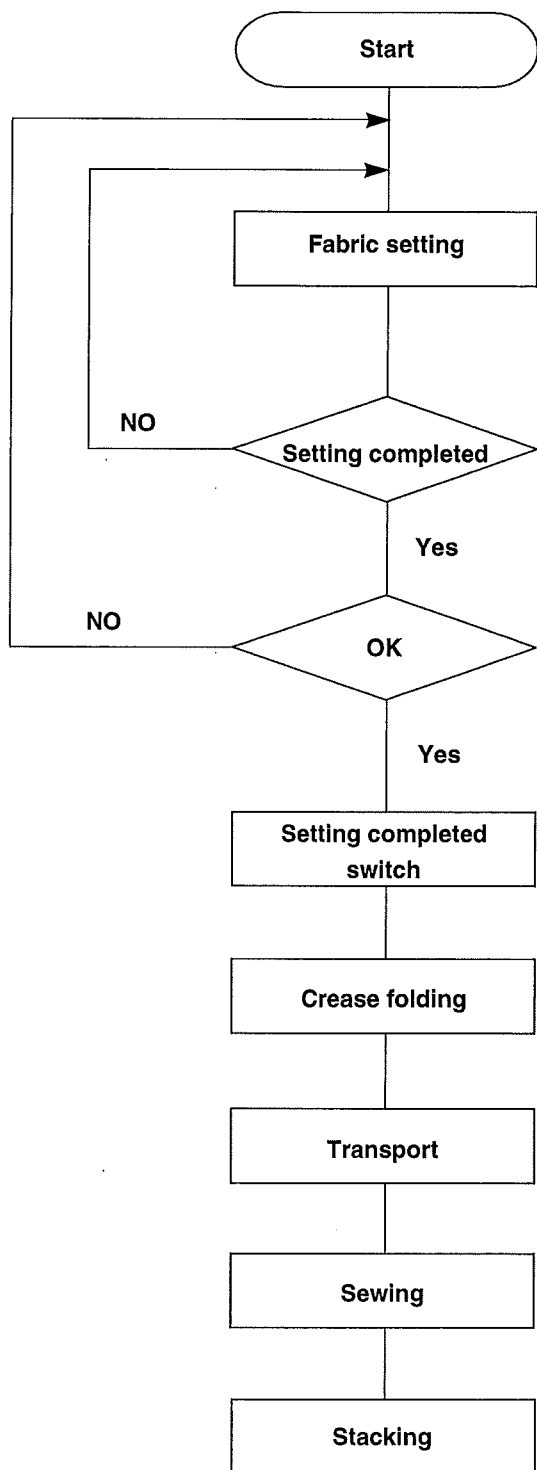
1. If a hand is left on the table, there is a danger that it will be caught between the table and the base plate during folding, so do not place a hand on the table.
2. There are setting completion switches ③ on both the right and left sides. For safety, operation starts only when both switches are pressed. Press with both hands.



- 2) Change over the set position of switch ① mounted on the left-hand side of the stacking board of the main unit of the stacker, and holder arm ② will shift in the direction of the arrow to allow you to remove the finished garment body.

(Caution)

After the garment body is taken out from the stacker, be sure the change over the set position of the switch to the previous one. If not, the stacker will not normally operate.



If the garment body position and pocket cloth position are correct, press the setting completed switch.

In automatic mode, transport, sewing and stacking are done automatically when crease folding is completed.

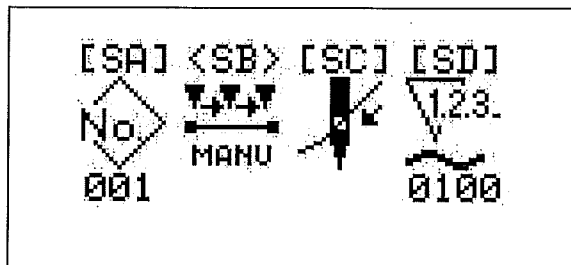
5. Threading the needle



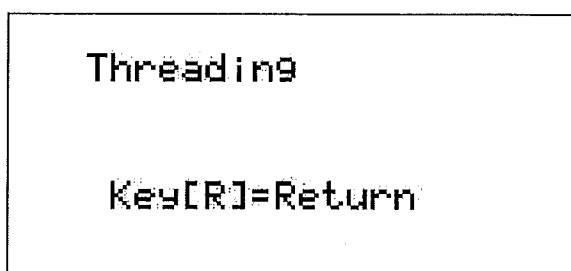
WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

When the standard screen appears on the display, the holder is in the upper position. This makes it difficult to thread the needle eyelet. Select the threading mode to thread the needle.



Standard screen



Threading screen

- 1) Set pictograph number [SC] in the "being corrected" state (the pictograph flashes on and off) on the standard screen and press the Screen change-over key .
- 2) The work clamp plunger and the holder come down and the threading screen will appear on the display.
- 3) After the needle is threaded, press the Reset key **R**, and the holder and the work clamp plunger will go up and the standard screen will be restored on the display.

6. Setting / resetting the number of pieces counter

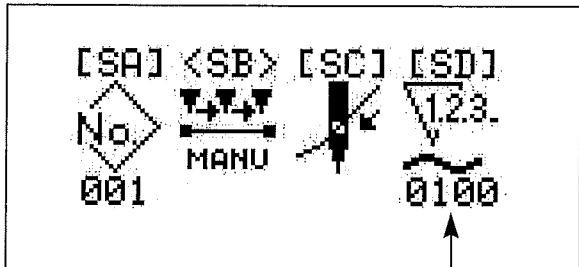


WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

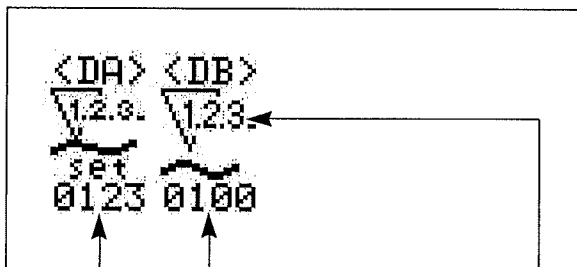
When the preset number of pieces specified is reached, the sewing machine will stop running.

Either the count-up method or the count-down method can be specified for the number of pieces counter.



Standard screen

Number of pieces finished

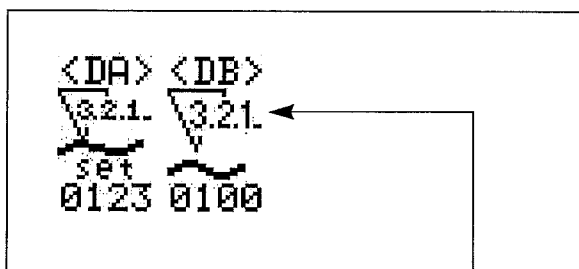


Number of pieces counter setting screen



Preset number of pieces

Number of pieces finished




Count-up method








Count-down method

- 1) Set pictograph number [SD]  in the "being corrected" state (the pictograph flashes on and off) on the standard screen and press the Screen change-over key .

- 2) The number of pieces counter setting screen appears on the display.

- 3) Set pictograph number <DA>  in the "being corrected" state on the standard screen and specify the number of pieces to be sewn using the numeric keys  through .





(Example) To set the number of pieces counter to 234, press the keys , ,  and  in the written order.

- 4) Pressing the Screen change-over key  will change over the counting method of the counter between the count-up method and the count-down method.

Count-up method : The counter, starting from "0000", adds one (1) to the value after one piece of pocket is finished.

When the preset number of pieces is reached, the machine will stop running.

Count-down method : The counter, starting from the preset number of pieces specified, subtracts one (1) from the value after one piece of pocket is finished. When "0000" is reached, the sewing machine will stop running.

- 5) In the case where the preset number of pieces on the counter is "0000", the counter works as an endless counter in the count-up or count-down method. In this case, the sewing machine will not stop running corresponding to the counter.
- 6) Set pictograph number [DB]  in the "being corrected" state and press the Reset key **R**, and the number of pieces given on the counter will be reset (to "0000" for the count-up method or to the preset number of pieces for the count-down method).
- 7) Press the Standard screen key  on the number of pieces setting screen, the established data will be rendered ineffective and the standard screen will be restored on the display.
- 8) Confirm the specified value for the number of pieces counter and press the Enter key .
The established set value will be rendered effective and the standard screen will be restored on the display.
- 9) Set pictograph number [SD]  in the "being corrected" state and press the Reset key **R**, and the number of pieces given on the counter will be reset to the initial value.
If the Reset key **R** is pressed after the initial value has been resumed, the initial value will be replaced by the number that has been shown on the counter before the initial value is resumed.

7. Setting / resetting the number of stitches counter

(When the automatic bobbin winding and feeding device is not provided.)



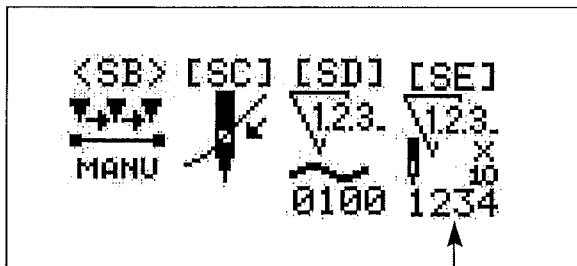
WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

When the sewing machine completes sewing and the value given on the counter exceeds the preset value, the machine will stop running to warn the operator to replace the bobbin thread.

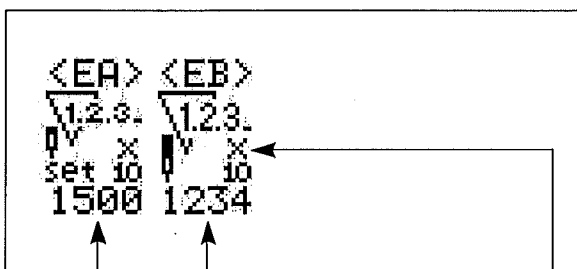
Either the count-up method or the count-down method can be specified for the number of stitches counter.

* When the AW device is selected (operation panel DIPSW 2-8 is ON), this item is not displayed.



Standard screen

Number of stitches on the counter

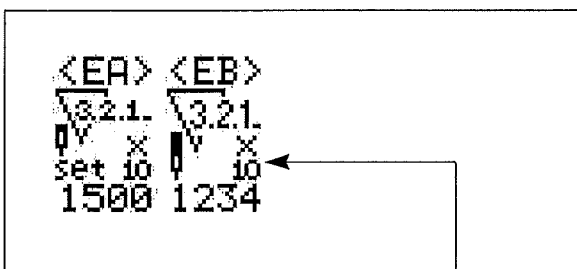


Preset number of stitches

Number of stitches on the counter



Count-up method




Number of stitches setting screen









Count-down method


- 1) After the standard screen appears on the display, press the jog key ► to shift data correcting position to the right four times, and the indication shown on the left will appear on the display.

Set pictograph number [SE]  in the "being corrected" state (the pictograph flashes on and off) and press the Screen change-over key .


- 2) The number of stitches setting screen appears on the display.
- 3) Set pictograph number <EA>  in the "being corrected" state on the standard screen and specify the number of stitches using the numeric keys  through .

(Example) To set the number of stitches counter to 1600, press the keys , ,  and  in the written order.

- 4) Pressing the Screen change-over key  will change over the counting method of the counter between the count-up method and the count-down method. If the number of stitches is set to "0000", the counter can be used as an endless counter.
- 5) If the Standard screen key  is pressed on the number of stitches setting screen, the established value will be rendered ineffective and the standard screen will be restored on the display.

- 6) Confirm the set value for the number of stitches counter and press the Enter key .

The set value will be rendered effective and the standard screen will be restored on the screen.

- 7) Set pictograph number [SE]  in the “being corrected” state and press the Reset key **R**, and the number of stitches given on the counter will be reset to the initial value.

If the Reset key **R** is pressed after the initial value has been resumed, the initial value will be replaced by the number that has been shown on the counter before the initial value is resumed.

(Caution) The number of stitches shown on the counter is indicated in the unit of “indicated number x 10.”

For example, if “0160” is shown on the screen, the actual number specified for the number of stitches counter is 1600. This indicating method also applies to other specified values.

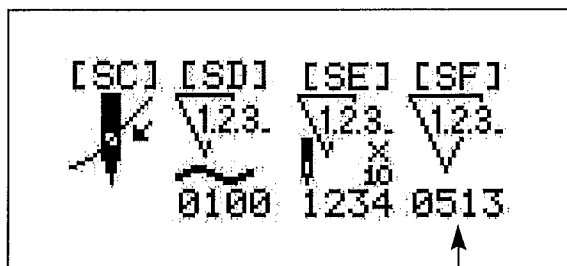
8. Indicating the total counter and resetting it



WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

The total counter indicates the total number of pieces finished.



Standard screen

Value on the total number of pieces counter

- 1) After the standard screen appears on the display, press the jog key ► to shift data correcting position to the right four times, and the indication shown on the left will appear on the display.

Set pictograph number [SF] ▽₂₃ in the "being corrected" state (the pictograph flashes on and off) and press the Reset key **R**. This will clear the value shown on the counter to "0000".

9. Selection of the number of stitches input mode with the AW device (When the automatic bobbin winding and feeding device is provided.)



WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

AUTO / MANUAL setting can be performed for the bobbin replacement with the automatic bobbin winding and feeding device (AW).

* When the AW device is selected (operation panel DIPSW 2-8 is ON), this item is displayed.

- AUTO Number of stitches for bobbin replacement can be automatically set from the read pattern or preset bobbin winding amount. In addition, the preset number of stitches can be automatically updated from the amount of unwinding at the time of bobbin replacement.

When "AUTO" is selected, the updated number of stitches becomes the initial value by the following operations.

- ① When the pattern is read.
- ② When the bobbin is replaced on the AW operation SW selection screen.
- ③ When the bobbin is taken out on the AW operation SW selection screen.
- ④ When the length of bobbin winding is changed on the AW device action mode setting screen.
- ⑤ When "MANU" is changed over to "AUTO" in the number of stitches input mode with the AW device. actual amount of unwinding and change the setting of the length of unwinding allowance to a smaller value.


- (Caution) 1. Selection of the length of unwinding allowance at the time of bobbin replacement is set with the DIP switch (DIPSW 2-6, 2-7). However, if the sewing specifications do not agree with the DIP switch setting the bobbin thread in the bobbin may be used up on the way of sewing. So, be careful. (See the description given in V-30.) Set the length of unwinding allowance to 3.5 m until you are familiarized with the operation of AVP using the AW device.
2. When the length of unwinding allowance is set at a small value, the bobbin thread may be used up in accordance with the change of the consumption of the bobbin thread. Accordingly, when changing the set value, perform the operation after checking the actual amount of unwinding, one pattern + length of unwinding allowance or more, beforehand.
3. Waiting may occur at the time of bobbin replacement if the length of unwinding allowance is 3.5 m in accordance with the sewing specifications such as bobbin thread count, length of bobbin winder, sewing pattern, etc. In this case, check the actual amount of unwinding and change the setting of the length of unwinding allowance to a smaller value.
4. When the bobbin thread tensions of the two bobbins are different from each other, the amounts of remaing threads of the respective bobbins differ. Accordingly, adjust so that the bobbin thread tensions of the two bobbins are almost equal.

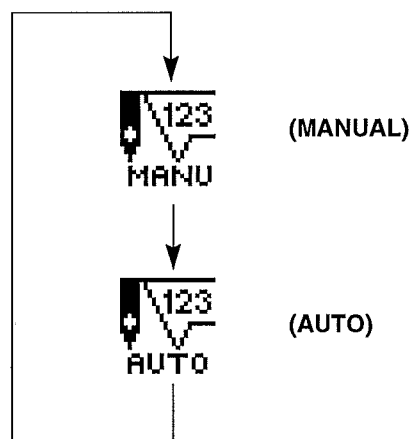
■ MANUAL Bobbin replacement can be performed at the preset number of stitches for bobbin replacement.



Standard screen

Selection of number of stitches input mode with AW device

- 1) Set pictograph number <SG> in the "being corrected" state (flash on and off) on the standard screen and press the screen change over key , and the following screen appears.



10. Setting / resetting the number of stitches for bobbin replacement with the AW device (When the automatic bobbin winding and feeding device is provided.)



WARNING :

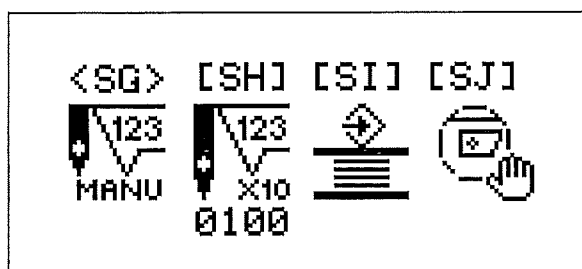
To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

When the sewing machine completes sewing and the value given on the counter exceeds the preset value, bobbin replacement can be performed.

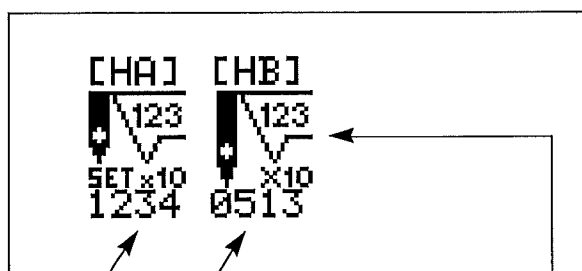
Either the count-up method or the count-down method can be specified for the number of stitches counter.

* When the AW device is selected (operation panel DIPSW 2-8 is ON), this item is displayed.

(Caution) Perform setting here only when [SG], selection of number of stitches input mode with AW device, is set to "MANUAL". In case of "AUTO", the preset value is automatically applied.



Standard screen

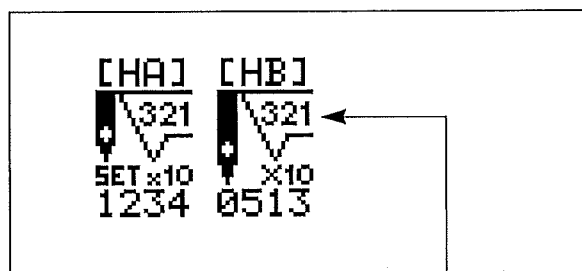


Preset
number
of stitches

Number of
stitches on
the counter

Count-up method

Number of stitches for bobbin replacement with AW device setting screen



Count-down method

1) Set pictograph number [SH] $\downarrow \frac{123}{x10}$ in "being corrected" state (the pictograph flashes on and off), and press the screen change over key \uparrow .

2) The number of stitches for bobbin replacement with the AW device setting screen appears on the display.

3) Set pictograph number [HA] $\downarrow \frac{123}{SET x10}$ in "being corrected" state and specify the set value using the numeric keys $\boxed{0}$ through $\boxed{9}$.

(Example) To set the number of stitches counter to 1600, press the keys $\boxed{0}$, $\boxed{1}$, $\boxed{6}$ and $\boxed{0}$ in the written order.

4) Pressing the screen change over key \uparrow will change over the counting method of the counter between the count-up method and the count-down method.

5) If the standard screen key [SG] is pressed on the number of stitches setting screen, the established value will be rendered ineffective and the standard screen will be restored on the display.

6) Confirm the set value and press the enter key \rightarrow . The set value will be rendered effective and the standard screen will be restored on the screen.

7) Set pictograph number [SH] $\downarrow \frac{123}{x10}$ in "being corrected" state and press the reset key **R**, and the number of stitches given on the counter will be reset to the initial value.

If the reset key **R** is pressed after the initial value has been resumed, the initial value will be replaced by the number that has been shown on the counter before the initial value is resumed.

(Caution) The number of stitches shown on the counter is indicated in the unit of "indicated number x 10".

For example, if "0160" is shown on the screen, the actual number specified for the number of stitches counter is 1600. This indicating method also applies to other specified values.

11. Setting the AW device action mode

(When the automatic bobbin winding and feeding device is provided.)

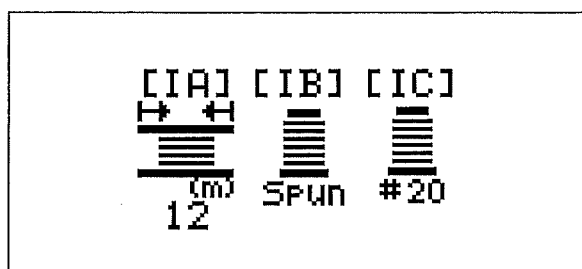
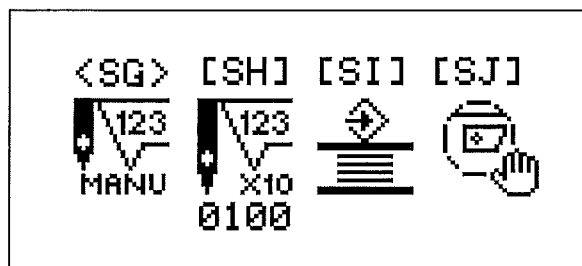


WARNING :









To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

When the automatic bobbin winding and feeding device (AW) is used, setting of length of bobbin winding (m), thread type and thread count can be performed. The maximum length of bobbin winding is determined in accordance with the thread type and thread count.

* When the AW device is selected (operation panel DIPSW 2-8 is ON), this item is displayed.



AW device action mode setting screen

- 1) Set pictograph number [SI]  in "being corrected" state and press the screen change over key .
- 2) The AW device action mode setting screen will appear on the display.
- 3) Set pictograph number [IA]  in "being corrected" state and input the length of bobbin winding using the numeric keys **0** through **9**.
The minimum length of bobbin winding is 2 m and the maximum length varies in accordance with the thread type and thread count. (See Table 1.)
- 4) Set pictograph number [IB]  in "being corrected" state and press the screen change over key  to specify the thread type.
(See Table 1 for setting item.)
- 5) Set pictograph number [IC]  in "being corrected" state and press the screen change over key  to specify the thread count.
(See Table 1 for setting item.)
- 6) Confirm all of the set values and press the ente key .

The set values will be rendered effective and the standard screen will be restored on the screen.

Cotton thread	#20	TEX90	TKT30	Max. 15 m
	#30	TEX60	TKT50	Max. 23 m
Spun thread	#20	TEX90	TKT30	Max. 15 m
	#30	TEX60	TKT50	Max. 23 m
	#40	TEX50	TKT60	Max. 30 m
	#50	TEX40	TKT75	Max. 35 m

Min. = 2 m, Unit : 1 m

<Table 1>

12. AW operation switch screen

(When the automatic bobbin winding and feeding device is provided.)



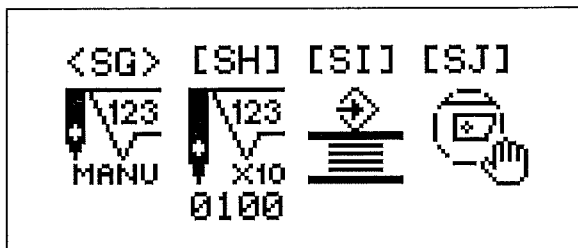
WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

The AW device can be independently operated. When the mode is the operation mode (in case the mode display LED is lit), however, the screen is not displayed.

* When the AW device is selected (operation panel DIPSW 2-8 is ON), this item is displayed.

(Caution) Do not take out bobbin located in the hook direct by hand. When taking it out, be sure to use the bobbin take out switch (numeric key **1**). Operation in the state that the bobbin is taken out by hand cannot be normally performed.



Standard screen

Key [0] =Manu bbn chg
Key [1] =Take out bbn
Key [2] =Wind bbn set
Key [3] =Wound bbn set
Key [4] =Nozzle air sw
Key [5] =Table sw

AW operation switch selection screen



Please check bobbin
Key [1] =Take out bbn
Key [2] =Wind bbn set
Key [3] =Wound bbn set
Key [4] =Nozzle air sw
Key [5] =Table sw

Bobbin check screen

AW not ready

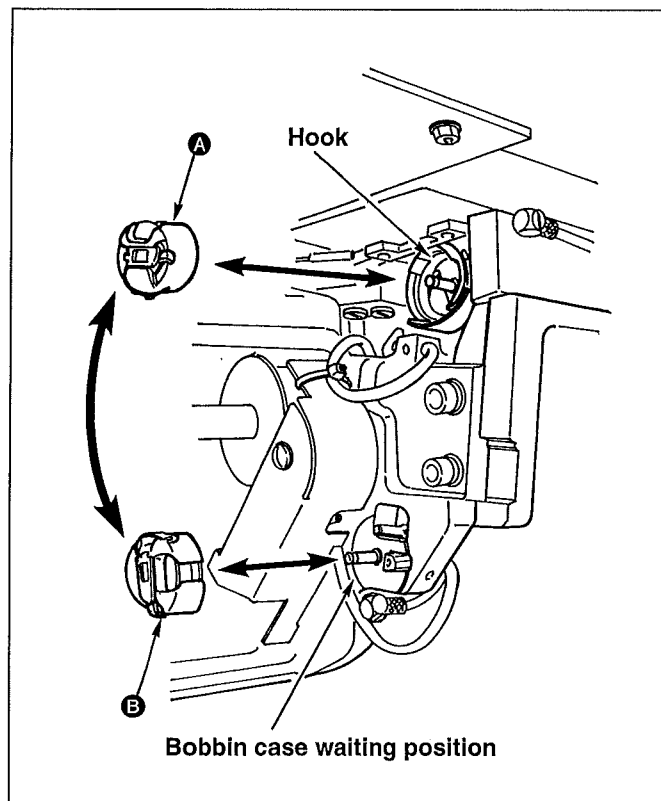
Just a moment

AW being ready screen

1) Set pictograph number [SJ]  in the "being corrected" state (flash on and off) on the standard screen and press the screen change over key .

2) The AW operation switch selection screen will appear on the display.

3) Press the following numeric keys to perform the respective independent operations of the AW device.



Numeric key **0** Bobbin replacement switch

This key is used when winding a new thread round bobbin in case of replacing the thread or the like. When pressing the numeric key **0**, the screen will be changed to the AW being ready screen, and bobbin **A** located in the hook is replaced with bobbin **B** located in the bobbin case waiting position. The screen will be changed to the AW operation switch selection screen. Then thread in bobbin **A** is eliminated and a new thread is wound round the bobbin.

Numeric key **1** Bobbin take-out switch

This key is used when taking out the bobbin located in the hook.

Manually take out the bobbin located in the bobbin case waiting position. Then press numeric key **1** and the screen will be changed to the AW being ready screen. Then the bobbin located in the hook moves to the bobbin case waiting position, and manually take it out. The screen will be the bobbin check screen.

Numeric key **2** Empty bobbin setting switch

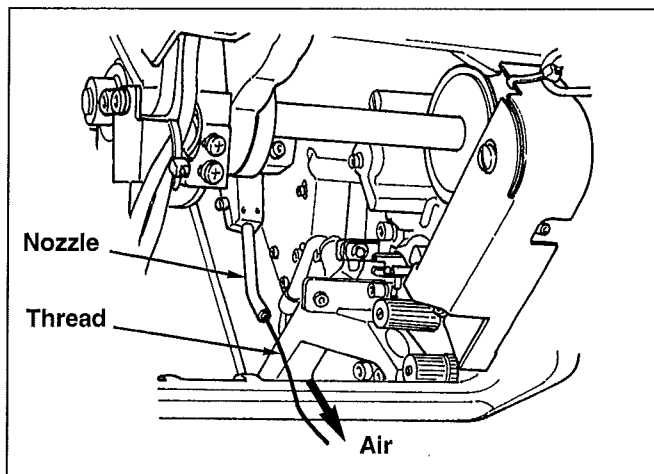
This key is used when setting an empty bobbin.

(Caution)

Check to be sure that the bobbin is an empty one before pressing the key. If a wound bobbin is set, malfunction will occur when winding a bobbin or eliminating of unwinding.

Set an empty bobbin in the bobbin case waiting position and press numeric key **2**. The screen will be changed to the AW being ready screen.

- When no bobbin exists in the hook, the set bobbin is moved to the hook and the screen is returned to the previous screen, and the device is waiting for the setting of the next bobbin. After the next bobbin has been set, winding the bobbin is started.
- When a bobbin exists in the hook, winding the bobbin is started and the screen is returned to the previous screen.



Numeric key **3** Wound bobbin setting switch

This key is used when setting a wound bobbin.

(Caution)

Check to be sure that the bobbin is a wound one before pressing the key. If an empty bobbin is set, malfunction will occur at the time of sewing.

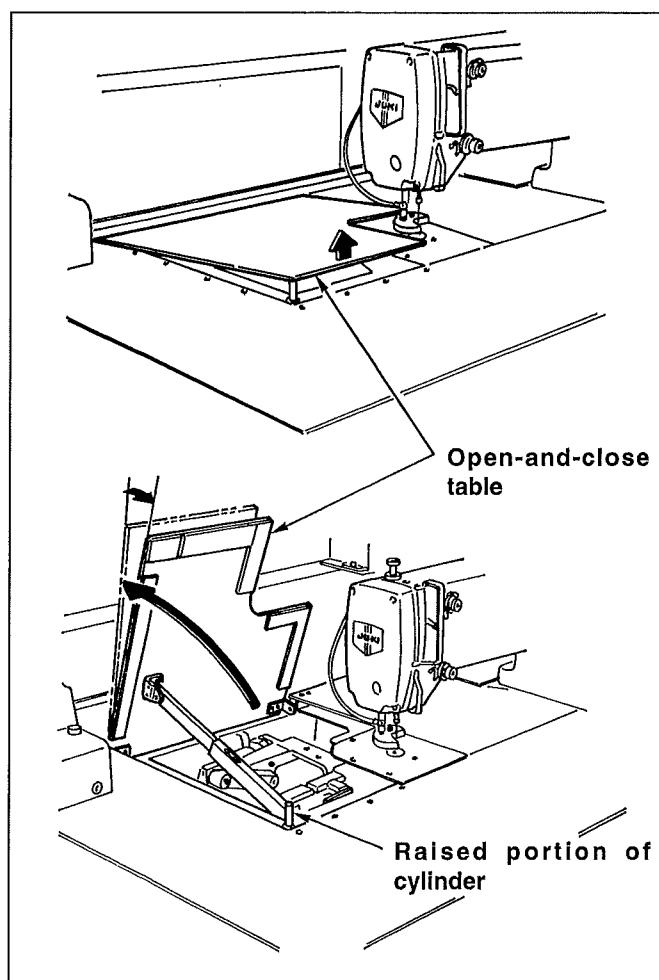
Set a wound bobbin in the bobbin case waiting position and press numeric key **3**. The screen will be changed to the AW being ready screen.

- When no bobbin exists in the hook, the set bobbin is moved to the hook and the screen is returned to the previous screen, and the device is waiting for setting of the next bobbin.
- When a bobbin exists in the hook, the screen is returned to the previous screen.

Numeric key **4** Nozzle air switch

This key is used to actuate nozzle air and to feed thread from the bobbin thread feeding nozzle.

Press numeric key **4** to actuate nozzle air. Press numeric key **4** again to stop nozzle air.



Numeric key **5** Table open/close switch

This key is used to open/close the open-and-close table.

■ To open


When numeric key **5** is pressed, the cloth presser performs the origin retrieval and the open-and-close table opens after the cloth presser has been retracted.

Manually open the open-and-close table until it goes no further and return the table to this side to some extent to fix it.

■ To close

Manually open the open-and-close table until it goes no further and return it to this side. Then close it until it comes to the raised portion of cylinder.

Press numeric key **5** and the open-and-close table closes. And, the cloth presser performs the origin retrieval and stops at the waiting position.

- 4) Press the  standard screen key and the **M** mode screen key and the respective screens will be displayed.

13. Indicating the mode selection screen



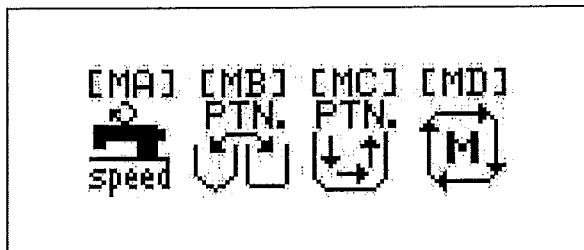
WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

Pressing the mode selection screen key **M** can invoke the mode selection screen on the display.

Note 1

Note 1



Mode selection screen

Furthermore, many pictographs can be indicated by operating the ◀▶ data modified position travel key.

1) Maintenance mode I

Note 1

Note 1

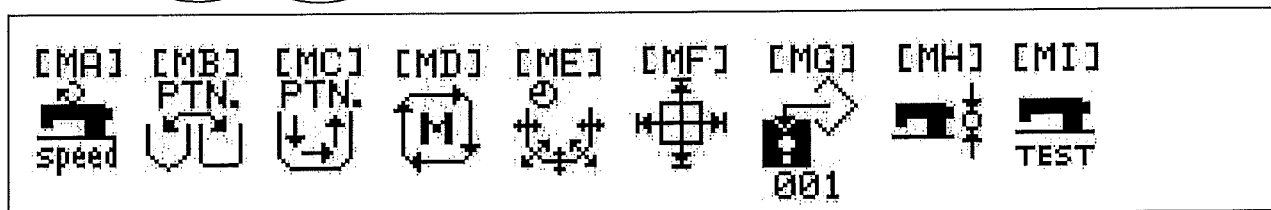
Note 2

Note 1

Note 2

Note 1

Note 2



Mode selection screen (Maintenance mode I)

2) Maintenance mode II

Furthermore, this mode can be indicated when selected with the DIP switch SW1-1 inside the operation panel (refer to the Instruction Manual on page 70.).

This function is set for adjustment at the time of manufacturing.

Refer to the Engineer's Manual for the respective functions.

Note 1

Note 1

Note 1

Note 1

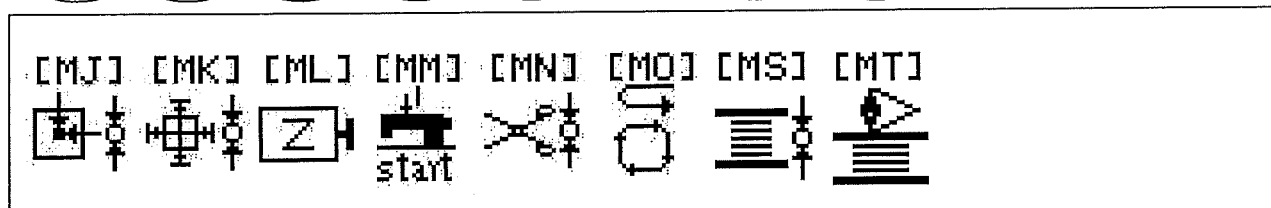
Note 2

Note 1

Note 1

Note 1

Note 1



Mode selection screen (Maintenance mode II)

Note 1

These are not indicated at the time of the "OPERATION MODE".

Note 2

These are not indicated unless the sewing pattern is input.

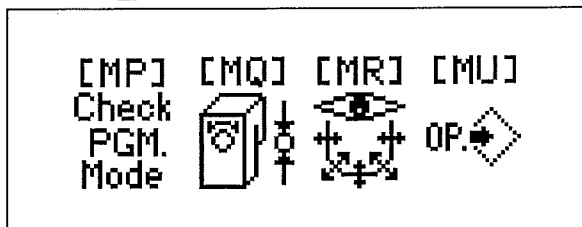
3) Maintenance III

Furthermore, this mode can be indicated when selected with the DIP switch SW1-2 inside the operation panel (refer to the Instruction Manual on page 70.).

This function is set for adjustment at the time of manufacturing.

Refer to the Engineer's Manual for the respective functions other than [MU].

Note 1 Note 1 Note 1 Note 1



Mode selection screen (Maintenance mode III)

Note 1 These are not indicated at the time of the "OPERATION MODE".

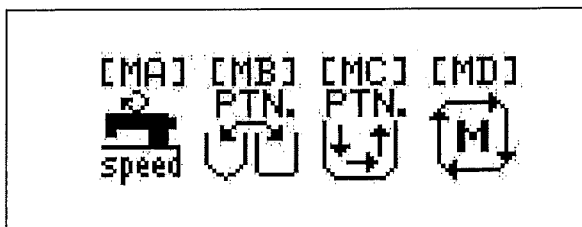
14. Setting the sewing speed



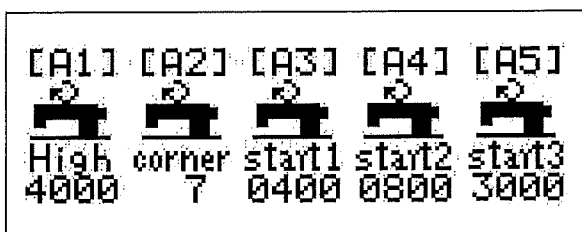
WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

The maximum sewing speed of the sewing machine can be specified within the range from 200 to 4,000 rpm in increments of 100 rpm. It is also possible to limit the sewing speed at the corner sections of a pocket. Furthermore, the sewing speed to sew first three stitches at the start of sewing can be specified.












Mode selection screen



Sewing speed changing screen

(Only four pictographs are shown on the LCD.)

- 1) Set pictograph number [MA]  in the "being corrected" state and press the Screen change-over key . This will invoke the sewing speed changing screen.

- 2) The value specified for the pictograph that is being corrected can be changed using the numeric keys  through  and  and  keys.
- 3) If the Standard screen key  or mode screen key  is pressed, the established value will be rendered ineffective and the screen corresponding to the key pressed will appear on the display.
- 4) Confirm the set value for the sewing speed and press the Enter key . This will render the set value effective and the mode selection screen will be restored on the screen.

[A1]

 High
 4000

- : Max. sewing speed
 The maximum sewing speed permitted at the straight sections of a pocket is established.
 Data setting range: 200 to 4,000 (rpm)

[A2]

 corner
 7

- : Corner sewing speed
 The sewing machine automatically decreases its sewing speed. In addition, the corner sewing speed is further limited to the specified one.
 Data setting range : 1 to 10 (Standard value = 7 When it is set to 1, the minimum sewing speed is employed.) * 1

[A3]

 start1
 0400

- : The sewing speed for the first stitch at the start of sewing is limited.
 Data setting range : 200 to 4,000 (rpm) Standard value = 400 (rpm)

[A4]

 start2
 0800

- : The sewing speed for the second stitch at the start of sewing is limited.
 Data setting range : 200 to 4,000 (rpm) Standard value = 800 (rpm)

[A5]

 start3
 3000

- : The sewing speed for the third stitch at the start of sewing is limited.
 Data setting range : 200 to 4,000 (rpm) Standard value = 3,000 (rpm)

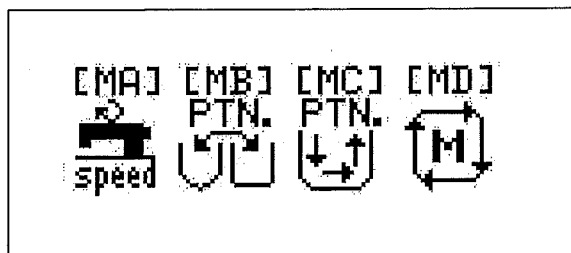
* 1 P-ROM after the P-ROM revision 013C V2.00 can set 1 to 20.

15. Replacing the pattern

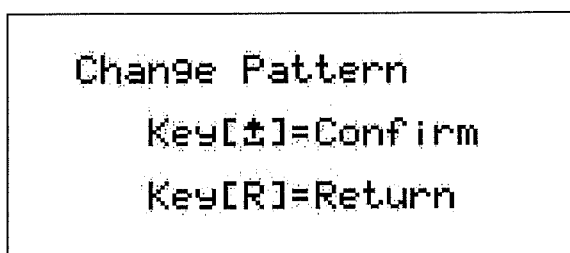


WARNING :

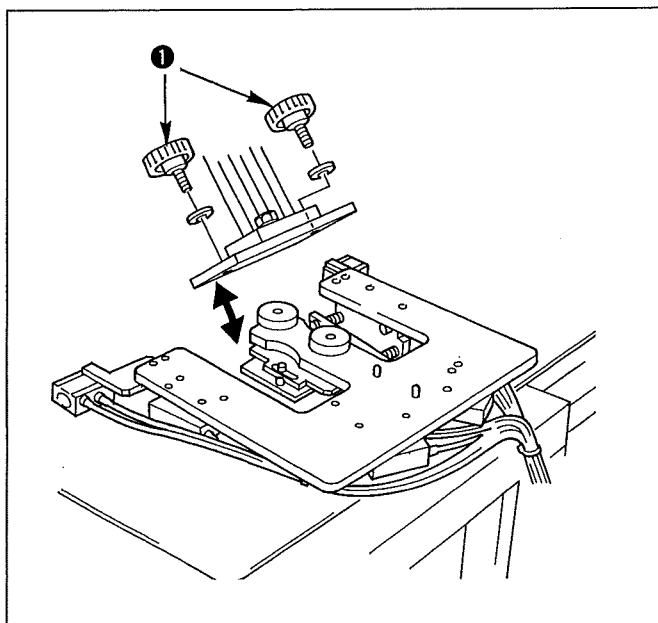
To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).





Mode selection screen





Pattern changing screen



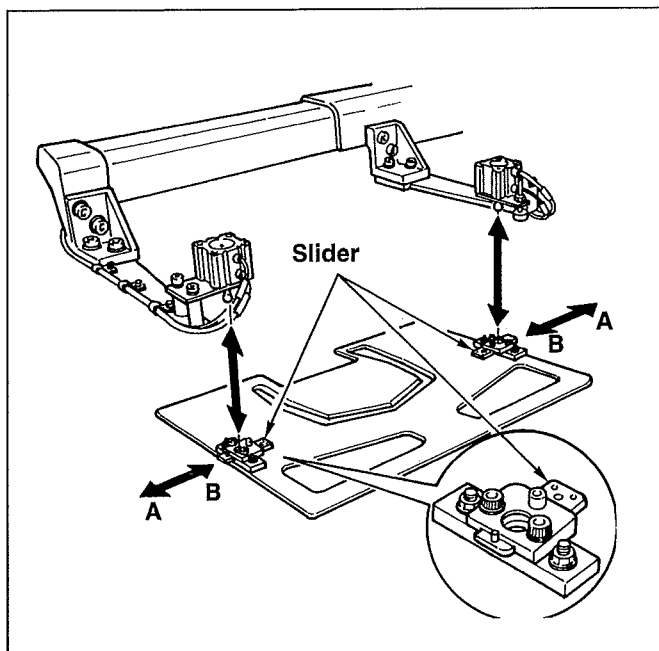
- 1) Set pictograph number [MB]  in the "being corrected" state and press the Screen change-over key . This will invoke the pattern changing screen.

(Caution)

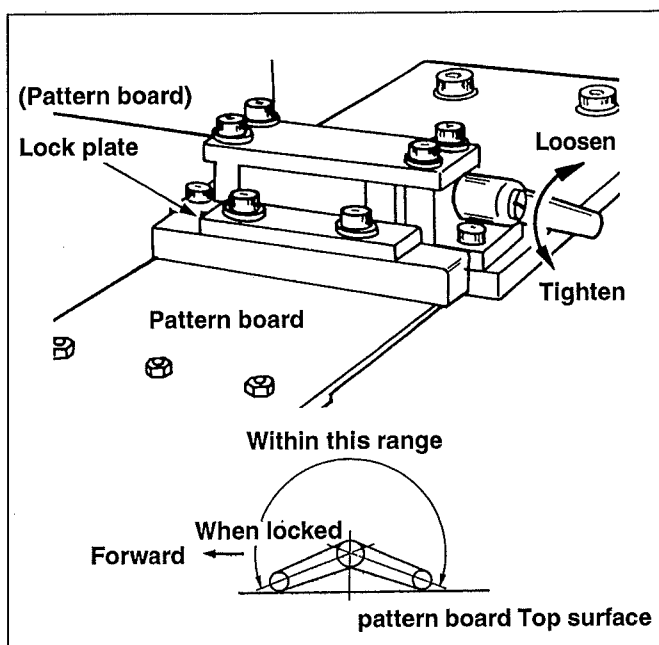
When the mode indicator LED lights up (Run mode), the pictograph number [MB] is now shown on the display. In this case, press the Machine ready key  to make the machine enter the Standby mode.

- 2) Press the Screen change-over key  on the pattern changing screen, and the holder will stop at the standby position after the retrieval of origin. Furthermore, the air supply to the folding cylinder is cut off.

- 3) Remove screw ❶ and shift the pattern folding unit in the direction of the arrow until it comes off. Then, replace it with another pattern folding unit.



- 4) Move the cloth presser pattern in B direction to replace it with other cloth presser patterns .
when the slider is moved in A direction, it is in the "lock" state.



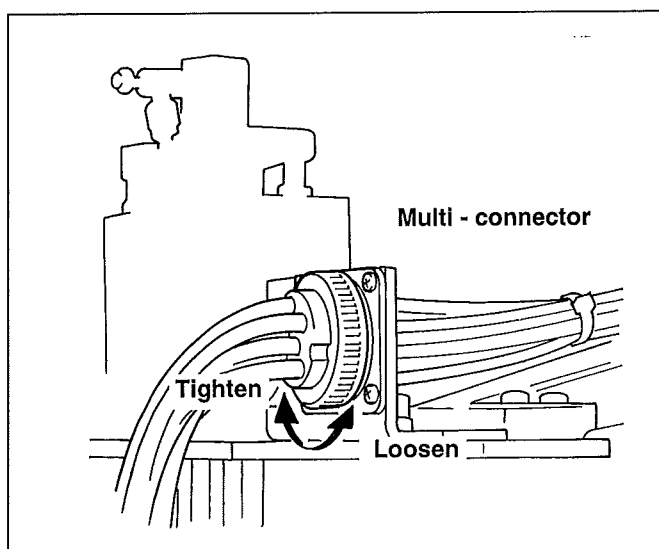
- 5) Remove the pattern and replace it with another pattern.


Tighten the lock lever and the multiple connector.

- (Caution)** 1. If the lock lever is not placed within the illustrated range when it is locked, the lock lever can come in contact with other components, resulting in a sensor error and defective folding. Carefully determine the position of the lock lever.

Turning the lock lever while drawing it sideways can change the position of the lock lever in the locked state.

2. Be sure to press in the lock plate until its side face comes in contact with lock lever.



- 6) Press the Enter key , and the air supply to the folding cylinder will re-start and the pattern No. setting screen will appear on the display.

- 7) Input the pattern number of the pattern attached in place of the previous one referring to "Setting a pattern number" of V-2 (P 23).

- (Caution)** If you have changed the pattern, check to be sure that the pattern groove on the holder matches the sewing pattern referring to the description given in "Pattern checking procedure" of V-16 (P 46).

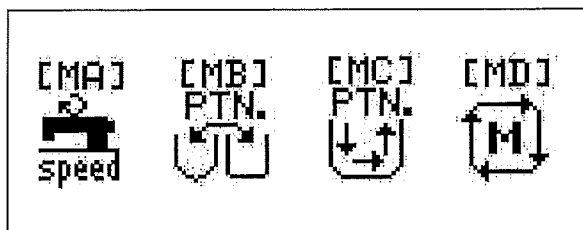
16. Pattern checking procedure





WARNING :


To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

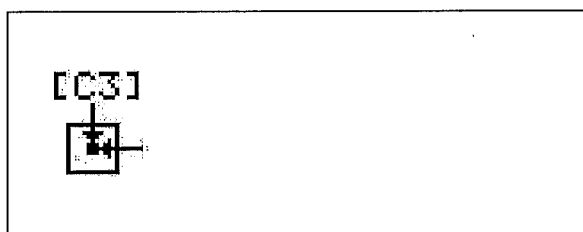
In prior to the driving of the machine, check that the work clamp pattern matches the sewing pattern.






Mode selection screen

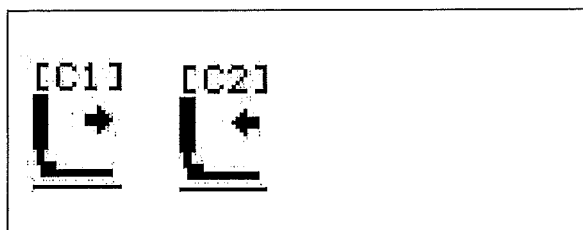
- 1) Set pictograph number [MC]  in the "being modified" state on the mode selection screen and press the Screen change-over key , and the pattern checking screen (1) will appear.

(Caution) When the mode indicator LED lights up (Run mode), the pictograph number [MC] is not shown on the display. In this case, press the Machine ready key  to make the machine enter the Standby mode.










Pattern checking screen (1)

- 2) The pictograph number [C3]  is in the "being modified" state on the pattern checking screen (1). Press the Screen change-over key , and the sewing machine will travel to the origin, lower the holder and release the main shaft. Then, the indication  will appear on the pattern checking screen (2).



Pattern checking screen (2)

- 3) Set the [C1]  in the "being modified" state and press the Screen change-over key , and the feed block will travel forward by one stitch.
Set the [C2]  in the "being modified" state and press the Screen change-over key , and the feed block will travel backward by one stitch.
- 4) Press the Standard screen key  or the Mode screen key , and the sewing machine will resume the needle-up stop state, lift the holder and restore the screen corresponding to the key  pressed on the display.



: The sewing machine travels forward by one stitch.



: The sewing machine travels backward by one stitch.

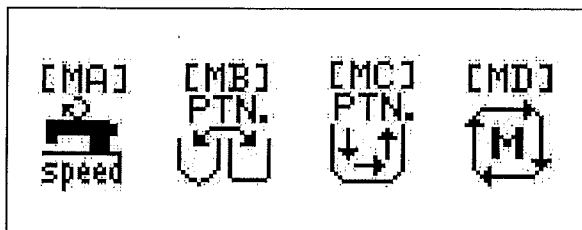
17. Changing the operation mode







WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

Selection of whether or not the stacker is operated upon completion of sewing, selection of the material curl-up preventing function, selection of either the folding blades of the folder is operated one by one or all blades are operated together, and the selection of the timing of the label attaching cylinder can be made.



Mode selection screen

- 1) Set pictograph number [MD]  in the "being corrected" state (the pictograph flashes on and off) and press the Screen change-over key .
- 2) The operation mode setting screen will appear on the display.
- 3) Set pictograph number [D1]  in the "being corrected" state (the pictograph flashes on and off) and select the stacker operation using the Screen change-over key .







: The stacker operation is specified.



: The stacker operation is not specified.




- 4) In the case where the stacker operation is specified, the operating timing can be specified.

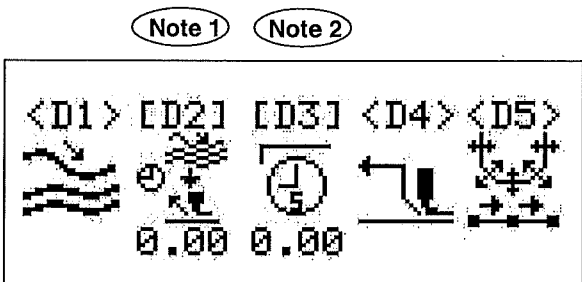
Note 1 (In the case where the stacker operation is not specified, the pictograph number [D2]  is not displayed.)

Set pictograph number [D2]  in the "being modified" state (the pictograph flashes on and off) and specify the operating timing of the stacker by pressing the numeric keys  to .

The operating timing means the period of time (in seconds) from the start of operation of the stacker to the start of operation of the feed block.


Example) To set the operating timing to 0.20




second, input as    in the written order.



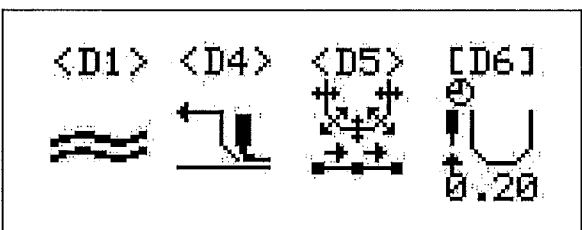
Operation mode changing screen (1)

- 5) When the stacker operation is specified, the operating time can be specified.

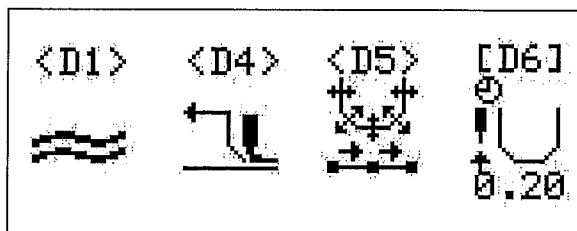
Note 2 (When the stacker operation is not specified, the pictograph number [D3]  is not shown on the display.)

Set pictograph number [D3]  in the "being corrected" state (the pictograph flashes on and off) and specify the operating timing of the stacker by pressing the numeric keys  to .

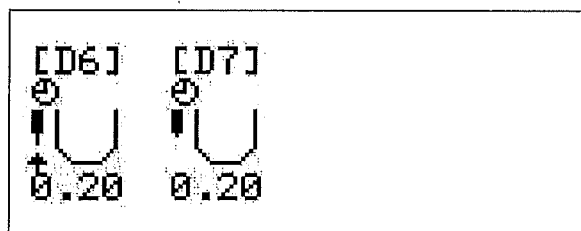
The operating timing means the period of time (in seconds) from the start of operation of the work clamp bar of the stacker to the start of operation of the cloth spreading bar of the stacker.





Operation mode changing screen (2)



Operation mode changing screen (2)



Operation mode changing screen (3)

- 6) Set pictograph number <D4>  in the "being corrected" state (the pictograph flashes on and off) and select, using the Screen change-over key , the material curl-up preventing function performed by the work clamp.




: The curl-up preventing function is not specified.



: The curl-up preventing function is specified.

(Caution)

If the curl-up preventing function is specified, the cycle time will be lengthened.

- 7) Set pictograph number [D5]  in the "being corrected" state (the pictograph flashes on and off) and select the operation of the folding blades of the folder.




: The folding blades of the folder operate together.




: The folding blades of the folder operate one by one.

- 8) Setting the label attaching cylinder timing.

Set pictograph number [D6]  in the "being corrected" state (the pictograph flashes on and off) and specify the operating timing of the cylinder by pressing the numeric keys 0 to 9.

The operating timing means the period of time from the completion of the folding action of the folder to the start of the operation of the label attaching cylinder.


Example) To set the delay time to 0.20 second, input as 0 2 0 in the written order.

- 9) Set pictograph number [D7]  in the "being corrected" state (the pictograph flashes on and off) and specify the delay time by pressing the numeric keys 0 to 9.

The delay time means the period of time from the completion of the label attaching cylinder operation to the raising of folding arm of the folder.

(Caution) The setting of ON / OFF timing of the label attaching cylinder is permitted only when the label attaching is specified by the relevant DIP switch.

(See page 70 for how to select the label attaching.)

- 10) Upon completion of the aforementioned procedure steps, press the Enter key .
- 11) Pressing the Reset key **R** on the operation mode changing screen will cancel the set values and the mode selection screen will be restored on the display.

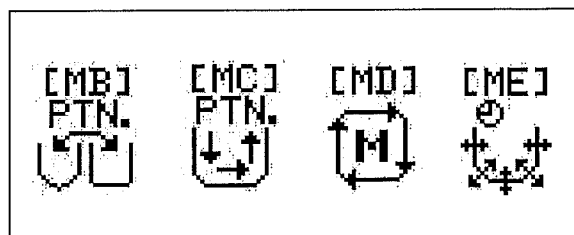
18. Changing the folding timing



WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).



This function is used to change the operating order of the folding cylinder or stop the cylinder.



Mode selection screen

A1	ON	0.10	OFF	0.05
A2	ON	0.20	OFF	0.10
A3	ON	0.30	OFF	0.30
A4	ON	0.10	OFF	0.10
A5	ON	---	OFF	---
B	ON	0.30	OFF	0.30

Folding time changing screen

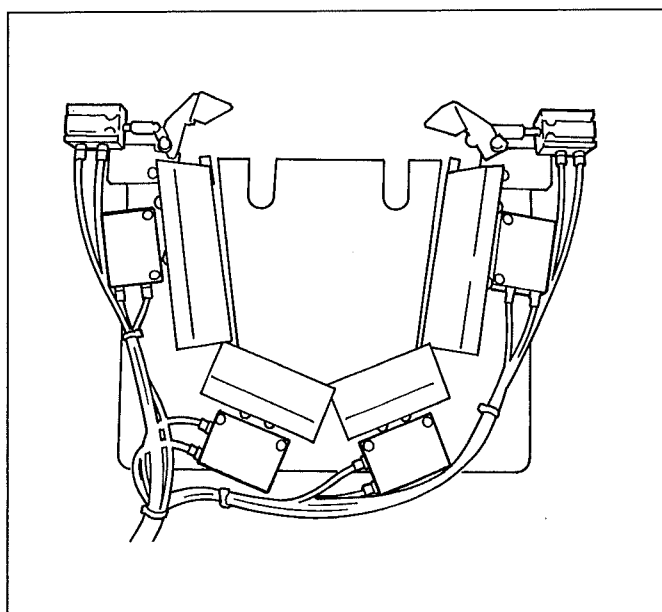
1) Set pictograph number [ME]  in the "being corrected" state (the pictograph flashes on and off) on the mode selection screen and press the Screen change-over key .

2) The folding timing changing screen will appear on the display.







Operating timings of the folding cylinders A1 through B are given on the screen. The numeric value following the ON indicates the delay time from the start of folding to the actuation of the cylinder.



The numeric value following OFF indicates the delay time (second) from the completion of folding to the returning of the cylinder.

The dotted line (---) indicates that no operation takes place.



To change the A3 cylinder

- ① Press the jog keys to shift data correcting position to the right  and left  to select the ON time of the A3 cylinder.
- ② Specify the set time by pressing the numeric keys  to . (Data setting range : 0.00 to 9.95)
- ③ To make the A3 cylinder inoperative, press the Screen change-over key . The indication --- will appear on the screen.
- ④ Press the Enter key , and the newly established numeric value will be stored in memory.

If the Standard screen key  or the M mode screen key is pressed before pressing the Enter key , the established values will be rendered ineffective and the screen corresponding to the key pressed will be given on the display.

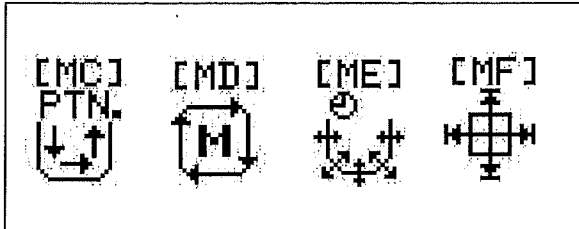
19. Changing the folding position



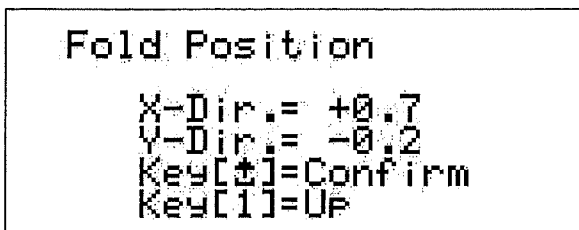
WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

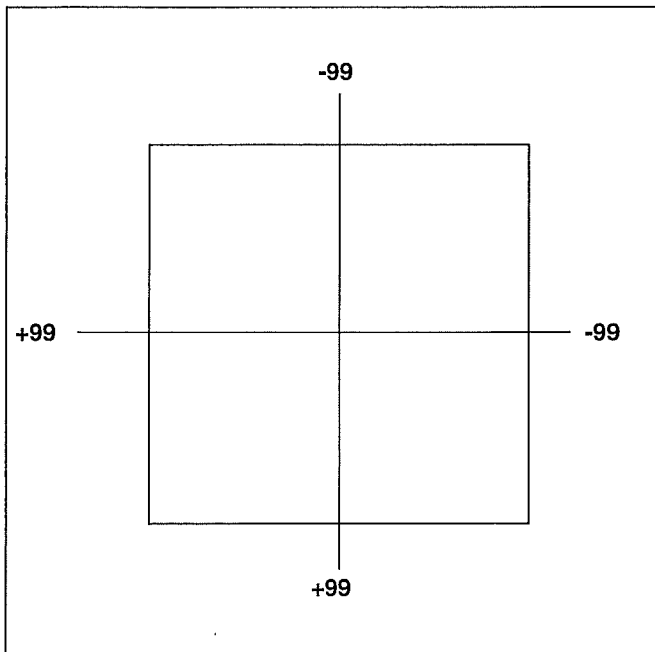
The position of the pattern board and the holder can be adjusted in increments of 0.1 mm up to the back and forth and right and left within 9.9 mm.






Mode selection screen




Folding position changing screen





- 1) Set pictograph number [MF]  in the "being corrected" state (the pictograph flashes on and off) on the mode selection screen and press the Screen change-over key .
- 2) The folding position changing screen will appear on the display. Press the Screen change-over key , and the machine will retrieve the origin. After the origin is retrieved, the holder travels to the folding position and rests in the standby state.


(Caution) The machine automatically performs the aforementioned procedure. Do not play your hand or any matter on the table.


- 3) Press the switches given below in this state, and the corresponding operation will take place.


Numeric key  4 : The folding position shifts 0.1 mm to the positive (left) direction in terms of the X direction.



Numeric key  6 : The folding position shifts 0.1 mm to the reverse (right) direction in terms of the X direction.

Numeric key  2 : The folding position shifts 0.1 mm to the positive direction (toward you) in terms of the Y direction.

Numeric key  8 : The folding position shifts 0.1 mm to the reverse direction (away from you) in terms of the Y direction.

Numeric key  1 : If this key is pressed when UP is indicated on the screen, the work clamp will go up and the indication DOWN will replace UP on the screen. If this key is pressed when DOWN is indicated on the screen, the work clamp will come down and the indication UP will replace DOWN on the screen.

Screen change-over key  : The work clamp goes up, travels to the standby position and to the folding position.

- 4) Press the Enter key , and the specified data will be stored in memory and the holder will travel to the standby position.
- 5) If the Reset key **R** is pressed instead of the Enter key , the established data will be canceled and the holder will travel to the standby position.

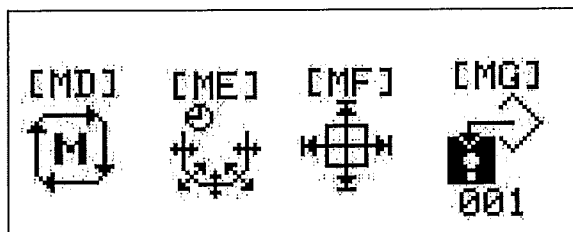
20. Writing data on a floppy disk



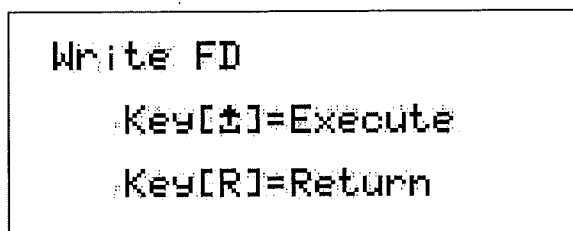
WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).





This function is used to write data on the folding timing and folding position on a floppy disk.



Mode selection screen



Floppy disk writing screen

- 1) Set pictograph number [MG]  in the "being corrected" state (the pictograph flashes on and off) on the mode selection screen and press the Screen change-over key .
- 2) Press the Enter key , and the established data on the folding timing and folding position will be written on the floppy disk. Upon completion of writing, the mode selection screen will be restored on the display.
If the Reset key **R** is pressed instead of the Enter key , no operation will be performed and the mode selection screen will be restored on the display.

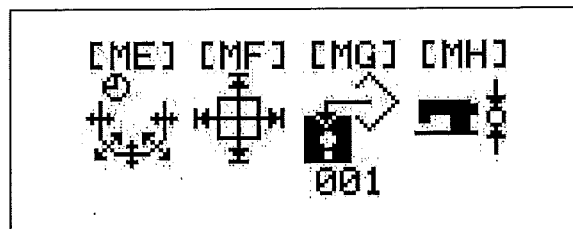
21. Adjusting the sewing machine head



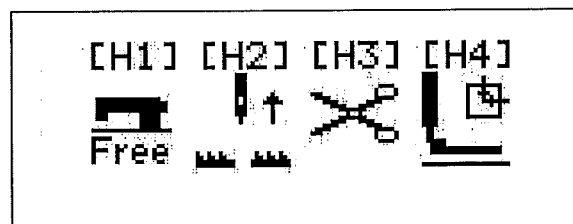
WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

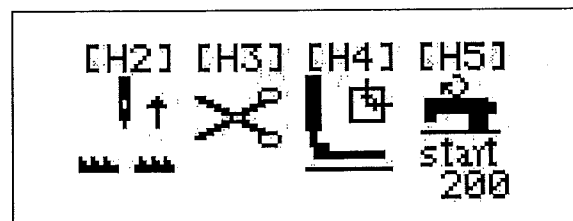
This function is used to operate only the machine head. Use this function for maintenance.











Mode selection screen



Sewing machine head adjusting screen (1)



Sewing machine head adjusting screen (2)

- 1) Set pictograph number [MH]  in the "being corrected" state (the pictograph flashes on and off) on the mode selection screen and press the .
- 2) Set pictograph number [H1]  in the "being corrected" state (the pictograph flashes on and off) on the mode selection screen and press the  screen change over key, and the indication on the display will change to allow the main shaft of the sewing machine to be turned by hand. (Normally, the main shaft of the sewing machine cannot be turned by hand since the servo-motor is working.) After the main shaft is released, the main shaft release screen will appear on the display. If the **R** reset key is pressed, the main shaft of the machine can be returned to the upper stop position.
- 3) Set pictograph number [H2]  in the "being corrected" state (the pictograph flashes on and off) on the mode selection screen and press the  screen change over key.
This will move the main shaft of the sewing machine to the upper stop position.
- 4) Set pictograph number [H3]  in the "being corrected" state (the pictograph flashes on and off) on the mode selection screen and press the  screen change over key.
This will make the thread trimmer actuate.

Head Adjustment

Free

Key[R]=Upper
& Return



Main shaft release screen



Head Adjustment

(0200)RPM

Key[R]=Mch.Off
& Return



Sewing machine drive screen

- 5) Set pictograph number [H4]  in the "being corrected" state (the pictograph flashes on and off) and press the screen change over key  .
This will cause the machine to retrieve the origin and move the presser plate to the waiting position at which the plate waits for the material.

- 6) Set pictograph number [H5]  in the "being corrected" state (the pictograph flashes on and off) and press the screen change over key  .
This will change the indication on the display over to the sewing machine drive screen.

Set completion switch : The sewing machine can be driven.

Reset key **R** : The sewing machine can be stopped.

The rotating speed given on the screen will be employed. It is possible to change the sewing speed by operating the  key or  key.

(Caution)

To drive the sewing machine, remove both the needle thread and the bobbin thread. If not, the thread can be entangled in the hook, causing a sewing failure.

- 7) Press the mode screen key **M** , and the sewing machine head adjusting operation will complete and the mode selection screen will be restored.

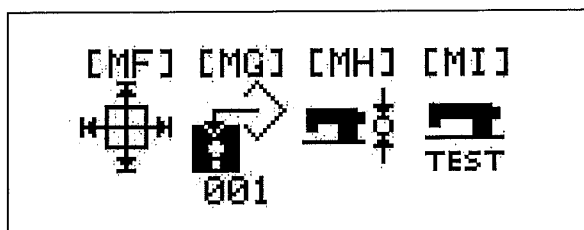
22. Test sewing



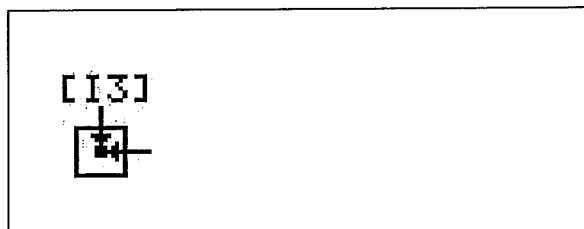
WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

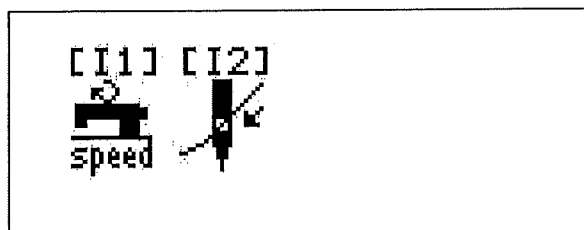
This function is used to confirm only stitching performance while the folder is not used.






Mode selection screen



Test sewing screen (1)



Test sewing screen (2)

- 1) Set pictograph number [MI]  in the "being corrected" state (the pictograph flashes on and off) on the mode selection screen and press the Screen change-over key .
- 2) The test sewing screen (1) will appear on the display.
- 3) Press the Screen change-over key , and the machine will retrieve the origin. After the origin is retrieved, the machine will travel to the sewing start position and gives the test sewing screen (2) on the display.
- 4) Place the material to be sewn directly under the holder and press the setting release switch, and the holder will come down to clamp the material. Press the setting release switch again, and the holder will go up.

(Caution)

Be careful not to allow your hands, etc. to be caught in the holder.

- 5) Press the right and left setting completion switches simultaneously, and the sewing machine will start sewing. Upon completion of sewing, the machine will return to the sewing start position and the holder will go up.
- 6) If you want to conduct test sewing again, place the material to be sewn in position and repeat the aforementioned steps of procedure by pressing the setting release switch and the setting completion switches.
- 7) Press the **M** Mode key to restore the mode selection screen.
- 8) The operation modes such as "Changing the sewing speed" and "Threading" can be selected on the test sewing screen (2).
Refer to "Setting the sewing speed" of V -14 (P 42) and, "Threading the needle" of V -5 (P 29) for how to use the respective operation modes.

23. Optional selection



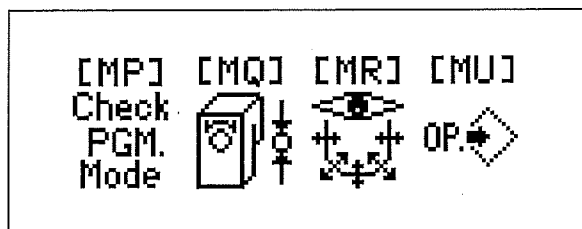
WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

Selection of the compact pocket mode without using the folder and selection of step operation function at the time of test sewing [M1] operation can be set.

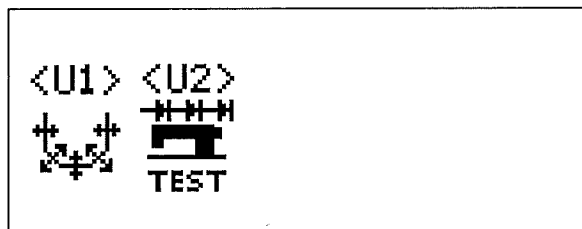
To perform the optional selection, it is necessary to select it by DIP-SW 1-2 in the operation panel.

(Refer to page 70.)

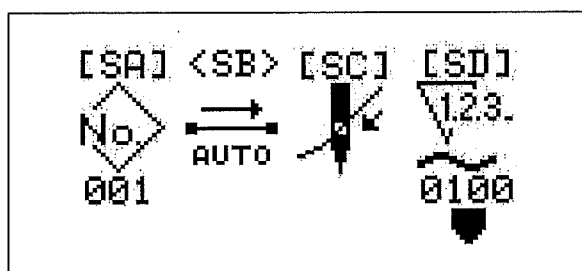


Mode selection screen

Note 1




Optional selection screen





Standard screen

1) Set pictograph numbers [MU] OP. in the "being corrected" state (the pictographs flash on and off) on the mode selection screen and press the Screen change-over key .

2) The optional selection screen will appear on the display.

3) Set pictograph number [U1]  in the "being corrected" state (the pictograph flashes on and off) and select the compact pocket mode using the Screen change-over key .


 : Standard operation is performed.

 : Compact pocket operation is performed.

(Caution)

When the compact pocket mode is selected, it is necessary to replace the presser plate.



In addition, the operation flow when the compact pocket operation is selected is shown in Fig. 1-1.

When the compact pocket mode is selected,  will be displayed on the standard screen.

Note 1

It is possible to select from P-ROM revision 013C V2.00.

It is not possible to select with P-ROM revision 006 * .

- 4) Set pictograph number [U2]  in the "being corrected" state (the pictograph flashes on and off) and select the step operation function at the time of test sewing using the Screen change-over key .



: Step operation function at the time of test sewing cannot be selected.




: Step operation function at the time of test sewing can be selected.

```
Error Stop
Key[±]=Threading
Key[9]=Re-Start
Key[+]=Forward
Key[-]=Backward
Key[0]=Origin
```

Needle threading/start screen

When the step operation function at the time of test sewing is selected, if setting completion switches 1 and 2 are pressed at the time of test sewing [M1] operation, the needle threading/start screen will appear on the display.

- 5) Press the Enter key  after completion of all settings.
- 6) When the Reset key **R** is pressed on the optional selection screen, the setting is cancelled and the screen will return to the mode selection screen.

Compact pocket operation flow

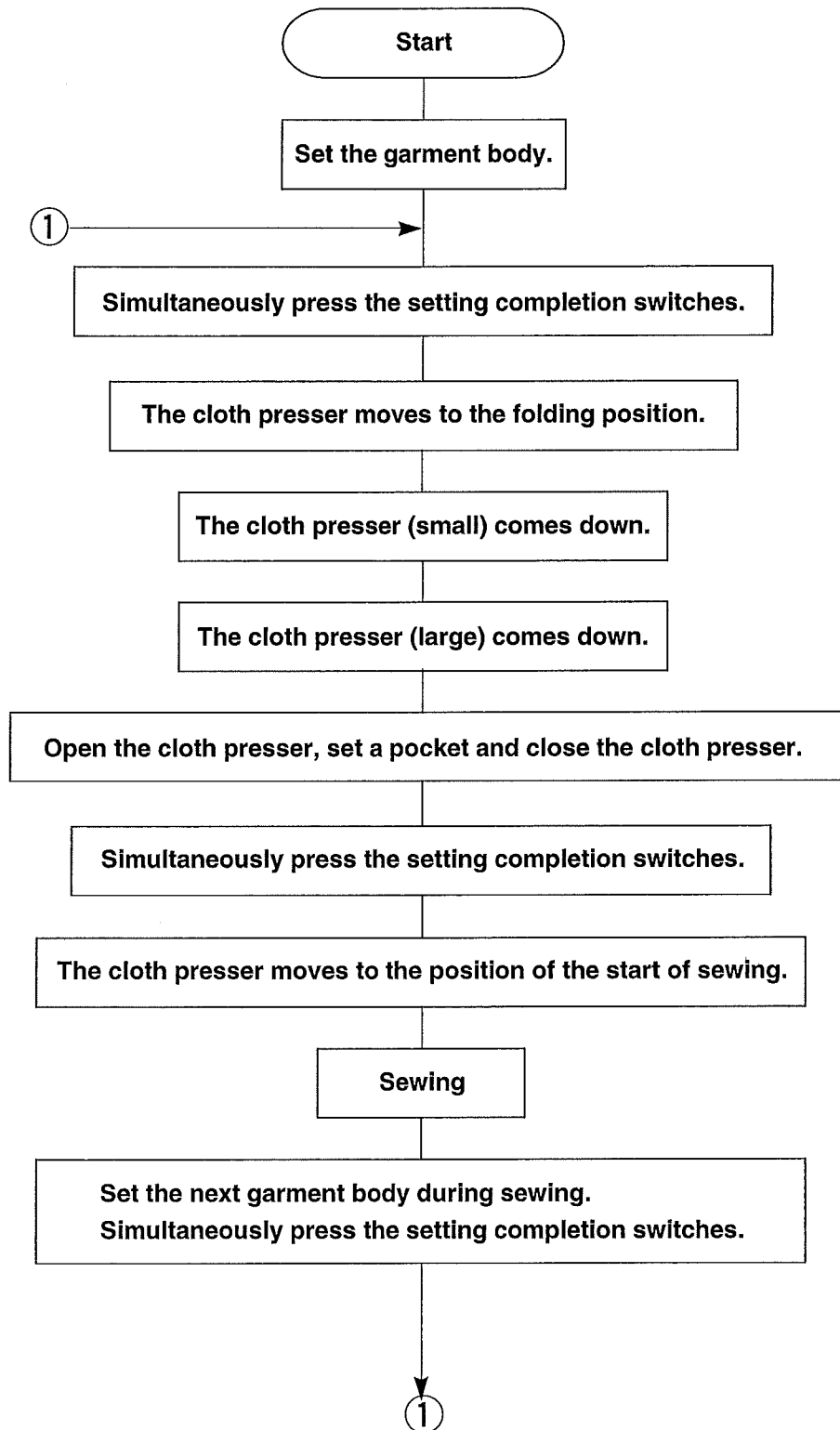


Fig.1-1

24. Other functions

These functions are the added ones from P-ROM revision 013C V2.00.

1) Alternate sewing

This function is used to perform alternate sewing of the patterns which are different from each other on the right and left sides while using the cloth presser together.

The operating procedure when performing alternate sewing is described below.

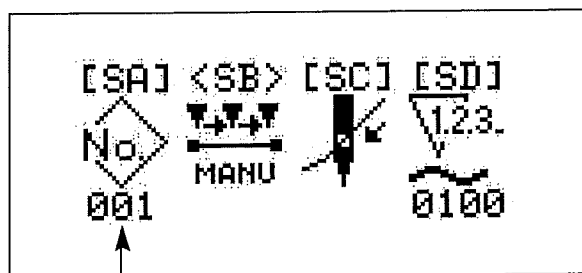
(Procedure)

(Making the alternate sewing pattern)

- ① The first pattern is made with the PGM-6.
- ② Input the temporary stop command [A3] at the last of the first pattern.
The temporary stop command inputted here becomes the border point between the first pattern and the second one.
- ③ Next, move up to the position of the start of sewing of the second pattern with the jump feed command [B6].
Be sure to input the jump feed.
- ④ Make the second pattern.
- ⑤ Check the patterns which have been inputted, and write them on FD (floppy disk).

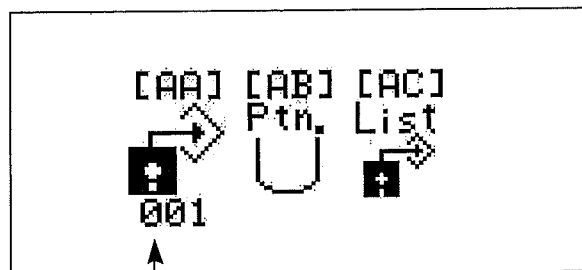
- <Caution>**
1. Be sure to perform the input of the temporary stop command only once.
 2. The temporary stop command does not function as the temporary stop.
 3. When the position of the end of sewing of the first pattern and that of the start of sewing of the second pattern are the same, after inputting the temporary stop command, perform inputting of the position of the end of sewing of the first pattern to the origin and the origin to the position of the start of sewing of the second pattern with the jump feed command.

(Invoking the alternate sewing pattern)



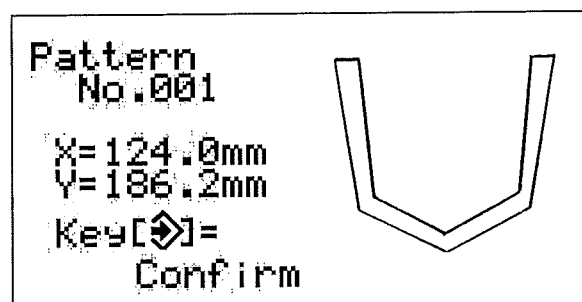
Standard screen

Pattern number



Pattern number setting screen

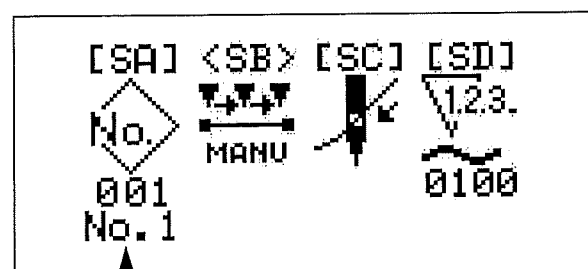
Pattern number



Pattern shape indicating screen


X = Lateral length of the pattern shape




Y = Longitudinal length of the pattern shape







Standard screen


Alternate sewing pattern No.




① Set pictograph number [SA] No. to the "being corrected" state (the pictograph flashes on and off) and press the Screen change-over key , and the pattern number setting screen will be shown on the display.


② Set pictograph number [AA]  in the "being corrected" state. Then, press numeric keys ( through ) to enter an alternate sewing pattern number.

(Example) To select pattern number 1, press the keys    in the written order.



③ Press the Standard screen key , and the entered number will be rendered ineffective and the standard screen will be restored on the display.

④ Press the Enter key , and the relevant pattern will be invoked from the floppy disk and the pattern shape indicating screen will appear on the display. For the alternate sewing pattern, two patterns are overlapped with each other on the display.

⑤ Check the pattern shape and press the Enter key . This will shift the mode to the pattern check mode. If the Standard screen key  or the Mode screen key  is pressed, the screen corresponding to the key pressed will appear on the display.

⑥ If the pattern shape is not the one you need, press the Standard screen key  to restore the standard screen on the display and re-carry out the data entry.

⑦ When selecting the alternate sewing pattern, No. 1 or No. 2 will be displayed on the lower left side of the standard screen. When No. 1 is displayed, it shows that the first pattern at the time of making the sewing pattern is invoked.

Change-over of No.1 to No.2 can be performed with the Standard screen key  + ten key .

2) Function of advancing/retracting the pattern plate

This function is used to facilitate positioning of the garment body by retracting the pattern plate when setting the garment body. The pattern plate can be advanced or retracted by means of the pedal switch.

Selection of the function of advancing/retracting the pattern plate can be performed with DIP-SW 2-5 in the operation panel. (Refer to page 71.)

However, the pedal switch is separately necessary. The pedal switch is connected to TPB-7 (S,GND).

3) Function of the cloth presser up/down during sewing

Up/down of the cloth presser on the needle threading/start screen after the machine has stopped during sewing due to thread breakage or the temporary stop switch can be performed with the pedal switch.

However, the pedal switch is separately necessary. The pedal switch is connected to TPC-11 (S,GND).

25. When the compressed air pressure is too low

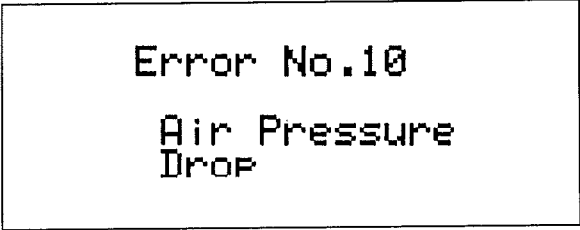


WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

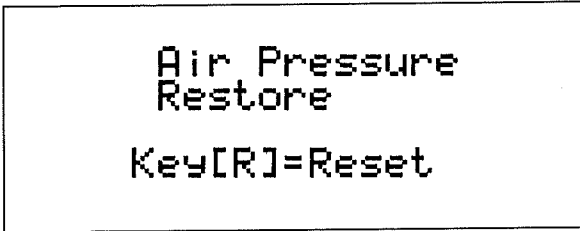
If the compressed air is not supplied to the machine, or if the air pressure drops from the specified one, the machine will stop running and give the relevant error screen on the display.

(1) In the case where the compressed air is not supplied to the machine at the time when turning on the power to the machine



Error No.10
Air Pressure
Drop

Air pressure drop error screen



Air Pressure
Restore
Key[R]=Reset

Air pressure restoring screen

- 1) The air pressure drop error screen will be shown on the LCD.

Supply the compressed air to the machine.

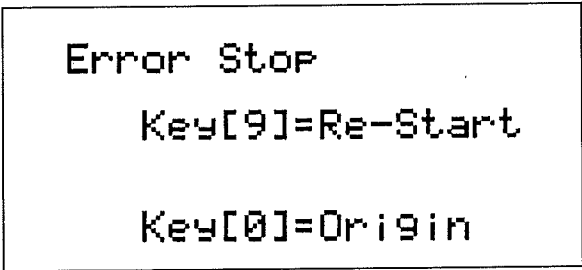
(Caution)

The folding base plate goes up when the compressed air is supplied to the machine. It is necessary to carefully open the air cock and keep your face away from the space above the base plate.

- 2) When the compressed air is supplied to the machine, the air pressure restoring screen will appear on the display.

- 3) Press the Reset key **R**, and the standard screen will be restored on the display.

(2) When the compressed air pressure drops while the carrier is in operation



Error Stop
Key[9]=Re-Start
Key[0]=Origin

Start / return to origin screen

- 1) After the carrier unit stops running, the air pressure drop error screen will appear on the display.

- 2) When the normal compressed air pressure is reached, the air pressure restoring screen will replace the error screen.

Press the Reset key **R**, and the start/return to origin screen will appear on the display.

Press the **9** key, and the machine will re-start running.


Press the **0** key, and the machine will cause the work clamp to go up and return to the initial state. The standard screen will be given on the display.

(3) In the case where the compressed air pressure drops while the machine is engaged in sewing

```
Error Stop
Key[+] = Trimming
Key[9] = Re-Start
```

Thread trimming / start screen

- 1) After the machine stops running, the air pressure drop error screen will appear on the display.
- 2) Once the normal compressed air pressure is reached, the air pressure restoring screen will replace the error screen. Press the Reset key **R**, and the thread trimming/start screen will be given on the display.

Press the Screen change-over key , and the thread trimmer will be actuated.


Press the **[9]** key, and the machine will start running.

(4) In the case where the compressed air pressure drops during idling

```
Error Stop
Key[+] = Threading
Key[9] = Re-Start
Key[+] = Forward
Key[-] = Backward
Key[0] = Origin
```

Thread trimming / start screen

- 1) After the holder stops, the air pressure drop error screen will appear on the display.
- 2) Once the normal compressed air pressure is reached, the air pressure restoring screen will replace the error screen. Press the Reset key **R**, and the thread trimming/start screen will be given on the display.

Press the Screen change-over key , and the thread trimming screen will appear on the display.

Press the **[9]** key, and the machine will resume the operation. At this time, the standard screen will be restored on the display.

Press the **[+]** key to shift the holder forward by one stitch.

Press the **[-]** key to shift the holder backward by one stitch.

Press the **[0]** key to return the holder to the sewing end position to retrieve the state of the machine under which the machine rests before starting sewing.

26. In the case of needle thread breakage



WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

```
Error No.21
Needle Thread
Breakage
Key[R]=Reset
```

Needle thread breakage error indicating screen

```
Error Stop
Key[↑]=Trimming
Key[9]=Re-Start
```



Thread trimming / start screen

```
Error Stop
Key[↑]=Threading
Key[9]=Re-Start
Key[+]=Forward
Key[-]=Backward
Key[0]=Origin
```

Needle threading / start screen

```
Error Stop
Threading
Key[R]=Return
```

Needle threading screen

- 1) In the case where the needle thread breaks, the needle thread breakage error indicating screen will appear on the display.
- 2) Press the Reset key **R**.
- 3) This invokes the thread trimming/start screen on the display.
- 4) Press the Screen change-over key  to actuate the thread trimmer. Then, the needle threading/start screen will appear on the display.
Press the **[9]** key to resume sewing. The standard screen will be restored on the display.
- 5) Needle threading/start screen
Press the Screen change-over key  to invoke the needle threading screen.
Press the **[9]** key to resume sewing. The standard screen will be restored on the display.
Press the **[+]** key to shift the holder forward by one stitch.
Press the **[-]** key to shift the holder backward by one stitch.
Press the **[0]** key to return the holder to the sewing end position to retrieve the state of the machine under which the machine rests before starting sewing.
- 6) Needle threading screen
Since the holder is in the lower position when this screen is given on the display, the needle can be threaded.
Press the Reset key **R** to restore the needle threading / start screen.

27. Pause switch

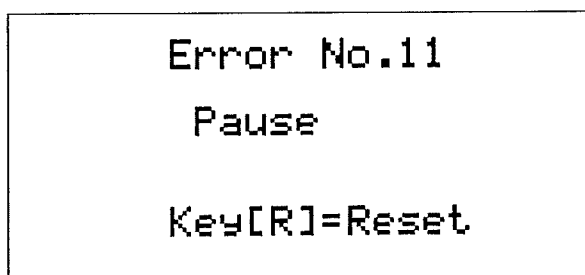
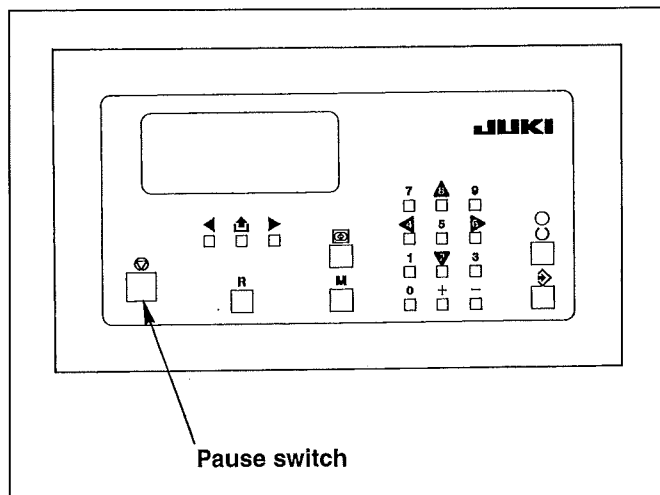


WARNING :

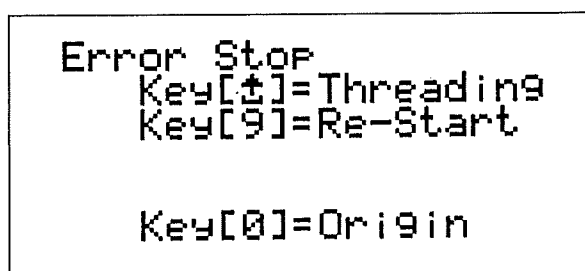
To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

The pause switch can be used to stop the X-Y drive.

(Caution) Since this switch stops the X-Y drive, it will not put the folder or stacker on hold.



Pause screen



Start / holder reset screen

1) When the Pause switch is pressed, the pause screen will appear on the display.

2) Press the Reset key **R**.

After resetting, the start / holder reset screen or the thread trimming/start screen will appear on the display.

3) Start / holder reset screen

This is the reset screen that appears when the pause switch is pressed while a material is being carried.

Press the Screen change-over key to invoke the needle threading screen.

Press the **9** key to resume the subsequent operation. At this time, the standard screen will appear on the display.

Press the **0** key to lift the holder and retrieve the initial start. At this time, the standard screen will appear on the display.

```
Error Stop
Key[+] = Trimming
Key[9] = Re-Start
```


Thread trimming / start screen

```
Error Stop
Key[+] = Threading
Key[9] = Re-Start
Key[+] = Forward
Key[-] = Backward
Key[0] = Origin
```


Needle threading / start screen

```
Error Stop
Threading
Key[R] = Return
```

Needle threading screen

- 4) Press the Screen change-over key  to perform thread trimming. Then, needle threading / start screen will be given on the display.
If the **9** key is pressed, the machine will re-start sewing and restore the standard screen on the display.

- 5) Needle threading / start screen

Press the Screen change-over key  to invoke the needle threading screen.

Press the **9** key to resume sewing. The standard screen will be restored on the display.

Press the **+** key to shift the holder forward by one stitch.

Press the **-** key to shift the holder backward by one stitch.

Press the **0** key to return the holder to the sewing end position to retrieve the state of the machine under which the machine rests before starting sewing.

- 6) Needle threading screen

Since the holder is in the lower position when this screen is given on the display, the needle can be threaded.

Press the Reset key **R** to restore the needle threading/start screen.

28. Errors related to the AW device

(When the automatic bobbin winding and feeding device is provided.)



WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

Cause and how to reset of errors related to the AW device are described as follows.

* When the AW device is selected (operation panel DIPSW 2-8 is ON), this item is displayed.

1) Error No. 66 (remaining thread elimination shaft sensor error)

Error No.66
Unwind sensor error
Please clean sensor
Power off

[Cause]

Defective detection due to dirt of the remaining thread elimination sensor

[How to reset]

- ① Turn OFF the power.
- ② Clean the remaining thread elimination sensor.

2) Error No. 67 (AW disconnection error)

Error No.67
No AW connection
Check AVP - AW cable
Power off

[Cause]

Communication cable between AVP and AW is not connected.

[How to reset]

- ① Turn OFF the power.
- ② Check that the communication cable between AVP and AW is connected.
- ③ Check that the fuse of AW has blown.

3) Error No. 68 (FAN alarm)

Error No.68
FAN alarm
Check Box - FAN
Power off

[Cause]

Temperature-rise in the electrical box, or heating of element on the circuit board of AW side

[How to reset]

- ① Turn OFF the power.
- ② Check that the fan attached to the electrical box is working.
Clean the fan. Wait for a certain period of time until the temperature falls.

4) Error No. 69 (communication trouble between AVP main unit and AW)

Error No.69
Communication error
Check AVP - AW cable
Power off

[Cause]

Defective connection of communication cable between AVP and AW, or defective circuit boards of AVP and AW

[How to reset]

- ① Turn OFF the power.
- ② Check that the communication cable between AVP and AW is connected. Check the circuit boards.

5) Error No. 70 (Remaining thread elimination error)

Error No.70
Thread removal error
Check bbn

Key [2]=Wind bbn set
Key [4]=Nozzle air sw

[Cause]

After replacing the bobbin, thread end of the thread which is used up cannot be clamped and the remaining thread cannot be eliminated.

The remaining thread drawing roller is defective, or the bobbin rotation detection sensor is dirty.

The dust bag clogs with dust.

[How to reset]

- ① Take out the bobbin and eliminate the remaining thread.
- ② After cleaning the bobbin case and bobbin, set the bobbin to the bobbin case, set the bobbin case in the bobbin case waiting position, and press the numeric key **[2]**.

6) Error No. 71 (thread binding trouble)

Error No.71
Winding start error
Check thread & bobbin

Key [2]=Wind bbn set
Key [4]=Nozzle air sw

[Cause]

Thread does not come out of the nozzle. Or, Thread comes out excessively.

There is no thread on the cone. Setting of the bobbin to the bobbin case is not correct. There is the remaining thread in the bobbin.

[How to reset]

- ① Check whether there is any trouble in the thread route of bobbin thread and draw the normal length of thread from the top end of bobbin thread feeding nozzle. Or, take out the bobbin and check whether there is any defect on it.
- ② After cleaning the bobbin case and bobbin, set the bobbin to the bobbin case, set the bobbin case in the bobbin case waiting position, and press the numeric key **[2]**.

7) Error No. 72 (Thread winding trouble)

Error No.72
Thread winding error
Key [2]=Wind bbn set
Key [3]=Wound bbn set
Key [4]=Nozzle air sw
Key [5]=Table sw

[Cause]

There is no thread on the cone. Thread breakage on the way, or step-out of winding motor

Setting of the bobbin to the bobbin case is not correct.

Setting of the length of thread winding is not correct. Or, thread has overflowed from the bobbin since there is the remaining thread in the bobbin.

[How to reset]

- ① Check whether there is any trouble in the thread route of bobbin thread and draw the normal length of thread from the top end of bobbin thread feeding nozzle. Or, take out the bobbin and check it.
- ② When the thread in the bobbin is taken out, perform the empty bobbin setting operation. When thread winding has almost completed, press the numeric key **[3]** after threading.

8) Error No. 73 (threading / thread trimming trouble)

Error No.73
Thread cut error
Check thread & bobbin
Key [2]=Wind bbn set
Key [3]=Wound bbn set
Key [4]=Nozzle air sw

[Cause]

There is a trouble in threading to the bobbin thread tension adjusting spring of bobbin case, or in thread trimming after threading.

[How to reset]

- ① Check whether there is any trouble in the thread route of bobbin thread and draw the normal length of thread from the top end of bobbin thread feeding nozzle. Or, remove thread around the thread rack knife.
- ② After threading to the bobbin thread tension adjusting spring of bobbin case, press the numeric key **[3]**.

9) Error No. 74 (Bobbin carry trouble)

Error No.74
Bobbin carry error
Power off

[Cause]

Bobbin cannot be taken out from the hook, the bobbin case waiting position or the remaining thread position.

Fall of the bobbin when it is being carried, or bobbin cannot be set to the bobbin case waiting position or remaining thread position.

[How to reset]

- ① Retract the cloth presser, and turn OFF the power.
- ② Take out two bobbins, and turn ON the power.
- ③ No bobbin is displayed, and perform the empty bobbin or wound bobbin setting operation (for two bobbins) or press the numeric key **[2]** or **[3]**.

10) Error No. 75 (device trouble due to horizontal feed trouble)

Error No.75
Chuck arm thrust
move error
Power off

[Cause]

Chuck arm is not actuated. Origin of the horizontal feed motor cannot be detected.

[How to reset]

- ① Turn OFF the power.
- ② Check whether there is any foreign matter or the cable is broken.

11) Error No. 76 (device trouble due to rotating trouble)

Error No.76
Chuck arm swing error
Power off

[Cause]

Chuck arm does not rotate. Origin of the rotating motor cannot be detected.

[How to reset]

- ① Turn OFF the power.
- ② Check whether there is any foreign matter or the cable is broken.

12) Error No. 77 (device trouble due to nozzle trouble)

Error No.77

**Thread nozzle
move error**

Power off

[Cause]

Bobbin thread supply nozzle is not actuated.
Origin of the bobbin thread supply nozzle motor cannot be detected.

[How to reset]

- ① Turn OFF the power.
- ② Check whether there is any foreign matter or the cable is broken.

13) Error No. 78 (device trouble due to moving knife trouble)

Error No.78

**Thread cutter
turn error**

Power off

[Cause]

Thread trimming moving knife does not rotate.
Origin of the moving knife motor cannot be detected.

[How to reset]

- ① Turn OFF the power.
- ② Check whether there is any foreign matter or the cable is broken.

14) Error No. 79 (device trouble due to feeding trouble)

Error No.79

**Extension arm
move error**

Power off

[Cause]

Bobbin thread feeding arm is not actuated.
Origin of the bobbin thread feeding arm motor cannot be detected.

[How to reset]

- ① Turn OFF the power.
- ② Check whether there is any foreign matter or the cable is broken.

15) Bobbin is not normally set in the sewing machine.

Please check bobbin

Key [1] =Take out bbn

Key [2] =Wind bbn set

Key [3] =Wound bbn set

Key [4] =Nozzle air sw

Key [5] =Table sw

[Cause]

In case of turning ON the power or taking out the bobbin on the way.

In case of turning OFF the power and again turning it ON during operating the AW.

[How to reset]

- ① Take out the bobbin located in the bobbin case waiting position.
- ② Press numeric key **[1]** and take it out after moving the bobbin located in the hook to the bobbin case waiting position.
- ③ Set two bobbins on the AW side using numeric key **[2]** or **[3]**.

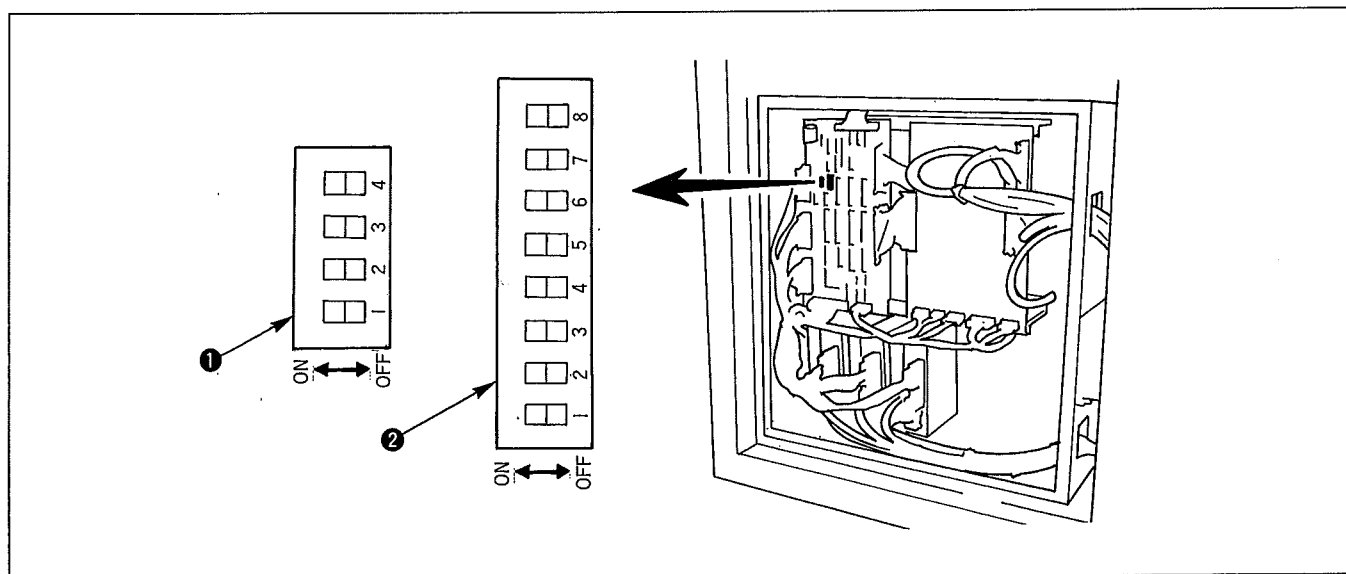
Refer to the description given in "AW operation switch screen" of V -12 (P 38).

29. Explanation of DIP switches inside the electrical box

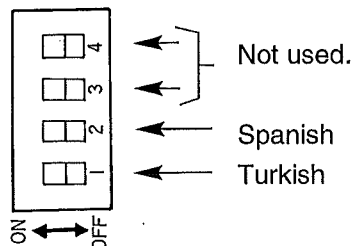


WARNING :

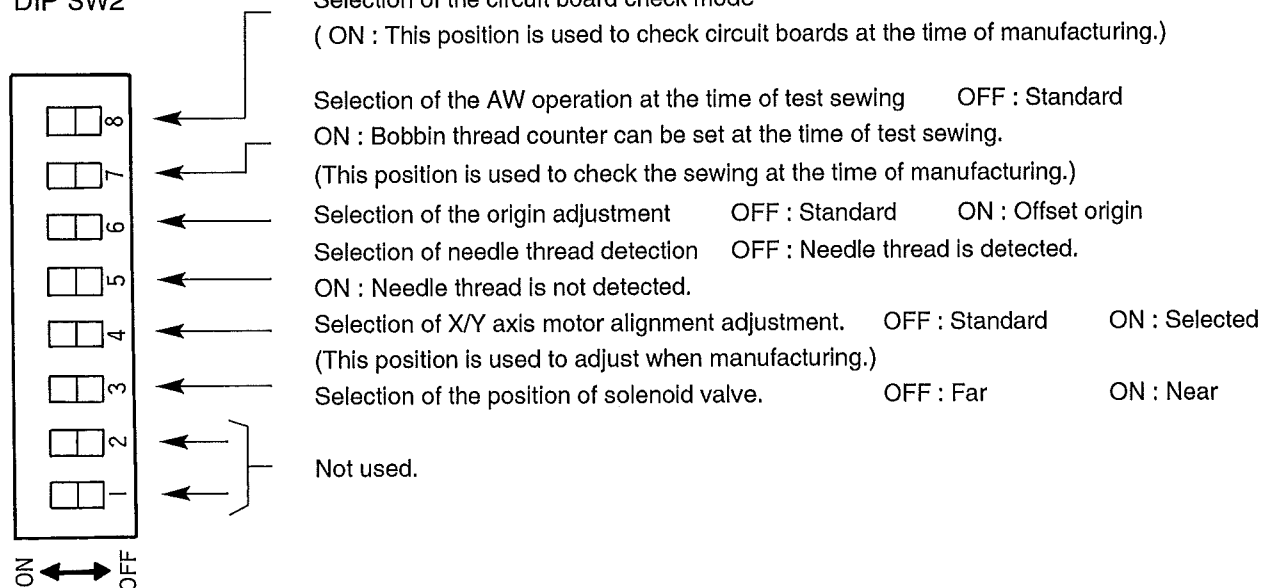
To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).



① DIP SW1



② DIP SW2

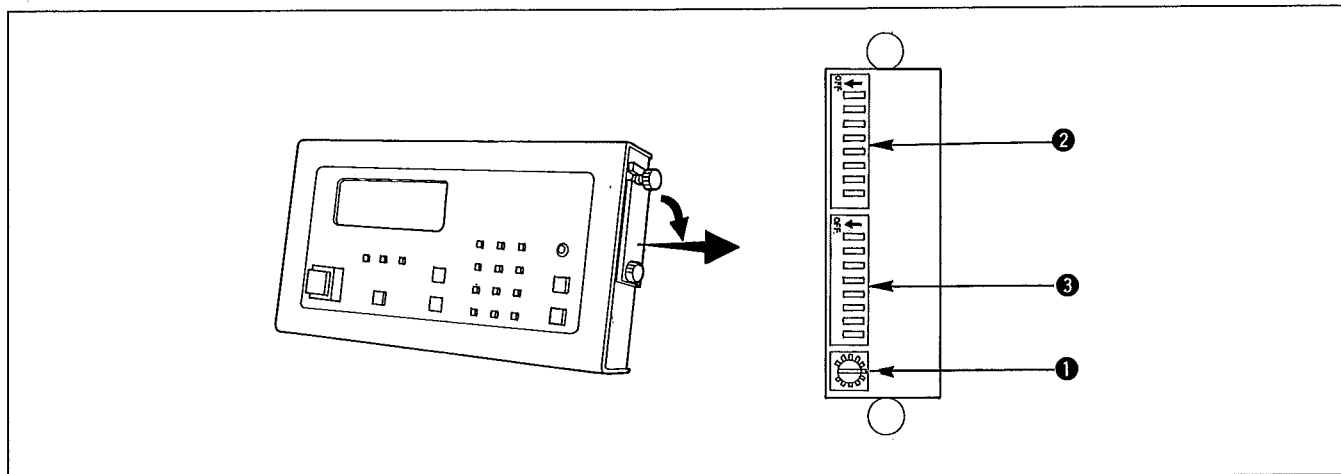


30. Explanation of the variable resistor and DIP switches in the operation panel



WARNING :

To avoid possible accidents caused by abrupt start of the machine, check to be sure that no one places hand, finger and face or any tool in the moving part of the main unit before operating the switches (keys).

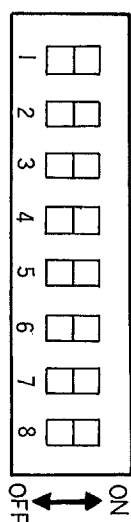


(1) Explanation of function

① VR (variable resistor)

This variable resistor is used to adjust the visibility of the liquid crystal display. The visibility of the LCD delicately varies in accordance with the viewing angle and ambient temperature. Use this variable resistor for adjustment.

② DIP 1



Selection of maintenance mode II

OFF : Standard

ON : Pictographs representing the adjustment items on the mode selection screen

Selection of maintenance mode III

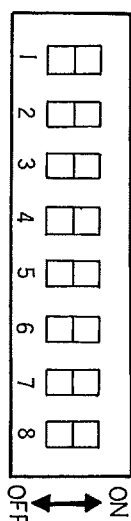
OFF : Standard

ON : Items of the maintenance mode III are displayed.

Selection of key-lock : This position is selected when prohibiting the mode screen setting.
ON : Key-lock is selected. In case the key-lock is selected, the mode screen setting is possible only after operating the , , and keys.

OFF : Key-lock is not selected.

③ DIP 2



All the DIP switches have been factory-set to OFF at the time of delivery.

Selection of label attaching :

To be selected when the label attaching device has been optionally added to the machine.

OFF : Not selected

ON : Selected

Selection of delay for the lowering of cloth presser :

A delay time can be added to the period from the time when the cloth presser (large) has come down at the folding position to the time when the pattern board starts to go backward.

OFF : Delay time is not added.

ON : Delay time is added.

Selection of garment body presser vacuum operation :

Garment body presser vacuum can be manually turned ON or OFF.

An optional switch, however, is required.

ON : Selected

OFF : Standard

Selection of cloth presser transporting speed :

Transporting speed between the folding position and the sewing position can be changed.

ON : 3,500 rpm

OFF : 4,000 rpm

Selection of function of advancing/retracting the pattern plate :

Advancing/retracting the pattern plate can be manually operated.

However, the pedal switch is separately necessary.

In addition, when this function is selected, selection of garment body presser vacuum operation is neglected.

ON : Selected

OFF : Standard

Selection of the length of unwinding allowance :

Length of unwinding allowance at the time of bobbin replacement can be selected. (This selection can be effective only when AUTO is set in the selection of the number of stitches input mode with the AW device.)

Length of unwinding allowance means the minimum value of the unwinding amount at the time of bobbin replacement. Actual unwinding amount χ at the time of bobbin replacement is within the range of :

Length of unwinding allowance $\leq \chi \leq$ (Length of 1 pattern + length of unwinding allowance).

Actual length, however, may vary depending on the dispersion of consumption of the bobbin thread.

DIPSW 2-6	OFF	OFF	ON	ON
DIPSW 2-7	OFF	ON	OFF	ON
Length of unwinding allowance (m) *	3.5	2.5	1.5	1

* 3.5 (m) at the time of delivery

Selection of use of the AW device :

Use of the automatic bobbin winding and feeding device (AW) can be selected.

OFF : Not used

ON : Used

* 1 : It is possible to select from P-ROM revision 006F V1.60.

* 2 : It is possible to select from P-ROM revision 013 V1.00.

* 3 : It is possible to select from P-ROM revision 013C V2.00.

It is not possible to select with P-ROM revision 006 * .

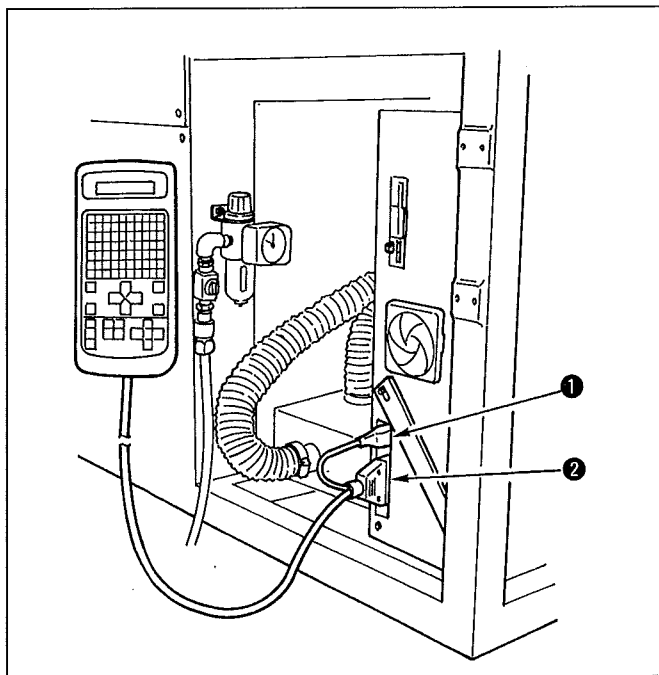
VI. CONNECTION AND ACTUATION OF THE HANDY PROGRAMMING DEVICE (PGM-6)

To PGM-6 Handy Input Device is needed for pattern creation and correction. Please refer to the PGM-6 Instruction Manual. When used with the AVP-875, the following functions can be used. Other functions cannot be used, so use caution.

	A	B	C	D	E	F	G	H	I	J
7	Pattern deletion 	One-turn 	Mark 1 			External output 	Floppy format 	Stitch length change 		
6	Temporary change in the sewing speed 	Jump 	Mark 2 			External input 			Linear apex movement (relative) 	Linear apex movement (absolute)
5	Changing the point speed 	Point sewing 				Delay 		Pattern movement 	Linear apex deletion (relative) 	Linear apex deletion (absolute)
4		Circle sewing 	Circle zigzag stitching * 1	Circle offset sewing 	Circle double-stitch, normal-feed sewing 	Circle double-stitch, reverse-feed sewing 		Point symmetry 		
3	Temporary stop 	Arc sewing 	Arc zigzag stitching * 1	Arc offset sewing 	Arc double-stitch, normal-feed sewing 	Arc double-stitch, reverse-feed sewing 		Y symmetry 	Element deletion 	Point adding
2	Second origin 	Spline sewing 	Spline zigzag stitching * 1	Spline offset sewing 	Spline double-stitch, normal-feed sewing 	Spline double-stitch, reverse-feed sewing 	Pattern writing 	X symmetry 	Point movement (relative) 	Point movement (absolute)
1	Thread trimming 	Linear sewing 	Linear zigzag stitching * 1	Linear offset sewing 	Linear double-stitch, normal-feed sewing 	Linear double-stitch, reverse-feed sewing 	Pattern reading 	Referring to the set value 	Point deletion (relative) 	Point deletion (absolute)

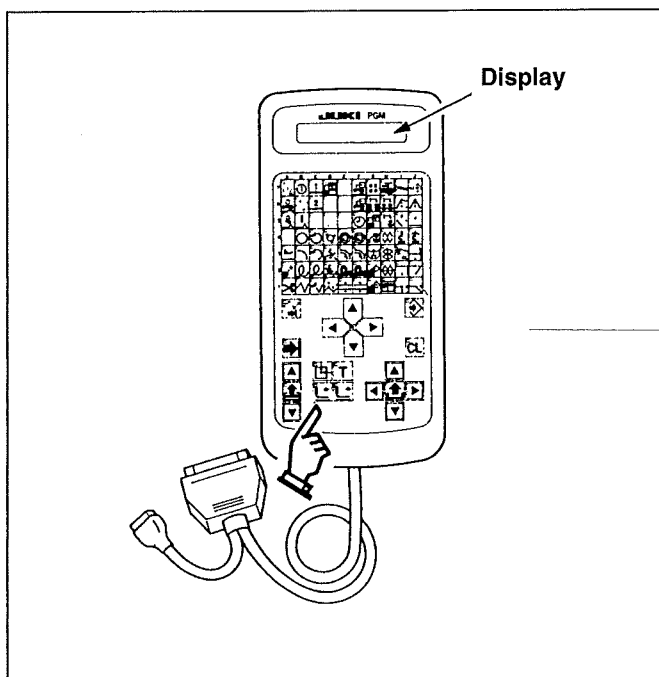
* 1 : It is possible to select from P-ROM revision 013C V2.00.

1. PGM-6 Connection



Confirm that the power is OFF, then connect the PGM-6 connectors to the sewing machine main unit power relay connector ① and signal connector ②.

2. Starting the PGM-6



While pressing the **L+** key on the PGM-6, turn the power to the main unit ON. The **L+** key should be pressed until ON-LINE appears on the PGM-6 display.

The holder moves to the origin, then lowers and waits for PGM-6 input.

If it is desired to insert fabric under the holder, press the (yellow) set release switch; then the presser rises. When the (yellow) setting release switch is pressed again, the holder lowers.

(Note)

If the holder is moved without a material fabric or paper placed under the holder, the sponge attached on the reverse side of the holder can come off. Be sure to place a material fabric or paper under the holder and check the pattern entered.

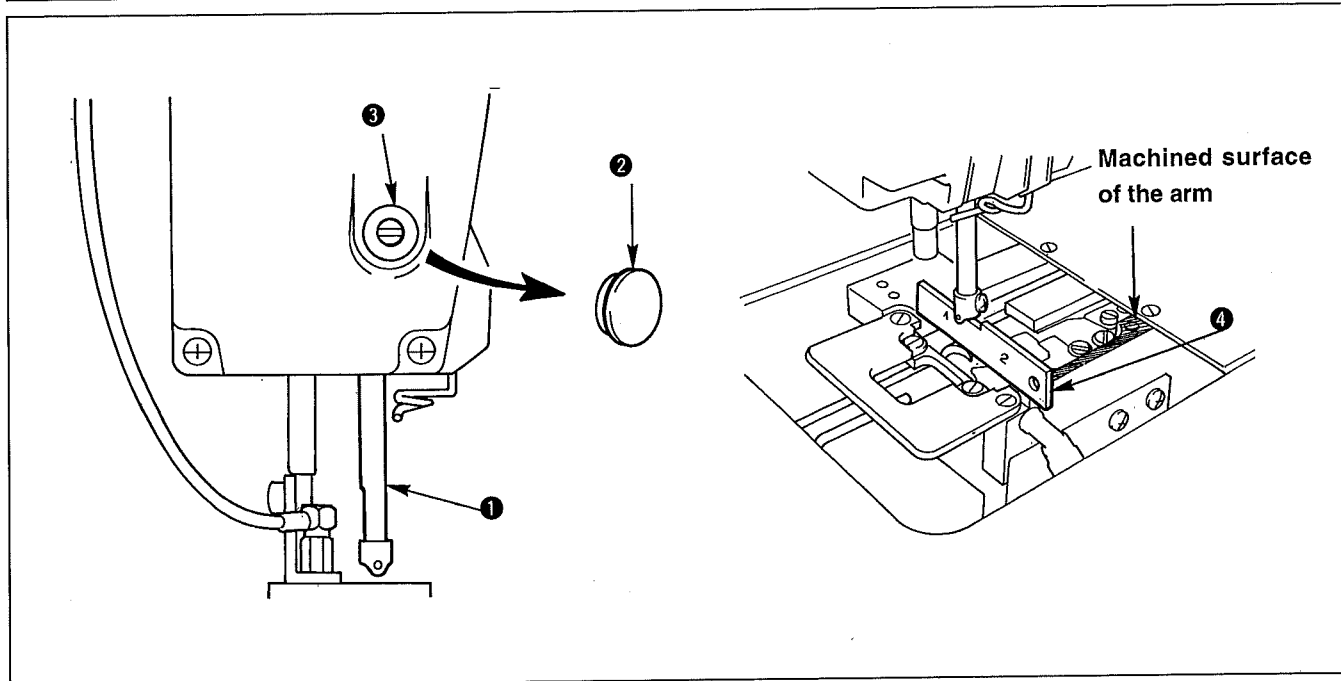
VII. MAINTENANCE

1. Adjusting the height of the needle bar



WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



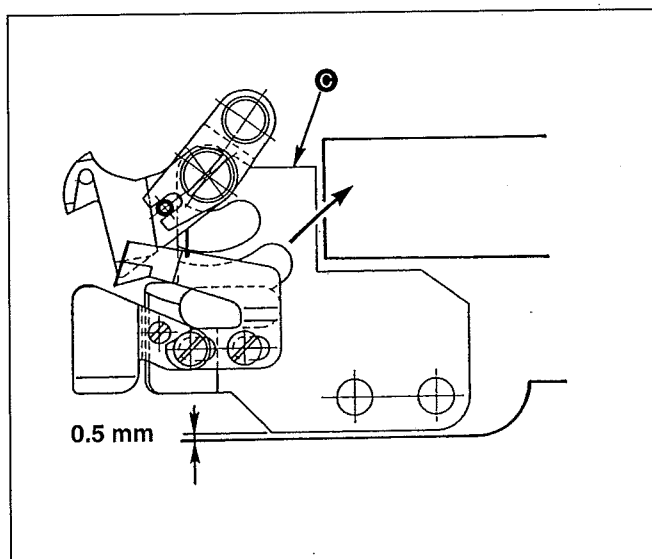
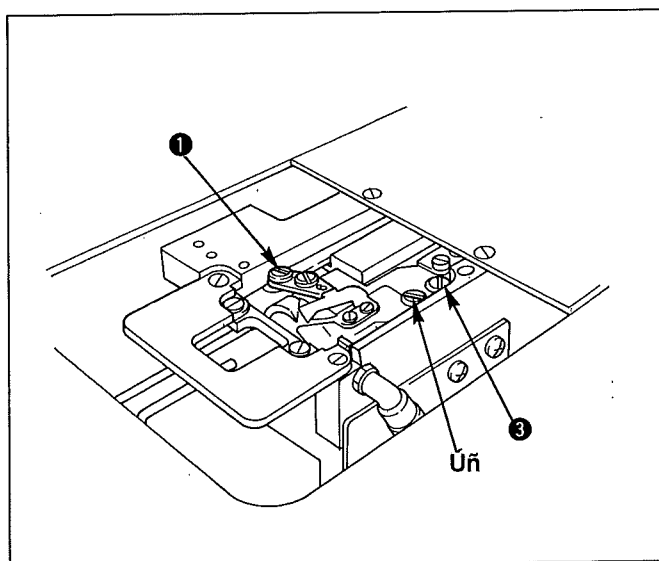
Move needle bar ① to the lowest position of its stroke. Align the lower end the needle bar with the top surface of hook timing gauge ④ on “1” side. Then, remove cap ② and loosen needle bar connecting stud screw ③. Now, conduct adjustment works.

2. Needle and hook adjustment

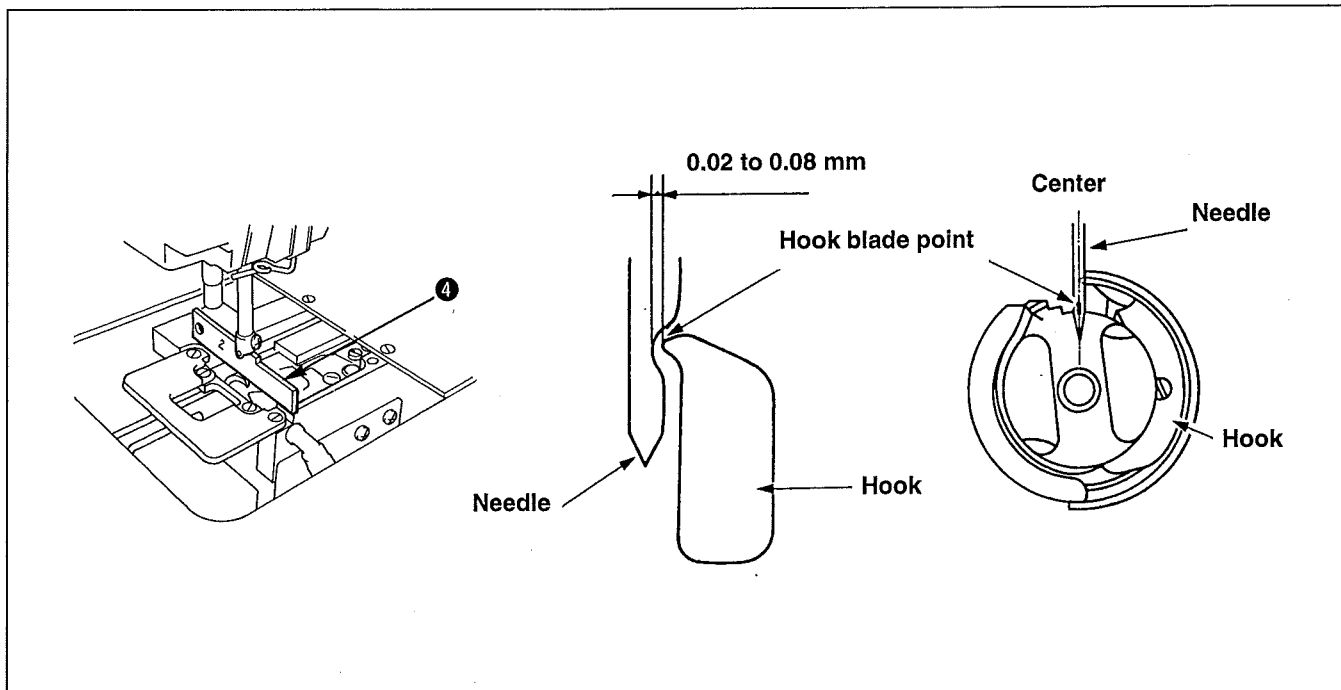


WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



- 1) Remove the throat plate (front side) from the bed surface.
- 2) Remove the screws in the order ① ② ③, then remove trimmer mounting base ④ from the bed surface.



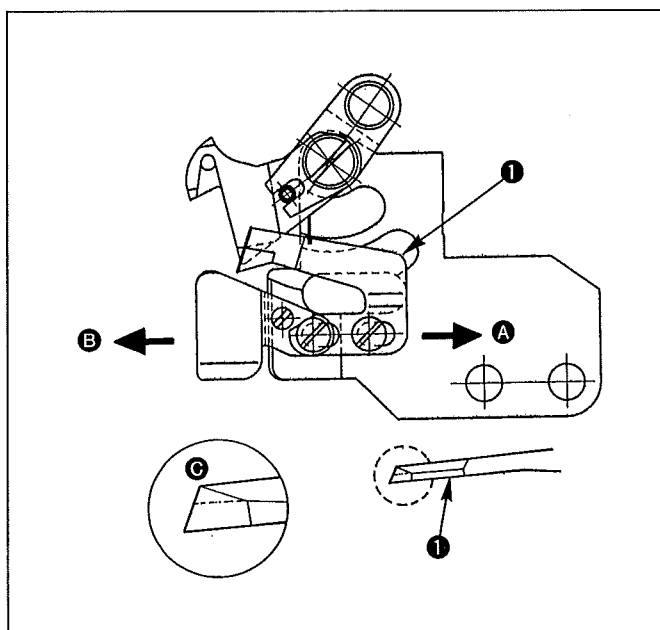
- 3) Adjust so that the lower end of the needle bar is aligned with the top surface of hook timing gauge ④ on 2 side, a clearance of 0.02 to 0.08 mm is provided between the needle and the blade point of the inner hook and the blade point of the hook meets the center of the needle. Then, tighten three screws that are used to secure the hook.
- 4) Attach knife mounting base ③ to the bed surface.
At this time, pressing the knife mounting base in the direction of the arrow to provide a 0.5 mm clearance between the base and the bed surface. Then, tighten screws ② and ③. Finally, tighten screw ①.

3. Counter knife



WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



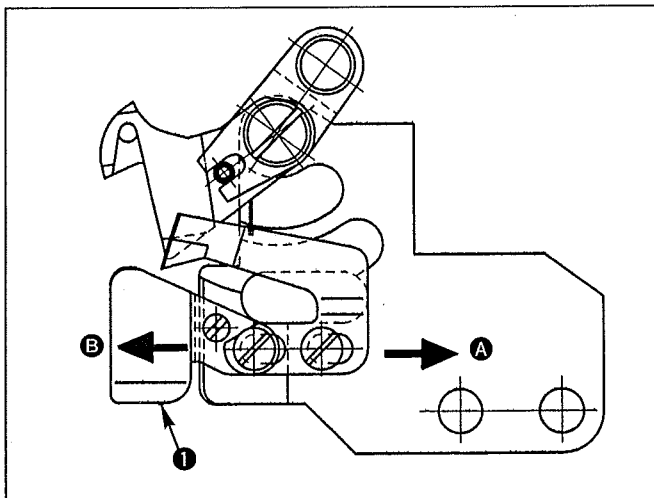
- 1) If the knife sharpness has deteriorated, re-sharpen counter knife ① soon as illustrated in Fig. ③. Then re-attach it in position.
- 2) If the mounting position of the counter knife is moved in the right (direction ①) from the standard mounting position, length of the thread remaining after thread trimming will be longer than the standard length by the distance between the standard position.
- 3) If the mounting position of the knife is moved in the left (direction ②), length of the thread remaining after thread trimming will be shorter than the standard length accordingly.

4. Positioning the counter knife and the knife thread guide



WARNING :

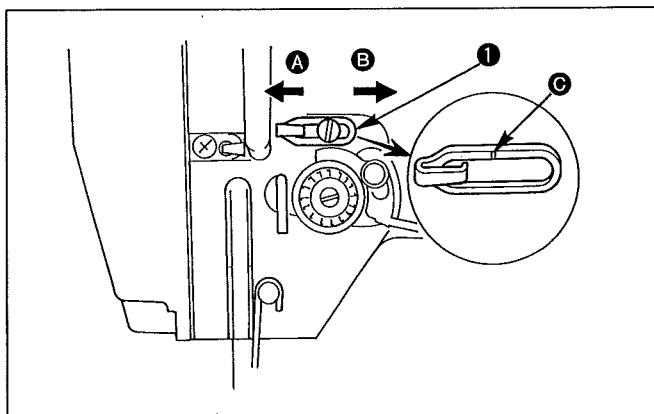
Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



- 1) Knife thread guide ① should be attached so that the needle enters about the center of the window section.
- 2) If the counter knife position is changed from the standard position in direction ①: The length of remaining thread after thread trimming will be lengthened by the shifting amount of the counter knife as compared with the thread length when the counter knife is in the standard position.

If the counter knife position is changed from the standard position in direction ②: The length of remaining thread after thread trimming will be shortened by the shifting amount of the counter knife as compared with the thread length when the counter knife is in the standard position.

5. Thread take-up amount adjustment

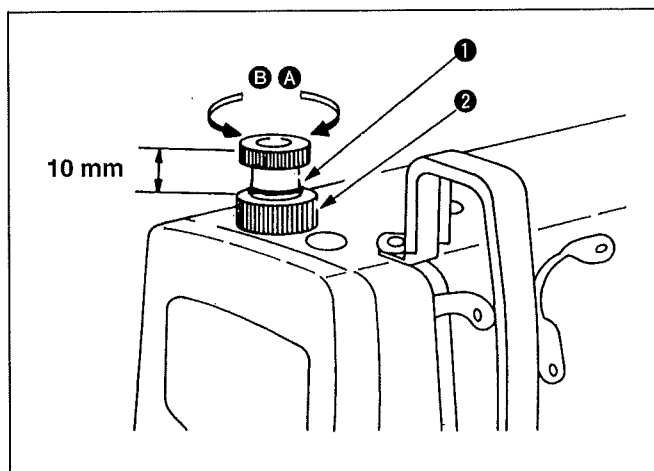


- 1) When sewing heavy-weight material, move thread guide ① to the left (arrow ①) to increase the thread take-up amount.
- 2) When sewing light-weight material, move thread guide ① to the right (arrow ②) to reduce the thread take-up amount.
- 3) The standard position of thread guide ① is where marker line ③ is aligned with the center of the screw.

(Caution)

If thread guide ① is moved to where marker line ③ is far from the center of screw, it can cause the thread to break.

6. Holder pressure adjustment



- 1) First loosen nut ②. To increase the holder pressure, turn holder adjustment screw ① clockwise (arrow ①).
- 2) To decrease the presser pressure, turn counterclockwise (arrow ②)
- 3) After adjustment, tighten nut ②.

(Caution)

After holder pressure adjustment, do not change the height of holder adjustment screw ①.

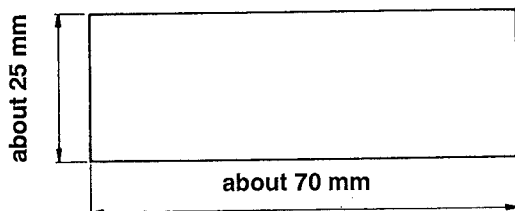
7. Hook oil amount (track of oil) adjustment



WARNING :

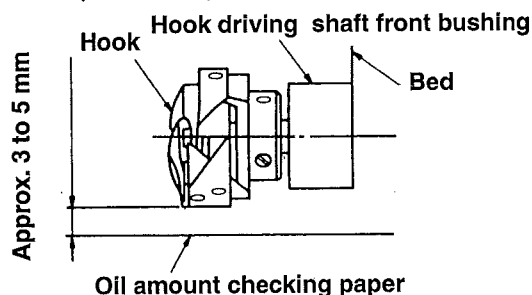
Be extremely careful about the operation of the machine since the amount of oil has to be checked by turning the hook at high speed.

① Oil amount (track of oil) test paper



* It is not necessary to be fussy about the paper quality.

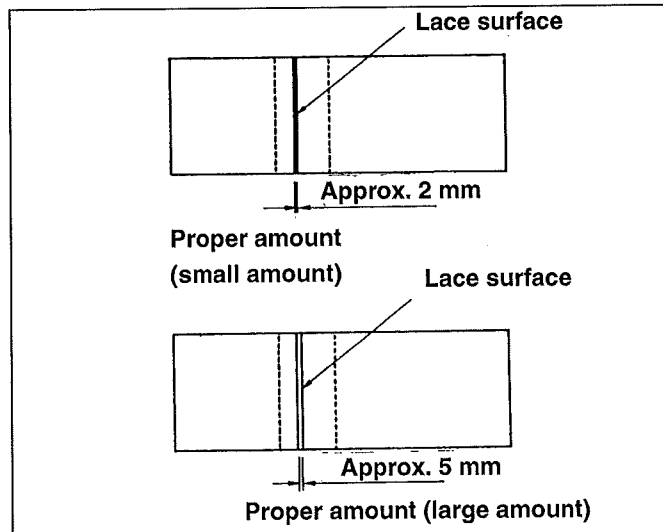
② Oil amount (track of oil) checking position



* Fit the oil amount checking paper to the underside of the hook.

- 1) Check that the oil amount in the hook is proper against the oil gauge.
- 2) Set the sewing machine at 4,000 rpm referring to "Adjusting the sewing machine head" of V -21 (P 51), and make the sewing machine run idle for about three minutes.
- 3) Place an oil amount checking paper in the specified position while the sewing machine is in operation.
- 4) Check the oil amount (trace of oil) in five seconds. (Confirm the time with your watch.)

(1) Sample of the correct oil amount (trace of oil)



- 1) The oil amount in the sample shown in the figure on the left should be finely adjusted to increase/decrease it properly. When finely adjusting the oil amount, be careful not to excessively increase or decrease it.

When the oil amount is too small =

The hook may be seized.

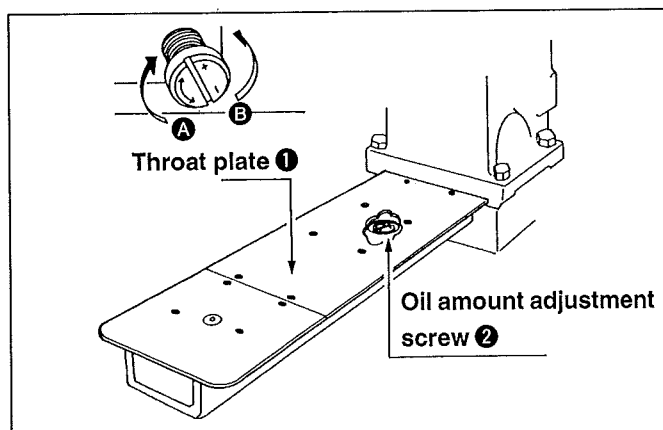
(The hook may become hot.)

When the oil amount is too large =

The sewing material would be stained with oil.

- 2) The oil amount is checked on the condition that the amount of oil on the three sheets of the oil amount checking paper must be uniform.

(2) Adjusting the oil amount (trace of oil) in the hook



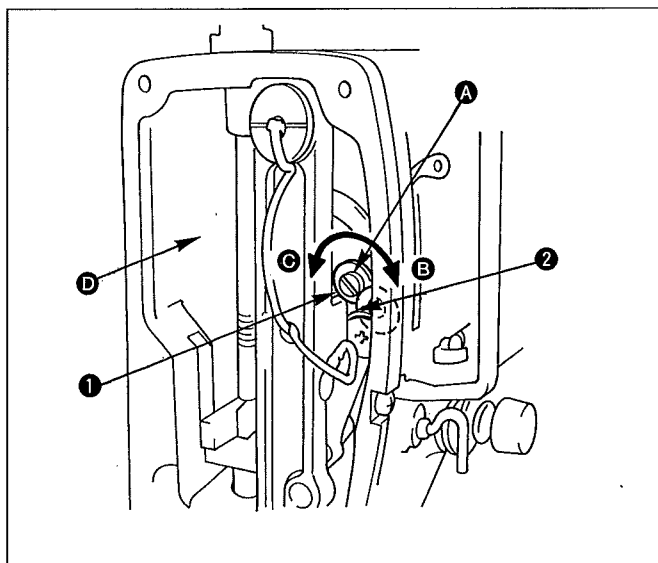
- 1) Remove throat plate ①. Turn oil amount adjustment screw ② in the "+" direction (direction A) to increase the oil amount (tract of oil). Turn the screw in the "-" direction (direction B) to decrease it.
- 2) After the oil amount is adjusted using oil amount adjustment screw ②, run the sewing machine idle for approximately 30 seconds and confirm the oil amount (tract of oil).

8. Adjusting the oil amount in the face plate



WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine

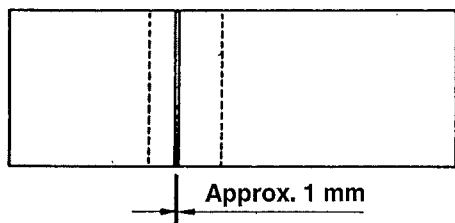


- 1) The amount of oil to be fed to the thread take-up lever and needle bar crank section ② by turning oil amount adjusting pin ①.
- 2) The oil amount is minimized by turning the adjusting pin in direction ③ until marker dot ④ engraved on the pin moves from the position in the figure reaches near needle bar crank ②.
- 3) The oil amount is maximized by turning the adjusting pin in direction ⑤ from the position in the figure to the position opposite to the needle bar crank.

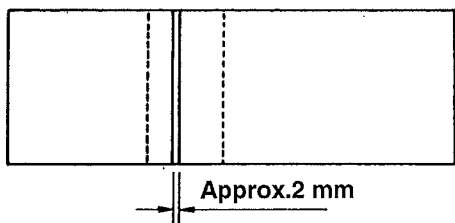
(Caution)

After the oil amount is adjusted using oil amount adjust pin ①, run the sewing machine idle for approximately 30 seconds and confirm the oil amount (trace of oil).

(1) Sample of the correct oil amount (trace of oil)



Proper amount (small amount)



Proper amount (large amount)

- 1) Place a sheet of oil amount (trace of oil) checking paper in position ⑥ in the figure on the upper right, and check the amount of oil.

(Caution)

At this time, be sure not to allow the oil amount checking paper to come in contact with the moving parts.

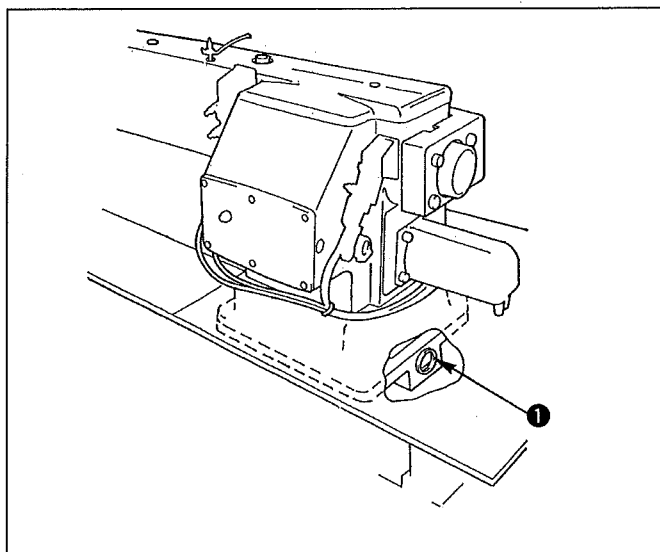
- 2) Check the amount of oil (trace of oil) three time in repetition to be sure that the amount oil does not change.
- 3) Check the amount of oil (trace of oil) for 10 seconds. (Check the time with your watch.)

9. Replacing the oil in the machine head



WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



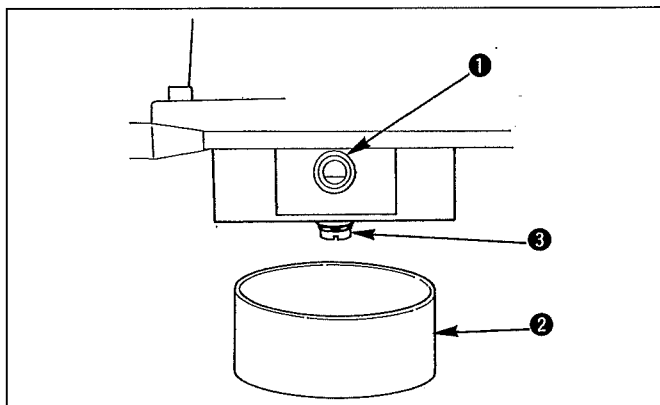
(Caution)

Be sure to apply JUKI New Defrix Oil No. 1.
Visually check the oil through oil gauge window ① on the machine head. If the oil is contaminated, replace it with new oil.
Replace the oil at the interval of a half year although it depends on the frequency of the use.



WARNING :

Negligence of replacing the oil causes the seizure of the machine head.



Oil changing procedure

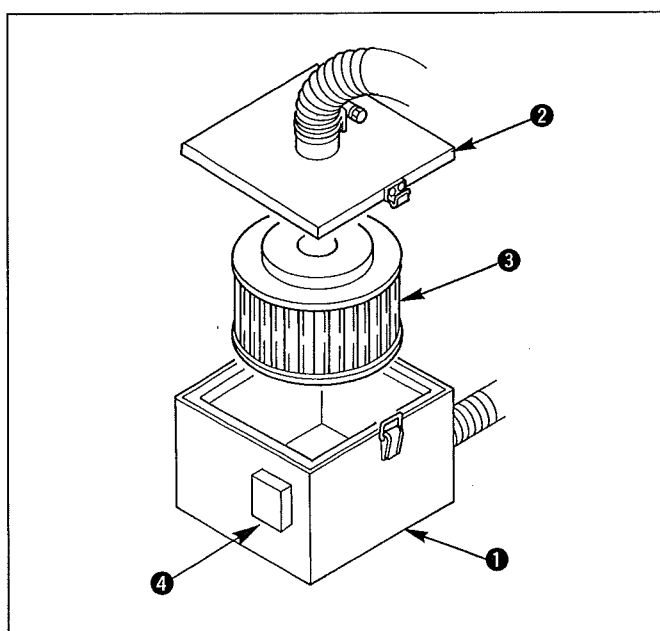
- 1) Prepare oil receiver ② and remove screw ③ from the lower section of the oil pan, then oil flows out from the oil pan.
- 2) After the oil pan is drained, tighten screw ③ and pour oil from the oil hole until the oil surface reaches the center of oil gauge ①.

10. Cleaning the vacuum filter



WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



- 1) Detach top cover ② from filter box ① and take filter ③ from inside the filter box.
- 2) Blow off dust or any other foreign matters that have gathered in the filter using an air gun supplied with the machine.
(Clean the vacuum filter periodically once a week.)
- 3) Blow off any dust that has gathered in filter ④.
(Clean the filter periodically once a week.)



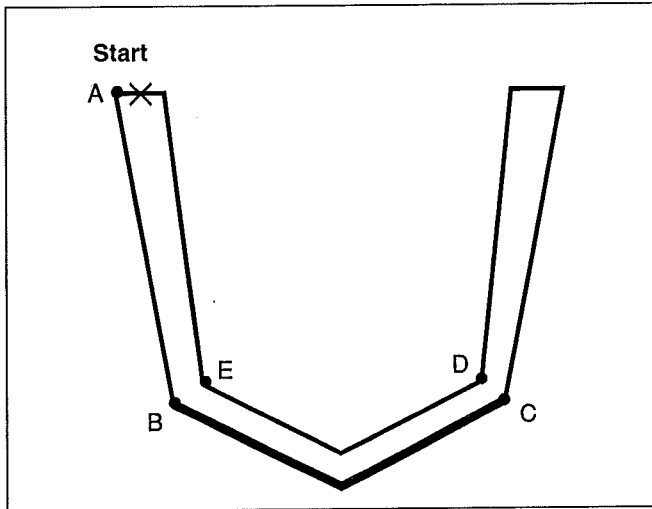
WARNING :

Negligence of cleaning causes the seizure of the motor

11. Adjusting the tension controller No.3

Check the seams first in terms of thread tension. Then, one of the two different thread tensions can be selected.

- ① Entire thread tension (tension controllers No.2 and No.3)
- ② Tension of the tension controller No.2 only.



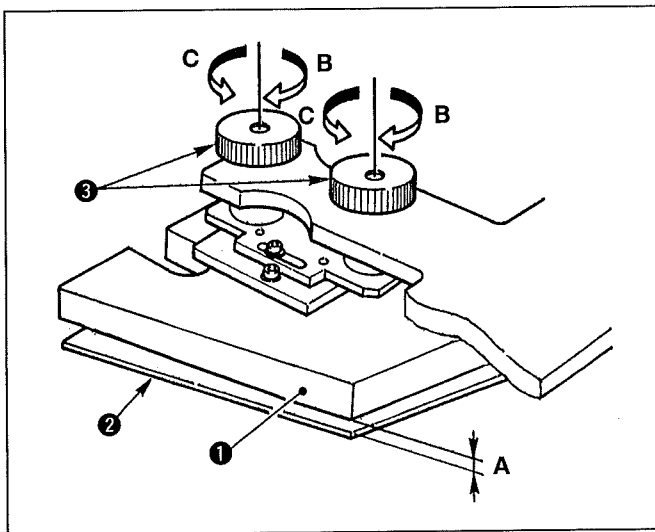
Example To increase the tension only for the section extending from B to C, use the tension controller No.3.

- 1) Start the PGM-6 to read out an input pattern.
- 2) Move the pattern forward to point B, input the external output "F7.2" and turn off the cylinder of the tension controller No.3 to cause the tension disk to close.
- 3) Move the pattern to point C, input the external output "F7.2" and turn on the cylinder of the tension controller No.3 to cause the tension disk to close.

In the aforementioned inputting procedure, select ON/OFF the tension controller No.3. To increase the tension for the section extending from D to E, follow the same procedure.

12. Adjusting the folding function

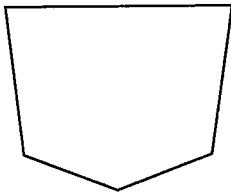
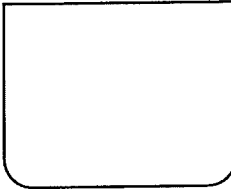
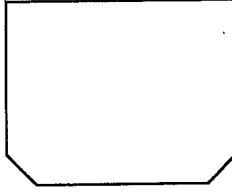
- (1) The clearance provided between the pattern board and the pocket holder in accordance with the material thickness.



- 1) Change dimension A of the clearance provided between pattern board ① and the pocket holder ② using two knobs ③.
Turn knob ③ in direction B to increase dimension A of the clearance for heavy-weight materials.
Turn knob ③ in direction C to decrease dimension A of the clearance for light-weight materials.
- 2) In the adjustment described in 1), adjust pattern board ① and pocket holder ② so that their peripheries match to each other.

(Caution) It should be noted to turn knob ③ so that pattern board ① and pocket holder ② come in uniform contact over the surface. If not, a pocket folding failure can be caused.

(2) Standard folding timing is given in the table below.

						
	ON	OFF	ON	OFF	ON	OFF
A1	0.10	0.30	0.10	0.10	0.10	0.30
A2	0.20	0.20	0.20	0.10	0.30	0.10
A3	0.30	0.10	0.20	0.10	0.20	0.20
A4	0.10	0.30	0.20	0.10	0.30	0.10
A5	---	---	0.10	0.10	0.10	0.30
B	0.00	0.00	0.00	0.00	0.00	0.00

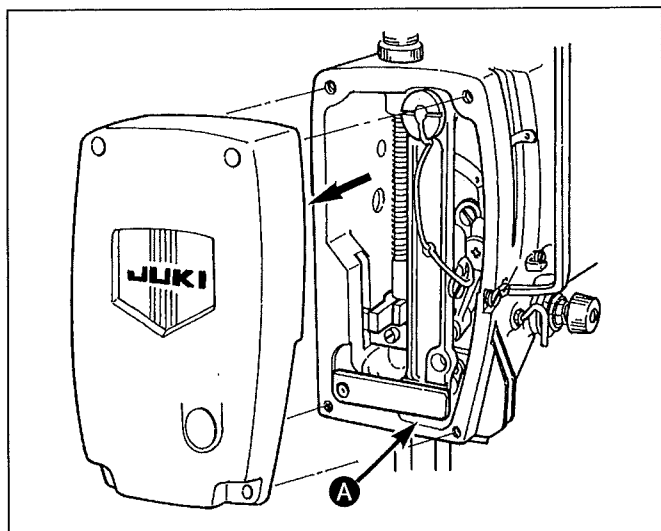
* The folding timing slightly differs with material. Unit : second

13. Removing dust from the face part of the machine head



WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



Remove the face cover and remove dust collected around the section **A**, clearance in the moving part of the needle bar frame.

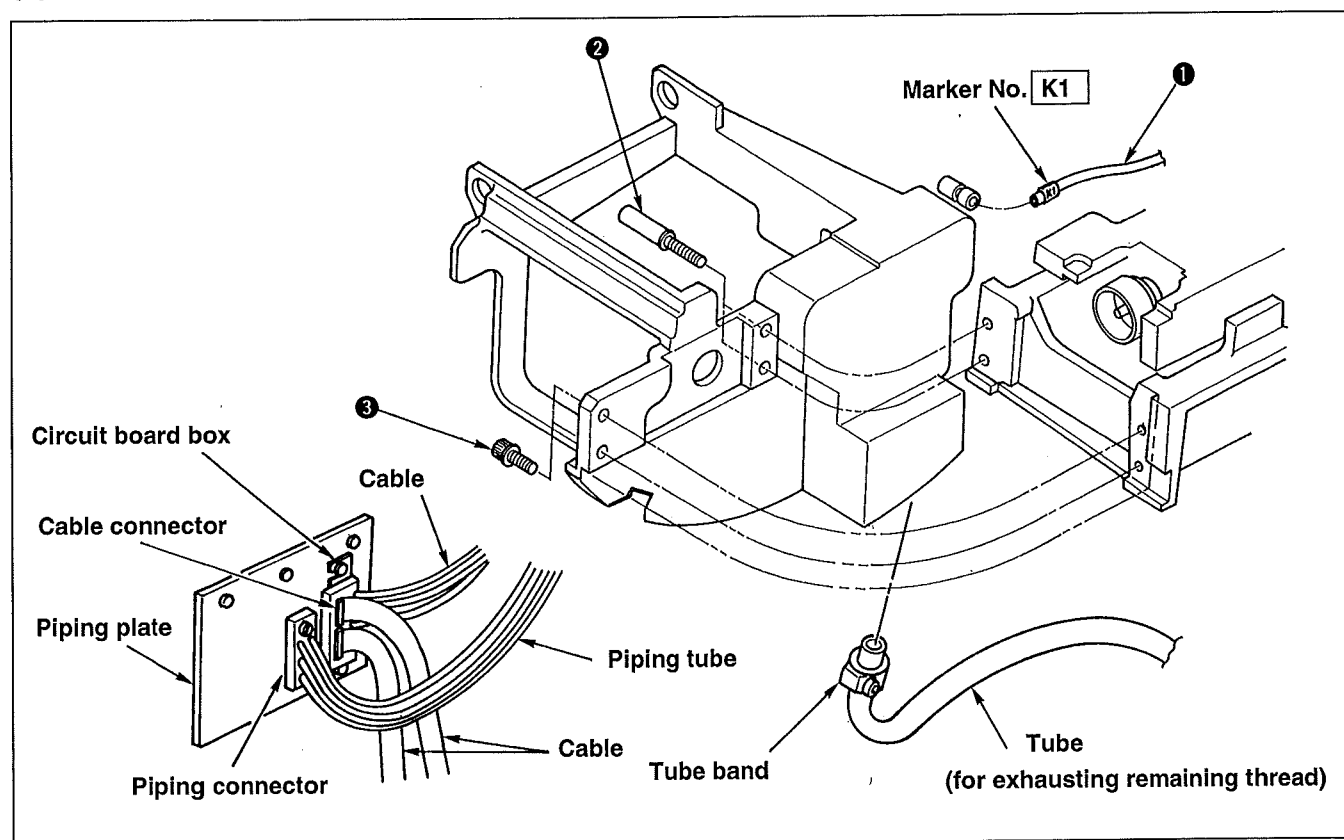
(Remove dust once every three months.)

(Caution)

The necessary needle rocking amount at the bar-tacking section cannot be obtained due to the malfunction of the needle bar frame unless dust is removed. In addition, this relates to the slip of the needle bar rocking crank.

14. Installing/removing the automatic bobbin winding and feeding device (When the automatic bobbin winding and feeding device is provided.)

(1) Removing the device



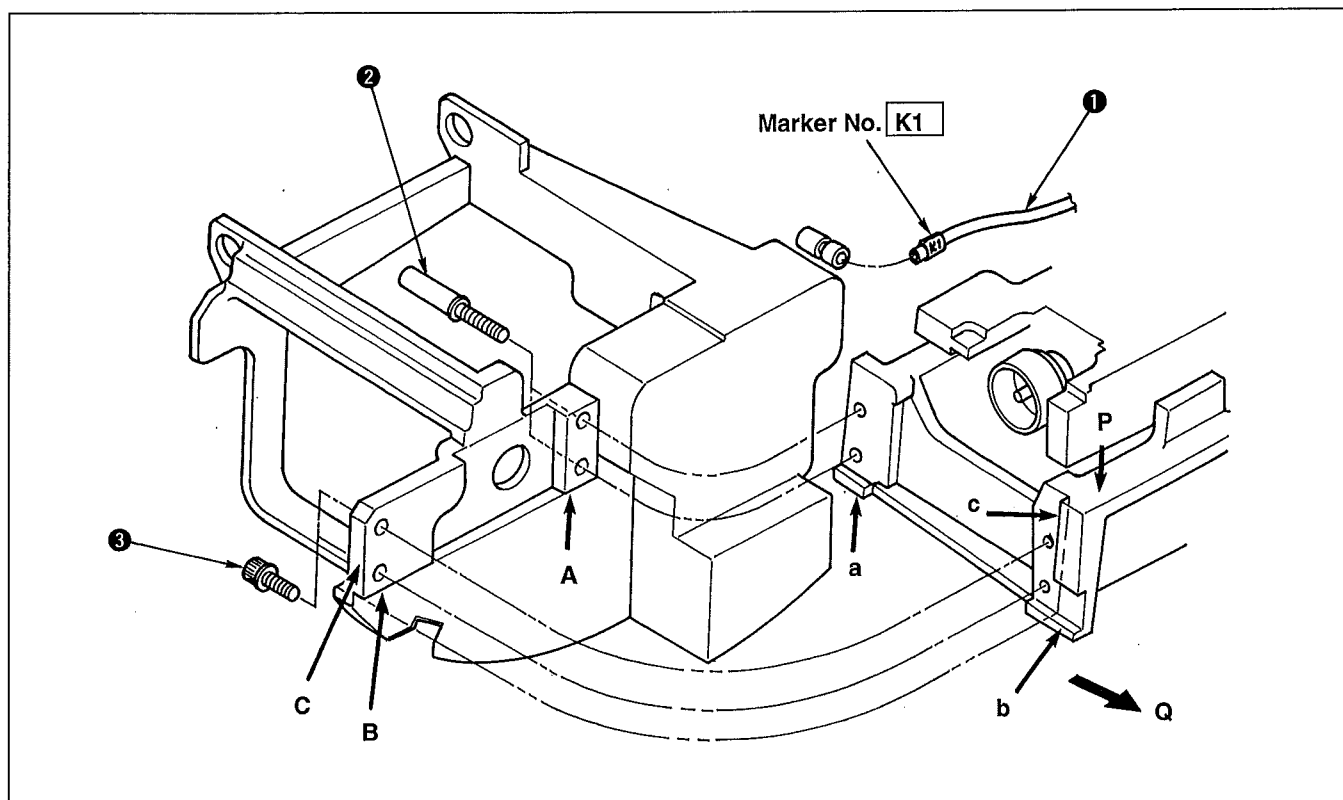
■ Tools used

Hexagonal wrench key 4mm, 5 mm
Slit screwdriver (medium)

■ Removing the device

- 1) Remove two cable connectors.
- 2) Loosen and remove two setscrews each of the circuit board and air piping connector.
- 3) Draw out ① tube of the marker No. K1.
- 4) Loosen the tube band screw, and remove the tube (for exhausting remaining thread).
- 5) Remove two device attaching screws ②.
- 6) Remove one device attaching screw ③.
- 7) Remove the other device attaching screw ③ while supporting the device by hand.

(2) Installing the device

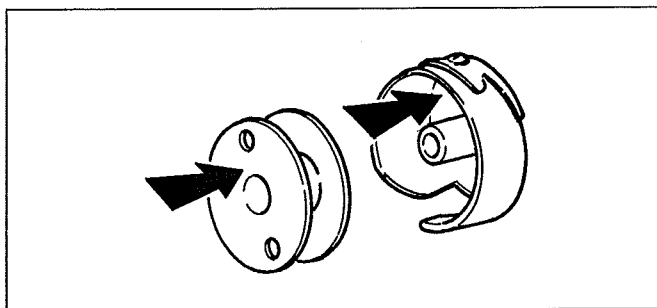


- 1) Installing reference of the device : Align A with a, B with b, and C with c. Install one of device attaching screw ③ to support the device.
- 2) Temporarily tighten the device with the other device attaching screw ③ and two screws ② .
- 3) Move the device in the directions of P and Q so that the aforementioned three installing references come in close contact with one another, and securely tighten attaching screws ② and ③ (4 pcs. in total).
(Tightening torque : approx. 10 Nm)
- 4) Insert the tube (for exhausting remaining thread) and tighten the tube band screw.
- 5) Insert tube ① of the marker No. K1.
- 6) Install the circuit board box and the air piping connector by tightening two setscrews each.
- 7) Insert two cable connectors.

15. Cleaning related to the automatic bobbin winding and feeding device

(1) Cleaning the bobbin and the bobbin case

(When the automatic bobbin winding and feeding device is provided.)

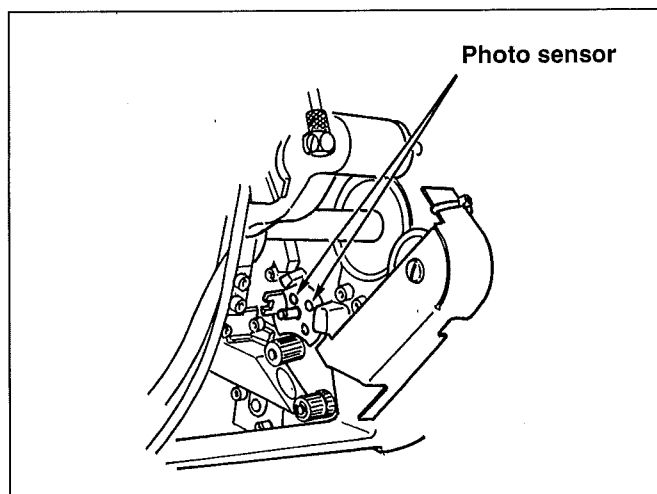


Wipe the dirt from the bobbin and the bobbin case once a day or more, and clean them with an air gun.

Especially, clean thoroughly the face of the clutch holes and inside of the bobbin case (portions with arrow marks).

(2) Cleaning the remaining thread elimination sensor

(When the automatic bobbin winding and feeding device is provided.)



Clean two photo sensors located at the remaining thread elimination portion once a week or more using an air gun.

At the same time, clean the place around the photo sensors.

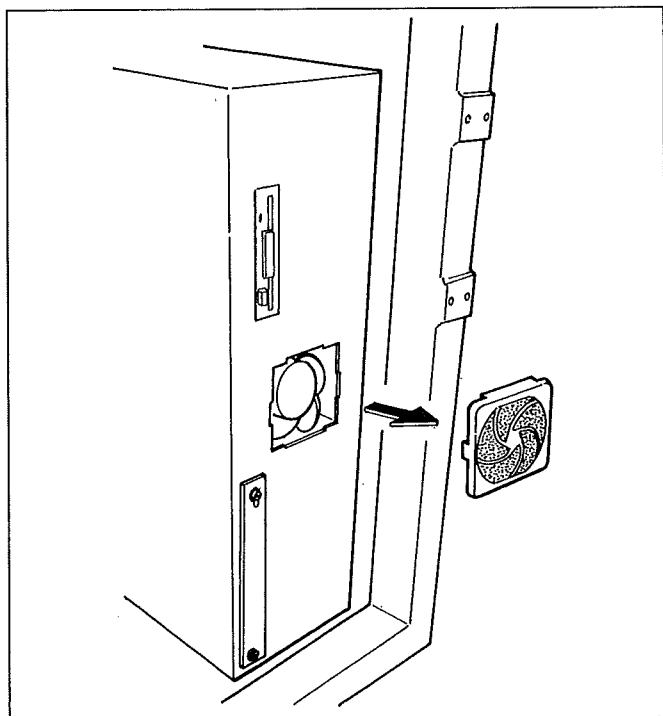
(3) Cleaning the fan filter in the electrical box



DANGER :

To avoid possible accidents caused by electric shock, check to be sure to turn OFF the power switch and the power switch for maintenance, and to draw out the power plug from the plug socket before starting the work.

Be sure to clean the fan filter in the electrical box once a week or more.



- 1) Remove the fan filter in the electrical box.
- 2) Blow off dust gathered in the fan filter using an air gun.
- 3) Install the fan filter to the electrical box.

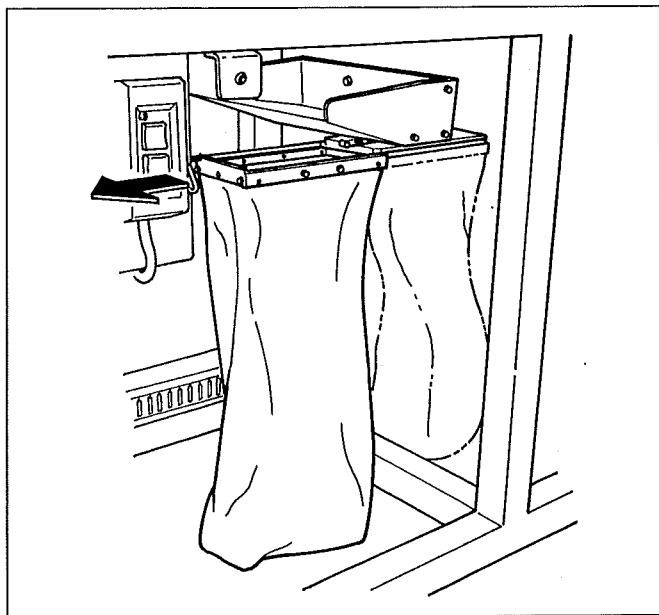


WARNING :

Negligence of cleaning may give the trouble and damage to the electrical components.

(4) Cleaning the dust bag

(When the automatic bobbin winding and feeding device is provided.)



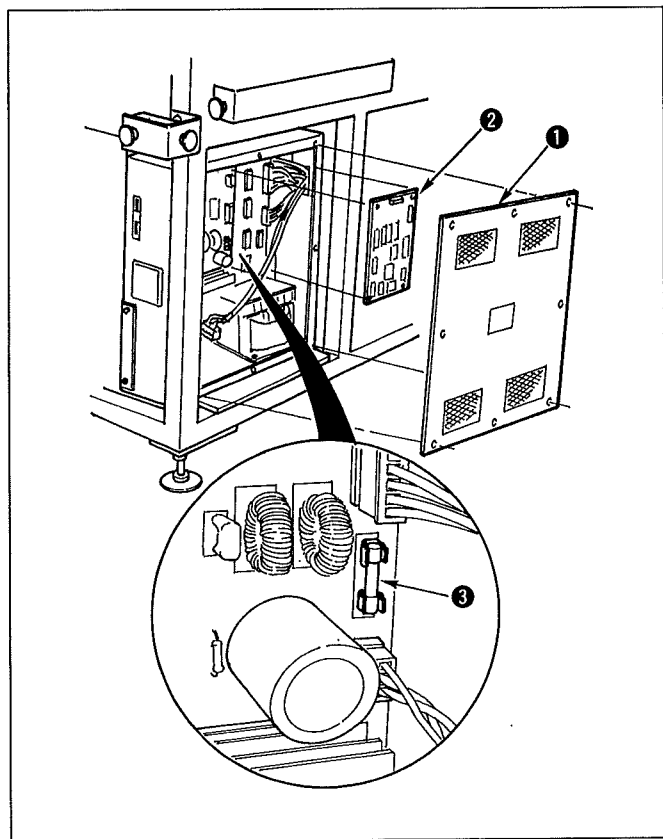
- 1) When more than half of the dust bag has been clogged with thread waste, slide the dust bag to the left side, and dump the thread waste inside.
- 2) Slide the dust bag to the right side to install it.

16. Replacing the fuse of the CPU circuit board in the automatic bobbin winding and feeding device (AW) (When the automatic bobbin winding and feeding device is provided.)



DANGER :

To avoid possible accidents caused by electric shock, check to be sure to turn OFF the power switch and to draw out the power plug from the plug socket before starting the work. In addition, install the rated fuse.



- 1) Remove cover ❶ of the electrical box.
- 2) Turn OFF the power switch, and after leaving it for 5 minutes or more, remove CPU circuit board ❷ of the AVP.
- 3) Replace the fuse ❸ of the CPU circuit board of the AW.
- 4) Install the CPU circuit board of the AVP.
- 5) Install the cover of the electrical box.

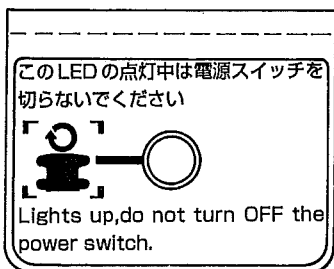
17. Maintenance of the thread trimming knife of the automatic bobbin winding and feeding device (AW) (When the automatic bobbin winding and feeding device is provided.)



WARNING :

Be sure to request the maintenance of the thread trimming knives of the AW (fixed knife and moving knife) to the specialist in the maintenance.

18. Cautions when the automatic bobbin winding and feeding device (AW) is working (When the automatic bobbin winding and feeding device is provided.)



When the AW is working, never turn OFF the power switch during light-up of the display lamp.

When the AW is working, if the power switch is turned OFF during light-up of the display lamp, it is required to start again from the initial setting of the AW at the time of turning ON the power next time.

VIII . ERROR AND RESET

Error is displayed on the operation panel.

Error		Power Off
01	14	47
04	15	
07	30	
11	31	
13	46	

Error screen when turning the power ON

Error No.01
Main_Motor
Error
Power Off

Error screen

Error No.11
Pause
Key[R]=Reset

Pause screen

If an error arises when the power to the machine is turned ON, the error number will be given on the screen. Turn the power OFF, eliminate the error, and re-turn the power ON.

If an error arises during operation, the error number, description of error and one of the following indications will appear on the display.

- Power OFF
- Key [**R**] = Reset

If Key [**R**] = Reset is given on the screen, press the Reset key to restore the screen that has appeared before the arising of the error.

If [Power Off] is indicated, turn the power off and find the cause of the error.

Refer to "Error messages list" of VIII -1 (pages 87 to 89) for the explanation of the error description.

1. Error message list

Error No.	Error message	Description of error
01	Main shaft motor error	An alarm is output from the main shaft motor driver unit.
02	Main shaft motor error	An in-position signal is not input from the main shaft motor driver unit.
03	Main shaft motor error	A Z-phase signal from the main shaft motor driver unit is not detected.
04	X-shaft motor error	An alarm is output from the X-shaft motor driver unit.
05	X-shaft motor error	An in-position signal is not input from the X-shaft motor driver unit.
06	X-shaft motor error	A Z-phase signal from the X-shaft motor driver unit is not detected.
07	Y-shaft motor error	An alarm is output from the Y-shaft motor driver unit.
08	Y-shaft motor error	An in-position signal is not input from the Y-shaft motor driver unit.
09	Y-shaft motor error	A Z-phase signal from the Y-shaft motor driver is not detected.
10	Air pressure drop	The compressed air pressure is lower than the specified pressure.
11	Emergency stop	The emergency stop switch is pressed during operation. The emergency stop switch is disconnected when turning the power ON.
13	(Setting release switch ON)	The setting release switch is held pressed when turning the power ON.
14	(Setting completion switch, right ON)	The setting completion switch, right is held pressed when turning the power ON.
15	(Setting completion switch, left ON)	The setting completion switch, left is held pressed when turning the power ON.
20	No pattern data	This error message is given when the "Standby" key is pressed before reading pattern data from a floppy disk.
21	Needle thread breakage	This error message is given when the needle thread breaks.
24	Stack-full	The possible number of the finished materials to be stacked is exceeded.
30	Over X-limit	The X travel limit is detected.
31	Over Y-limit	The Y travel limit is detected.
32	X1 origin sensor error	X1 origin sensor is not detected at the time of origin retrieval.
33	Y1 origin sensor error	Y1 origin sensor is not detected at the time of origin retrieval.
34	Y2 origin sensor error	Y2 origin sensor is not detected at the time of origin retrieval.
35	Cloth presser initial position error	This error message is given when the cloth presser is in a position where it cannot be moved at the time of origin retrieval.
37	Cloth presser upper position passing error	The material does not pass the upper position of the cloth presser while it travels from the sewing end to the folding position.
38	Cloth presser waiting position passing error	The material does not pass the waiting position of the cloth presser while it travels from the folding position to the sewing start position.
39	External input error	An external input signal is not detected.
41	Sensor error	The main shaft position is not detected.
42	Sensor error	Cloth presser sensor (upper) is not detected.
43	Sensor error	Cloth presser sensor (lower) is not detected.
44	Sensor error	Table sensor (upper) of the folding unit is not detected.
45	Sensor error	Table sensor (lower) of the folding unit is not detected.
46	Sensor error	The folding arm sensor (upper) of the folding unit is not detected.

Error No.	Error message	Description of error
47	Sensor error	The folding arm sensor (lower) of the folding unit is not detected.
48	Sensor error	The sensor (upper) of the folding unit is not detected.
49	Sensor error	The sensor (lower) of the folding unit is not detected.
50	Sensor error	The pattern board sensor (front) is not detected.
51	Sensor error	The pattern board sensor (rear) is not detected.
53	Sensor error	The table open/close sensor is not detected.
61	Sensor error	The stacker cloth brush completion sensor is not detected.
66	Remaining thread elimination shaft sensor error	Defective detection due to dirt of the remaining thread elimination shaft sensor
67	AW non-connection error	In case of non-connection of communication cable between the AVP and AW
68	AW temperature-rise error	Temperature-rise in the electrical box due to stop of the fan to protect damage of elements on the circuit board of AW caused by high temperature
69	Communication trouble between AVP main unit and AW	Defective connection of communication cable between the AVP and AW Defective circuit boards of the AVP and AW
70	Remaining thread elimination error	After replacing bobbin, the thread end of the thread that is used up in a bobbin cannot be clamped and remaining thread cannot be eliminated. Defective thread drawing roller. Or, the bobbin rotation detection sensor is dirty. The dust bag is clogged with thread.
71	Thread binding trouble	Thread does not come out of the nozzle, or comes out excessively. There is no thread on the cone. Setting bobbin to the bobbin case is not proper. There is remaining thread in bobbin.
72	Thread winding trouble	There is no thread on the cone. Thread breakage on the way, or step-out of the winding motor. Setting bobbin is not correct. Thread has overflowed the bobbin.
73	Threading/thread trimming trouble	Trouble of threading to the bobbin thread tension adjusting spring of the bobbin case, or thread trimming after threading
74	Bobbin transport trouble	Bobbin cannot be drawn from the hook, bobbin waiting position or remaining thread position. Drop of bobbin during transportation, or bobbin cannot be set at bobbin waiting position or remaining thread position.
75	Device trouble due to horizontal feed trouble	Chuck arm does not work horizontally. Origin of the horizontal feed motor cannot be detected.
76	Device trouble due to rotating trouble	Chuck arm does not rotate. Origin of rotating motor cannot be detected.
77	Device trouble due to nozzle trouble	Bobbin thread supply nozzle does not work. Origin of the bobbin thread supply nozzle motor cannot be detected.
78	Device trouble due to moving knife trouble	Thread trimmer moving knife does not rotate. Origin of the moving knife motor cannot be detected.
79	Device trouble due to thread feeding trouble	Bobbin thread feeding arm does not work. Origin of the bobbin thread feeding arm motor cannot be detected.
80	FD unready	A floppy disk is not loaded in the floppy disk drive when reading/writing data from/on the floppy disk.
81	FD write protect	The floppy is in the write-protect state. So, data cannot be written on it.

Error No.	Error message	Description of error
82	No pattern	The floppy disk loaded does not store a target pattern.
83	Other pattern data	When writing the folding timing or folding position into a floppy disk, a pattern saved on the floppy disk is different from that stored in the sewing machine.
84	Data error	Abnormal data exists in the floppy disk when reading data from the floppy disk.
85	Over memory	Data cannot be stored in memory when reading data from the floppy disk.
86	Over volume	Data cannot be stored in the floppy disk when writing data into the floppy disk.
90	FD error	Floppy disk seeking error
91	FD error	Data cannot be read from a floppy disk.
92	FD error	Data cannot be written on a floppy disk.
93	FD error	File structure of a floppy disk is abnormal.
94	FD error	Another file exists on the floppy disk.
95	FD error	Format system of the floppy disk is not proper.

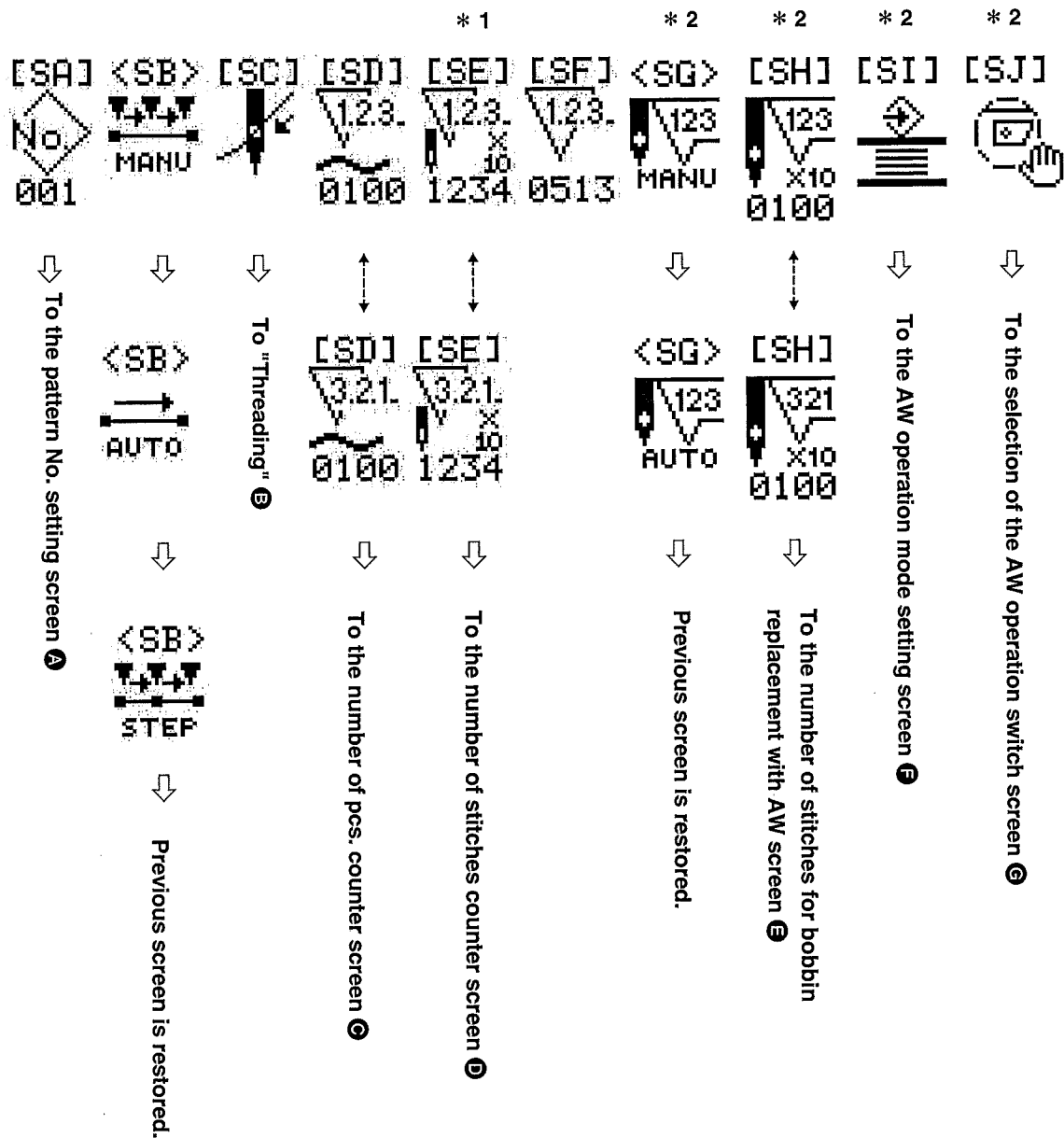
IX . TROUBLE SHOOTING

Phenomenon	Cause	Corrective measure
1. Thread Breakage	<ol style="list-style-type: none"> ① The thread path, tip of needle, blade point of hook, or bobbin case positioning finger has scratches. ② The needle thread tension is too high. ③ The needle comes in contact with the blade point of hook. ④ Lubricating oil in the hook is too small. ⑤ The needle thread tension is too low. ⑥ The thread take-up spring pressure is too high, and stroke of the thread take-up lever is too small. ⑦ The timing between needle and hook is too early or too late. ⑧ Idling amount of the bobbin is too large. 	<ul style="list-style-type: none"> ○ Re-sharpen the blade point of hook with a fine emery paper to remove scratches. Buff the bobbin case positioning finger. ○ Adjust the needle thread tension. ○ Refer to "Needle and hook adjustment" of VII -2. ○ Adjust the oil amount properly. Refer to "Hook oil amount (track of oil) adjustment" of VII -7 and "Adjusting the oil amount in the face plate" of VII -8. ○ Adjust the needle thread tension properly. ○ Decrease the pressure of the thread take-up spring, and increase the stroke of thread take-up lever. ○ Refer to "Needle and hook adjustment" of VII -2. ○ Increase the spring pressure.
2. Stitch skipping	<ol style="list-style-type: none"> ① The clearance between the needle and the hook point is too large. ② The timing between the needle and the hook is too early or too late. ③ The holder pressure is too low. ④ The clearance between the top edge of the needle eyelet and the hook point is not correct. ⑤ The needle thread guide is not properly threaded. → Refer to "Threading the machine head" of IV -2. 	<ul style="list-style-type: none"> ○ Refer to "Needle and hook adjustment" of VII -2. ○ Refer to "Needle and hook adjustment" of VII -2. ○ Tighten the holder spring regulator. ○ Refer to "Needle and hook adjustment" of VII -2.
3. Loose stitches	<ol style="list-style-type: none"> ① The thread has not been passed through the forked section of the bobbin case tension spring. ② The thread path has been poorly finished. ③ The bobbin does not rotate smoothly. ④ The bobbin thread tension is too low. ⑤ The bobbin thread tension is too high. ⑥ The presser sponge is located too close to the needle entry. As a result, the thread comes in contact with the sponge. → Cut the section of sponge which comes in contact with the thread. 	<ul style="list-style-type: none"> ○ Properly thread the bobbin case. ○ Grind the thread path with a fine emery paper, or buff it up. ○ Replace the bobbin or the hook. ○ Adjust the bobbin thread tension properly. ○ Decrease the bobbin thread tension.

Phenomenon	Cause	Corrective measure
4. The tread slips off the needle upon being trimmed.	① The returning force of the thread take-up spring is too high. ② The tension of the tension controller No. 1 is too high. ③ The counter knife is improperly positioned.	○ Refer to "Threading the needle thread" of IV -2. ○ Refer to "Positioning the counter knife and the knife thread guide" of VII -4.
5. The needle thread cannot be trimmed. (The bobbin thread can be trimmed.)	① The last stitch has been skipped. (The clearance between the needle and the hook is too large.)	○ Refer to "Needle and hook adjustment" of IV -2.
6. Neither the needle thread nor the bobbin thread can be trimmed.	① The thread trimming timing is wrong. ② The knife has been damaged. ③ The knife pressure is inadequate. ④ The moving amount of the moving knife is too short. ⑤ The thread trimming cylinder fails to work.	○ Replace the knife. ○ Increase the knife pressure. ○ Check the cylinder for proper operation.
7. Thread cannot be trimmed sharply.	① Thread trimming timing is wrong. ② The knife pressure is too low. ③ The knife blade is blunt.	○ Refer to "Positioning the counter knife and the knife thread guide" of VII -4. ○ Increase the knife pressure. ○ Replace the knife.

X . PICTOGRAPHS LIST

1. Standard screen



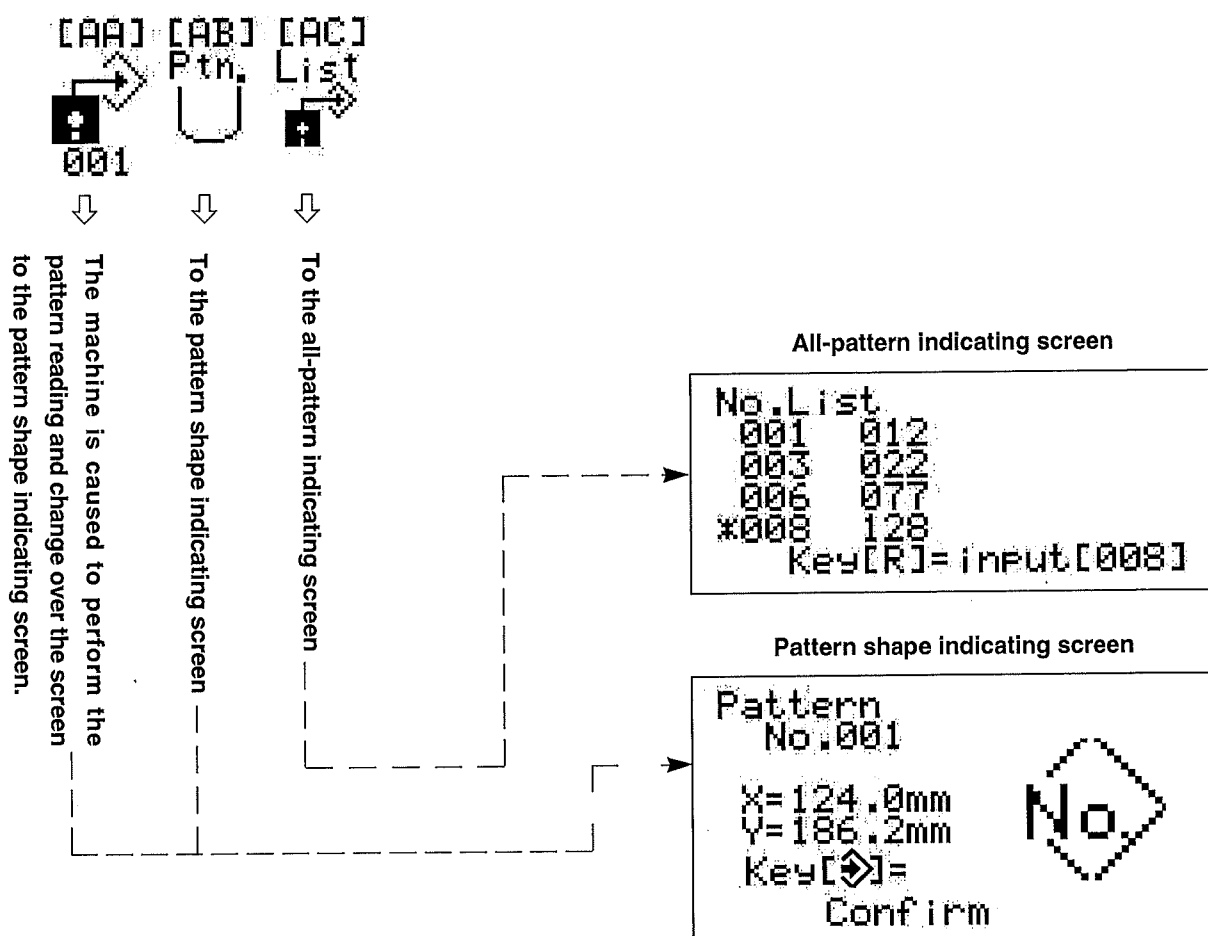
* indicates the change by pressing the screen change over key .

indicates that the pictograph selected by other setting key is displayed.

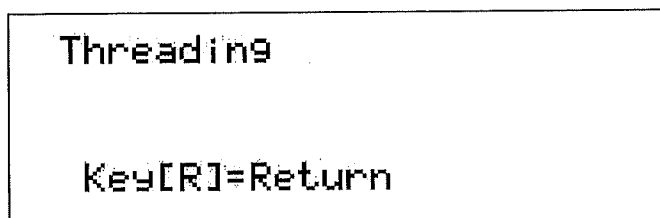
* 1 : This item is not displayed when the AW device is selected.

* 2 : This item is not displayed when the AW device is not selected.

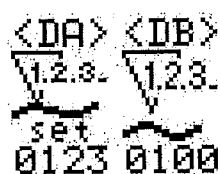
A Pattern No. setting screen



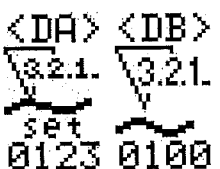
B Threading



C Number of pcs. counter setting screen
(Count-up counter)



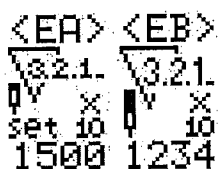
(Count-down counter)





D Number of stitches counter setting screen
(Count-up counter)



(Count-down counter)





- ⑤ Number of stitches for bobbin replacement with AW setting screen
(Count-up counter)




[HA]	[HB]
	
123	123
SET x10	x10
1234	0513



(Count-down counter)

[HA]	[HB]
	
321	321
SET x10	x10
1234	0513

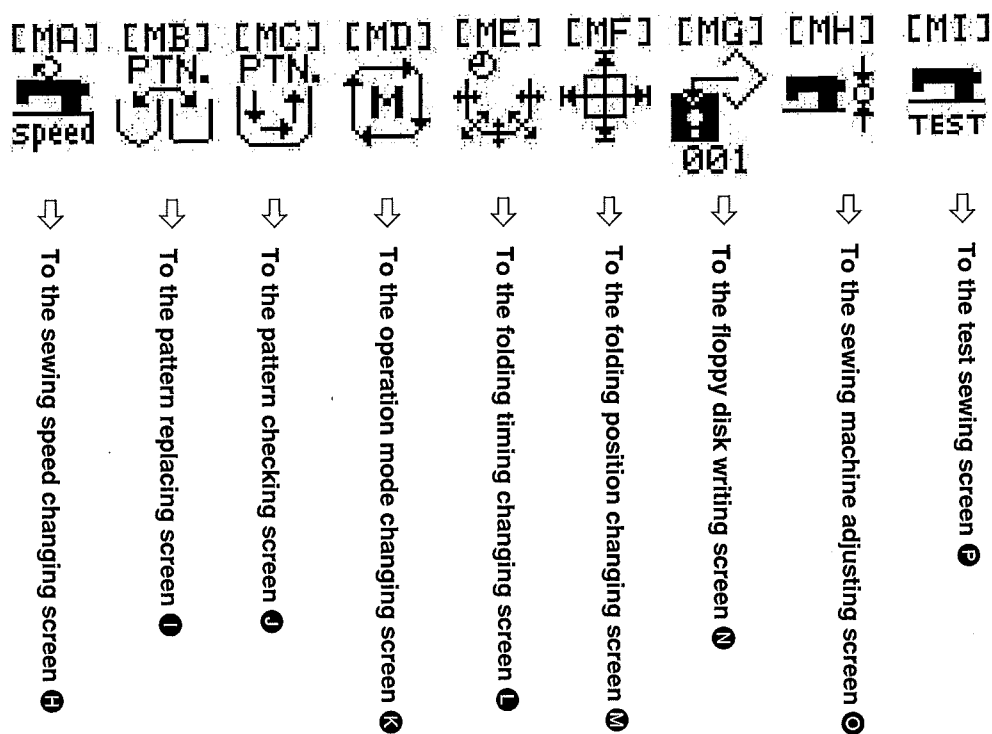
- ⑥ AW operation mode setting screen

[IA]	[IB]	[IC]
		
(m)	SPUn	#20
12		

- ⑦ Selection of the AW operation switch screen

<p>Key [0]=Manu bbn chg Key [1]=Take out bbn Key [2]=Wind bbn set Key [3]=Wound bbn set Key [4]=Nozzle air sw Key [5]=Table sw</p>

2. Mode selection screen



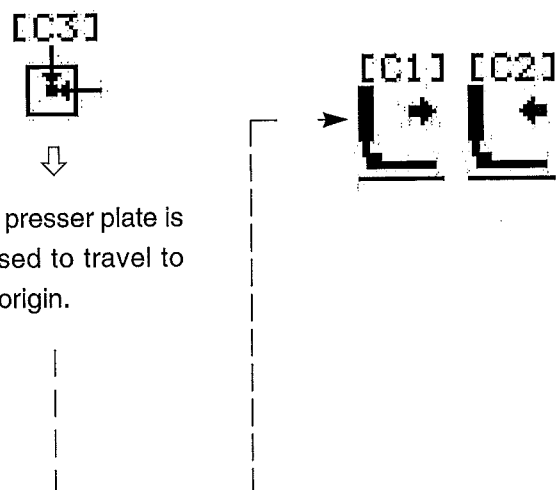
H Sewing speed changing screen

[A1]	[A2]	[A3]	[A4]	[A5]
				
High	corner	start1	start2	start3
4000	7	0400	0800	3000

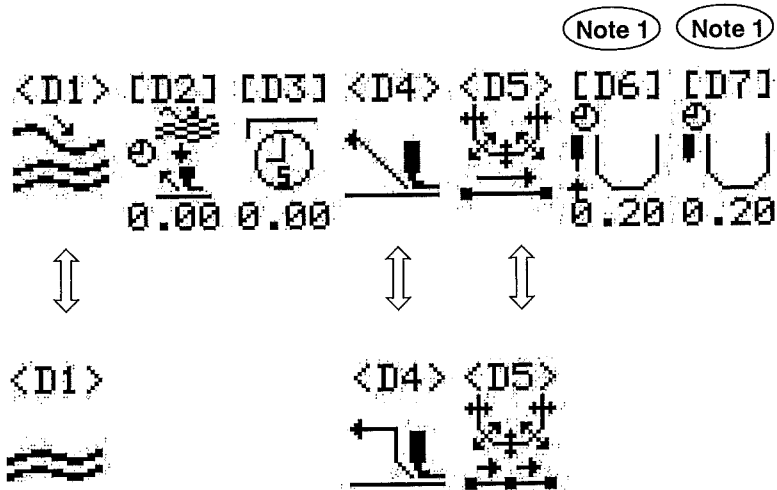
I Pattern replacing screen

Change Pattern
Key[↵]=Confirm
Key[R]=Return

J Pattern checking screen



K Operation mode changing screen



Note 1 These pictographs are indicated only when the label attaching device is selected.

L Folding timing changing screen

A1	ON	0.10	OFF	0.05
A2	ON	0.20	OFF	0.10
A3	ON	0.30	OFF	0.30
A4	ON	0.10	OFF	0.10
A5	ON	---	OFF	---
B	ON	0.30	OFF	0.30

M Folding position changing screen

```

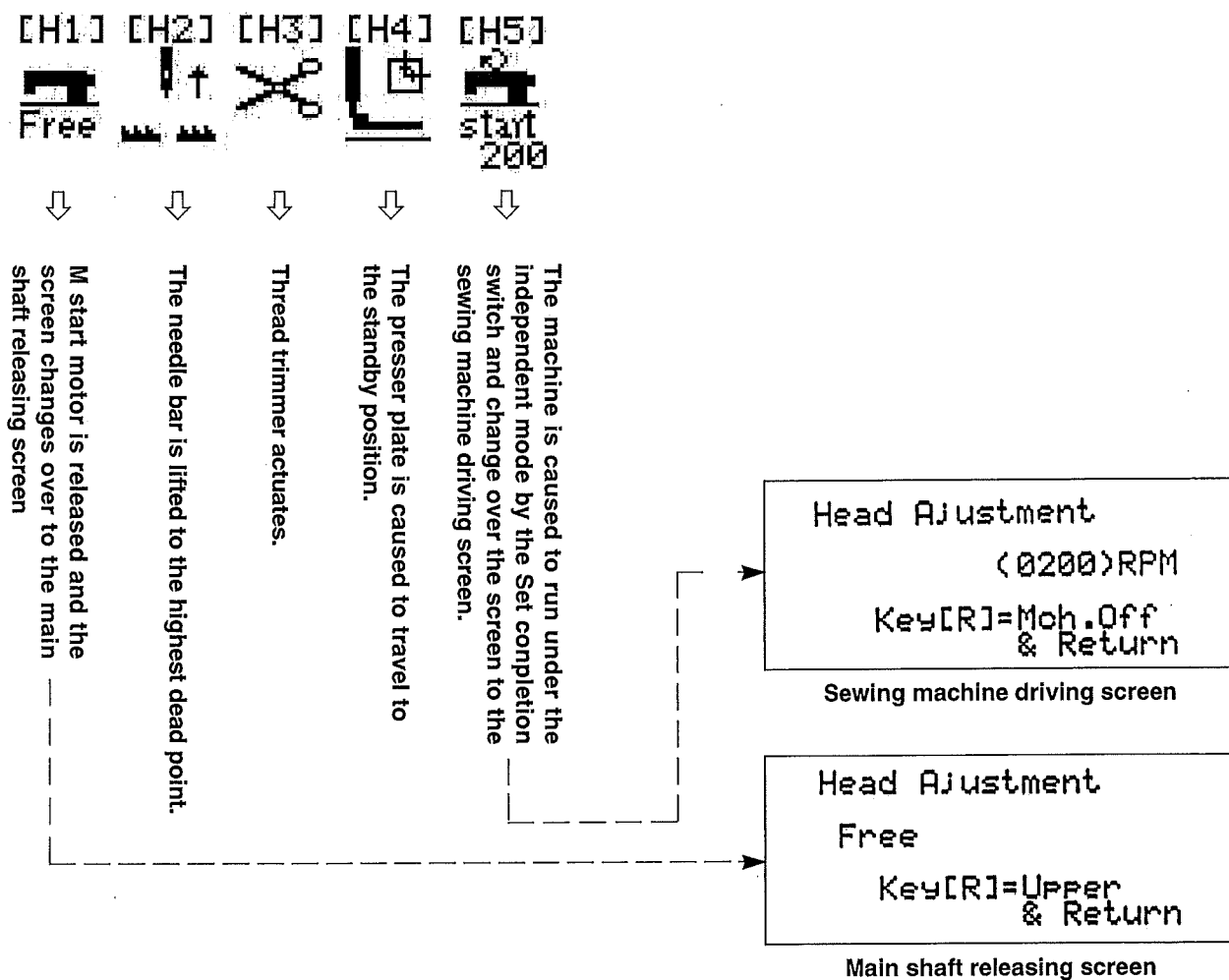
Fold Position
X-Dir.= +0.7
Y-Dir.= -0.2
Key[+] = Confirm
Key[1] = Off
  
```

N Floppy disk writing screen

```

Write FD
Key[+] = Execute
Key[R] = Return
  
```

① Sewing machine adjusting screen



② Test sewing screen

