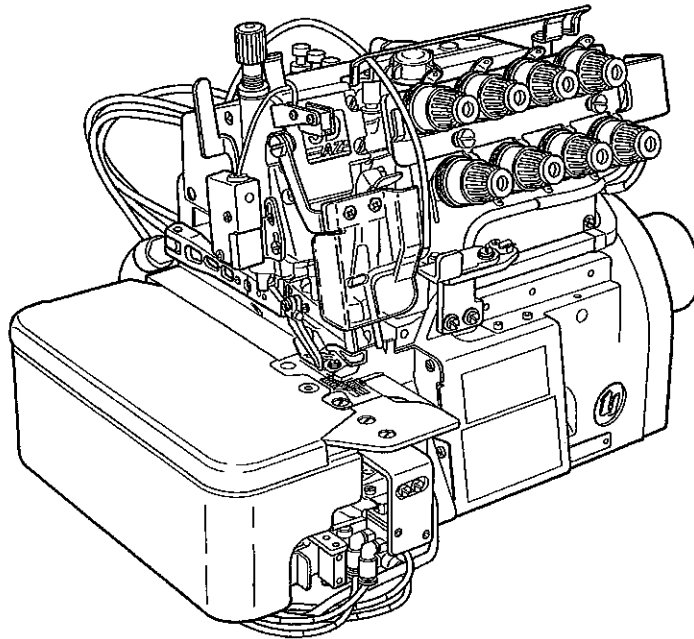


Yamato[®]

Instruction Manual

AUTOMATIC BACK TACKER

ABT20





Thank you for purchasing the ABT20.


Before use, please carefully read through this manual and make sure that you thoroughly understand its contents.

The instruction manual should be placed where it will be easily accessible.

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Remarks

◇This instruction manual has been prepared mainly for engineers' use. It is, however, recommended that the items marked with  be read by operators as well for the proper use of the ABT20.

◇Each illustration contained in this document is given a figure number in its lower left corner. In the text, such figure numbers are used, as necessary, for your reference to the corresponding illustrations.

Note

The parts used in this product are subject to change due to improvements, etc. without notice. If such a change is made, any part of the contents and illustrations of this document may not conform to this product.

In preparing the instruction manual, we have done our best to make it free of any errors or omissions. If any errors or omissions should be found, it may not be possible to correct them immediately.

1. Introduction

1.1 Features

1. The bottom back-tacking system ensures a high level of workability with no obstruction of the field of view when the material is put in place.
2. The moving type of stitch plate tongue and thread tension releaser which are linked to the photoelectric material detection function support a stable stitch condition on the material and a soft thread chain for easy tacking.
3. The device supports mesh materials, and prevent errors in operation when sewing.
4. The tacking length for the thread chain can easily be adjusted on the operating control box.
5. The ABT20 is controlled by the small servo motor that is integrated into the sewing machine.

Set motor

Small servo motor made by Yamato

1. Introduction

1.2 Names of the parts

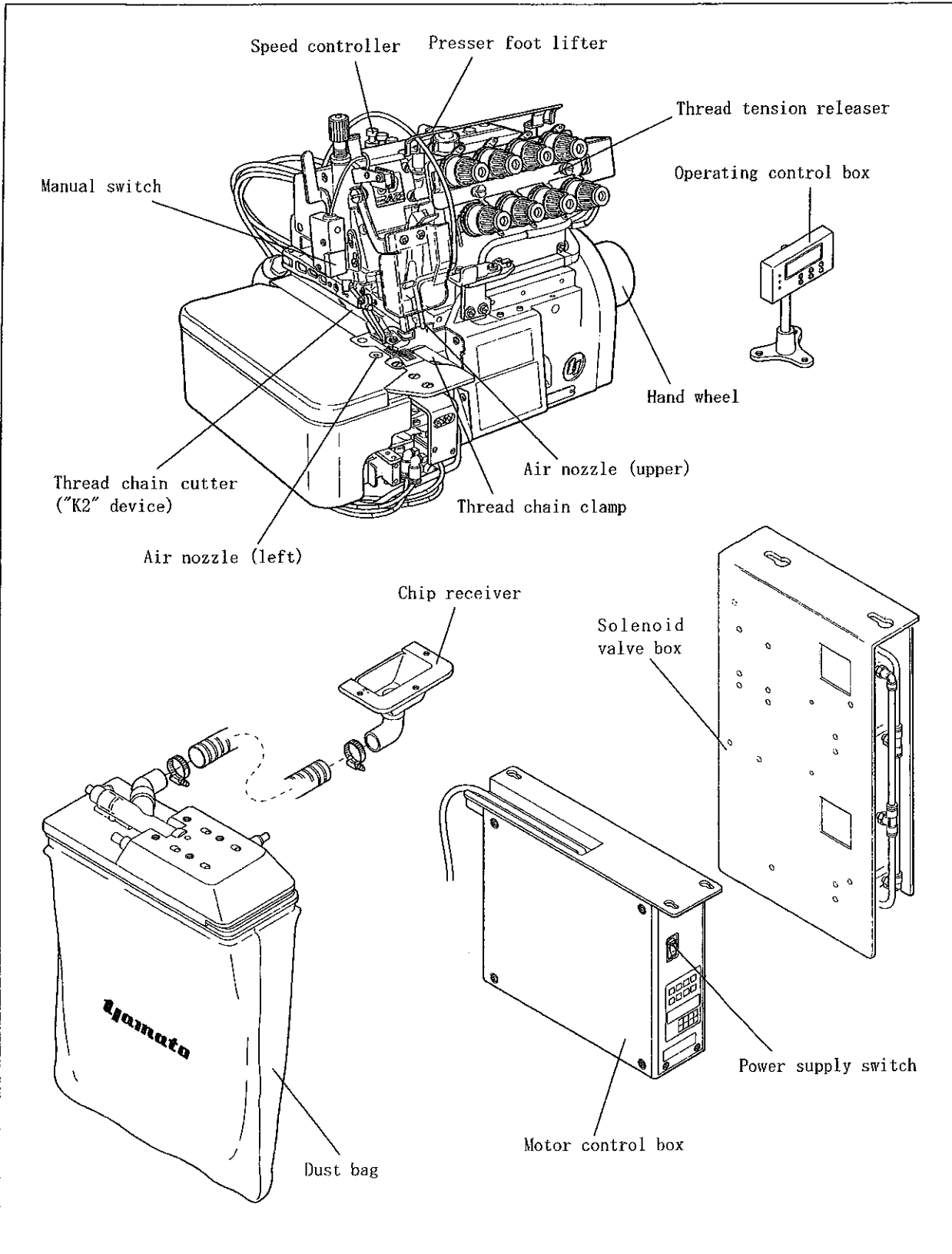


Fig. 1.1

2. Installation

2.1 Table cutting diagram

When using the unit with an AZ8000SD-8 class machine, additional work is needed for the machine table so that it will be machined as shown in the figure below.

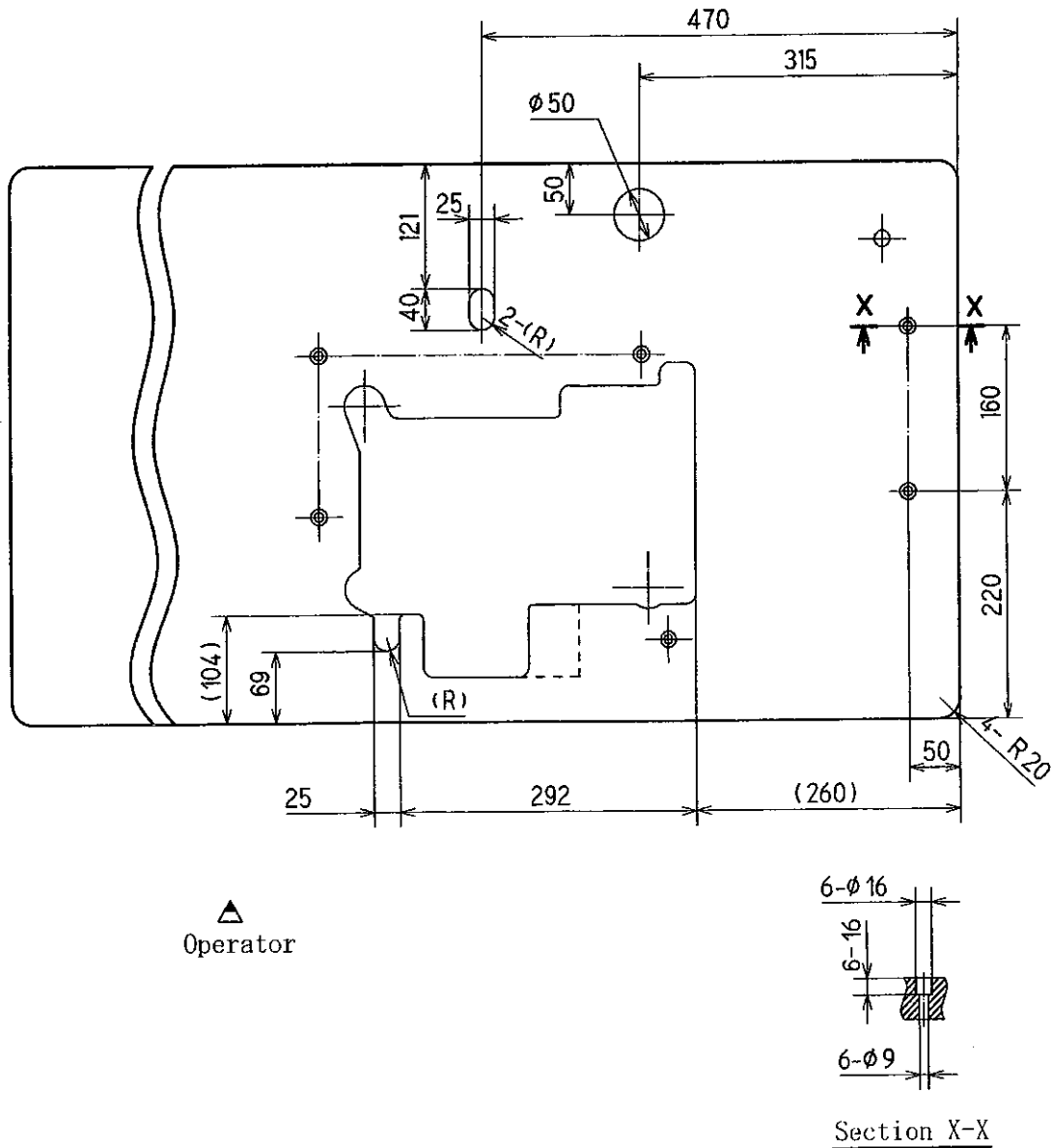


Fig. 2-1

2. Installation

2.2 Parts installed on machine table

- (1) Install the solenoid valve box, complete set① onto the underside of machine table.

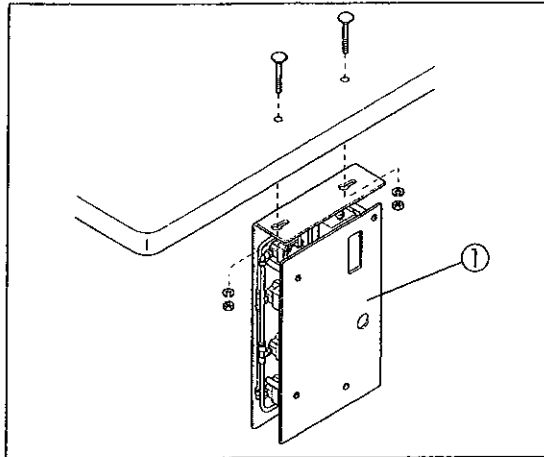


Fig. 2-2

- (2) Install the motor control box② and pedal sensor③ onto the underside of machine table.

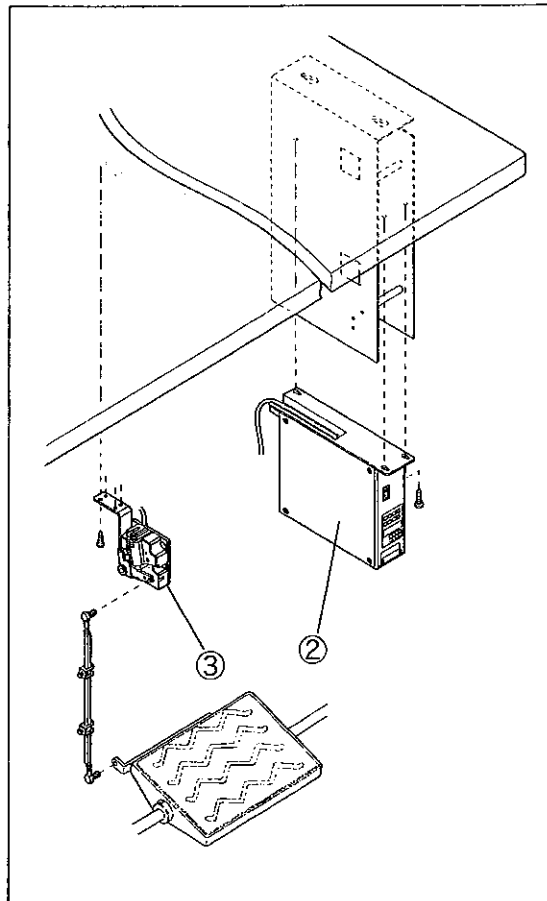


Fig. 2-3

2. Installation

- (3) Install the dust bag (upper)⑤ onto the dust bag support plate④. Install the dust bag support plate④ onto the underside of machine table. Install the chip receiver⑥ onto the machine table, and connect the hose⑦.

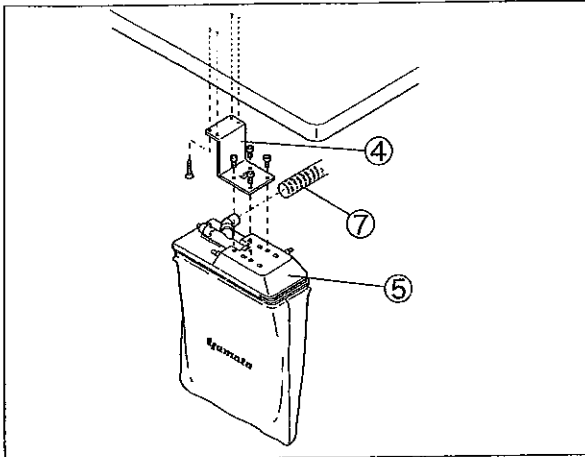


Fig. 2-4

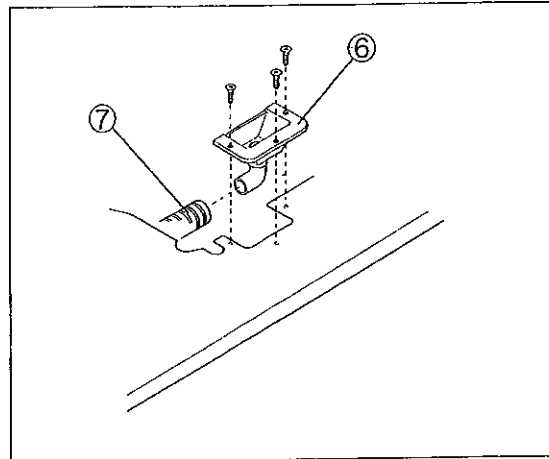


Fig. 2-5

- (4) Assemble the operating control box⑧, box supporting bar⑨ and stand⑩, and install the assembly at the properly position on top of the table.

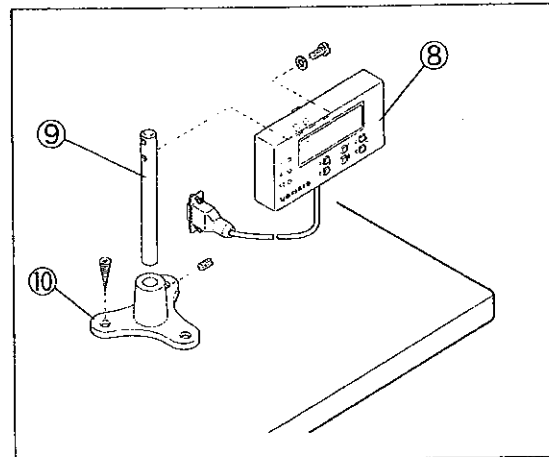


Fig. 2-6

2. Installation

2.3 Installing small motor

- (1) Install the screw① onto the machine.
Insert the eccentric bushing② into the screw①.

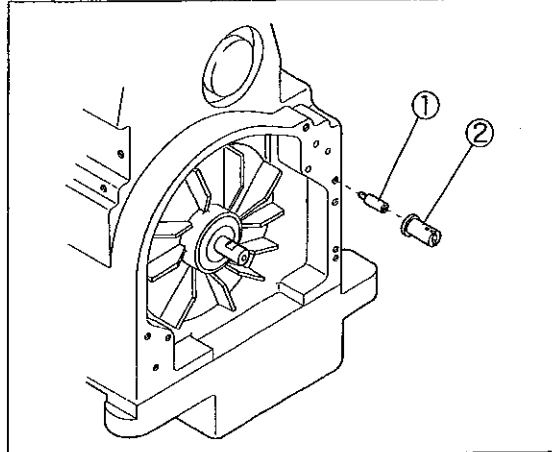


Fig. 2-7

- (2) With the alignment mark③ of the eccentric bushing② facing up, install the motor and motor bracket④ onto the sewing machine.
Use the screws⑤ to provisionally secure the motor and its bracket.

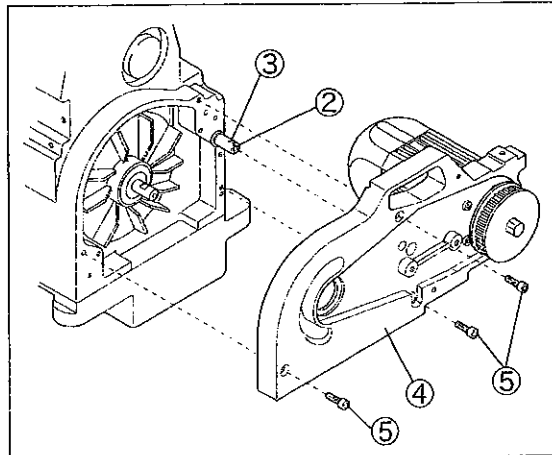


Fig. 2-8

- (3) Insert the pulley (small)⑥ into the crankshaft⑦.
Put the screw⑧ in position on the flat part⑨ of the crankshaft, and tighten it up.
Then tighten up the screw⑩.

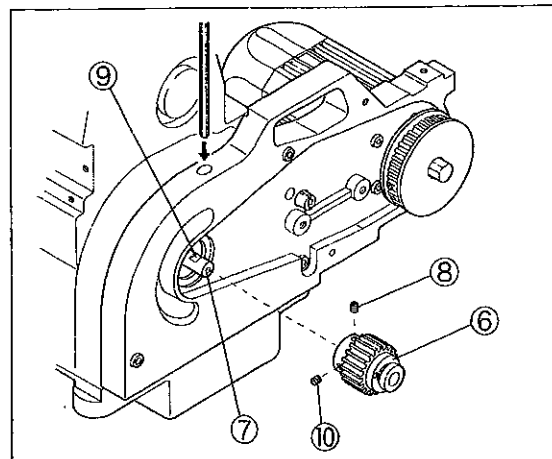


Fig. 2-9

2. Installation

(4) Keep turning the eccentric bushing② counterclockwise using a screwdriver until it stops rotating.

Place the belt⑪ over the pulley (small)⑥ and the pulley (large)⑫.

Turn the eccentric bushing② clockwise to make the belt⑪ more taut. Tighten up the screw⑤ that was provisionally secured.

The belt tension must be such that the center part of the belt sags by about 2.7 mm when it is pressed using a force of about 108 N.

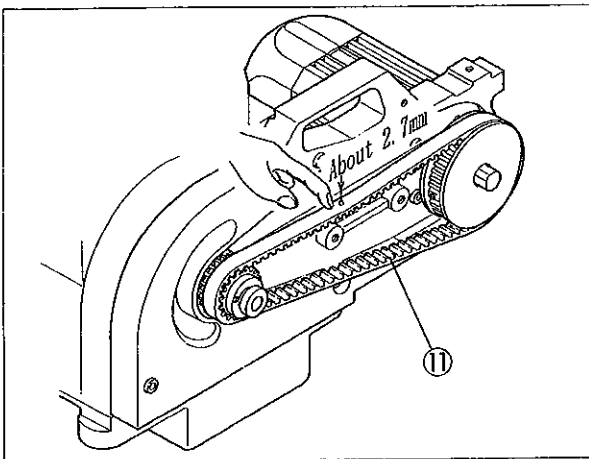


Fig. 2-10

(5) Install the belt cover⑬.

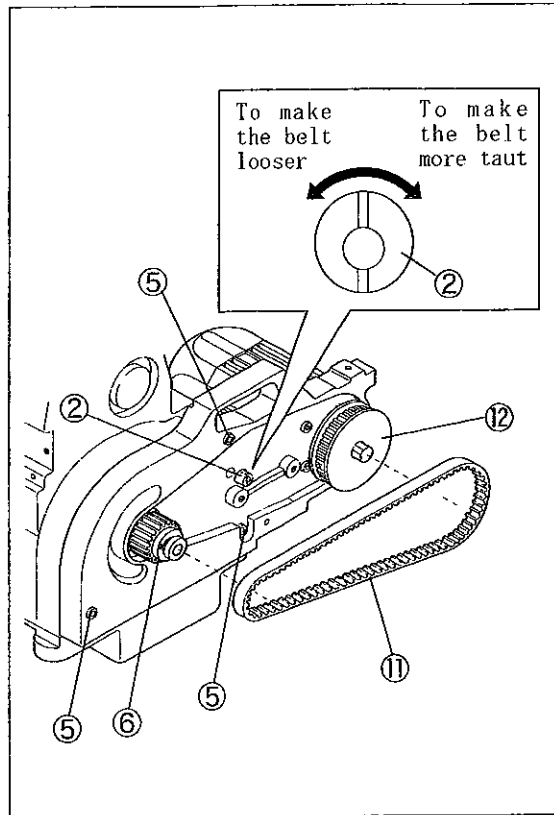


Fig. 2-11

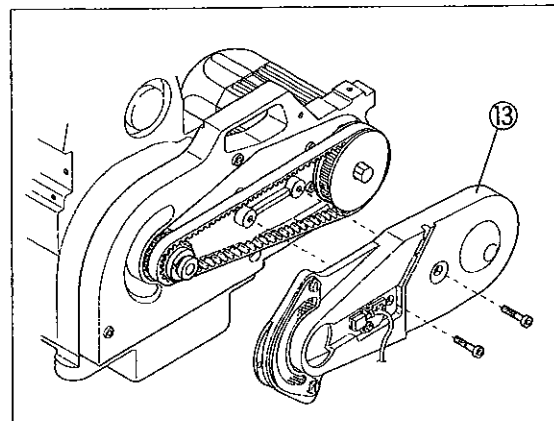


Fig. 2-12

2. Installation

- (6) Install the hand wheel⑭ onto the pulley (small)⑥.

Check that the screw hole and installation hole are aligned properly.

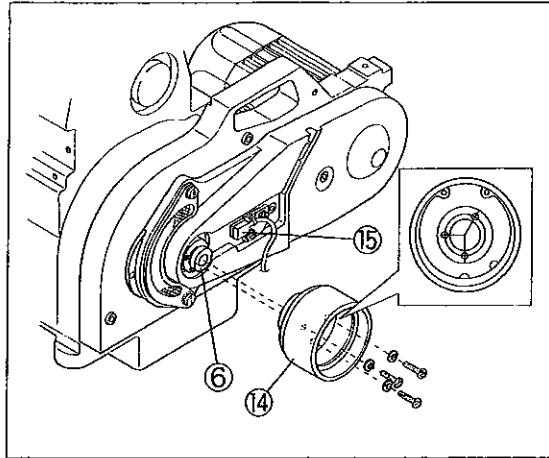


Fig. 2-13

- (7) Check that the hand wheel⑭ and rotation detector unit⑮ are not touching.

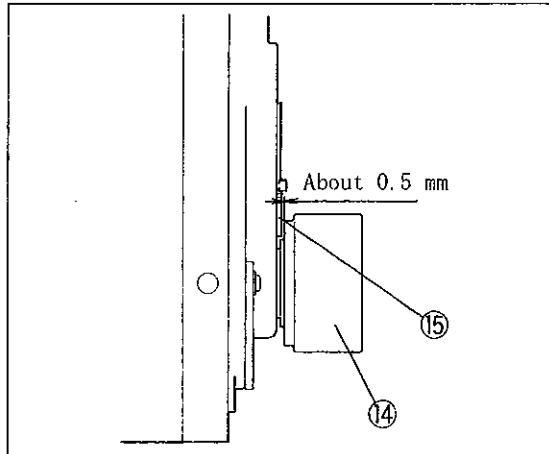


Fig. 2-14

If these two parts are touching, loosen the two screws of the pulley (small), move the hand wheel⑭ to the left and right, and adjust the clearance between the two parts to about 0.5 mm.

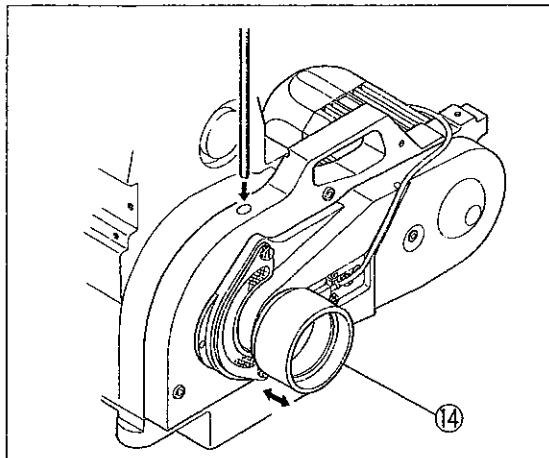


Fig. 2-15

2.4 Air piping

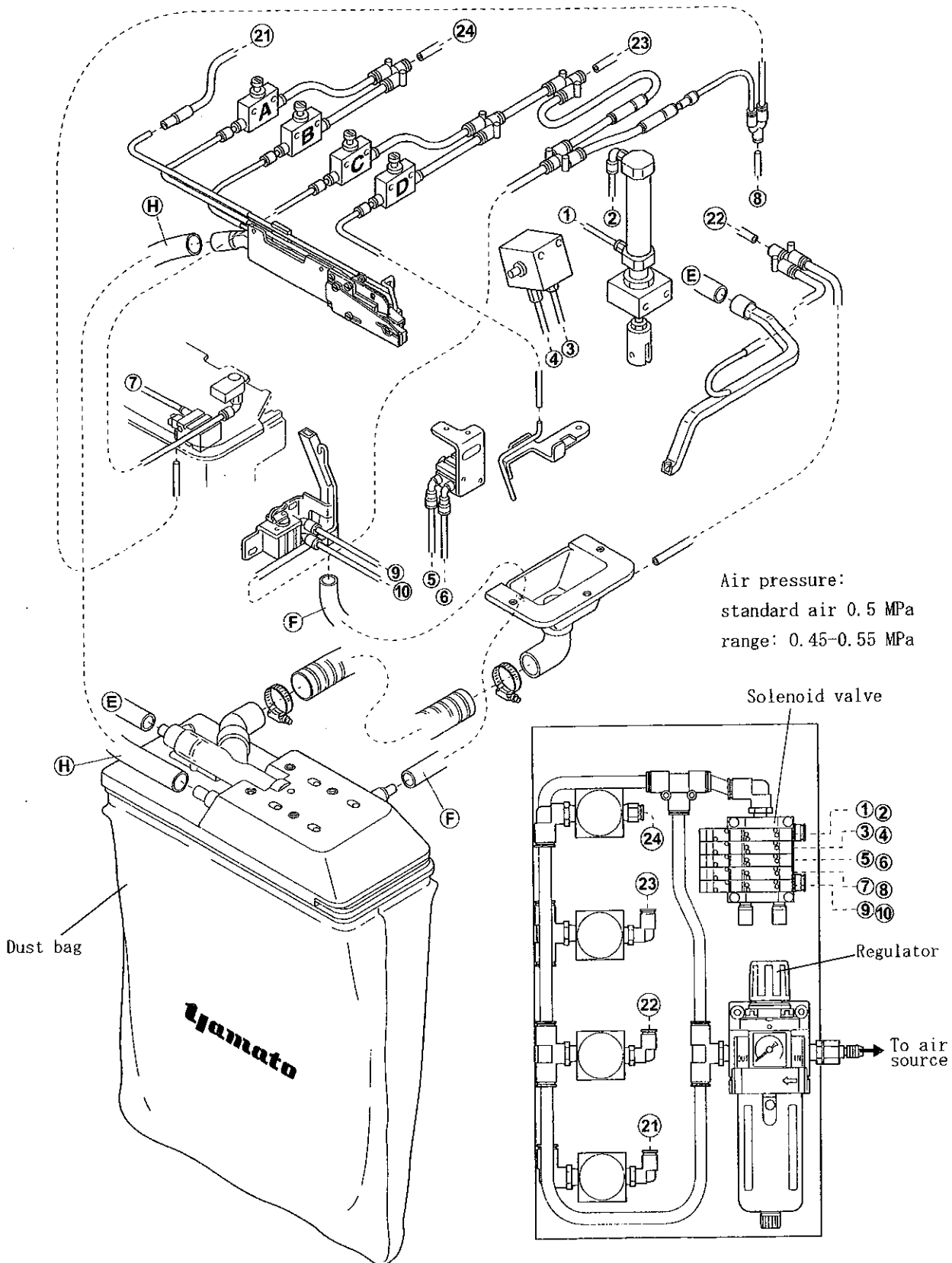


Fig. 2-16

2. Installation

2.5 Wiring

Connect each part to the control box of motor as shown in the figure.

Check that the colors and shapes of the connectors match, and connect them securely. Provide a plug that fits the power outlet, and connect the plug to the power cable. (Refer to page 12 if the supply voltage is 380 V.)

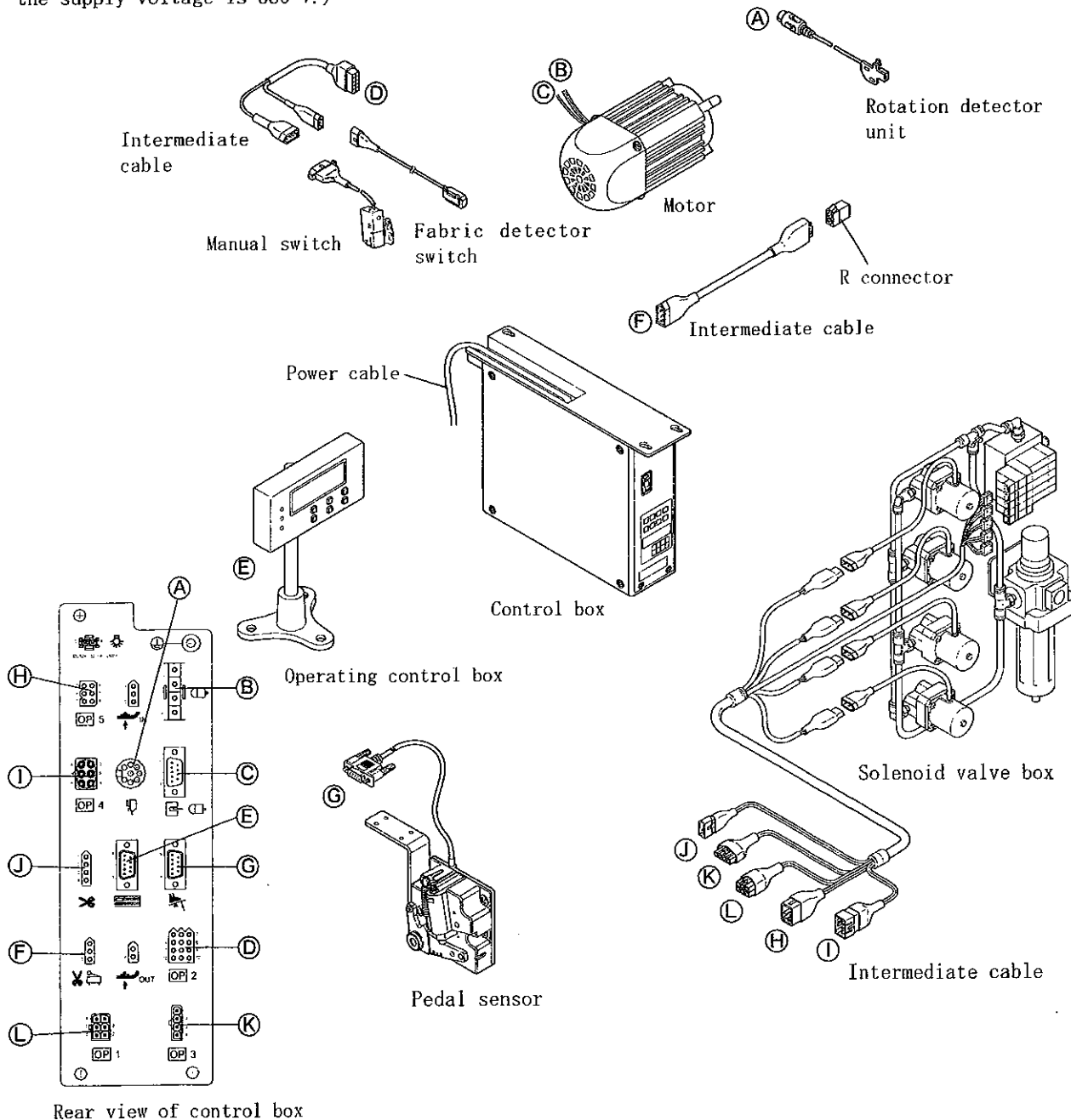


Fig. 2-17

⚠ CAUTION

Secure the air pipe and power cable at locations where they will not come into contact with

R connector

Insert the R connector① into the connector②.

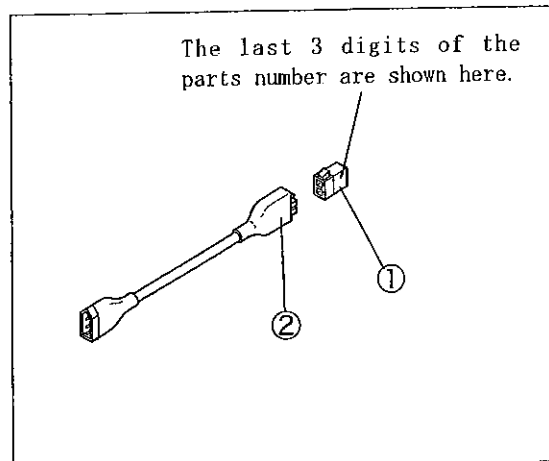


Fig. 2-18

CAUTION

1. Use an R connector that is compatible with the machine you will be using.
The R connector is subject to some safety-related restrictions. As such, if a non-compatible R connector is connected, the machine may be damaged.
2. If the R connector is not connected, the maximum rotational speed of the machine will be set to 2,000 rpm. In addition, restrictions are placed on the use of some of the functions from a safety perspective.

2. Installation

When using a 3-phase 380V power supply

3-phase 5-wire system

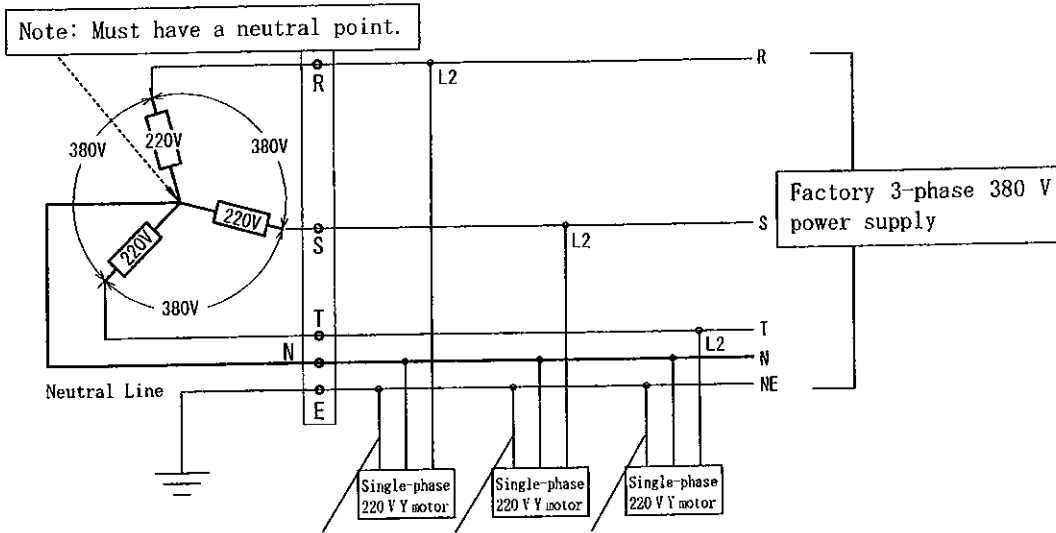


Fig. 2-19 Yellow/Green Yellow/Green Yellow/Green

3-phase 4-wire system

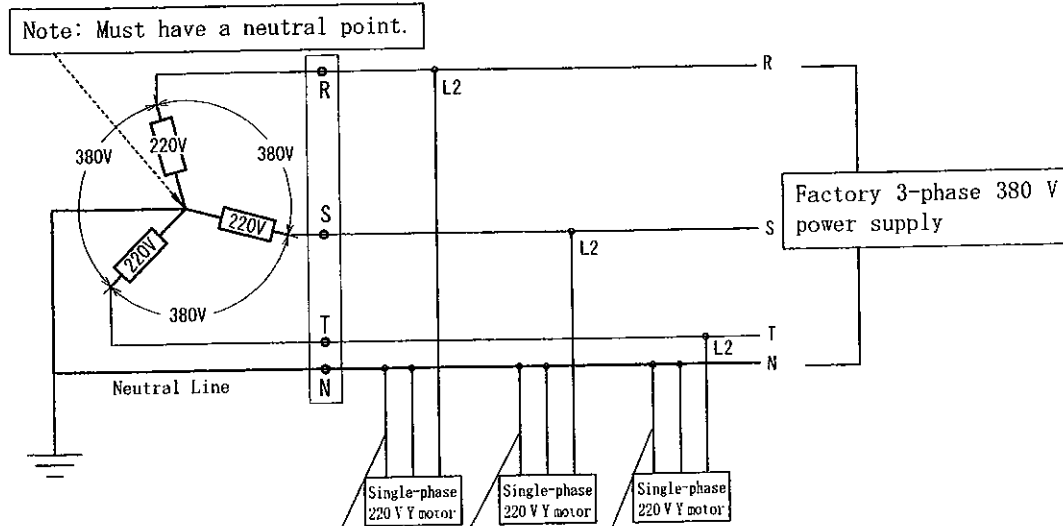
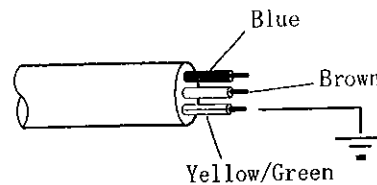


Fig. 2-20 Yellow/Green Yellow/Green Yellow/Green



Y motor Power cable

Fig. 2-21

CAUTION

The Y motor cannot be connected unless there is a neutral point in the power supply system. If it is connected without such a point, it may break down.

2.6 Setting sewing speed

Set the sewing speed in line with the model used.

Example: To change from 6500 rpm to 6000 rpm

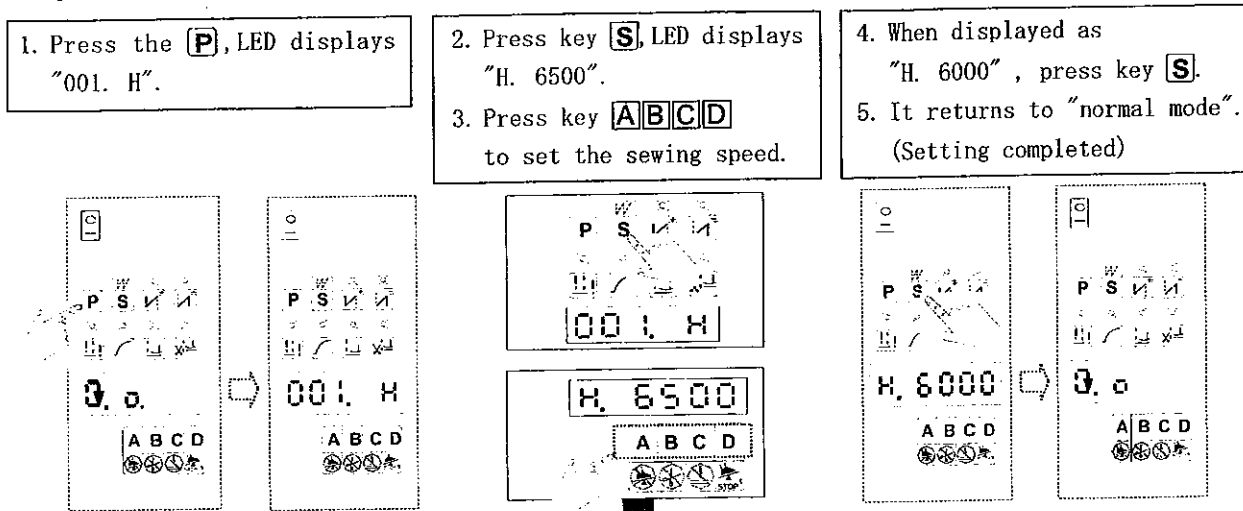
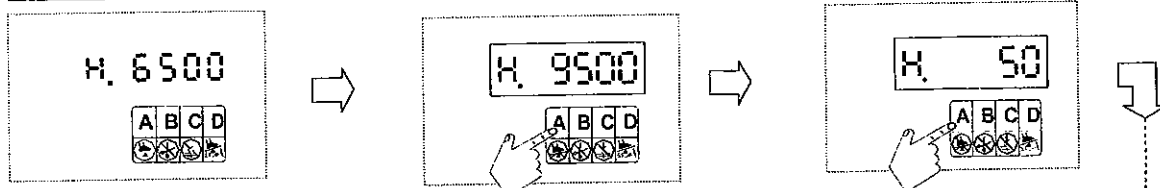


Fig. 2-22

The numerical value cannot be decreased, when changing a speed setting.
Do the setting change as follows.

1. The speed setting is displayed.
2. Press key **[A]** several times, lowest value "50" is displayed next to highest value "9xxx."



4. Press key **[C]**, the numerical value is turned over and raises it.
5. Press key **[B]**, the numerical value is turned over and raises it.
6. the numerical value is set with **[A]** key.

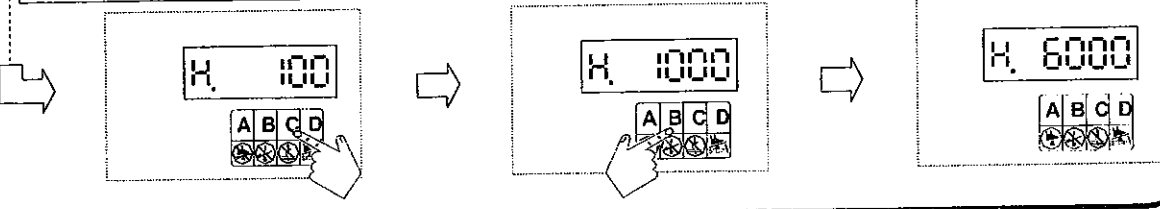


Fig. 2-23

⚠ CAUTION

Do not set the machine's sewing speed to a value higher than the maximum sewing speed. Doing so may cause malfunctioning and/or damage.

2. Installation

2.7 Checking needle stop position

(1) Press the switch ① on the control panel to display "1: ABT OFF K".

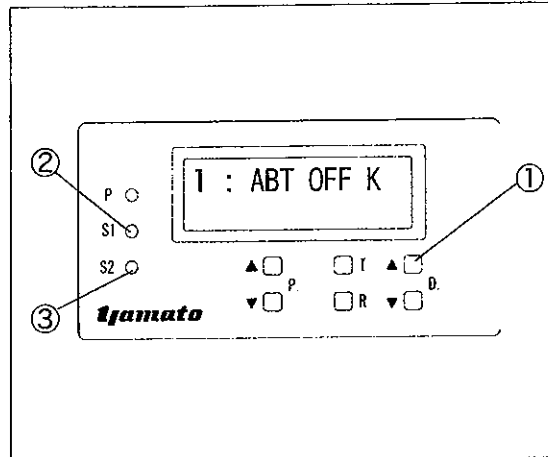


Fig. 2-24

(2) Run the machine slowly, and when it has stopped running, check whether the needles have risen and the tip of the left needle is now aligned with the top surface of the stitch plate.

When the left needle is aligned, press the switch ① on the operating control box to display "1: ABT ON".

If it is not aligned, refer to "4.4 Adjusting the needle stop position", and adjust this position.

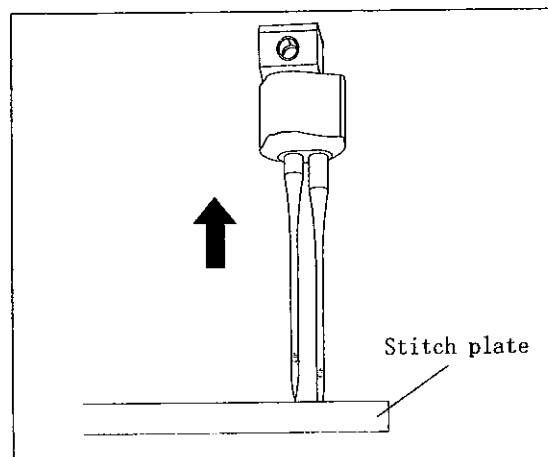


Fig. 2-25

2.8 Checking fabric detector switch

Set the power supply switch on the motor to the ON position, and check that the S1 lamp ② and S2 lamp ③ on the operating control box light up.

(Fig. 2-24)

If they do not light up, refer to "4.5 Adjusting the fabric detector switch", and adjust this switch.

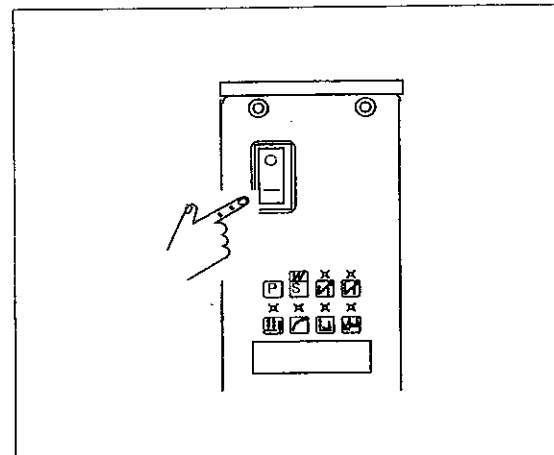


Fig. 2-26

3. Proper operation

3.1 Sewing procedures

3.1.1 Adjusting the stitch condition and thread chain condition

- (1) Turn on the power supply switch on the motor.
- (2) Press the switch ① on the control panel to display "1: ABT OFF K".
If the thread chain is caught by the thread chain clamp, pull it out, cut it.
- (3) Toe down the pedal, and sew the material.
 - ◇Adjust the differential ratio so that the material is finished flat. Then decide on the stitch length.
 - ◇Adjust the thread chain condition with the upper thread tension spring caps ② so that the thread chain becomes like a piece of string.
 - ◇Adjust the stitch condition with the lower thread tension spring caps ③ so that a soft seam can be formed.

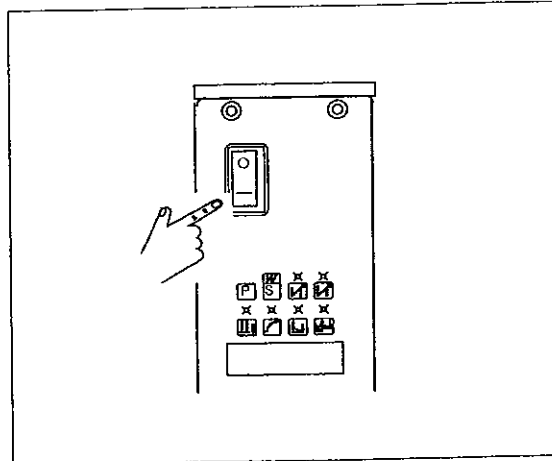


Fig. 3-1

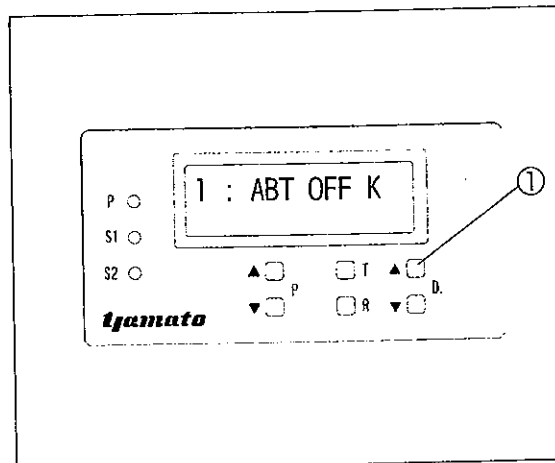


Fig. 3-2

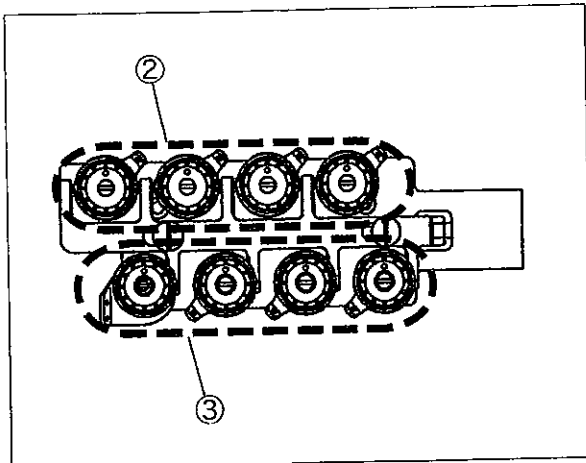


Fig. 3-3

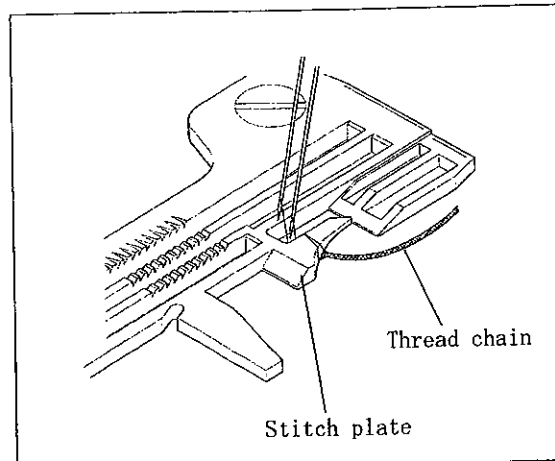


Fig. 3-4

Continued on next page.

3. Proper operation

- (4) Press the switch① on the control panel to display "1: ABT ON".
- (5) Heel back on the pedal and insert the material under the presser foot. (While the pedal is heeled back, the presser foot remains raised.)
- (6) Toe down the pedal, and start sewing the material.
- (7) When the sewing has finished, the machine stops automatically. Keep the pedal pressed until the machine stops.
 - ◇The thread chain at the edge of the material is cut by the K2 device (thread chain cutter).
 - ◇The remaining thread chain that has been cut is sucked into the suction pipe, and then the machine stops.
 - ◇The thread chain inside the suction pipe is blown out by air, the thread chain clamp (right) opens, and the thread chain suction pipe below sucks in the thread chain.
- (8) Check that the thread chain is caught by the thread chain clamp.

If the thread chain clamp cannot catch the thread chain, press the manual switch. (See "3.1.3 Manual switch".)
- (9) Check the back-tacking stitches of the sewn material.

If the thread chain remains without having been sewn into the material at the sewing start (it has balled up) or if the material edge is wrapped or wrinkled, refer to chapter "5 Troubleshooting".

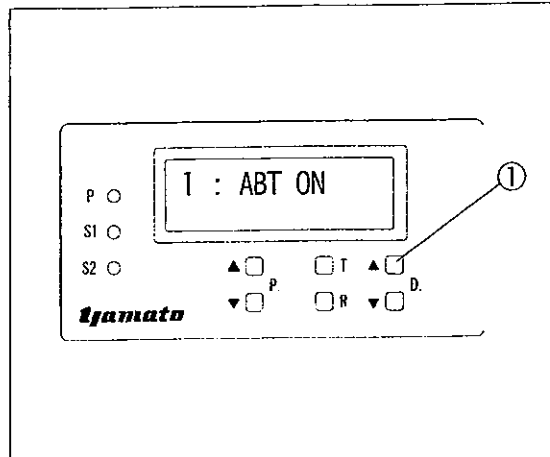


Fig. 3-5

3.1.2 Back-tacking stitches



- (1) Set the material under the presser foot. (set always same position)
- (2) Toe down the pedal, and sew the material.

(Heel back the pedal if the presser foot is to be raised during sewing.)

 - ◇When the edge of the material at sewing start reaches the needle drop, the thread chain remaining at the end of material at sewing begins to become enfolded into the seam.

◇When the thread chain with the set length is sewn into the seam, the excess thread chain is cut off by the upper knife.

(3) When sewing has finished, the machine stops automatically. Keep the pedal pressed until the machine stops.

◇The presser foot automatically rises for the prescribed period of time.

◇The thread chain clamp holds the thread chain in place.

3.1.3 Manual switch



Normally, the thread chain clamp catches the thread chain at sewing end when stitches are back-tacked in the ABT "ON" status.

If it was not possible for the thread chain clamp to catch the thread chain at sewing end, the thread chain can be caught by pressing the manual switch①.

However, unless the thread chain is protruding at the front, the thread chain clamp will not be able to hold the thread chain in place even when the manual switch① is pressed.

If the thread chain clamp frequently fails to hold the thread chain in place when the manual switch is pressed, adjust the flow of the air blown out or the air blow out time.

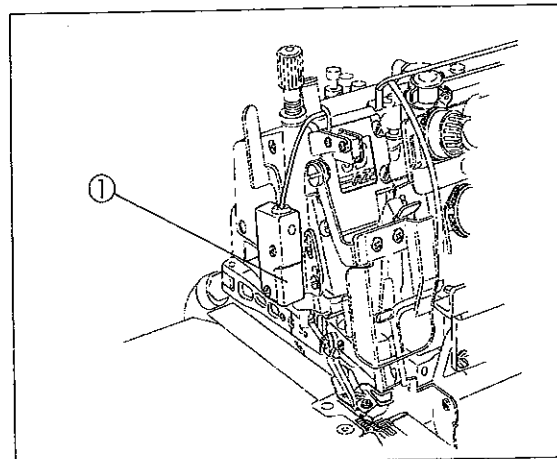


Fig. 3-6

3.2 Regular maintenance



(1) Refer to "5.11 Cleaning the machine" in the sewing machine's instruction manual, and proceed to clean and check the machine body.

(2) Every day, clean off the dust on the dust proof filter② of the small servo motor.

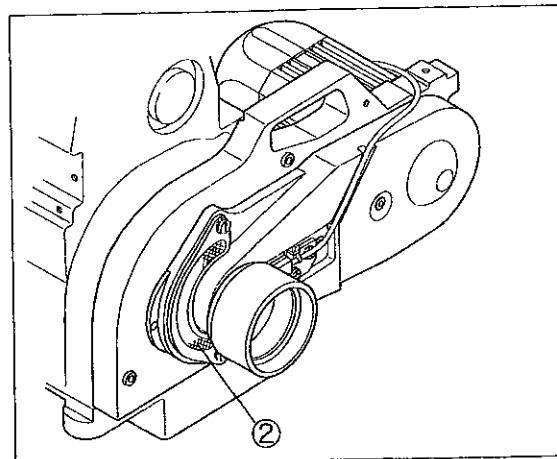


Fig. 3-7

3. Proper operation

- (3) Dispose of the waste inside the dust bag③.
Pull the bag toward you, and remove the bag.
Dispose of the waste, lint and other dust
inside the bag.

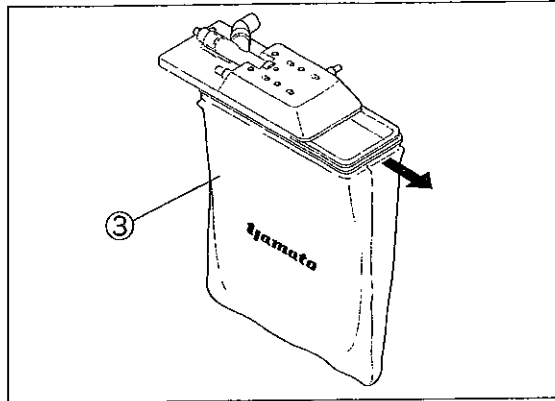


Fig. 3-8

- (4) Every day, drain off the water in the air regulator②. (If there is a great deal of accumulated water, drain it more often as required.)

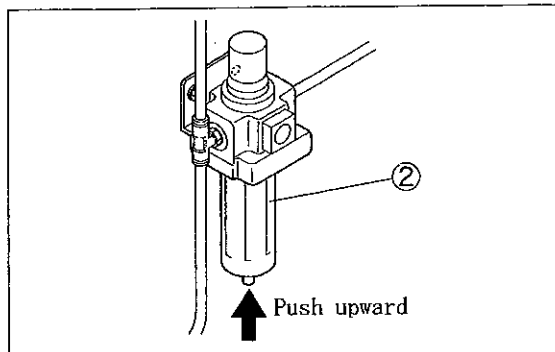


Fig. 3-9

- (5) Once a month, remove the belt cover③, and clean it.
1. Remove the hand wheel④.
 2. Remove the belt cover③.
 3. Remove any dust around the pulleys⑤ and ⑥ and the belt⑦.

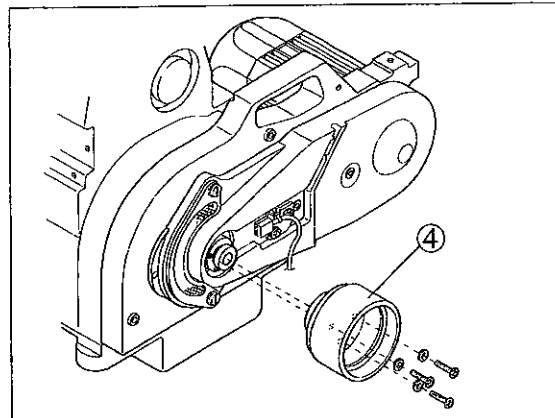


Fig. 3-10

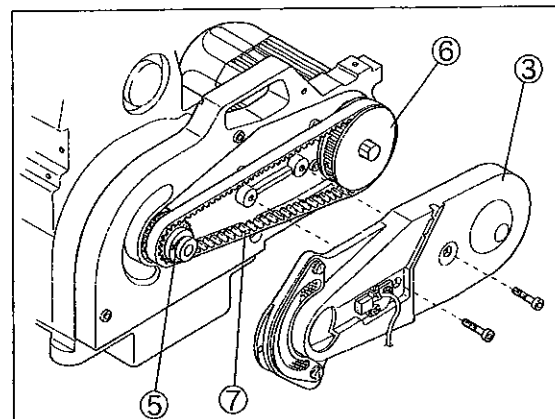


Fig. 3-11

⚠ CAUTION

If foreign matter becomes wedged between the pulleys ④ and ⑤ and the belt⑥, the belt may break.

4. Adjustments

4.1 Air nozzle positions

The air nozzle (upper)① ensures that the thread chain blown out from the K2 device (thread chain cutter) is sucked into the thread chain suction pipe (lower)②.

Adjust the position of the air nozzle (upper)① so that air will be blow out toward the back of the pipe from the center of the thread chain suction pipe (lower)② nozzle.

- (1) Adjust the air nozzle (upper)① in the back-front direction by loosening the screw③ and turning the air nozzle stop④.

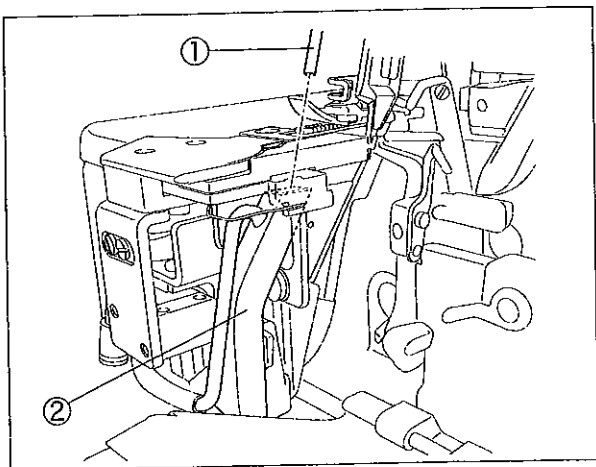


Fig. 4-1

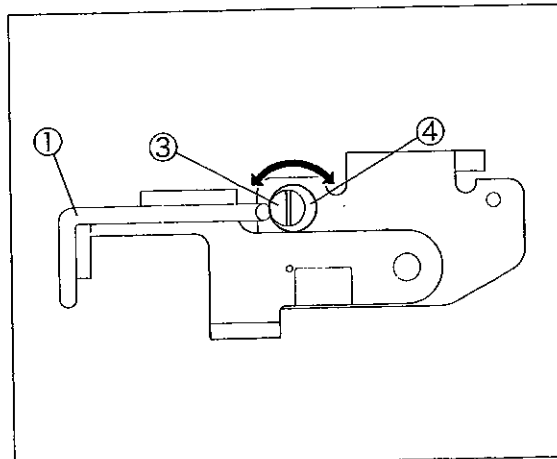


Fig. 4-2

- (2) Adjust the air nozzle (upper)① in the left-right direction by loosening the screw ⑤ of the air nozzle support plate and adjusting it so that the air nozzle (upper) is positioned about 3 mm from the stitch plate side.

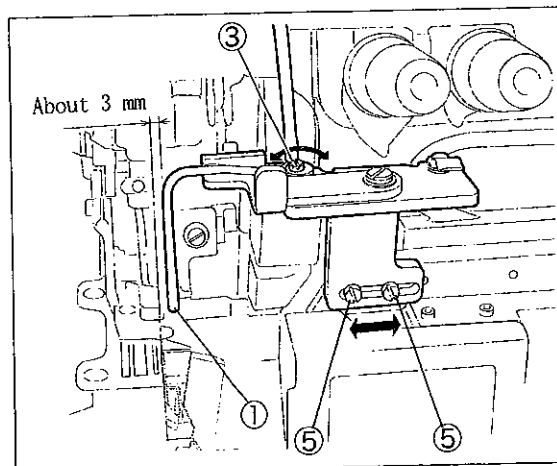


Fig. 4-3

4. Adjustments

4.2 Adjusting speed controllers

Adjust the air flow using the speed controllers so that the thread chain is blown out from the K2 device (thread chain cutter) and sucked into the thread chain section pipe (lower).

Adjust the heights of the adjustment screws of the speed controllers using the heights given in Table 1 as a reference.

Speed controller	A	B	C	D
Adjustment screw height (mm)	16.5	15.5	18	18

Table 1

◇ Speed controller A

Use this to adjust the flow of air that blows the thread chain remaining inside the K2 device (thread chain cutter) out of the suction pipe.

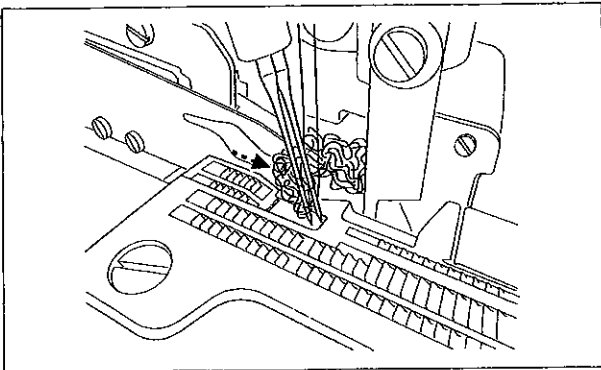


Fig. 4-5

◇ Speed controller C

Use this to adjust the flow of air that blows the thread chain that has returned to the operator side toward the right (toward the thread chain suction pipe (lower)).

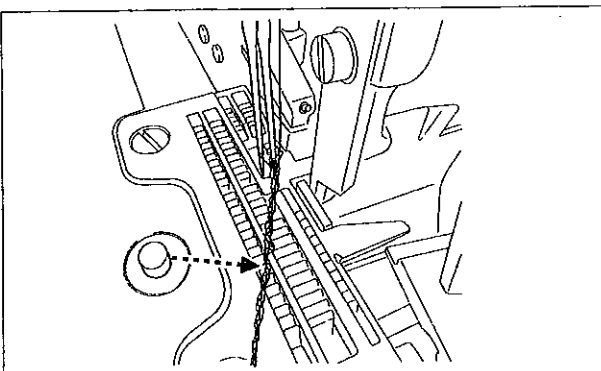


Fig. 4-7

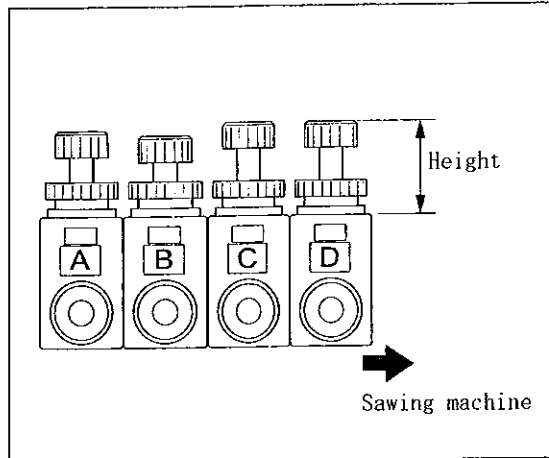


Fig. 4-4

◇ Speed controller B

Use this to adjust the flow of air that blows the thread chain which has emerged from the K2 device (thread chain cutter) onto the top of the stitch plate.

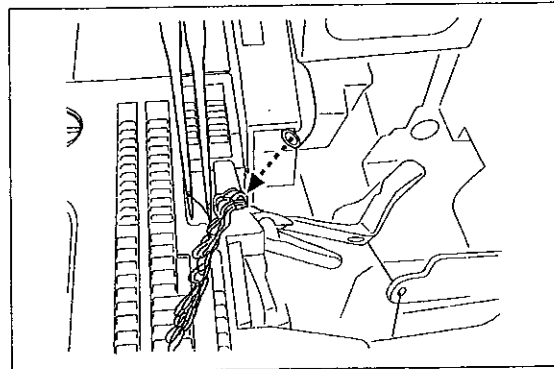


Fig. 4-6

◇ Speed controller D

Use this to adjust the flow of air to blow the thread chain that has reached the top of the thread chain suction pipe downward.

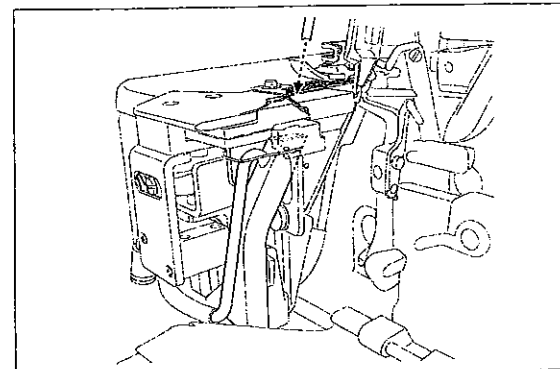


Fig. 4-8

4.3 Adjusting K2 device (thread chain cutter)

CAUTION

Before proceeding, be absolutely sure to turn off power to the motor and check that the motor has stopped running.

After the suction pipe support① has been removed for repairs or other work, bear in mind the following points when re-installing it.

- (1) Install the suction pipe support① in such a way that the distance between the rear end of the suction pipe cover③ and stitch plate is 53 - 53.5 mm.
- (2) Install the suction pipe② so that it is level and at a height where the bottom line of the suction opening of the suction pipe cover③ and top surface of the stitch plate are flush. (Fig. 4-9)
- (3) Adjust the engagement of the upper trimming knife④ and lower trimming knife⑤.
Adjust the lower trimming knife guide support ⑦ up or down after loosening the screw⑥ so that the engagement of the edge of the lower trimming knife⑤ and upper trimming knife④ overlaps by 0.3 - 0.5 mm when the upper trimming knife④ is at its bottom-most position.

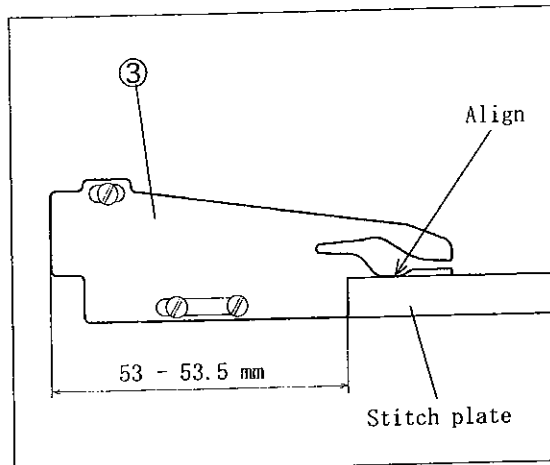


Fig. 4-9

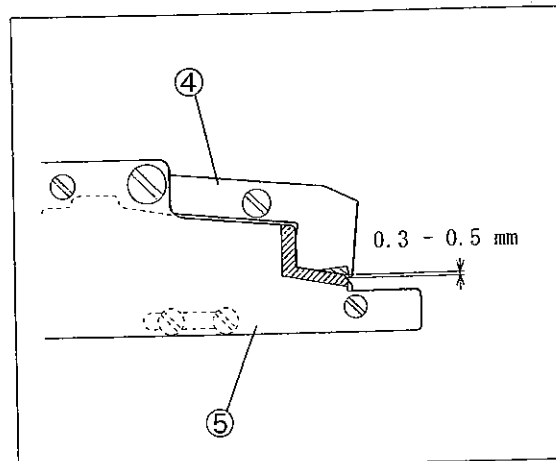


Fig. 4-10

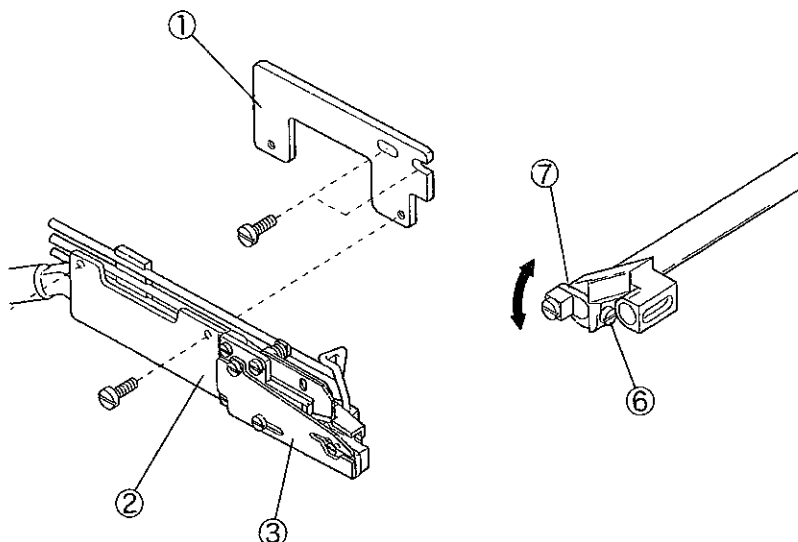


Fig. 4-11

4. Adjustments

4.4 Adjusting needle stop position

If the needle stop position is such that the tip of the right needle is not flush with the top surface of the stitch plate (see fig. 2-25 of page 14), loosen the screw② of the rotation detector unit①, and adjust the position of the rotation detector unit①.

- When the end of the rotation detector unit is raised, the needle position is lowered.
- When the end of the rotation detector unit is lowered, the needle position is raised.

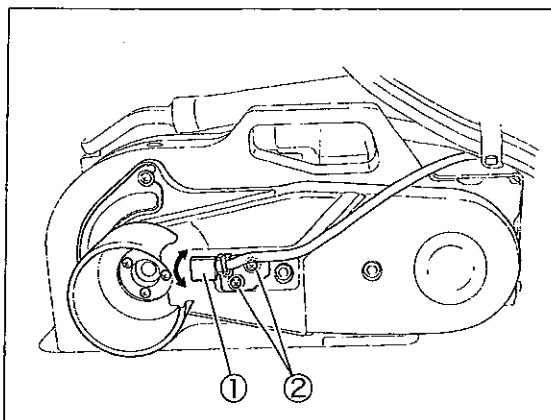
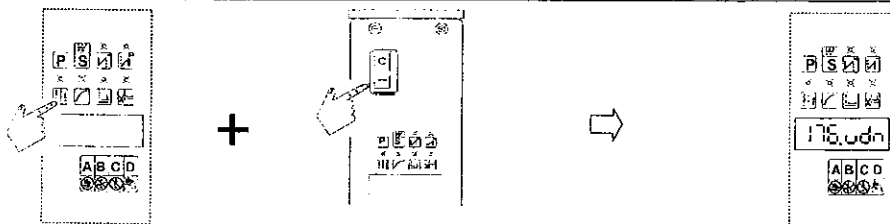


Fig. 4-12

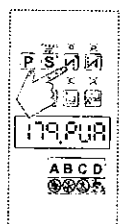
If the needles fail to stop at the correct position even after making the adjustment above, change the control box setting.

Changing the control box setting

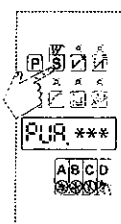
1. When the power is turned on while the **[L]** key is held down, "176.udn" is displayed.



2. Press the **[V]** key to display "179.PUA."



3. Press the **[S]** key to display "PUA.***" (where *** indicates the stop angle).



4. Press the **[B]**, **[C]** and **[D]** keys to change the angle so that the needles rise from the bottom-most point when the machine stops running and the tip of the left needle aligns with the top surface of the stitch plate.



- When the numerical value is increase, the needles are raised.
- When the numerical value is decrease, the needles are lowered.

5. Press the **[S]** key to return to the regular display.

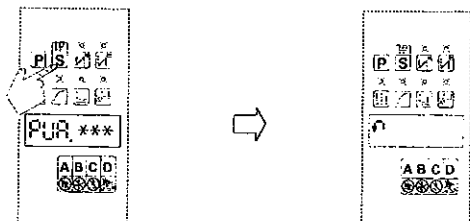


Fig. 4-13

4.5 Adjusting fabric detector switch

When no material is in place, the lamp of the fabric detector lights up orange. At the same time, the S1 and S2 lamps on the control panel light up.

Loosen the screw③ and screw④ in such a way that the light from the material detector① strikes the reflecting sheet② on the stitch plate.

When the reflecting sheet is covered, only the yellow-green lamp on the right lights. At the same time, the S1 and S2 lamps on the control panel go off.

* When viewed from below, the colors of the lamps are clearly.

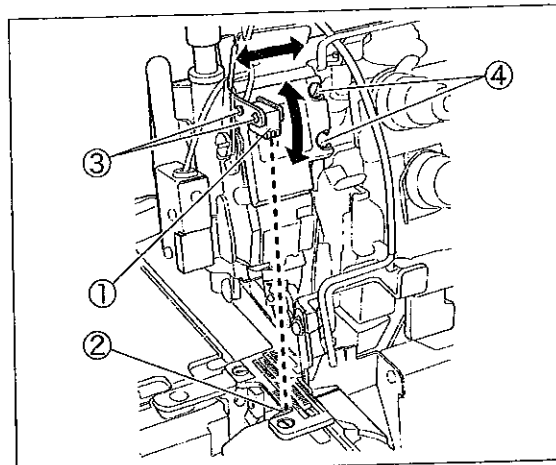


Fig. 4-14

4.6 How to replace timing belt

(1) Remove the hand wheel①.

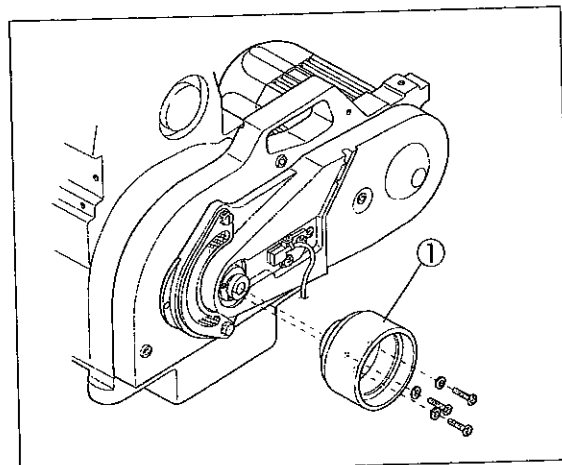


Fig. 4-15

(2) Remove the belt cover②.

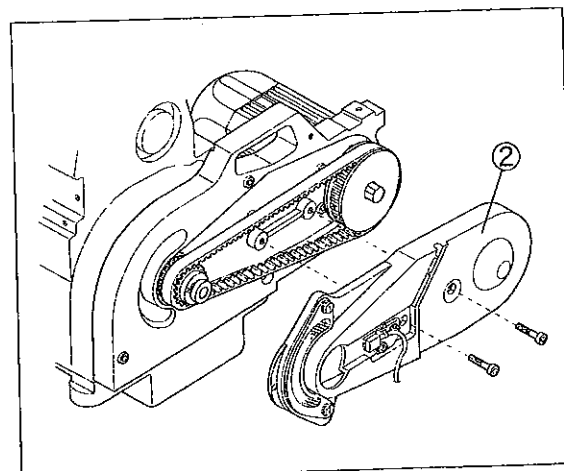


Fig. 4-16

4. Adjustments

- (3) Loosen the three screws③ of the motor bracket.
- (4) Keep turning the eccentric bushing④ counterclockwise using a screwdriver until it stops rotating.
- (5) Remove the old belt, and set the new belt on over the pulley (small)⑥ and pulley (large)⑦.
- (6) Turn the eccentric bushing④ clockwise to make the belt⑤ more taut. Tighten the motor bracket screw③.

The belt tension must be such that the center part of the belt sags by about 2.7 mm when it is pressed using a force of about 108N.

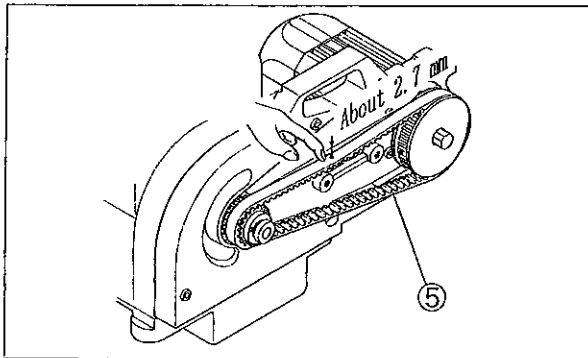


Fig. 4-17

- (7) Reset the belt cover⑧.

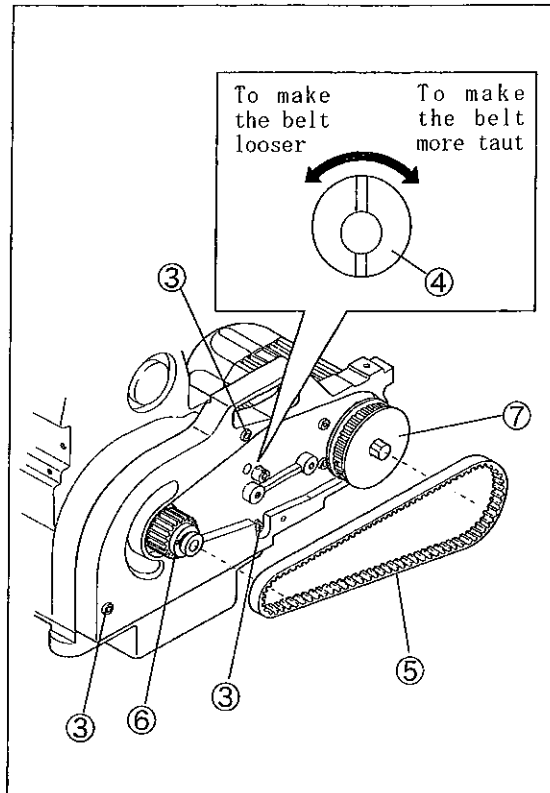


Fig. 4-18

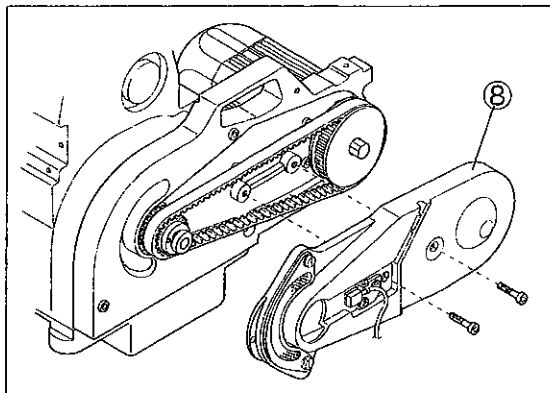


Fig. 4-19

- (8) Install the hand wheel① onto the pulley (small)⑥.
Check that the screw hole and the installation hole are aligned properly.

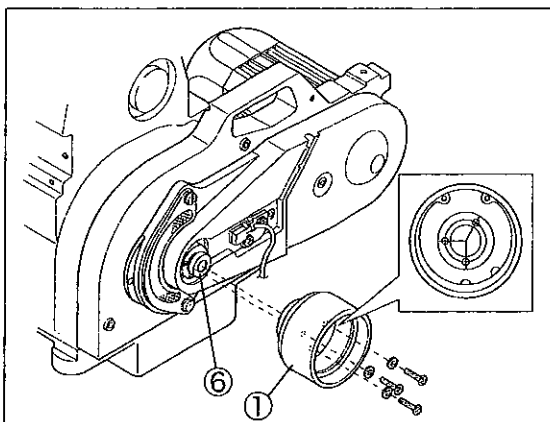
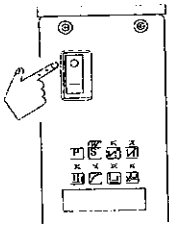


Fig. 4-20

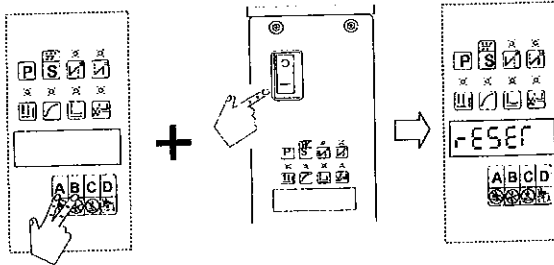
4.7 Resetting operating control box

This section describes the procedures used to return the settings to the standard ones used for the ABT20 if the wrong parameters have been set in the operating control box of the motor.

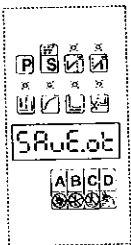
1. Turn off the power.



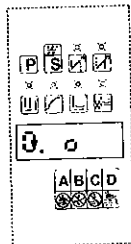
2. While holding down the **A** and **B** keys, Turn on the power. When "RESET" is displayed, release the keys.



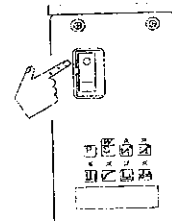
3. The "SAVE. OK" flashes on the display.



4. Normal mode is displayed, and the initial values are restored.



5. Turn off the power. (resetting complete.)



6. While pressing the key, turn the power switch on. LED displays "208. vEr" as parameter number.

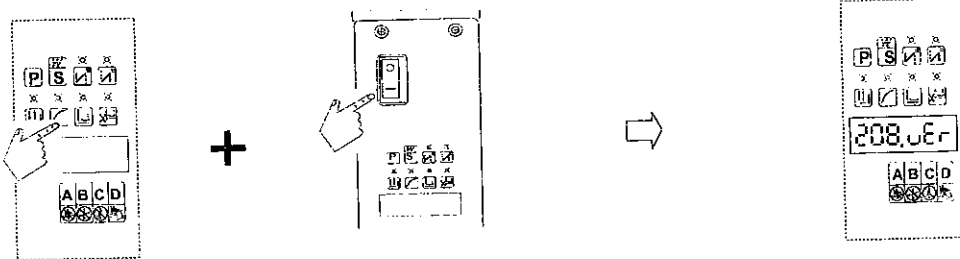


Fig. 4-21

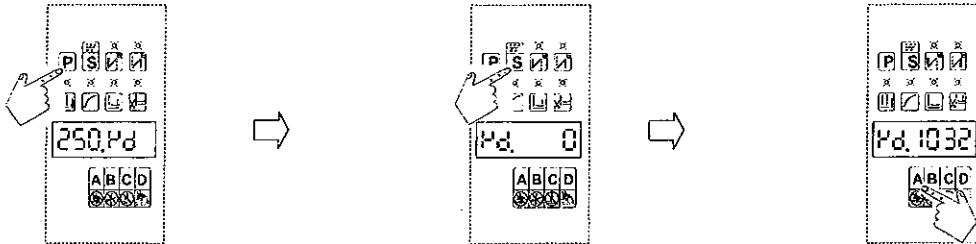
Continued on next page.

4. Adjustments

7. Pressing the **[P]** key, the parameter number increases. Keep pressing this key until "250.yd" is displayed.

8. Keep pressing the **[S]** key until "YD.****" appears. "****" indicates the current setting value in the range of 0 to 9999.

9. Press the **[ABC]** and **[D]** keys to set the code of ABT20 device to "1032".



10. Press the **[S]** key. After one second or more, turn the power switch off. "POWER OFF" appears.

11. Turn the power switch on. The ABT20 device can start work.

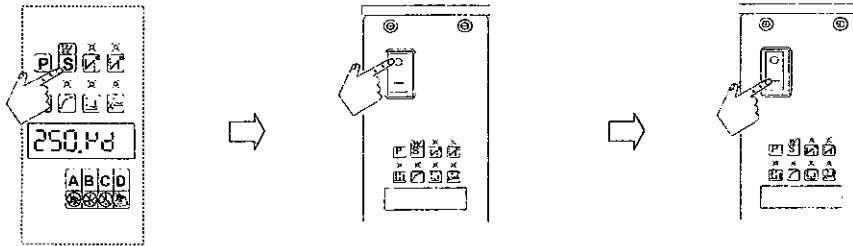


Fig. 4-22

Note: Normal mode = The machine run in the usual operating mode.

CAUTION

Select only the "1032" code; do not set any other code. Otherwise, malfunctions and/or damage may occur.

5. Troubleshooting

No	Malfunction	Check Item	Remedial action	See
1	The thread chain is not sewn into the seam of the material edge at the beginning of sewing.	Is the product always placed in the same position?	Place product in the same position.	
		Is the thread chain formed like a piece of string?	Adjust the upper thread tension spring caps of the thread tension release.	3.1.1
		Is the thread tension too tighten?	Adjust the lower thread tension spring caps of the thread tension releaser.	3.1.1
		Does the thread chain wind on the tongue of the stitch plate more than one or two times?	Reduce the numerical value of parameter B01.	
		Switching from the thread chain condition to the plain seam condition is too early or too late.	Adjust the numerical value of parameter B06.	
		The timing at which the stitch plate tongue comes out is too early.	Increase the numerical value of parameter B09.	
		The force with which the thread chain is pulled in is too weak.	Increase the numerical value of parameter A02.	
2	The stitch length becomes narrow and the material edge is wrapped or wrinkled at the beginning of sewing.	Is the product always placed in the same position?	Place product in the same position.	
		Is there any damage at the nozzle of the thread chain suction pipe (lower) causing the thread chain to be snagged?	Polish the nozzle of the thread chain suction pipe (lower).	
3	The thread chain condition is unsatisfactory.	Is something wrong with the threading?	Refer to the threading diagram inside of the front cover and check.	
		Is the sewing speed for the thread chain 5,500 rpm or higher?	Set parameter C02 to 5,500 or more. Set parameter C03 to "ON."	
		Is there any damage to the stitch plate or presser foot (tongue)?	Repair the damage or replace the part.	
4	The thread chain clamp fails to hold the thread chain in place.	Have the speed controllers been adjusted properly?	Adjust the speed controllers.	4.2
		Has the K2 device been installed in exactly the right position?	Check the back-front, horizontal and height positioning.	4.3
		The time during which the air is blown out is too short.	Increase the numerical values of parameters B04 and B05.	

Table 2

Yamato

ヤマトミシン製造株式会社

YAMATO SEWING MACHINE MFG. CO., LTD.

4-4-12, NISHITENMA, KITA-KU, OSAKA, JAPAN
TEL: 81-6-6364-1321 FAX: 81-6-6364-1307

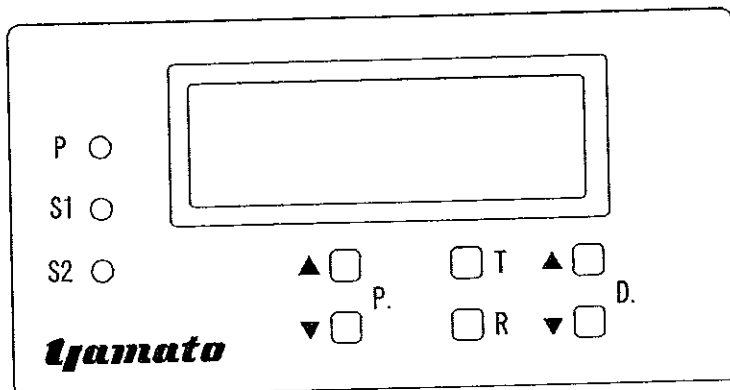
〒530-0047 大阪市北区西天満4丁目4番2号
TEL (06) 6364-1321(代) FAX (06) 6365-5176

Yamato[®]

Instruction Manual

AUTOMATIC BACK TACKER
of CONTROL PANEL

ABT20



Thank you for purchasing the ABT20.

Before use, please carefully read through this manual and make sure that you thoroughly understand its contents.

The instruction manual should be placed where it will be easily accessible.

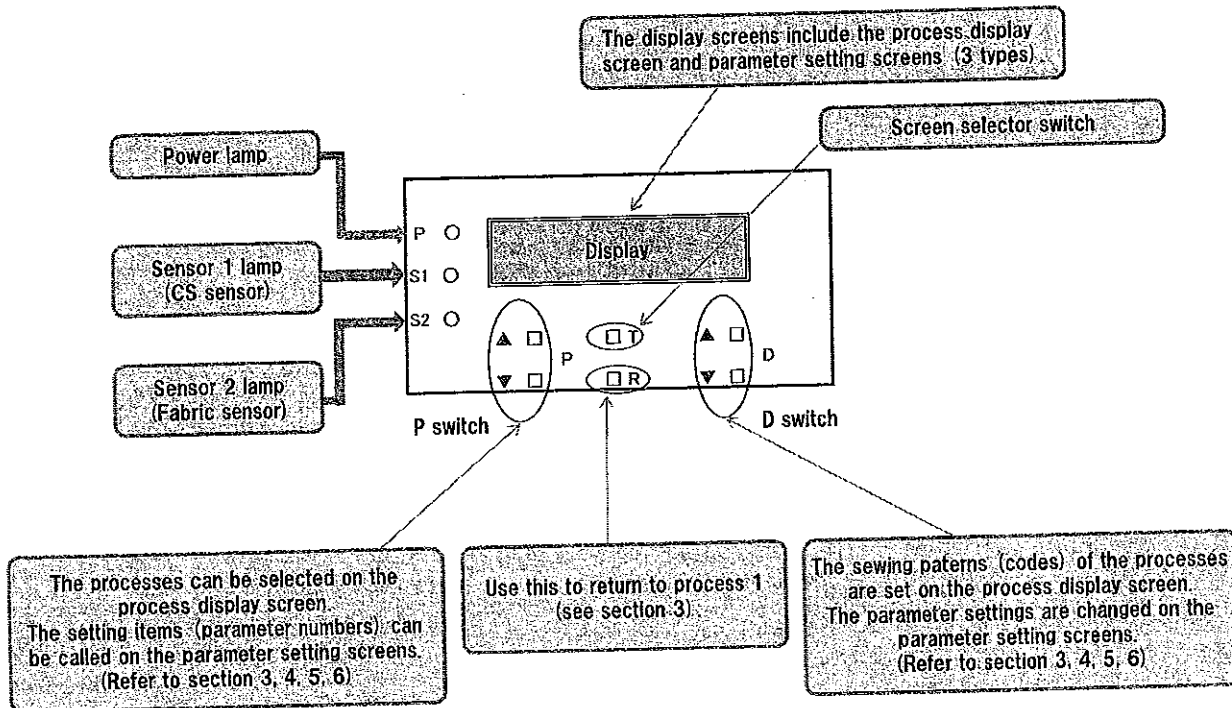
Contents

1. Chack out the following proper to use	1
2. Description of console	1
3. Screen displays and descriptions	1
3.1 Process display screen	2
3.2 Parament settings screen	4
4. Screen A displays and their descriptions	4
5. Screen B displays and their descriptions	5
6. Screen C displays and their descriptions	6
7. Starting back-tacking	7
8. Starting back-tacking	8
9. Troubleshooting Q & A	9

1. Check out the following prior to use:

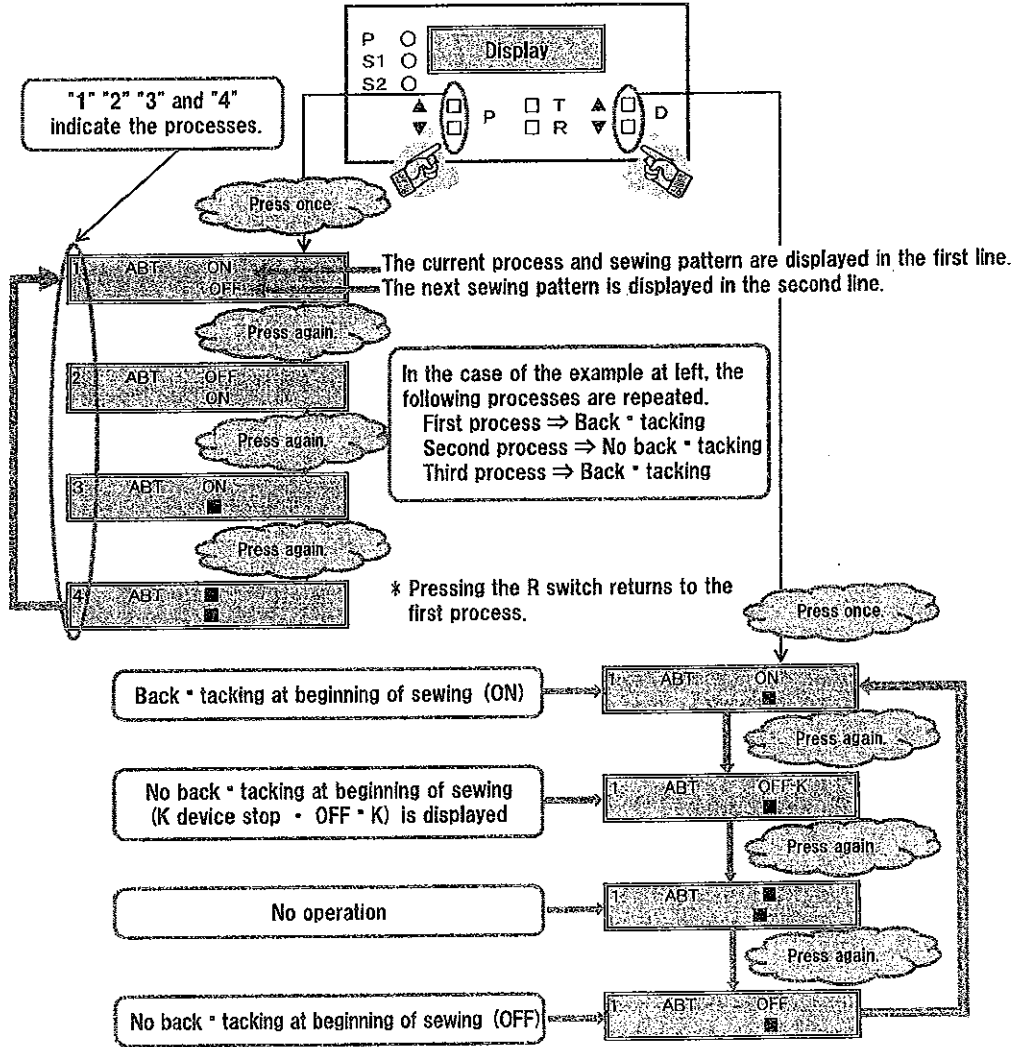
- ① Is the air tubes connected properly?
- ② Is the air pressure set to 0.5 Mpa?
- ③ Are the wires of the motor box and solenoid valves connected properly?

2. Description of control panel

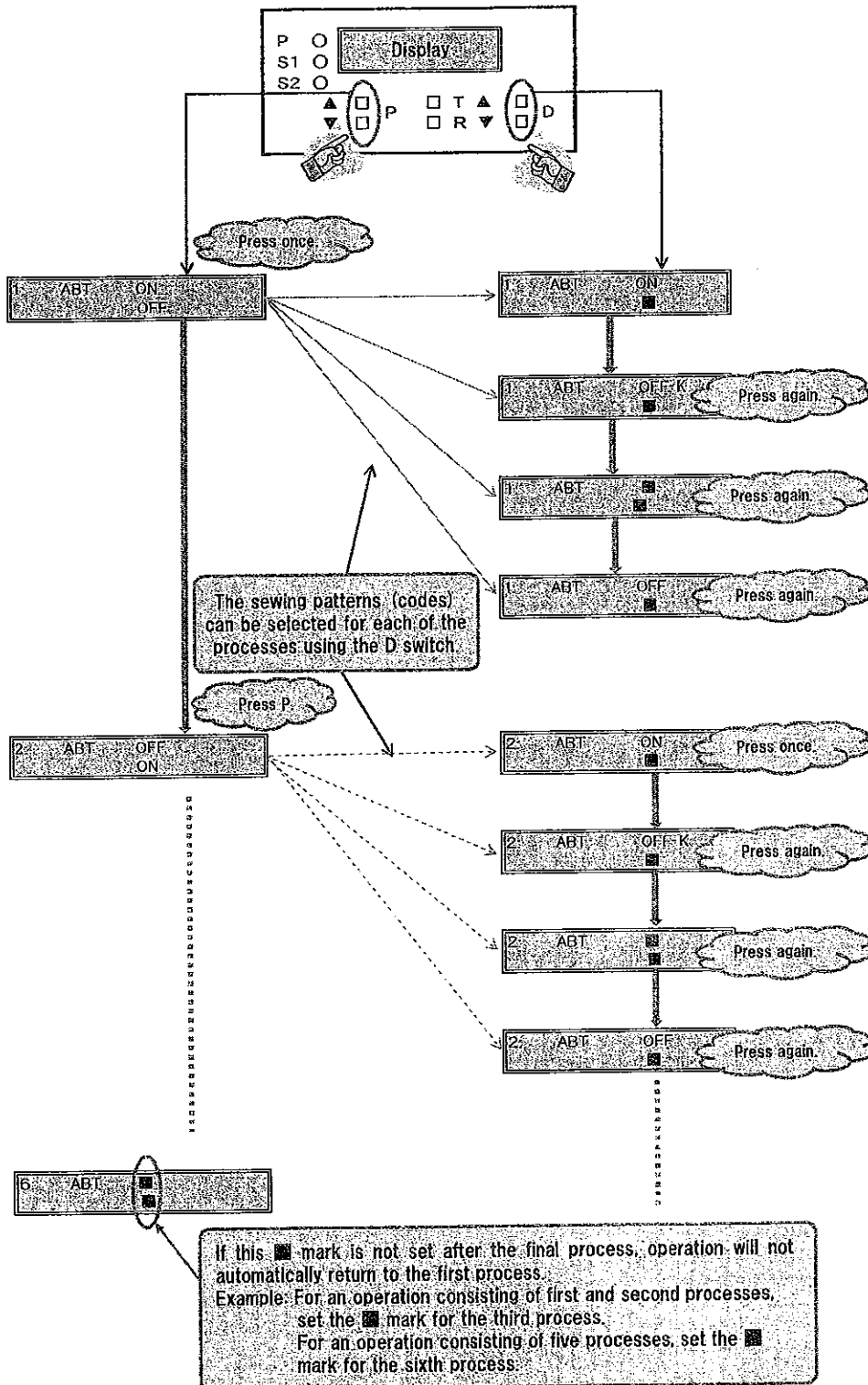


3. Screen displays and descriptions

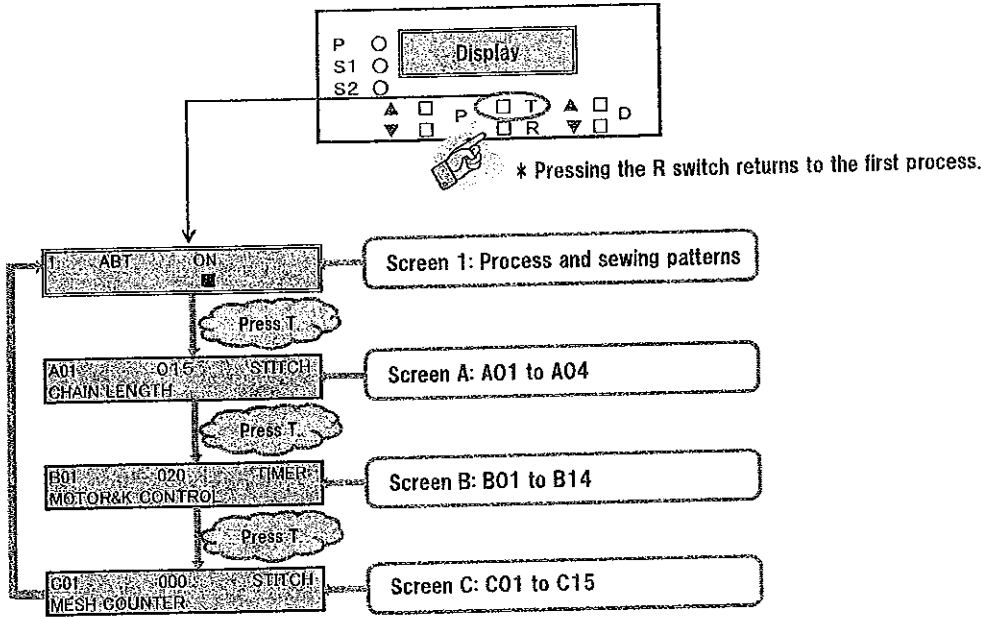
3.1 Process display screen



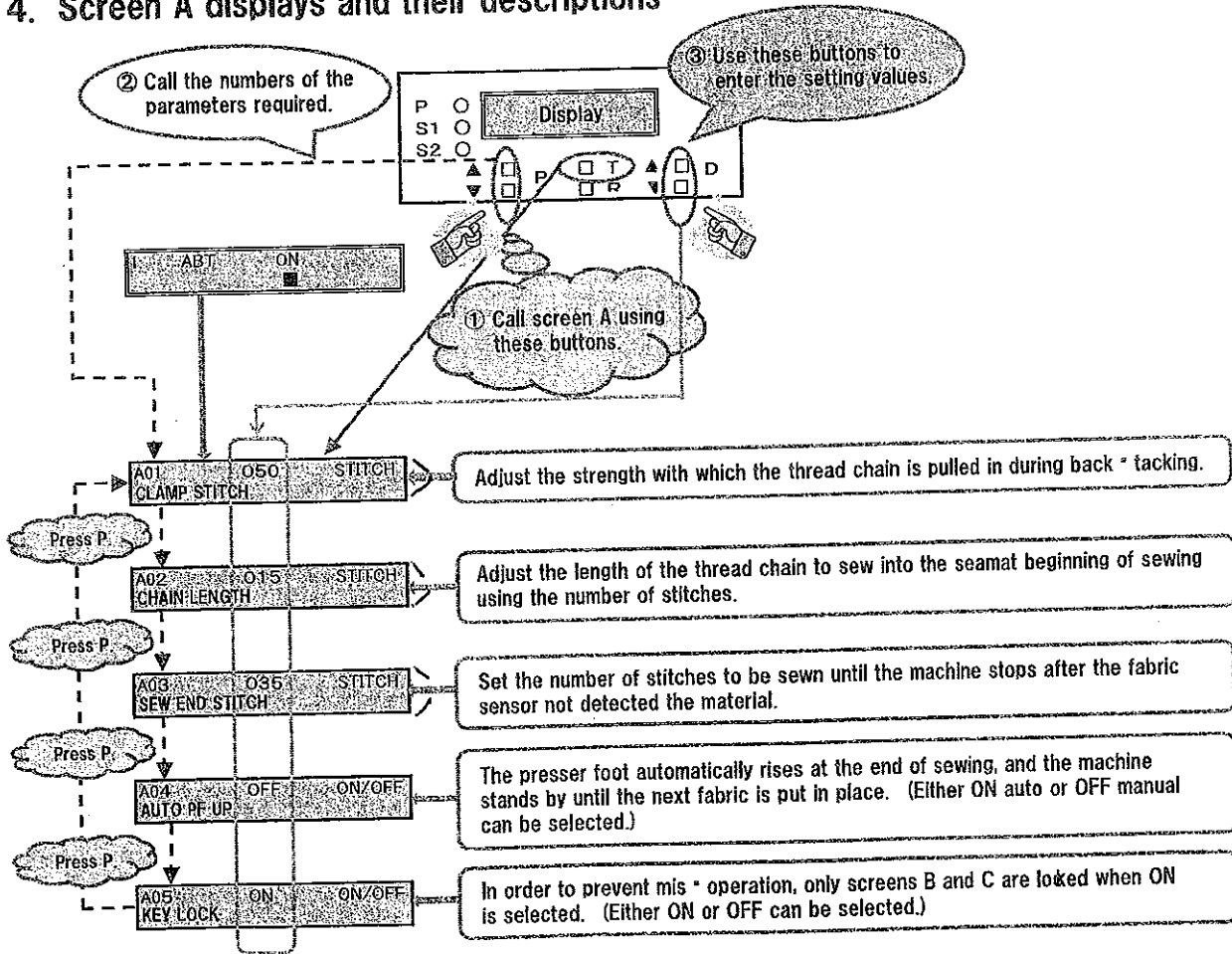
★ Example of process settings



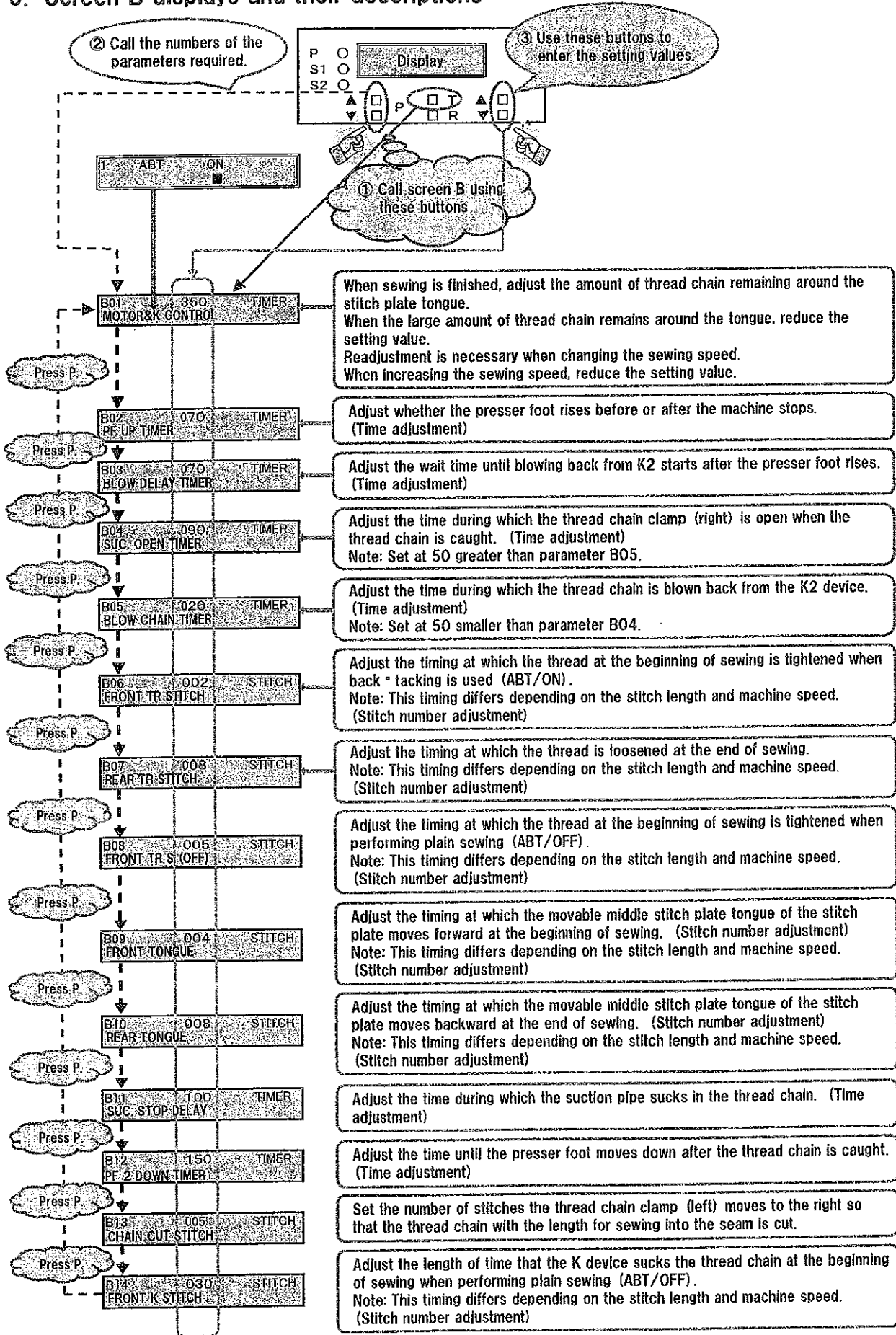
3.2 Parameter settings screen



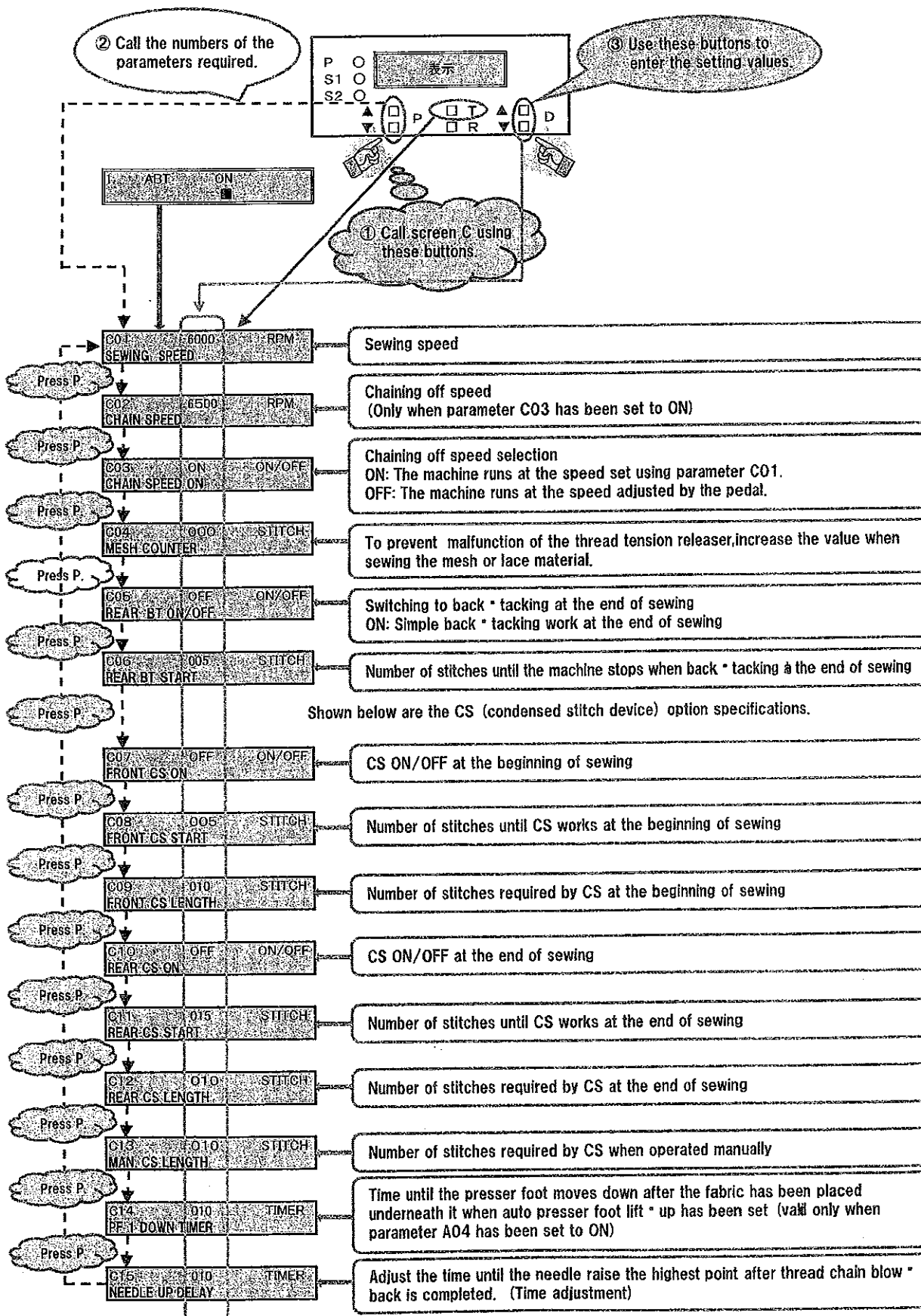
4. Screen A displays and their descriptions



5. Screen B displays and their descriptions



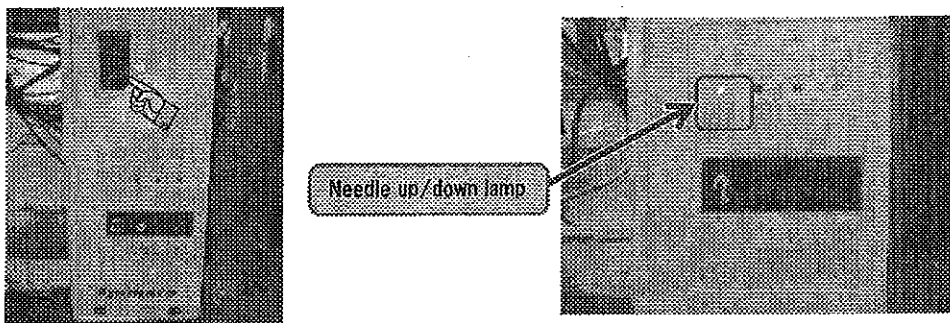
6. Screen C displays and their descriptions



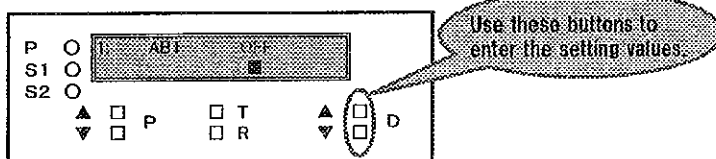
7. Starting back * tacking

Before proceeding:

- ① Set the power to ON. (On the motor box display, only the needle up/down lamp lights up. All other lamps are OFF.)



- ② Set to OFF (manual) as shown in the figure below.



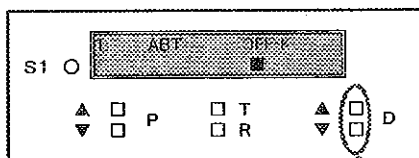
- ③ Set the machine speed using parameter C01.

- ④ Set the chaining off speed selection to ON using parameter C03.

- ⑤ Set the chaining off speed using parameter C02. ⇒ Set the speed to 5,500 to 6,000 rpm if the machine speed (for actual sewing) is less than 5,000 rpm.

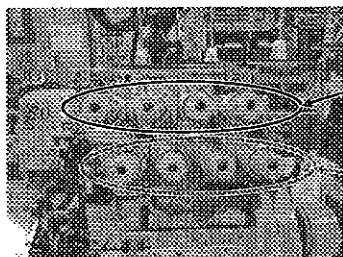
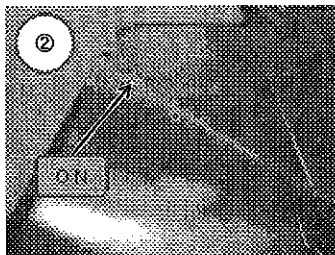
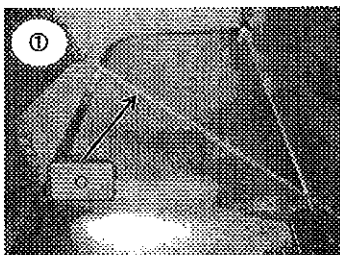
- ⑥ Adjust on the stitch length and differential ratio using the fabric.

- ⑦ Set to OFF * K (manual, K2 air stop) as shown in the figure on the right.



- ⑧ Adjust the soft thread chain using the upper thread tension spring caps as shown in figure ① below.

Note: The thread tension of the thread chain must be re-adjusted because it differs depending on the type of thread used and the sewing speed.



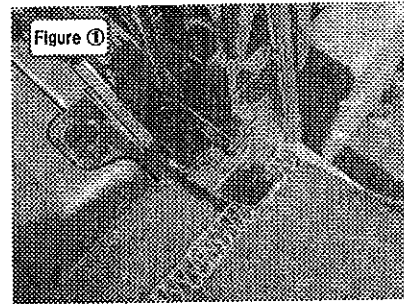
Adjust the thread chain condition.

Adjust the stitch condition

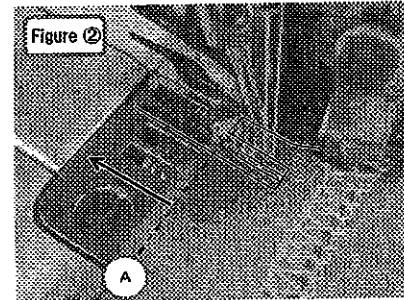
8. Starting back - tacking

Set ABT ON (auto).

① Set the material as far as the position of the upper knife.



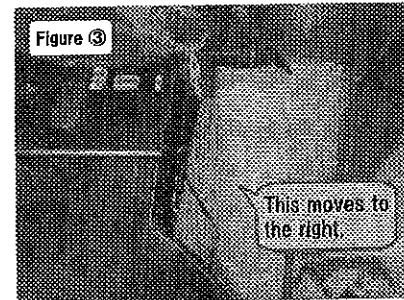
② Toe down the pedal and check the back - tacking performance as sewing begins.



③ If the back - tacking performance is unsatisfactory, reinsert the fabric underneath the presser foot, and adjust the number of stitches in the parameter A02 setting so that, at a low sewing speed, the edge of the fabric moves beyond end A of the stitch plate tongue (in the ⇒ direction: refer to figure ②) and then the thread chain clamp moves to the right. (See figure ③.)

A02 015 STITCH
CHAIN LENGTH

A01 050 STITCH
CLAMP STITCH

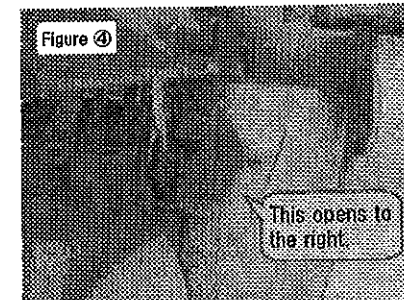


Note: At the time of shipment, the thread chain length (parameter A02) adjustment is set to the fixed type.

* The steps below describe how to adjust the thread chain length. (Requires #000001 air switching valve; purchase it separately.)

③ If the back - tacking performance is unsatisfactory, reinsert the fabric underneath the presser foot, and adjust the number of stitches in the parameter A02 setting so that, at a low sewing speed, the edge of the fabric moves beyond end A of the stitch plate tongue (in the ⇒ direction: refer to figure ②) and the thread chain clamp (right) opens (thereby releasing the thread chain). (See figure ④.)

A02 015 STITCH
CHAIN LENGTH



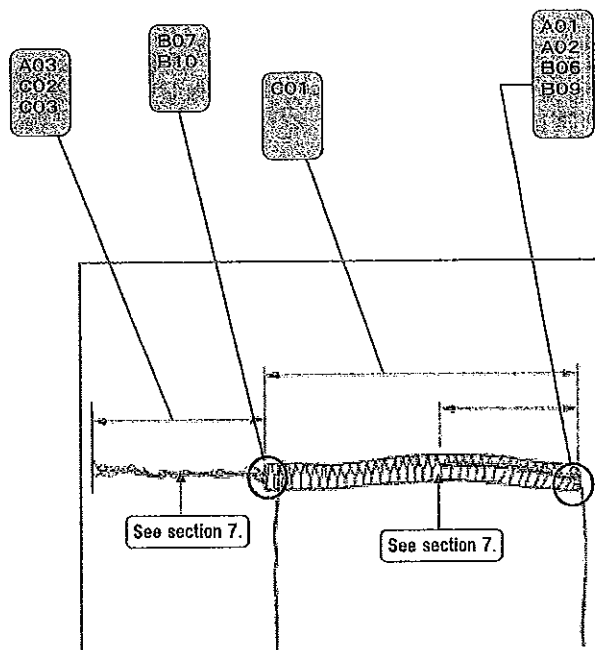
④ Next, adjust the clamp stitch length of the thread chain (the length the thread chain is sewn into the seam) using parameter A01.

A01 025 STITCH
CLAMP STITCH

9. Troubleshooting Q&A

	Q	A	See
1	<ul style="list-style-type: none"> The thread chain (soft chain) condition is unsatisfactory. 	<ul style="list-style-type: none"> Have any errors been made in the threading? Is the stitch plate or any other part damaged? Is the speed at the end of sewing set to high-speed operation? (The timer C02 setting must be faster than the C01 setting.) (The timer C03 setting must be ON.) 	Refer to section 7.
2	<ul style="list-style-type: none"> The thread chain is not blown back and caught properly. 	<ul style="list-style-type: none"> Have the speed controllers been adjusted correctly? (Check the speed controllers A, B, C and D again.) Has the K2 device been installed in parallel with the stitch plate? Has the K2 device been installed correctly in terms of its front-back position? Increase the operating time for timers B04 and B05. 	Refer to section 9. Refer to section 10. Refer to section 5.
3	<ul style="list-style-type: none"> Defective back-tacking 	<ul style="list-style-type: none"> Does the thread chain clamp move toward the right too early? Does the stitch plate tongue move forward too early? (Timer B09, B10) Adjust the tighten/loose timing of the tension releaser for the material. (Timer B06, B07) Check the thread chain condition. 	Refer to section 8. Refer to section 6. Refer to section 5. Refer to section 7.

* Checking the timers according to the sewing to be performed





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