

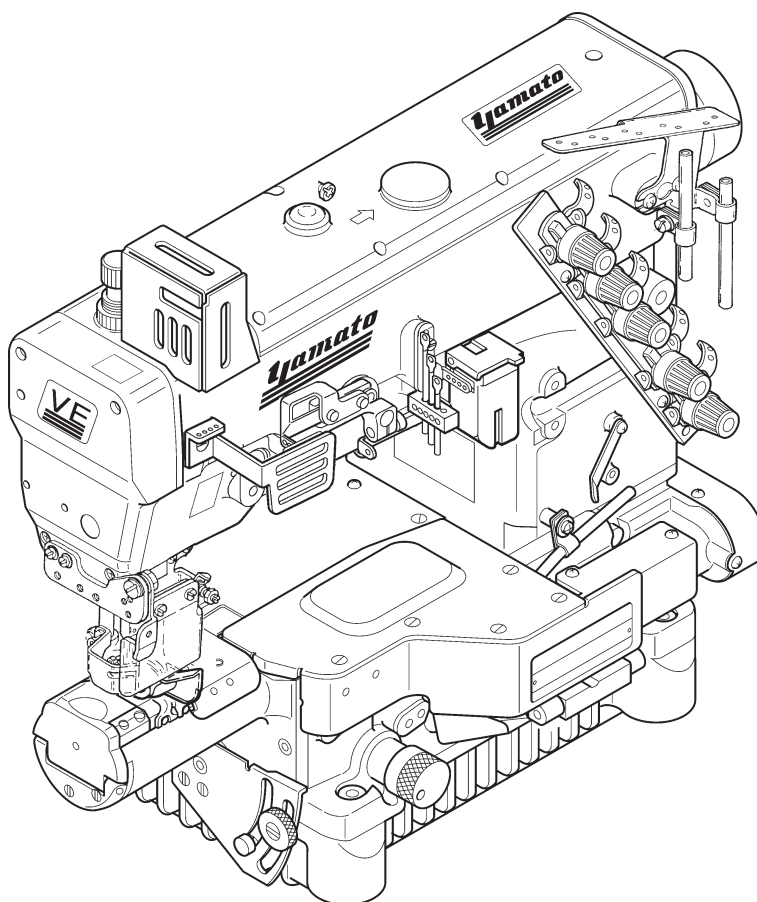
Yamato[®]

Instruction Manual

HIGH SPEED SMALL CYLINDER BED INTERLOCK STITCH MACHINE

VE2700-8 class








VE2711-1-8, VE2711-2-8F, VE2713-2-8F, VE2740PR-1-8F, VE2740PR-2-8F






Thank you for purchasing VE2700-8 class. Before using your VE2700-8 class, please read the instruction manual and understand the contents well.

After reading the instruction manual, please keep it in a location where it is easily accessible to the operator.

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Attention

- ◇ This instruction manual is designed mainly for technicians, but it is advisable that also operators read the instructions with  mark to use the machine properly.

Attention

The parts used for this product are subject to change without notice. If such a change is made, any part of the contents and illustrations of this instruction manual may not conform to this product.

In preparing the instruction manual, we have made our best efforts for making it free of any error or omission. If any error or omission should yet be found, it might not be rectified immediately.

SAFETY INSTRUCTIONS




1. Safety Instruction

The sewing machine, automatic machine, and attachments (collectively called “the machine” below) involve sewing operations that require the operator to be near moving parts of the machine. Because of this, there is always a potential danger of unintentional contact with the moving parts. For this reason, the operators who actually use the machine and the maintenance staff who perform maintenance and repair must carefully read “2. Basic precautions” and “3. Precautions to be taken in various operating stage” below and fully understand this information before operating or maintaining the machine.






The information contained in the “Safety Instruction” of this manual also includes items not found in the product specifications.

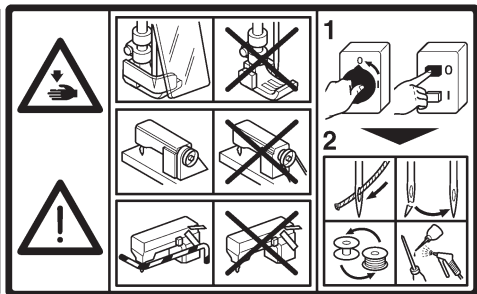
To assist in better understanding this manual and the product warning labels, warning indicators are categorized as shown below. Be sure that you fully understand the contents and carefully follow the instructions.

1.1 Explanation of risk levels

 DANGER	This indication is given when there is a danger of death or serious injury if the person in charge or any third party mishandles the machine or does not avoid the dangerous situation when operating or maintaining the machine.
 WARNING	This indication is given when there is a potential for death or serious injury if the person in charge or any third party mishandles the machine or does not avoid the dangerous situation when operating or maintaining the machine.
 CAUTION	This indication is given when there is a potential danger of medium to minor injury or damage of the sewing machine if the person in charge or any third party mishandles the machine or does not avoid the dangerous situation when operating or maintaining the machine.

1.2 Explanation of pictorial warning indications and warning labels

	There is a risk of injury if contacting a moving section.
	There is a risk of a burn if contacting a high-temperature section.
	There is a risk of electrical shock if contacting a high-voltage section.
	Connection of an earth cable is indicated.
	The correct direction is indicated.



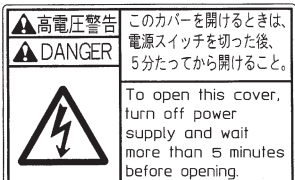
① ② ③

Explanation of safety label

① There is the possibility that slight to serious injury or death may be caused.
There is the possibility that injury may be caused by touching the moving part.

② Perform sewing work with safety cover.
Perform sewing work with safety protection device.

③ Be sure to turn the power OFF before carrying out “threading,” “needle changing,” “bobbin changing” or “oiling and cleaning.”



Explanation of high-voltage warning label

High voltages are flowing inside the power supply of the control box. This indicates that there is a risk of electrical shock.

When it is necessary to open the control box containing electrical parts, be sure to turn the power off, remove the power plug and wait for at least five minutes before opening the cover in order to prevent an accident resulting in electrical shock.

1.3 Explanation of symbols

Explains the symbols used in the instruction manual.

	Failure to follow the instructions can result in an injury or damage to the machine.
	Be sure to follow the instructions when you operate, check, adjust or repair the machine.
	Never do this.
	Be sure to remove the power plug from the source of the power supply, when checking, adjusting and/or repairing the machine or when there is the possibility that lightning may strike.
	Additional explanations and notes, etc., for operation or adjustment

2. Basic precautions

1. Be sure to read this instruction manual and all the other explanatory documents supplied with accessories of the machine before using the machine. Always keep the instruction manual where it is easily accessible for the operator and maintenance staff.
2. The content of this section includes items which are not contained in the specifications of your product.
3. Be sure to wear safety goggles to protect against accidents caused by needle breakage.

2.1 Applications, purpose

Our industrial sewing machines have been developed in order to increase quality and/or productivity in the sewing industry.

Accordingly, never use our products for other than the intended use as described above.

2.2 Working environment

The environment in which our industrial sewing machines are used may seriously affect their durability, functions, performance and/or safety.

Do not use the machine in the circumstances below.

- Places of high ambient temperature and/or humidity that seriously affects sewing machines.
- Outdoors, places of high temperature or in direct sunlight.
- Environments containing dust, corrosive or flammable gases, or in contact with chemicals.
- Where the voltage fluctuation range is more than $\pm 10\%$ of the rated voltage.
- Location where sufficient power is not available for the power supply capacity of the controllers and motors that is used.
- Near objects where strong electric or magnetic fields, such as high frequency welding machines which make noise, are generated.
- As dew condensation may occur when suddenly bringing the machine from a cold environment to a warm place, in order to prevent accidents caused by breakage or malfunction of the electrical components, be sure to turn the power on after waiting for a sufficient period of time until there is no sign of water droplets.

- When lightning occurs, be sure to stop operation and remove the power plug in order to prevent accidents caused by breakage or malfunction of the electrical components.

2.3 Safety devices and warning labels

- Be sure to operate the machine after verifying that safety device(s) are correctly installed in order to prevent accidents caused by lack of the device(s). With regard to safety device(s), please refer to page vi.
- If any of the safety devices is removed, be sure to replace it and verify that it works normally in order to prevent accidents.
- Be sure to keep the safety label and/or warning labels attached to the machine clearly visible in order to prevent accidents. If any of the labels has become stained or come unstuck, be sure to replace it with a new one.



2.4 Instruction and training

- Operators and workers, who supervise, repair or maintain the machine head and/or machine unit, are required to have the adequate knowledge and operation skills to do the job safely.
- The manager should plan and enforce the safety education and training of those operators and workers beforehand.






2.5 Modification

- Never modify and/or alter the machine in order to prevent accident that can result in personal injury or death. Yamato assumes no responsibility for damages or personal injury or death resulting from a machine which has been modified or altered.

 **WARNING****2.6 Items for which the power to the machine has to be turned off**

-  Be sure to immediately turn the power off if any abnormality or failure is found or in the case of power failure in order to protect against accidents that can result in personal injury or death.
-  To protect against accidents resulting from abrupt starting of the machine, be sure to carry out the following operations after turning the power off.
 - When threading to the parts such as the needle, looper, spreader, etc., or when changing the bobbin.
 - When changing or adjusting all component parts of the machine.
 - Adjusting the stitch length
 - Adjusting the differential feed ratio
 - When inspecting, repairing or cleaning the machine or leaving the machine.
- Be sure to remove the power plug by holding the plug section instead of the cord section in order to prevent electrical shock, earth-leakage or fire accidents.
- If the machine is using a clutch motor, to protect against accidents resulting from abrupt starting of the machine, be sure to carry out the above operations after verifying that the machine has stopped completely, since the motor continues turning for a while even after turning off the power supply switch.

3 PRECAUTIONS TO BE TAKEN IN VARIOUS OPERATING STAGES**3.1 Unpacking**

-  Be sure to unpack the machine from the top. If the machine is packed in a wooden crate, be careful of the nails. Remove the nails from the board.
-  Never hold the parts near the needle or threading parts when removing the sewing machine head from the buffer of the box.
-  Removing and carrying the sewing machine head should always be carried out by two or more people.
-  Take out the machine very carefully while checking the position of the center of gravity.
-  Preserve the cardboard box and packing material carefully in case secondary transport is needed in the future.

Disposal of the packaging

The packaging material of the machine consists of wood, paper, cardboard and polystyrene foam. The proper disposal of the packaging is the responsibility of the customer, and must be properly disposed of in accordance with the locally valid environmental protection regulations.





Disposal of the machine waste



The proper disposal of the machine waste is the responsibility of the customer, and must be disposed of in accordance with the locally valid environmental protection regulations.

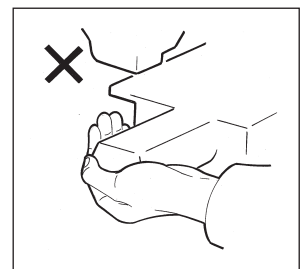
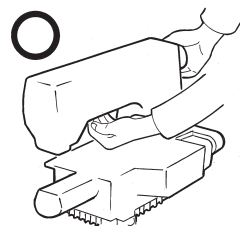
The materials used in the machines are steel, aluminum, brass and various plastics.

A specialist should be commissioned if necessary.

3.2 Transportation





-  Be sure to take sufficient safety measures to prevent falling or dropping when lifting or moving the machine.
-  If the machine and/or your hands are stained with oil, the machine may easily fall to the floor. Therefore, wipe off the oil carefully.
-  To prevent accidents during transportation, repackage in the same state as the original delivery packaging. Be particularly sure to fully wipe off any oil adhering to the machine before repackaging.
-  The machine head should be carried by two or more people.

The machine should be carried by people only when moving to the table or transfer hand truck, and all other transportation operations should use a hand truck. When moving to the table or hand truck, be careful that the machine is not subjected to excessive impact or vibrations. Otherwise the sewing head could fall over.
-  ALWAYS hold the machine arm and handwheel as shown in the following figures, when carry a sewing machine.
-  NEVER hold the cylinder, because it may broken.











3.3 Installation, preparation









3.3.1 Machine table

-  Prepare a machine table (table board and legs) that has sufficient strength to withstand the weight of the sewing head and any reaction while operating. Securely join the table and legs to ensure sufficient strength to withstand the weight of the sewing head and any reaction while operating.
-  Maintain a comfortable working environment with consideration of the lighting and the arrangement of sewing machine to enable the operators to work smoothly.
-  Adjust the height of the table according to the posture of the worker.
Also, when installing the control box and the related parts on the sewing machine, make sure not to affect the posture of the worker. If casters are fitted to the table stand, be sure to use high-strength casters with a locking mechanism.
-  Lock the casters except when moving the machine.

3.3.2 Wiring and grounding





-  Never connect the plug for power supply until assembly is finished.
Also, be sure to avoid the usage of multiple-outlet extension cords in order to prevent electrical shock, earth-leakage or fire accident.
-  Fix the connectors securely to the sewing machine head, motor, and electric apparatus.
Also, when unplugging the connectors, hold the connector part.
-  When wiring the connection cords, please take care of the following.
 -  Connect the cords away from the driving parts.
 -  Do not apply excessive force to the connection cords.
 -  Do not bend the cords excessively.
-  Never use staples to fasten the cables. Otherwise it may cause a short circuit and/or fire.
-  Arrange the ground wire securely to the designated position on the machine head.
Also, wire separately from the grounding for other equipment.

3.3.3 Handling machine oil

-  Keep machine oil out of the reach of children.
-  Be sure to fill or add lubrication oil to sewing machines before operating them.
Use “Yamato SF oil 28” as specified.
-  If machine oil gets in your eyes, it may cause eye inflammation. Always wear protective glasses to prevent the oil from getting in your eyes.
*Should machine oil get in your eyes, wash them with fresh water for 15 minutes and then consult a medical doctor.
-  If oil adheres to your eyes or body, be sure to immediately wash it off in order to prevent inflammation or irritation.
-  If oil is swallowed unintentionally, be sure to consult a medical doctor in order to prevent diarrhea or vomiting.
-  Methods of disposing of waste oil and/or containers are specified by law. Dispose of it properly as required by law. If you have further questions on its disposal, consult the place of purchase.
-  After opening the oil container, be sure to seal it to prevent dust and water from getting into the oil and keep it in the dark to avoid direct sunlight.
-  Do not store in high-temperature areas or areas exposed to an open flame.

WARNING

3.4 Before operation

-  Never put your hand under the needle or near the moving parts of the machine when turning on the power supply switch.
-  When operating a new sewing machine, make sure the rotating direction of the pulley agrees with the rotating-direction mark.
-  Before turning the power on, visually check the cables and connectors for conditions such as damage, disconnection and/or loosening.
-  If a table stand with casters is used, be sure to secure the table stand by locking the casters or securing the legs with adjusters, if provided, in order to prevent accidents caused by abrupt moving of the machine.

 **WARNING****3.5 During operation**

- Be sure to operate the sewing machine using the safeguards such as belt cover, finger guard, and eye guard.
- Never place your finger, hair or objects under the needle or close to the moving parts while operating the sewing machine.
- Be sure to turn off the power supply switch when threading or replacing the needles.
- Never place your hands close to the knives (upper and lower knives) when operating the sewing machine with the trimming devices.
- Be sure to turn off the power supply switch when terminating the sewing work or leaving the sewing machine.
- In the event of the power failure, be sure to turn off the power.
Also, if the sewing machine malfunctions, makes abnormal sound or emits unusual odors while operating, be sure to turn off the power supply switch.
- While operating the machine, wear clothing that cannot be caught in the machine.
- Do not put any tools or other unnecessary objects on the machine table while running the machine.
- If a clutch motor type is used, it will continue running for a while even after the power is turned off. Therefore, be careful because the machine could start running by pressing the machine pedal.
- If a servomotor is used, the motor does not produce noise while the machine is at rest. Be sure not to forget to turn the power off in order to prevent accidents caused by abrupt starting of the machine or motor.
- To prevent entanglement accidents in machines with a puller mechanism, keep your hands, hair, and clothing away from the machine.

 **WARNING****3.6 Maintenance, inspection and repair**

- Maintenance, inspection, and repair must be performed by staff that have received special training and fully understand and follow the information in the instruction manual.
- Be sure to turn off the power supply switch and make sure the sewing machine and motor completely stop before the maintenance, inspection, and repair. (If the machine is using a clutch motor, take care that the motor keeps turning for a while even after turning off the power supply switch.)
- Do not attempt to modify the machine at your own discretion. We are not responsible for accidents caused by such modification.

- Use genuine Yamato parts when repairing the machine and/or replacing the parts. We are not responsible for accidents caused by any improper repair/adjustment and substituting other parts for those manufactured by Yamato.
- Turn off the power supply switch if removing or replacing any parts or during adjustment of the sewing machine.
- Be sure to also remove the gasket if the cover is removed for maintenance, inspection, and repair. If the gasket is not removed, the edge of gasket may cause injury.
- Do not pull the cord when removing the plug. Be sure to hold the plug itself.
- A high voltage is applied inside the control box. Turn off the power supply switch and wait for at least five minutes before opening the cover.
- Be sure to replace the safety devices and/or safety covers if removed for maintenance, inspection and repair.
- After performing maintenance, inspection and repair, make sure that turning on the power does not pose any danger to you.
When operating the machine for the first time after work is performed, run at low speed to check for abnormal sounds or other problems before performing high-speed operation.

4. Recommended check points for maintaining machine performance

- (1) Perform regular cleaning of the machine parts by following the instruction manual.
- (2) Perform regular inspection of the lubrication oil by following the instruction manual, and refill or replace the oil as required.
- (3) Because the oil-proof parts use rubber, their oil-proof performance is reduced over time.
 - If the seals or other stationary parts fall off or begin to lose their sealing performance, replace them with new parts.
 - The replacement period for parts used in the movable sections varies depending on the machine operating conditions, environment, maintenance, and oil used, but replacement every several years is recommended.
- (4) For details about the replacement procedure, please contact your local dealer or Yamato.

5. Safety devices and warning label affixing locations

Belt cover, belt cover (small)

- !** The belt cover prevents entanglement with the belt.
- ⊘** Do not operate with the cover is removed.

Front cover, side cover, cylinder upper cover, needle bar guard

- !** These covers prevents contact with the moving parts inside the covers.
- ⊘** Do not operate with these covers opened or removed.

Eye guard

- !** The eye guard prevents injury to the operator' s eyes due to breaking of needles during the sewing operation. This section also houses the needle thread take-up, upper knife, and other moving parts.
- ⊘** Do not operate with the eye guard opened.

Finger guard

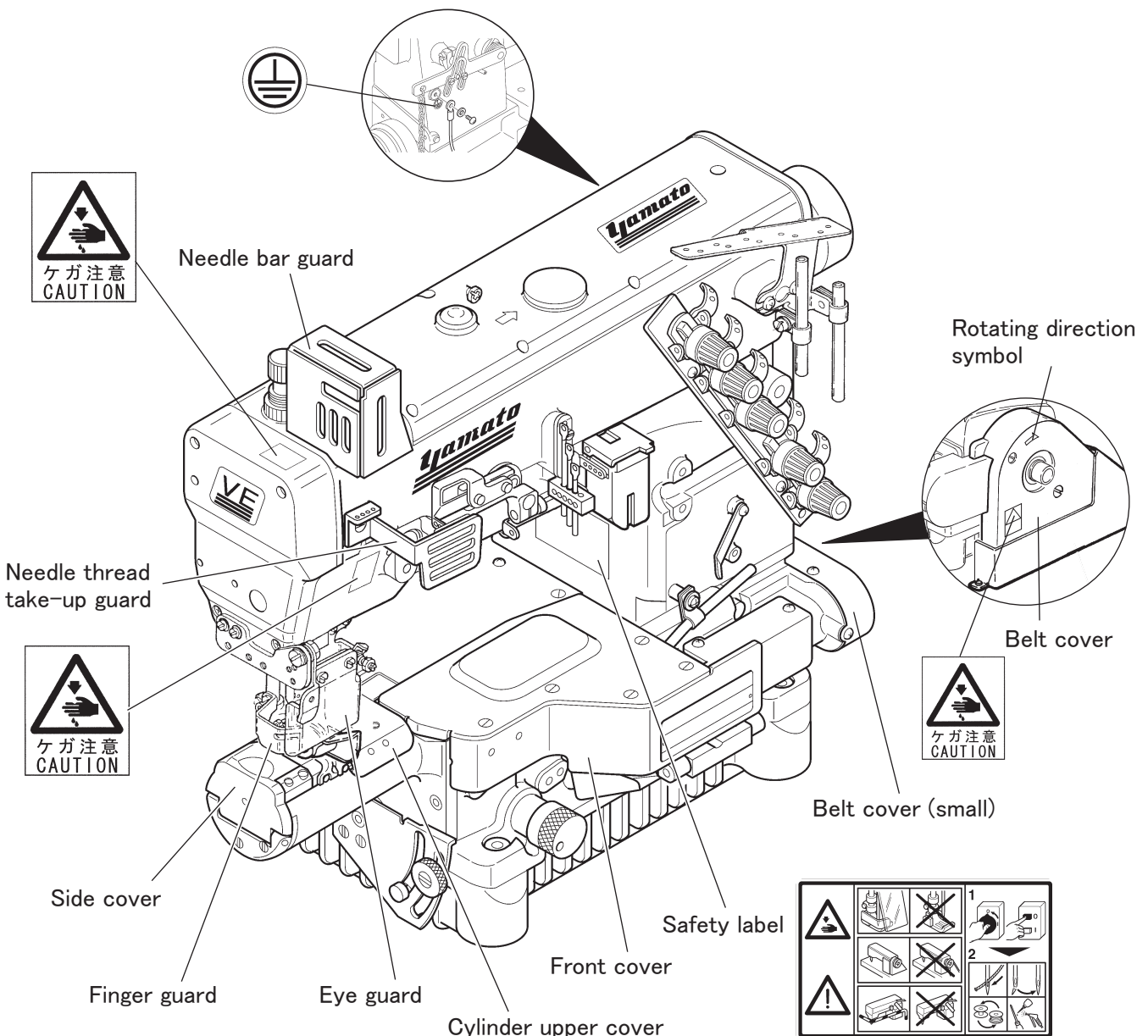
- !** The finger guard prevents the operator' s fingers from going under the needle. However, there is some space at the top of the finger guard and other sections, and so there is a risk of finger insertion.
- ⊘** Do not operate when the finger guard is removed.

Needle thread take-up guard

- !** The needle thread take-up guard prevents contact with the moving parts as the needle thread take-up. but it dose not completely cover the moving parts.
- ⊘** Do not operate when the needle thread take-up guard is removed.

Safety label, warning label

- !** Reaffix the labels if they start peeling off or become dirty and illegible.



DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY

We hereby declare that the sewing machine(sewing head) described below;

1. Must not be put into service until the machinery to which it is incorporated has been declared in conformity with the provisions of the Directive 2006/42/EC, and
2. Conforms to essential requirements of the Directive 2006/42/EC, described in the technical documentation, and
3. To be prepared with the above technical documentation compiled in accordance with part B of Annex VII, and
4. Relevant information on wish should be transmitted in response to a reasoned request by the national authorities by the electronic method or other according to the request.

Model : VE2700-8 class
Serial No. :
Description : Industrial sewing machine
Function : Make stitches and sew

Applied harmonized standards in particular :
EN ISO12100-1, EN ISO 12100-2, EN ISO10821, EN 60204-31

Manufacturer :
YAMATO SEWING MACHINE MFG. CO., LTD.
2-10-3 Hotarugaike Minami-machi Toyonaka
Osaka Japan

1. Name of each part

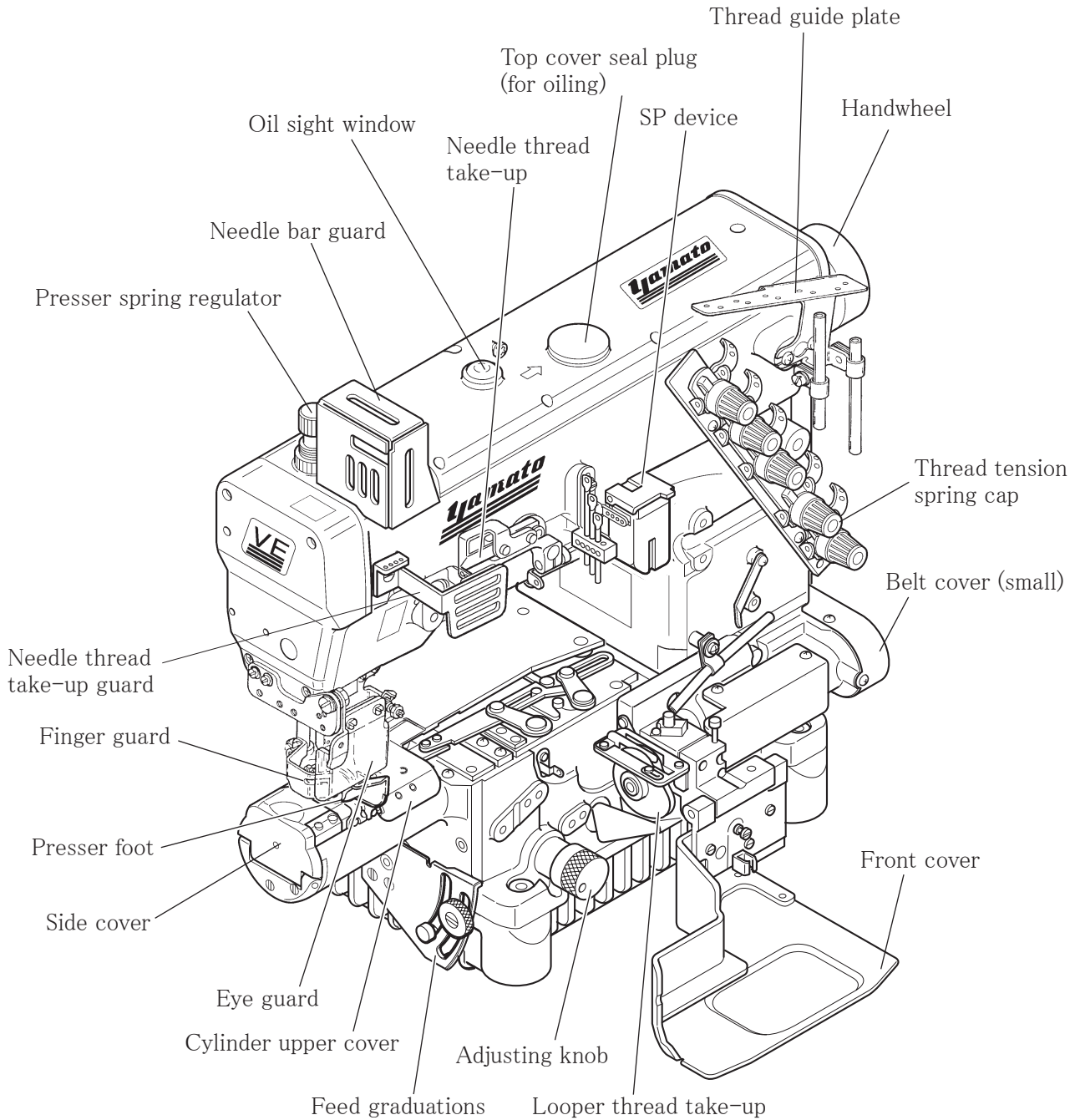


Fig. 1-1

2. Installation

2.1 Table cutting diagram

2.1.1 Table top type (Type A: standard)

The circled dimensions are required only for models with UT device.

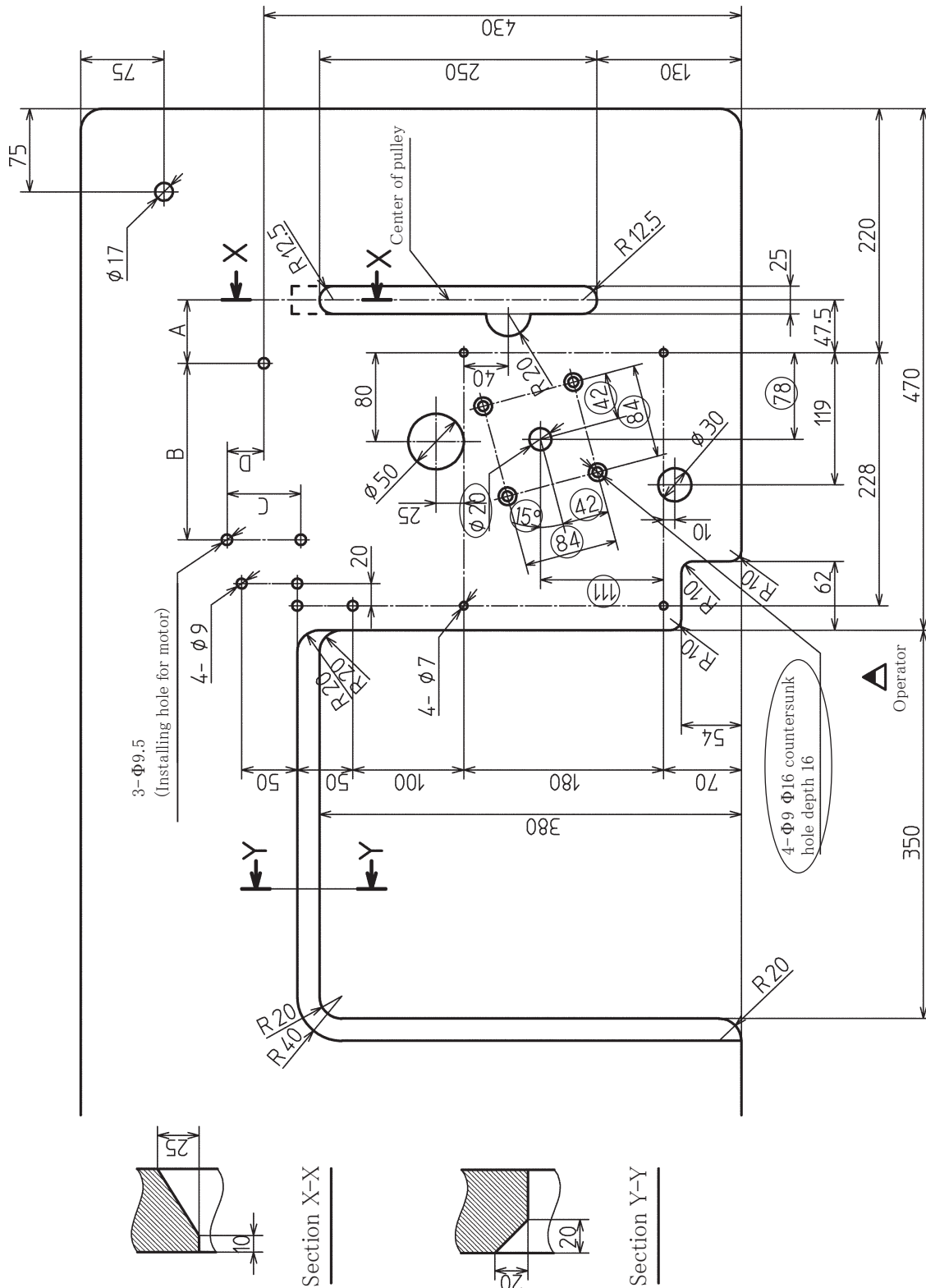


Table dimensions: 1200×595×50

Refer to the instruction manual of the motor for dimensions A, B, C, and D.

Fig. 2-1

2.1.2 Table top type (Type B)

The circled dimensions are required only for models with UT device.

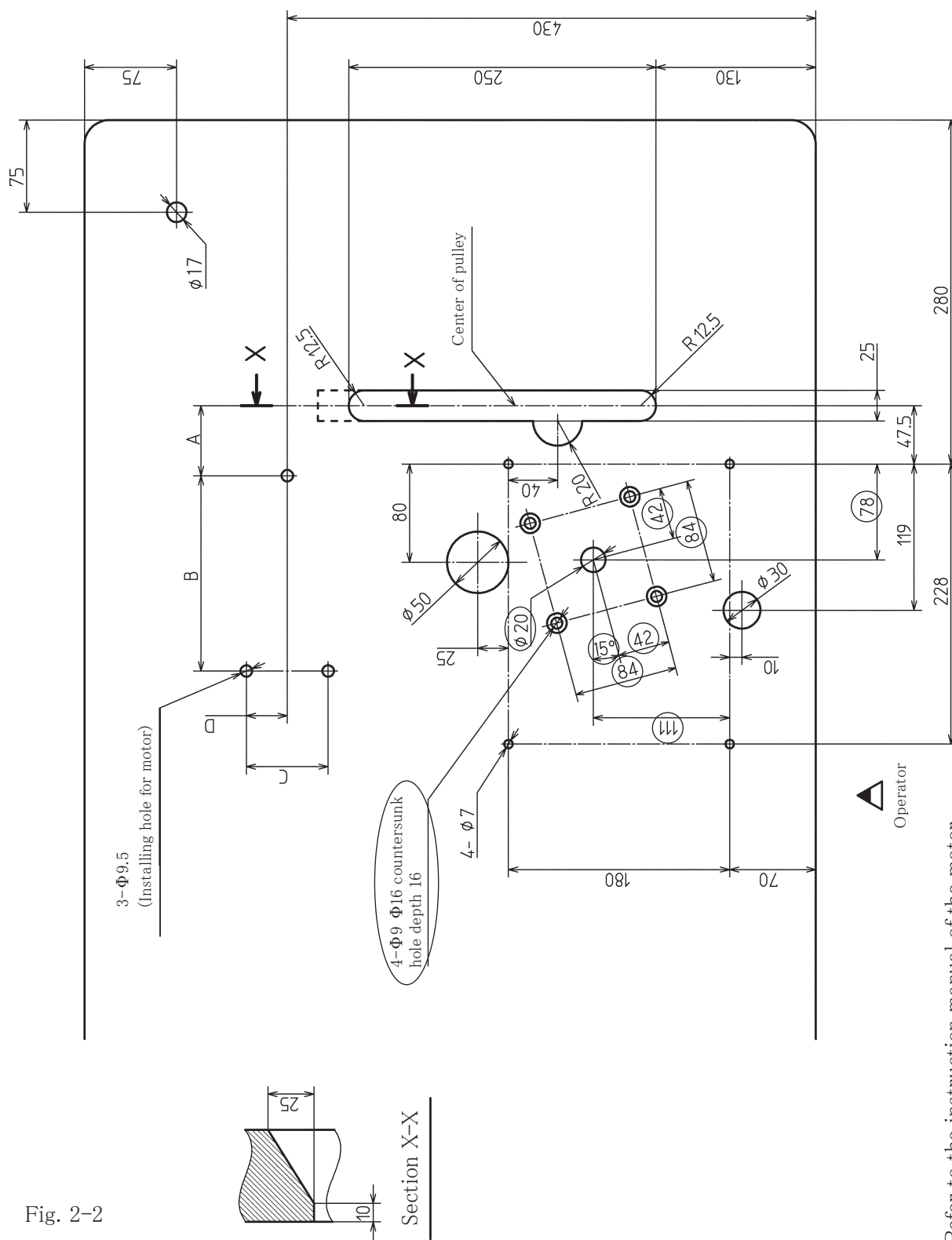


Table dimensions: 1200×595×50

Refer to the instruction manual of the motor for dimensions A, B, C, and D.

Fig. 2-2

2.2 Installing the table top type

Install the machine correctly referring to Figs. 2-4, 2-5.

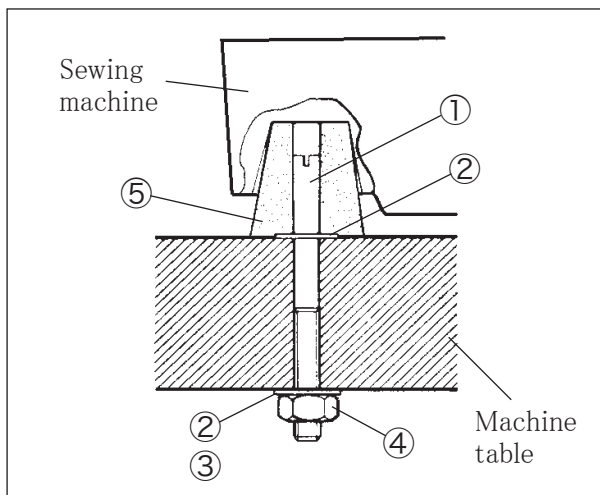


Fig. 2-4

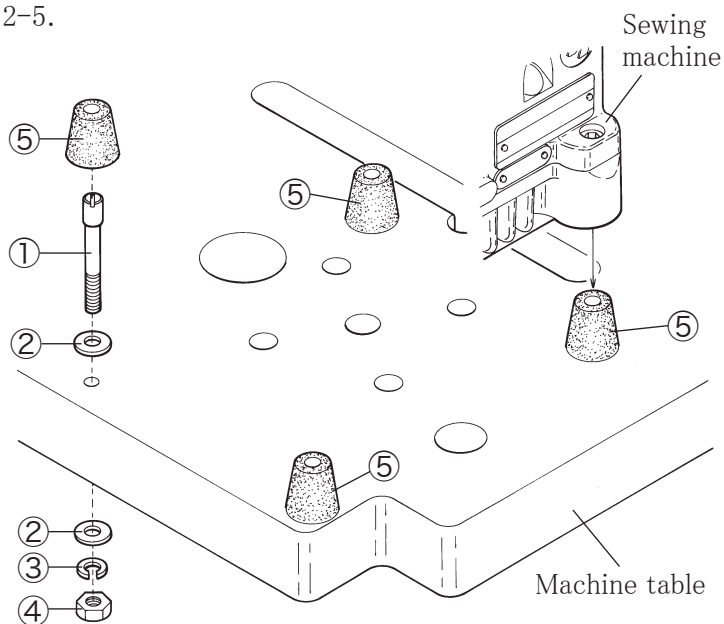


Fig. 2-5

2.3 Installing the semi-submerged type

Install the machine correctly referring to Figs. 2-6, 2-7.

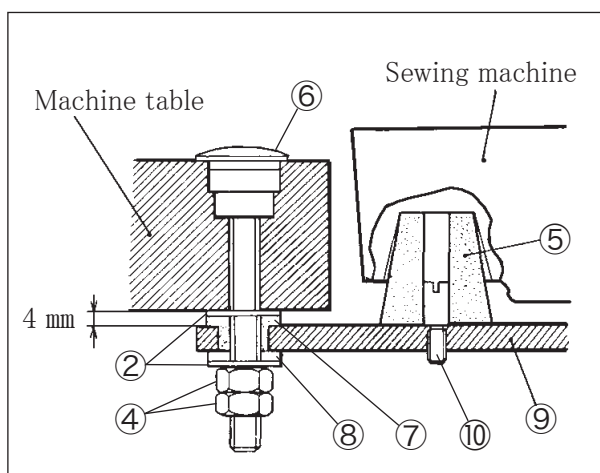


Fig. 2-6

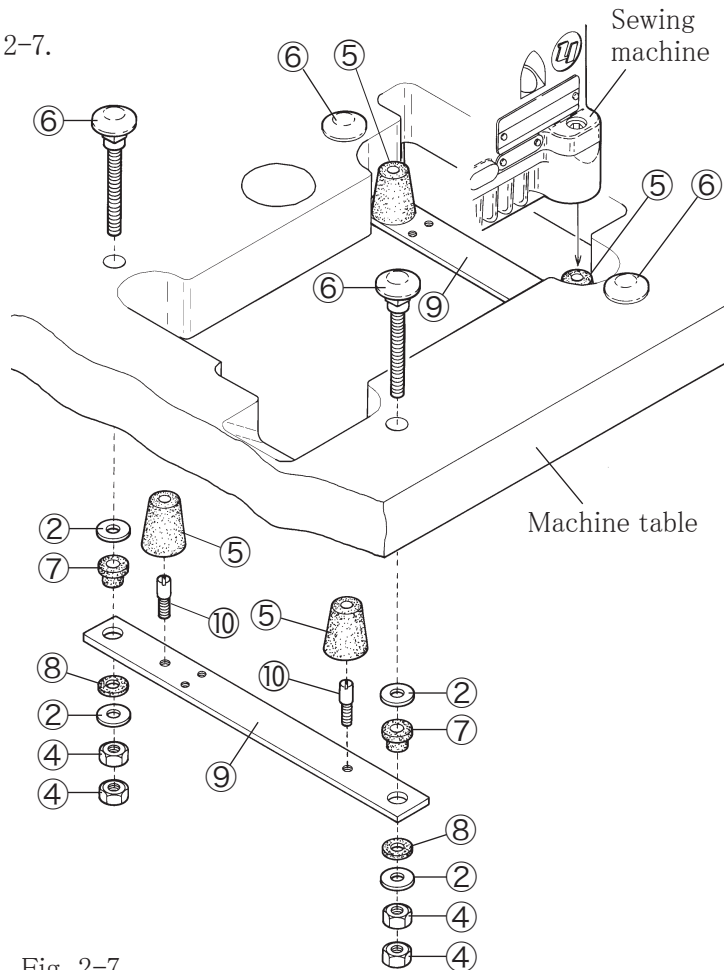


Fig. 2-7

2. Installation

2.4 Pulley and belt

Proper sizes of the pulley and the belt differ according to the table type and the sewing speed.

To install the motor, see the instruction manual for the motor.

Servomotor

Use a servomotor with an output of 500 W or more. Calculate the outside diameter of a motor pulley from the formula as below.

Or refer to Table 1 to select a proper motor pulley.

$$\text{Outside diameter of motor pulley} = \frac{\text{Usual sewing speed}}{\text{Servomotor speed}} \times 61 + 5 \text{ mm}$$

CAUTION

Use only those motor pulleys applicable to the machine. If not applicable, the sewing speed will be over maximum and it can cause damage to the machine.

Clutch motor

To install a clutch motor, align the center of the machine pulley with that of the motor pulley when the motor pulley shifts to the left by toeing down the pedal.

Note: Table 2 shows the outside diameter of the motor pulley, the sewing speed of the machine, and the size of the belt when using the clutch motor of 3-phase, 2-pole, 550 W (3/4HP).

The outside diameter on the table shows the nearest size to the calculated values based on the commercial available pulleys at intervals of 5 mm.

Belt

Use a V-belt of M-type.

For belt size, refer to Table 2.

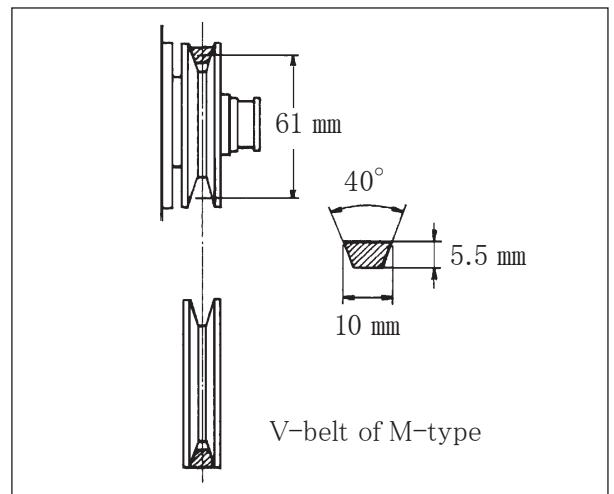


Fig. 2-8

Sewing speed of machine (sti/min)	Outside diameter of motor pulley (mm)	
	rpm of servomotor	
	3000 rpm	3600 rpm
3000	65 (66)	55 (56)
3200	70 (70)	60 (59)
3500	75 (76)	65 (64)
3700	80 (80)	70 (68)
4000	85 (86)	75 (73)
4200	90 (90)	75 (76)
4500	95 (96)	80 (81)

Table 1 Numbers in () is calculated values.

Outside diameter of pulley (mm)	Sewing speed of machine (sti/min)		Size of belt	
	50Hz	60Hz	Semi-submerged	Table top type
60		2900	38	31
65		3150	38	32
70		3400	39	32
75	3000	3900	39	32
80	3250	4150	39	33
85	3500	4400	40	33
90	3750		40	33
95	4000		40	34
100	4250		41	34

Table 2

2.5 Hanging the belt

CAUTION



Before performing this work, ALWAYS turn the power switch OFF and check that the motor has already stopped.

Use a V-belt of M-type.

- (1) Hang the belt ① on the machine pulley ②, and then on the motor pulley ③ while turning the machine pulley.
- (2) Adjust the belt tension so that the belt has a slack of 10 to 20 mm when its center is pushed with 10N.
- (3) Lock the motor with the adjusting bar ④.

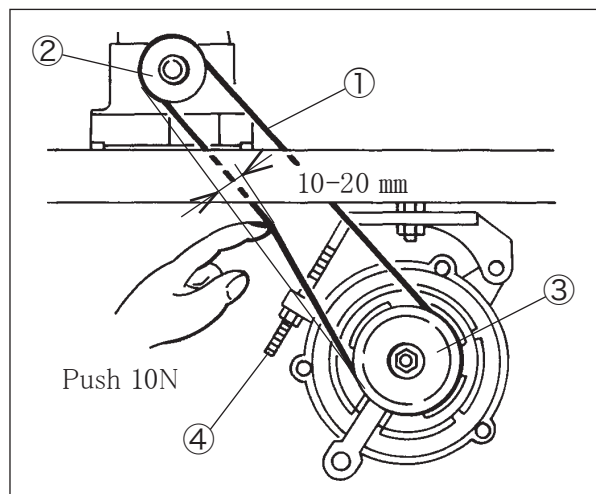


Fig. 2-9

2.6 Belt cover

CAUTION

Be sure to install the belt cover to prevent the operator from injury and a material from being caught by the belt.

- (1) Install the belt cover ⑤. (Fig. 2-10)
- (2) For the table top type, fix the belt cover (lower) ⑥ on the machine table. (Fig. 2-12)

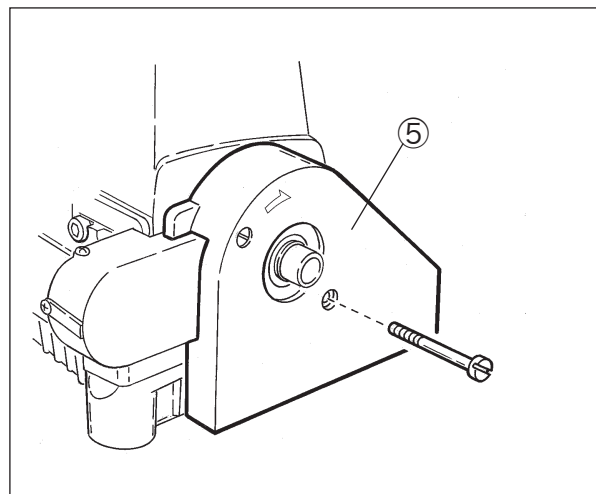


Fig. 2-10

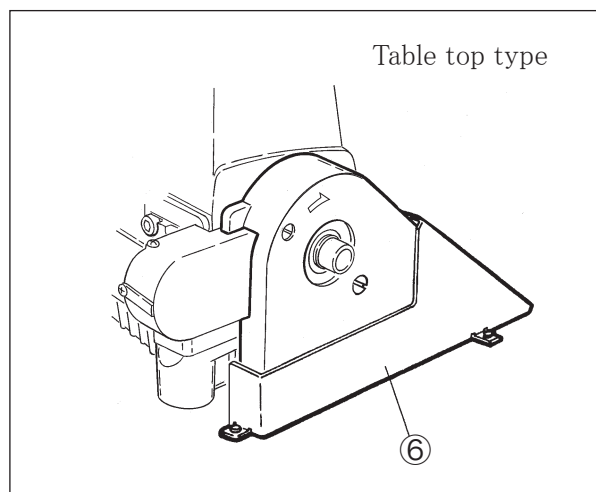


Fig. 2-11

2. Installation

2.7 Eye guard and finger guard

To ensure safe use, always install the eye guard ① and the finger guard ② in position during operation.

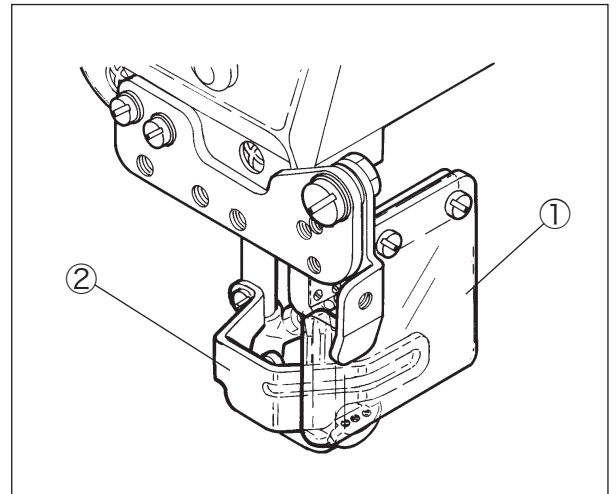



Fig. 2-12

2.8 Thread guide plate

- (1) Loosen the screws ③.
- (2) Set the hole  of the thread guide plate ④ on the screws ③ and push the thread guide plate ④ to the left.
- (3) Fix the thread guide plate ④ with the screws ③.

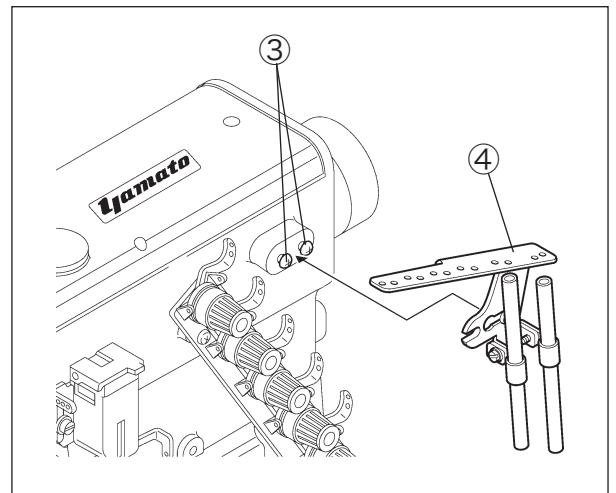


Fig. 2-13

3. Sewing speed and rotating direction of the pulley

The maximum sewing speed is 4500 sti/min (during intermittent operation).

Run a new machine at speed about 15 to 20 % lower than the maximum sewing speed for the first 200 hours (for about one month) so that the machine can offer a long service life in good condition.

The rotating directions of the machine pulley ① and the handwheel ② are clockwise as shown in the figure.

CAUTION

If the pulley turns in the reverse direction, oil cannot be supplied properly. This may cause damage to the machine.

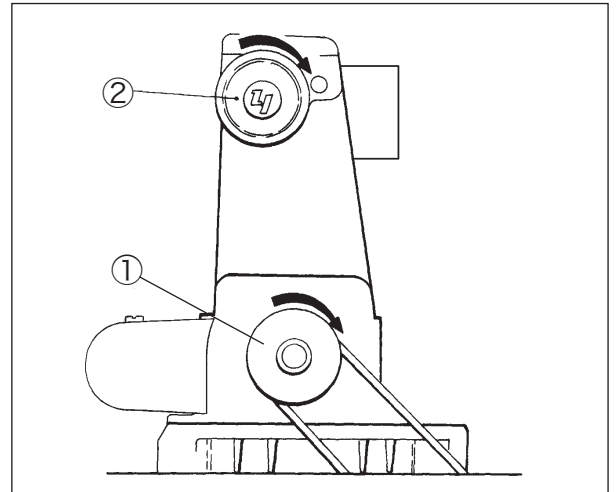


Fig. 3-1

4. Lubrication

⚠ CAUTION



Before performing this work, ALWAYS turn the power switch OFF and check that the motor has already stopped.

4.1 Lubricating oil

Use YAMATO SF OIL 28.

⚠ CAUTION



Never add additives to oil.
If added, it can cause deterioration of oil and damage to the machine.

4.2 Lubricating

When using a new machine or a machine which has not been run for a while, supply a few drops of oil to the needle bar ① and the looper bar ②. (Figs. 4-1, 4-2)

Remove the seal plug ③ indicated “OIL” and supply oil to the upper line of the oil sight gauge ⑤. (Figs. 4-3, 4-4)

Check that oil splashes from the nozzle inside the oil sight window ④ while running the machine. (Fig. 4-3)

If oil does not splash from the nozzle, refer to “4.4 Checking and replacing the oil filter” on P.11.

⚠ CAUTION

Too much or insufficient oil can cause oil leakage and machine trouble. Be sure to keep the oil level between the lines. (Fig. 4-4)

Also too much lubrication can cause oil scatter and material stain.

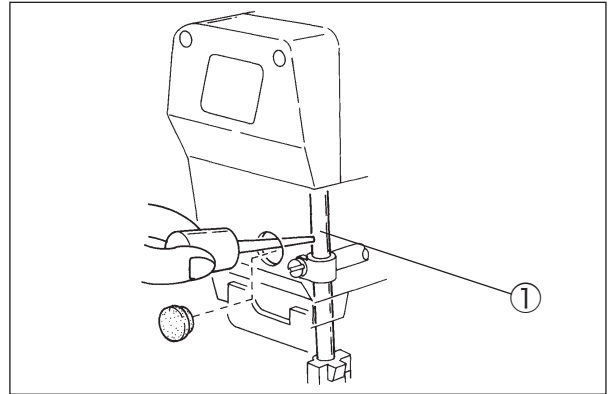


Fig. 4-1

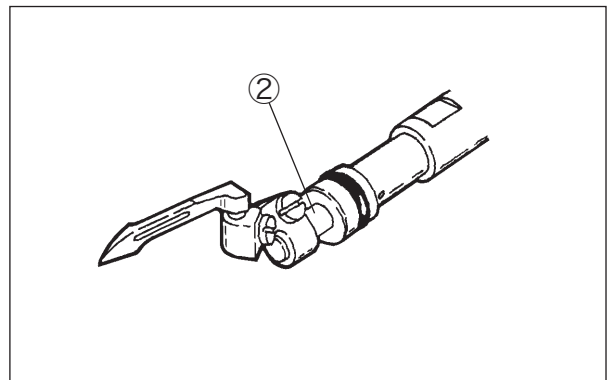


Fig. 4-2

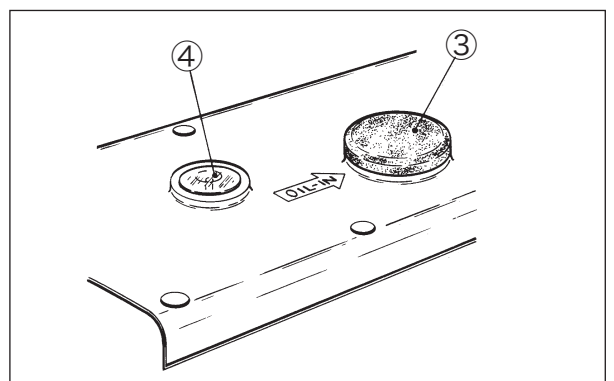


Fig. 4-3

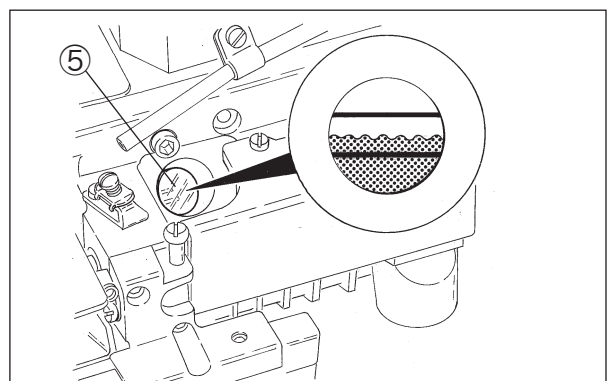


Fig. 4-4

4.3 Changing oil

Period of changing oil

When using a new machine, change lubricating oil after running a machine for 200 hours (for about one month). After that, change oil once or twice a year.

Procedure for changing oil

- (1) Remove the belt cover. (Refer to P.7.)
- (2) Remove the V-belt from the motor pulley. (Refer to P.7.)
- (3) Remove the machine from the machine table.
- (4) Set a container for receiving oil under the screw ①.
- (5) After removing the screw ①, oil is drained.

! ATTENTION



Be careful not to stain the V-belt and the machine pulley with oil.

- (6) Reinstall the screw ①.
- (7) Change oil. (Refer to “4.2 Lubricating” on P.10.)
- (8) Reinstall the machine on the machine table.
- (9) Hang the V-belt on the motor pulley and reinstall the belt cover. (Refer to P.7.)

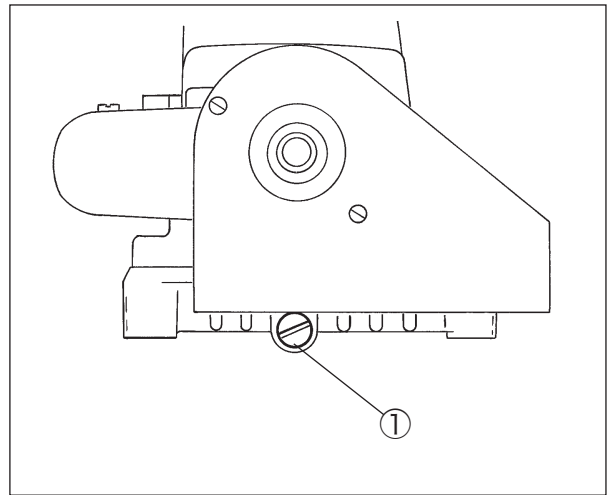


Fig. 4-5

4.4 Checking and replacing the oil filter

- ◆ If the oil filter ② is clogged with dust, lubrication cannot be done properly.
- ◆ Remove the oil filter cap ③ and the oil filter ② to check them every six months. If clogged or cracked, clean or replace the oil filter.
- ◆ If oil splashes from the nozzle insufficiently or includes many bubbles though oil is sufficiently kept, check or replace the oil filter.

i NOTICE

When loosening the screw ④, oil in the oil filter ② leaks out.

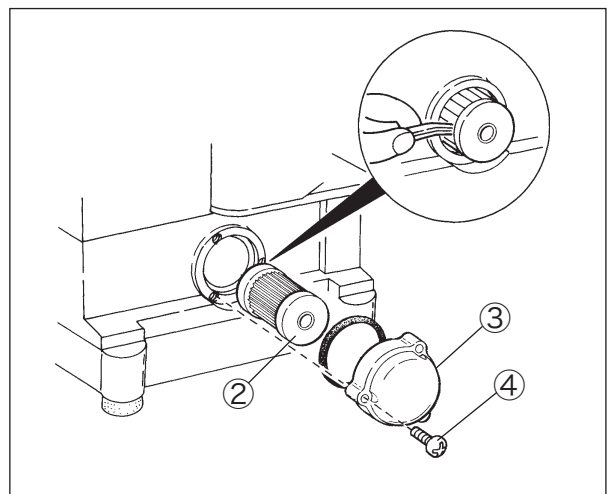


Fig. 4-6

5. Proper operation

5.1 Needle system

Use UY×128GAS (UY128GAS).

Select a proper needle in size depending on the thickness and type of material.

Japanese standard	9	10	11	12	13	14
Metric standard	65	70	75	80	85	90

Table 3

5.2 Installing the needles



CAUTION



Before performing this work, ALWAYS turn the power switch OFF and check that the motor has already stopped.

- (1) Loosen the screws ① with a screwdriver. (Fig. 5-1)
- (2) Remove an old needle with a pair of tweezers.
- (3) Insert a new needle into the needle clamp ② as deep as possible with its scarf facing the right back. (Figs. 5-2, 5-3)
- (4) Tighten the screws ① with a screwdriver.

ATTENTION

Tighten the screws ① with a tightening torque of 0.6 N·m.

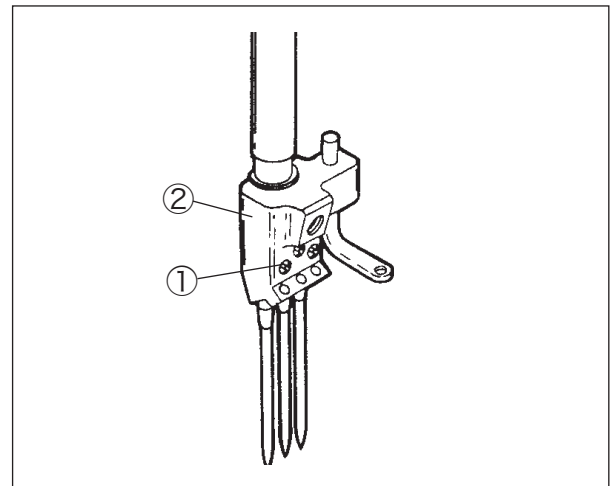


Fig. 5-1

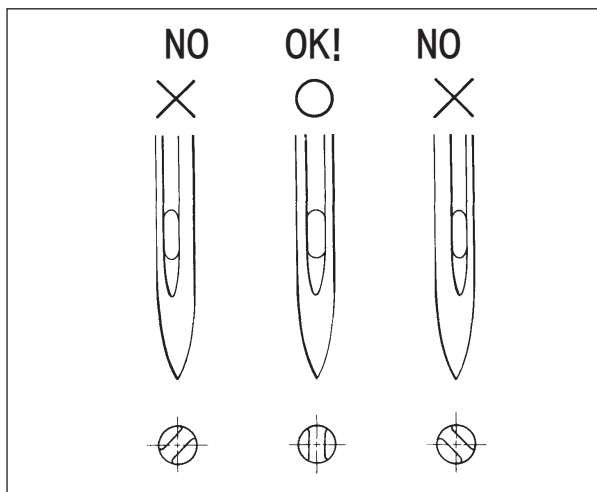


Fig. 5-2

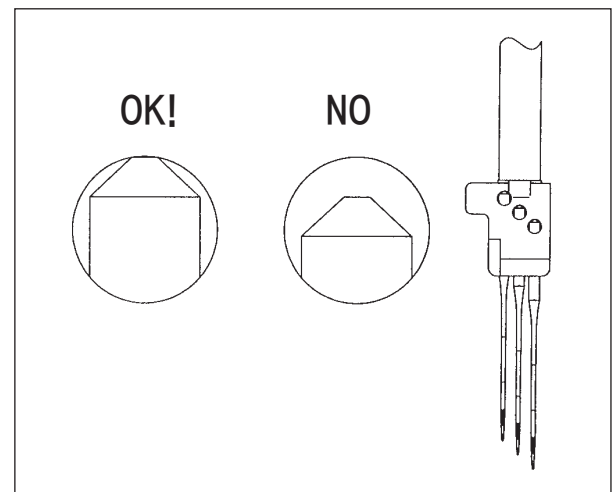


Fig. 5-3

5.3 Threading



Without UT, UT-A device

When not threaded, thread correctly as shown in Fig. 5-4. When had been threaded, knot the preset thread and new one together to rethread.

A, B, C: Needle thread

Pull out the threads until they come to the front of the needles. Then, cut off the knots before passing them through the needle eyes.

Thread the needles correctly so that the left needle thread **A** is at the inmost position as shown in the figure.

D: Top cover thread

Pull the thread until the knot comes out. Then, cut off the knot.

E: Looper thread

Pull the thread until the knot comes out. Then, cut off the knot.

⚠ CAUTION
Before performing this work, ALWAYS turn the power switch OFF and check that the motor has already stopped.

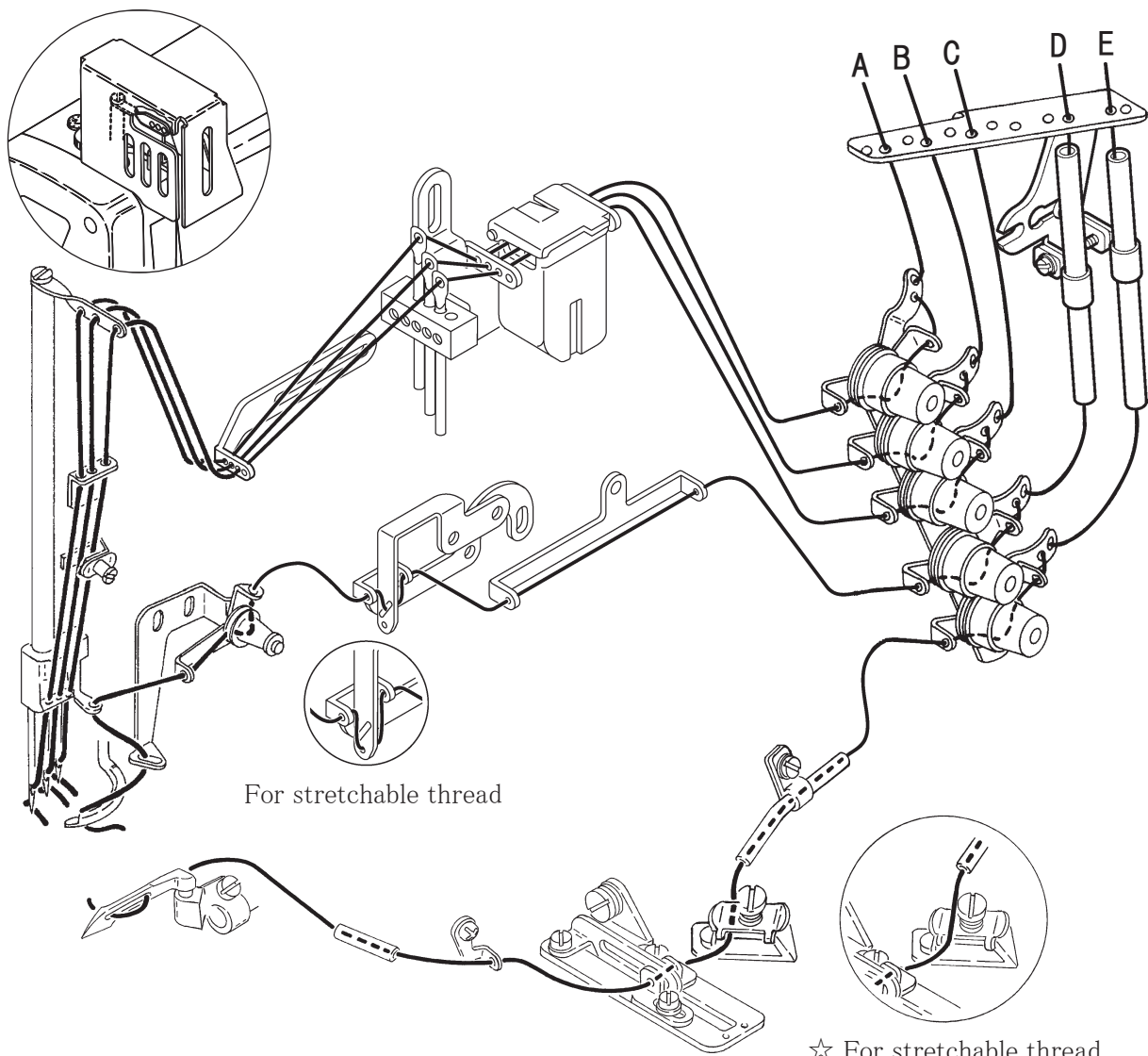


Fig. 5-4

☆ For stretchable thread

5. Proper operation

With UT, UT-A device

When not threaded, thread correctly as shown in Fig. 5-5.
When had been threaded, knot the preset thread and new one together to rethread.

A, B, C: Needle thread

Pull out the threads until they come to the front of the needles. Then, cut off the knots before passing them through the needle eyes.

Thread the needles correctly so that the left needle thread **A** is at the inmost position as shown in the figure.

D: Top cover thread

Pull the thread until the knot comes out.
Then, cut off the knot.

E: Looper thread

Pull the thread until the knot comes out.
Then, cut off the knot.

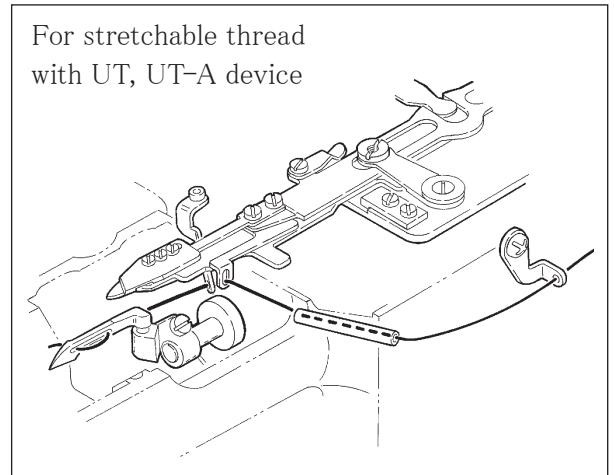


Fig. 5-6

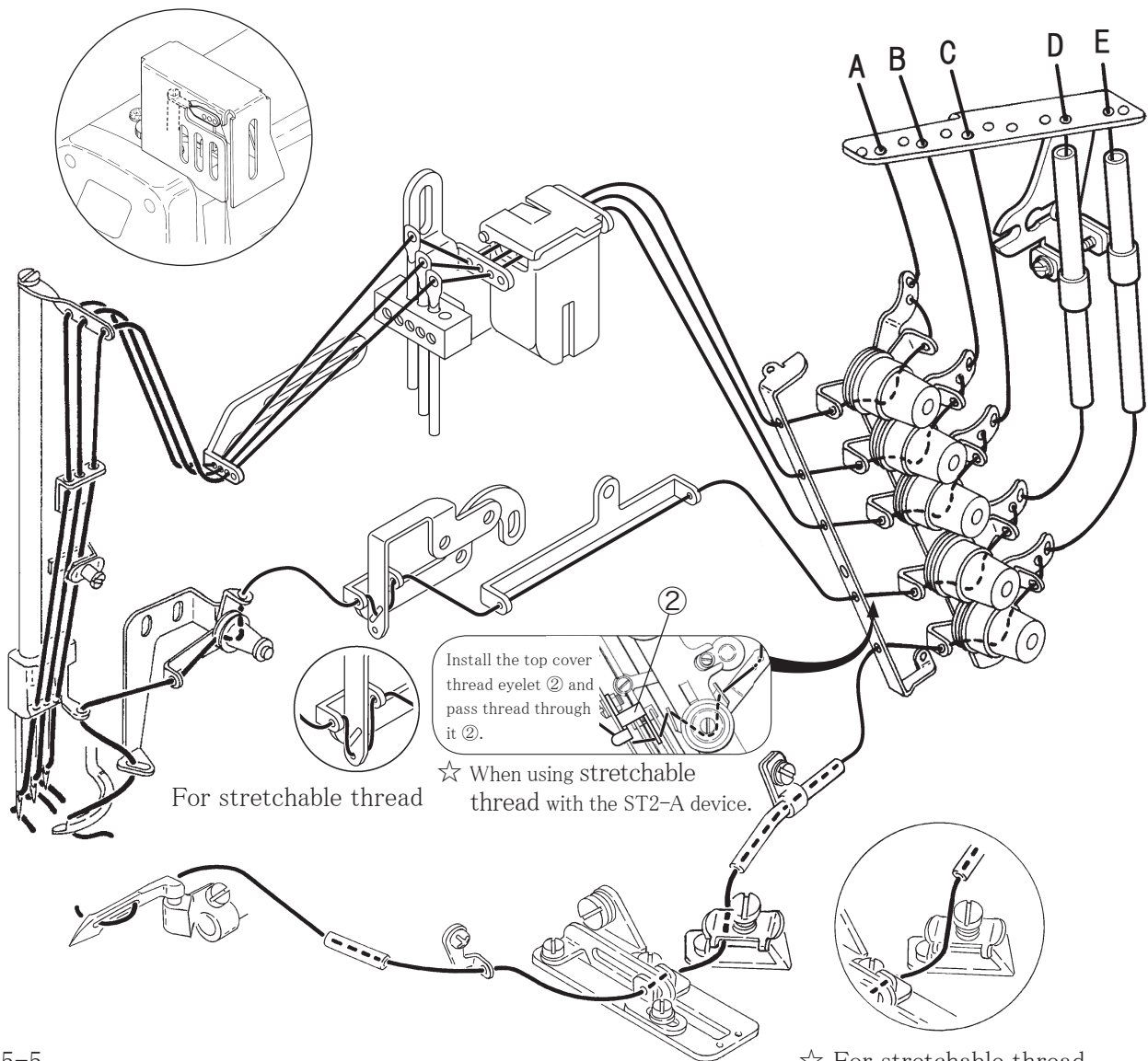


Fig. 5-5

5.4 Adjusting the thread tension



Adjust the thread tension with the thread tension spring caps ① depending on material type, thread type, seam width, stitch length, and other sewing conditions.

- To tighten the thread tension, turn the caps clockwise.
- To loosen the thread tension, turn the caps counter-clockwise.

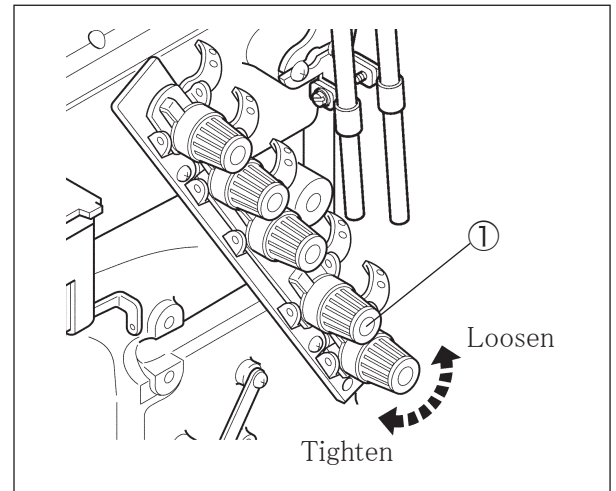


Fig. 5-7

5.5 Pressure of the presser foot



Loosen the lock nut ② and turn the presser spring regulator ③ to adjust the pressure.

- To increase the pressure, turn it clockwise.
- To decrease the pressure, turn it counterclockwise.

Keep the pressure as low as possible for stable sewing performance.

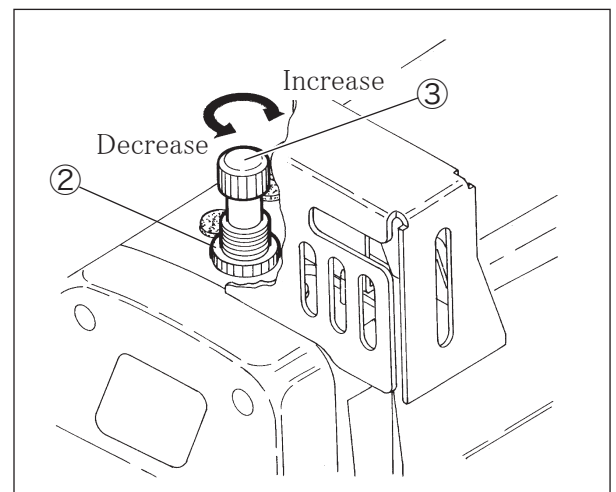


Fig. 5-8

5.6 Adjusting the position of the presser foot

⚠ CAUTION



Before performing this work, ALWAYS turn the power switch OFF and check that the motor has already stopped.

Adjust the right-and-left position of the needle holes of the presser foot.

Loosen the screw ④. Move the front of the presser foot right or left so that the needles drop in the centers of the needle holes respectively.

Then, tighten the screw ④ securely.

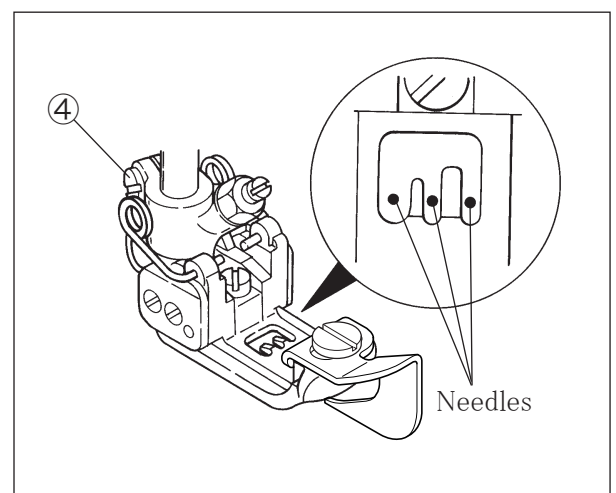


Fig. 5-9

5.7 Adjusting the movement of the differential feed dog



CAUTION



Before performing this work, ALWAYS turn the power switch OFF and check that the motor has already stopped.

Loosen the screw ①.

For gathering sewing, move the screw ① upward.

(Maximum normal differential ratio 1:1.4)

For stretching sewing, move the screw ① downward.

(Maximum reverse differential ratio 1:0.8)

When the center of the screw ① is aligned with the mark

②, the differential ratio is 1:1.

NOTICE

When the stitch length is 4.2 mm, the maximum normal differential ratio is 1:1.2.

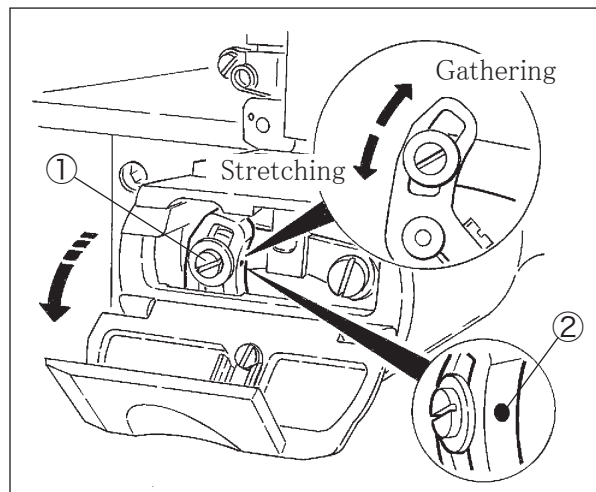


Fig. 5-10

5.8 Adjusting the stitch length



CAUTION



Before performing this work, ALWAYS turn the power switch OFF and check that the motor has already stopped.

Stitch length is adjustable from 1.4 to 4.2 mm.

Table 4 shows the number of stitches per inch (25.4 mm) and 30 mm converted from the stitch length.

Stitch length (mm)	Number of stitch (per 1 inch)	Number of stitch (per 30 mm)
4.2	6	7.5
3.6	7	8
2.4	10.5	12.5
1.4	18	21

Table 4

Adjusting with the adjusting knob

- To make the stitch length larger, turn the adjusting knob ① clockwise.
- To make the stitch length smaller, turn the adjusting knob ① counterclockwise.

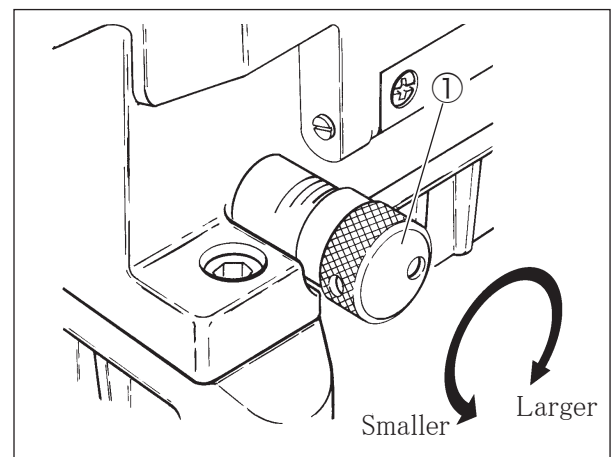


Fig. 5-11

Adjusting with the feed control lever

Fix the feed control lever ④ with the nut ③ at a point between the stopper ② and the graduation which has been decided by turning the adjusting knob ①.

To adjust the stitch length during operation, connect a chain to the feed control lever ④

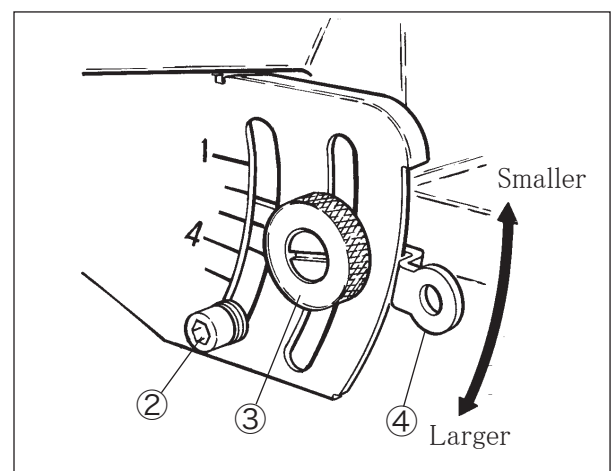


Fig. 5-12

5.9 Adjusting the fabric guide (VE2713-8F)



For tip over covering seam

- (1) Loosen the screws ① of the fabric guide.
- (2) Insert the seam between the fabric guide (right) ② and the fabric guide (left) ③.
- (3) Locate the seam at the center of the right needle and adjust the clearance between the fabric guide (right) ② and the fabric guide (left) ③ to feed the material smoothly.
- (4) Tighten the screws ①.

① SUPPLEMENT

The positional relationship between the seam and the right needle differs depending on the design of the garment.

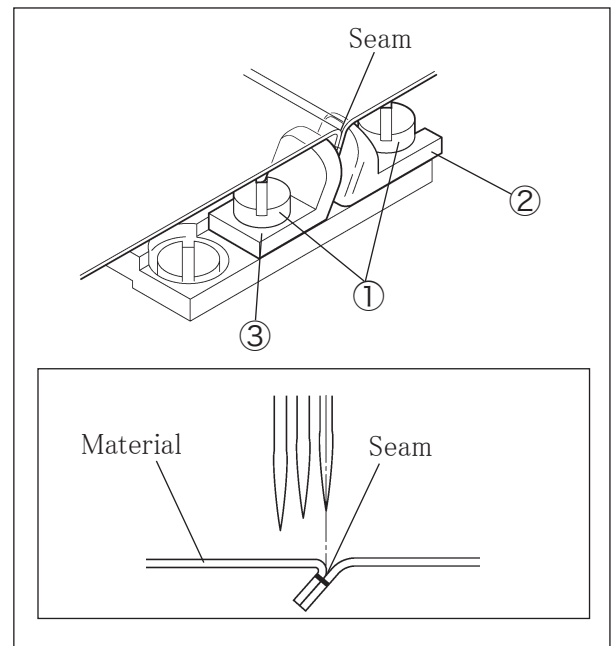


Fig. 5-13

For covering seam

- (1) Loosen the screws ④ of the fabric guide.
- (2) Open the material seam and locate the material seam at the center of the needle distance. Adjust the clearance between the fabric guide (right) ⑤ and the fabric guide (left) ⑥ to feed the material smoothly.
- (3) Tighten the screws ④.

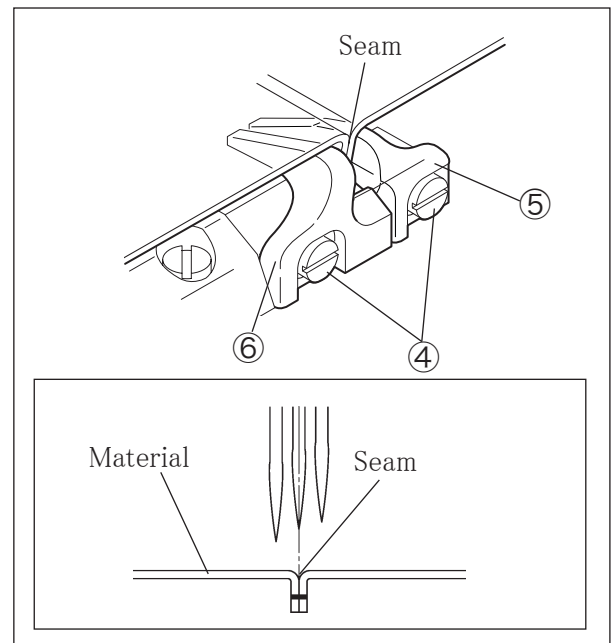


Fig. 5-14

5.10 Pressure of the walking presser foot (VE2711-8F-WF1)



The walking presser foot can prevent ply shift between upper and lower materials in hemming operation. It also can feed materials smoothly even if running at high speed of 4500 sti/min or over.

Loosen the screw ① and turn the nut ② to adjust the pressure.

- If an upper material is fed too much, turn the nut ② counterclockwise to decrease the pressure.
- If a lower material is fed too much, turn the nut ② clockwise to increase the pressure.

After adjusting, turn the screw ① clockwise and tighten the nut ② securely.

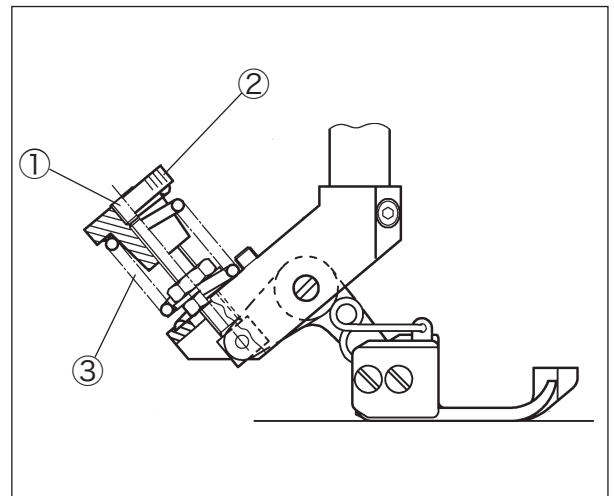


Fig. 5-15

Supplement

Too high pressure of the walking presser foot ③ may cause ply shift.

5.11 Adjusting the fabric edge guide (VE2711-8, -8F, VE2740PR-8F)



- (1) Loosen the screws ④⑤ of the fabric edge guide.
- (2) Align the fabric edge guide (right) ⑥ and (left) ⑦ with the material end depending on hem width.
- (3) Tighten the screws ④⑤ securely.

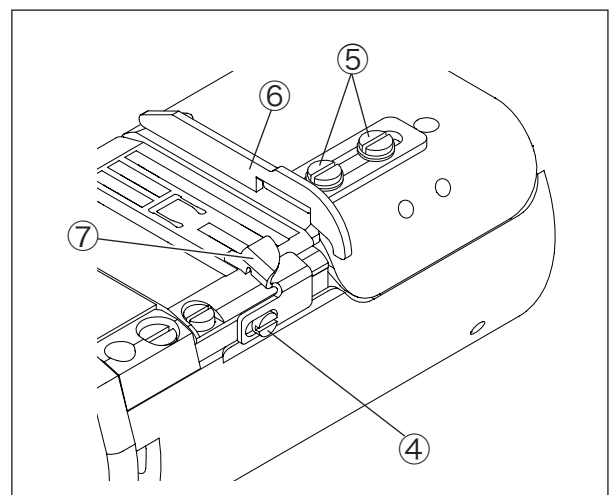


Fig. 5-16

5.12 Raising the upper feed roller (VE2740PR-8F)



To pull out a jamming material, raise the upper feed roller ① by raising the upper feed roller lifting lever ②.

The upper feed roller ① can be kept at the raised position by moving the upper feed roller lifting lever ② to the right above.

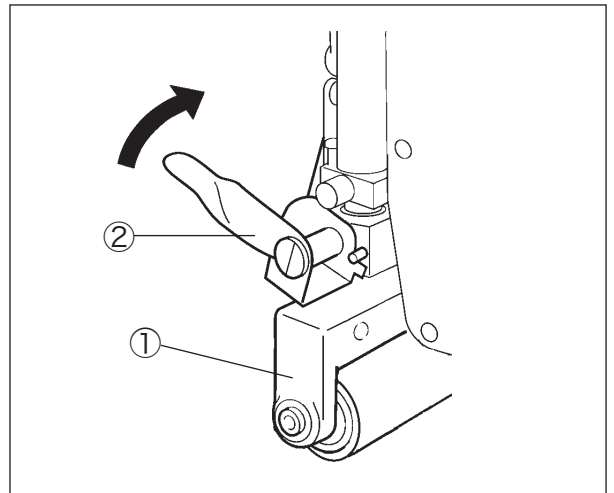


Fig. 5-17

5.13 Pressure of the upper feed roller (VE2740PR-8F)



Adjust the pressure of the upper feed roller as low as possible to feed a material with the upper and lower feed rollers.

Turn the adjusting screw ③ to adjust it.

- To increase the pressure, turn it clockwise.
- To decrease the pressure, turn it counterclockwise.

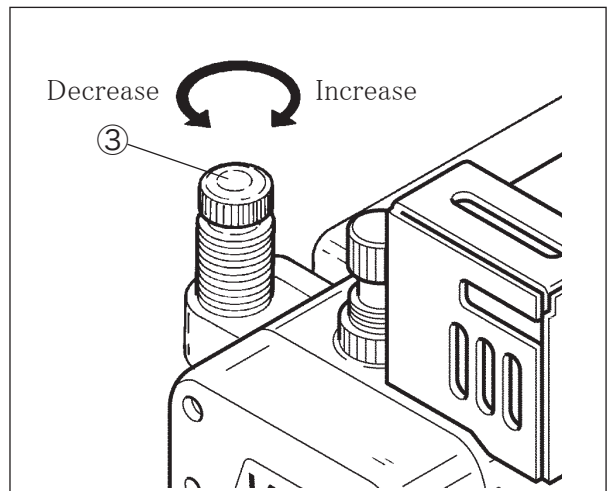


Fig. 5-18

5.14 SP device

Use the SP device (for needle thread oiling) equipped as standard to prevent thread breakage, skip stitch and larger needle hole on material when running a machine at high speed or using synthetic thread and/or synthetic material. Use dimethyl silicon oil.

! Open the lid ① of the SP container to check the oil level. Supply oil when needed.

CAUTION

1. When not using the SP device, remove the felts ②. If not removed, it may cause sewing trouble.
2. If silicone oil is attached to the parts other than the SP devices, be sure to wipe it away. If not, it can cause machine trouble.

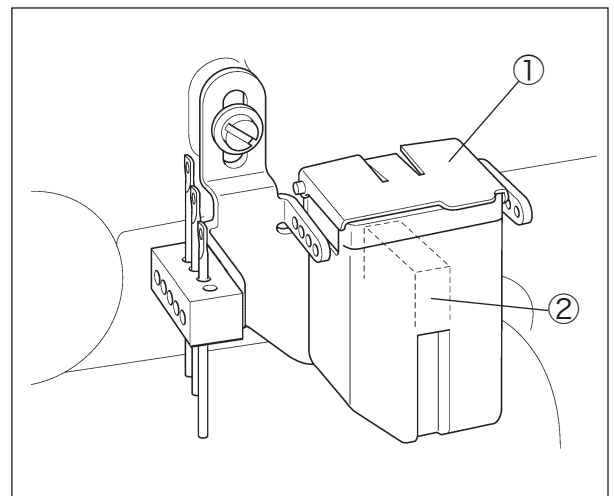


Fig. 5-19

5.15 Cleaning the machine



⚠ CAUTION



Before performing this work, ALWAYS turn the motor switch OFF and check that the motor has already stopped.

The sewing machine should be cleaned at the end of every working day.

Grooves of the stitch plate and the area around the feed dogs, the looper thread take-up and the oil filter screen should be cleaned once a week.

i ADVICE

If the oil filter screen is clogged with dust, oil in the cylinder does not return to the oil reservoir. It can cause oil leakage.

Clogged dust can cause breakage to parts and oil leakage.

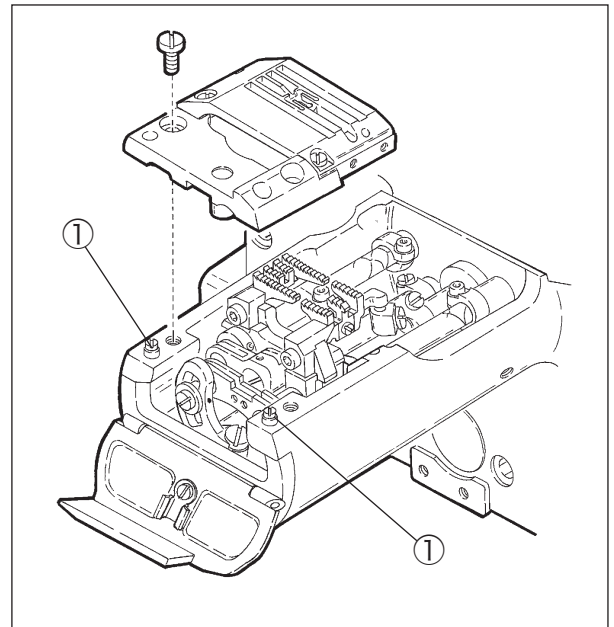


Fig. 5-20

Checking at sewing factory (maintenance by technician)

Daily maintenance

- (1) Before operation, remove the machine cover and tighten a slack in threads. Check that the thread hanger is right above the spool seat discs of the thread stands (the thread stands should be fixed securely).
- (2) Check the lubricating and silicone oil amount. Supply them if necessary.
- (3) Check the order of threads.
- (4) Check bend, damage to tips, and the installing positions of needles respectively.
- (5) Check the sharpness of knives.
- (6) Check the seam by sewing a material for test.
 - ◆ Stitch length, differential feeding
 - ◆ Adjusting thread tension
- (7) Check that the seal plug is surely attached.

Weekly maintenance

- (1) On weekends, clean the machine carefully after removing the presser foot and the stitch plate.
- (2) Check the tension of the V-belt.
- (3) Check and supply lubricating oil.
- (4) Check if oil is oozing due to looseness of the seal plug and change it if necessary.

! ATTENTION



Do not loosen the positioning bushing screws (yellow) ①. It may cause position shifting of the stitch plate and damage to the needles.

i NOTICE

When using an air gun, keep the products away from dust or waste threads.

6. Adjustments

⚠ CAUTION



Before performing this work, ALWAYS turn the power switch OFF and check that the motor has already stopped.

6.1 Needle thread tension

Needle thread take-up

How to adjust

- (1) Loosen the screws ②③.
 - To tighten the needle thread tension, move the needle thread take-up ① to the direction **T**.
 - To loosen the needle thread tension, move the needle thread take-up ① to the direction **L**.
- (2) Tighten the screws ②③ securely.

As standard, make the distance between the needle thread take-up ① and the center of the left screw ② to 34.5 mm, and set the part **a** horizontally when the needle bar is at the lowest point.

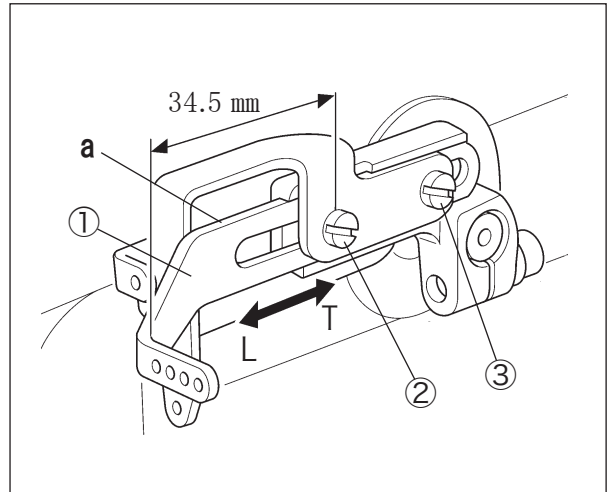


Fig. 6-1

Needle thread eyelet

When above adjustment is not enough or to adjust each needle thread respectively, move the needle thread eyelets.

How to adjust

- (1) Loosen the screws ⑤.
 - To tighten the needle thread tension, move the needle thread eyelets ④ to the direction **T**.
 - To loosen the needle thread tension, move the needle thread eyelets ④ to the direction **L**.
- (2) Tighten the screws ⑤ securely.

The standard distance between the needle thread eyelet holder ⑥ and the eye of each needle thread eyelet ④ is shown below.

- Left needle: 25 mm
- Middle needle: 17.5 mm
- Right needle: 10 mm

How to adjust all needle thread eyelets together

- (1) Loosen the screw ⑦.
 - To tighten the needle thread tension, move the SP device ⑧ to the direction **T**.
 - To loosen the needle thread tension, move the SP device ⑧ to the direction **L**.
- (2) Tighten the screw ⑦ securely.

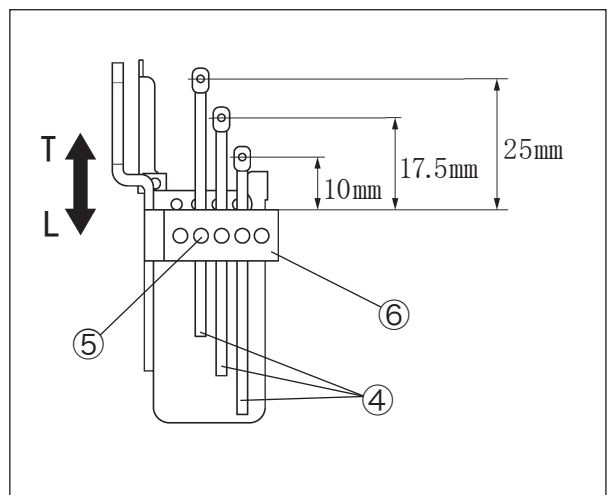


Fig. 6-2

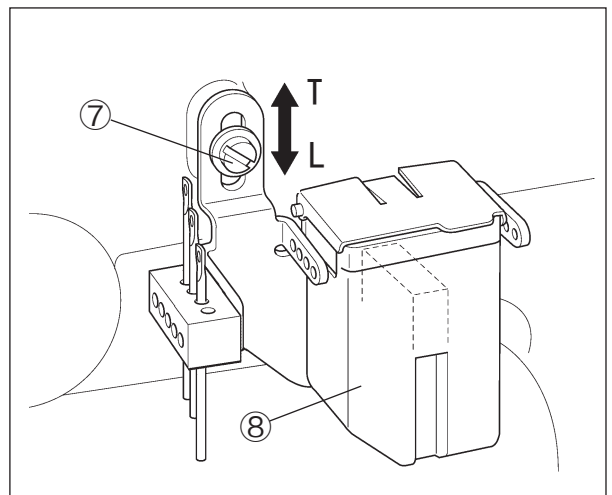


Fig. 6-3

As standard, set the SP device at the highest point.

6. Adjustments

Some kinds of thread may cause skip stitch because a loop cannot be formed well and the looper fails to catch the needle thread.

In this case, thread the needle thread through the needle thread retainer disc ② of the needle thread retainer support (No. 3103000) ①.

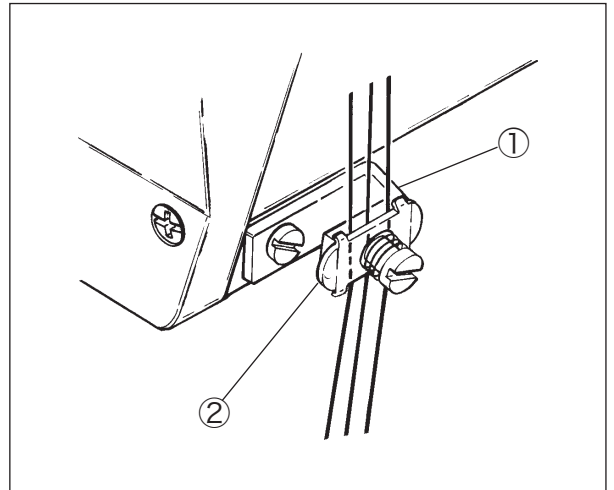


Fig. 6-4

Use the needle thread guide when the needle thread does not form a loop stably with stretchable thread like woolly thread.

As standard, when the needle bar is at the lowest point, align the center of the eye of the needle bar thread eyelet ③ with the top of the needle thread guide ④ and make them parallel.

Loosen the screw ⑤ to adjust the height and the right-and-left position of the needle thread guide ④.

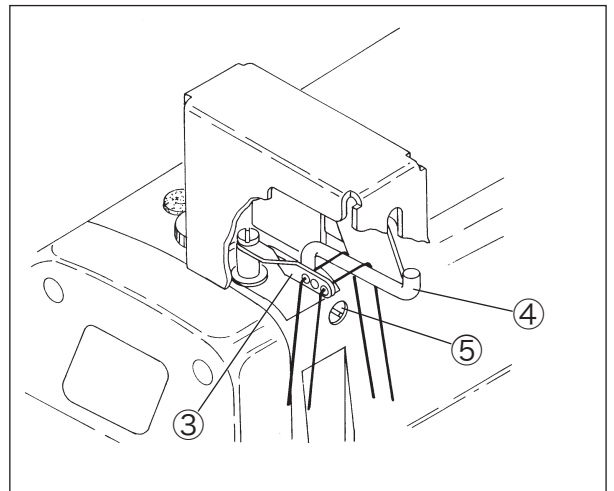


Fig. 6-5

6.2 Top cover thread tension

Loosen the screws ⑥ and move the top cover thread eyelet (left) ⑦ to adjust it.

- To decrease the take-up amount, turn the top cover thread eyelet (left) ⑦ in the direction T.
- To increase the take-up amount, turn the top cover thread eyelet (left) ⑦ in the direction L.

At the standard position, the part **a** of the top cover thread eyelet (left) ⑦ is horizontal.

When using stretchable thread for top cover thread, turn the top cover thread eyelet (left) ⑦ in the direction L.

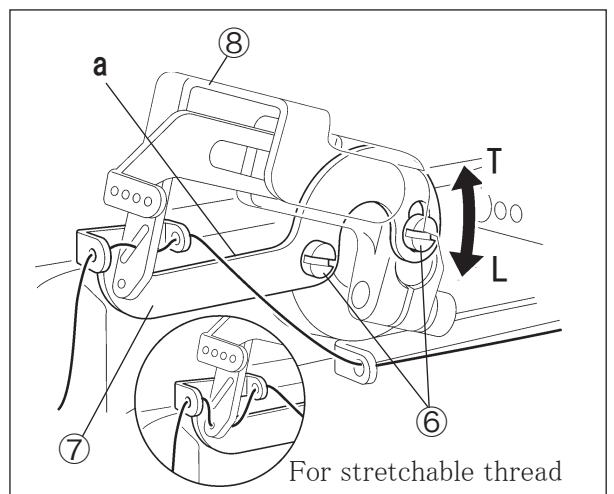


Fig. 6-6

Note: When using stretchable thread, thread the top cover thread through the lower eye of the top cover thread take-up ⑧.

6.3 Looper thread tension

6.3.1 Looper thread tension

As standard, align the eyes of the thread take-up eyelets ③④ with the mark ② of the cast-off plate ①. Loosen the screws ⑤ and adjust the looper thread tension by moving the thread take-up eyelets ③④.

- To increase the take-up amount, move the thread take-up eyelets ③④ toward the operator.
- To decrease the take-up amount, move the thread take-up eyelets ③④ backward.

ADVICE

Do not increase the take-up amount too much. It may cause skip stitch.

For stretchable thread

Pull the thread take-up eyelets ③④ fully toward the operator.

Do not thread the looper thread through the supplementary tension disc ⑥.

6.3.2 Position of the looper thread take-up

The looper thread take-up ⑦ viewed from the needle bar is shown in Fig. 6-10.

Loosen the screws ⑧ and adjust so that the looper thread comes off from the highest point of the looper thread take-up ⑦ when the needles are lowered from the highest point and the left needle reaches half the height of the looper.

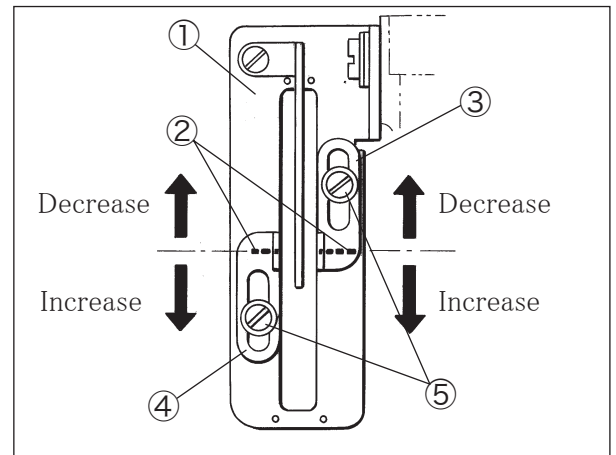


Fig. 6-7

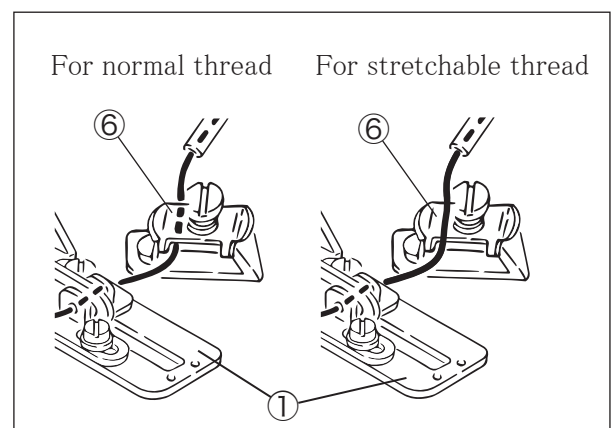


Fig. 6-8

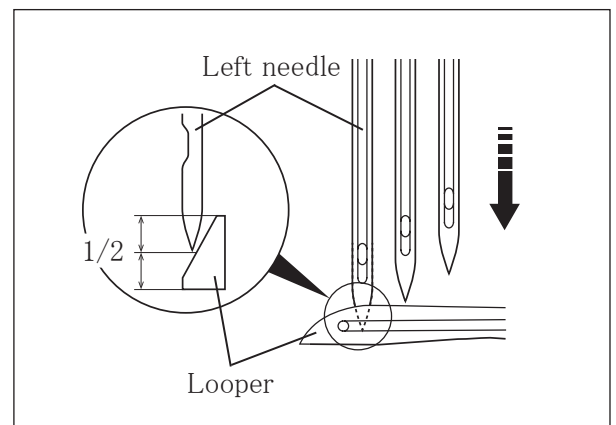


Fig. 6-9

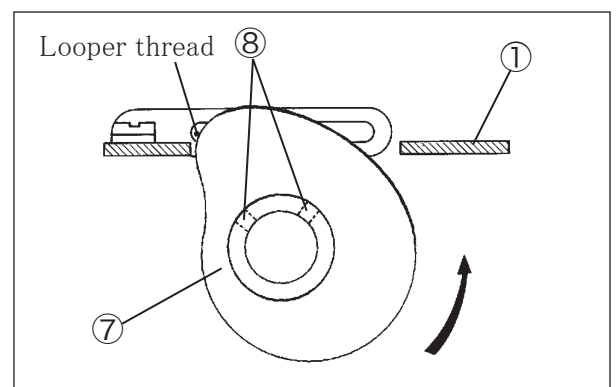


Fig. 6-10

6.4 Relation between the needle and the spreader

6.4.1 Spreader

- (1) Loosen the screw ③ of the spreader and the screw ④ of the spreader holder. (Fig. 6-12)
- (2) Make the clearance between the left needle and the hook ② of the spreader ① 0.5 to 0.8 mm. (Fig. 6-11)
- (3) Make the clearance between the center of the left needle and the hook ② 4.5 to 5.5 mm when the spreader ① is at the extreme left. Then tighten the screw ④ securely. (Figs. 6-11, 6-12)
- (4) Make the distance between the surface of the stitch plate and the bottom of the spreader ① as in Figs. 6-13, 6-14. Then tighten the screw ③ securely.

ADVICE

Adjust the height of the spreader ① so that the top cover thread can pass behind the right needle and be caught by the left needle within the adjustable range according to the needle distance.

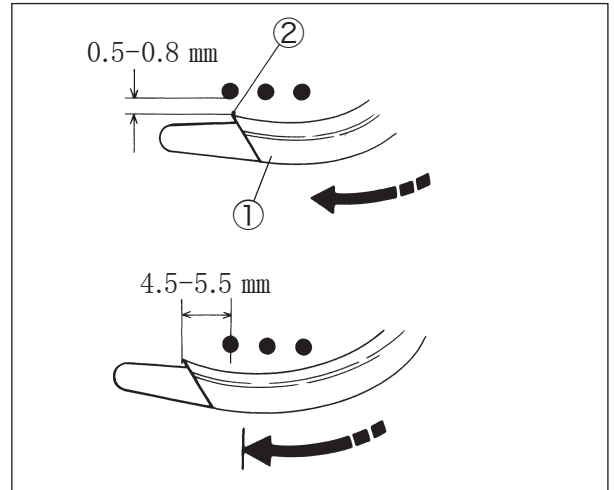


Fig. 6-11

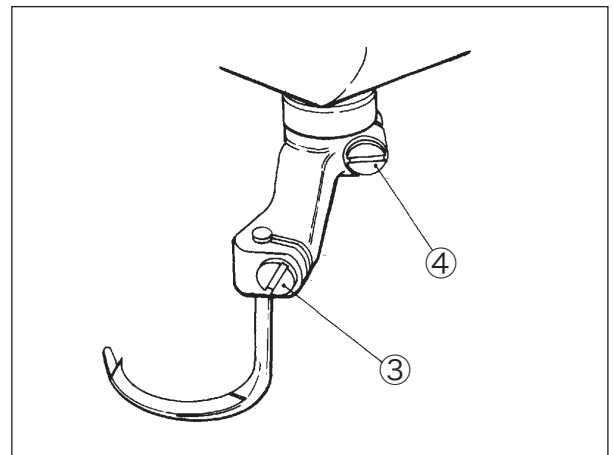


Fig. 6-12

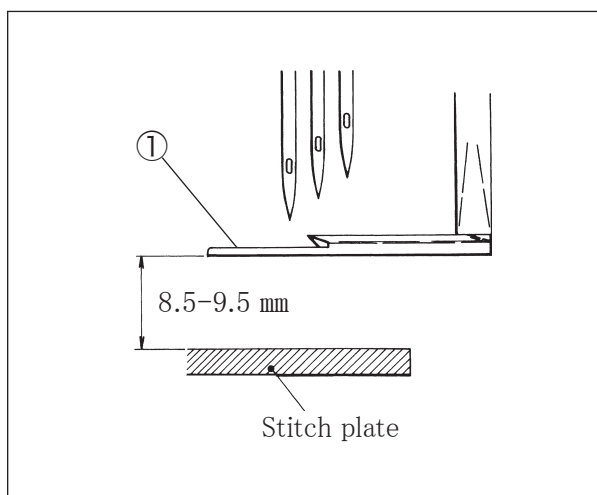


Fig. 6-13 VE2700-8 class
(except for VE2711-1-8)

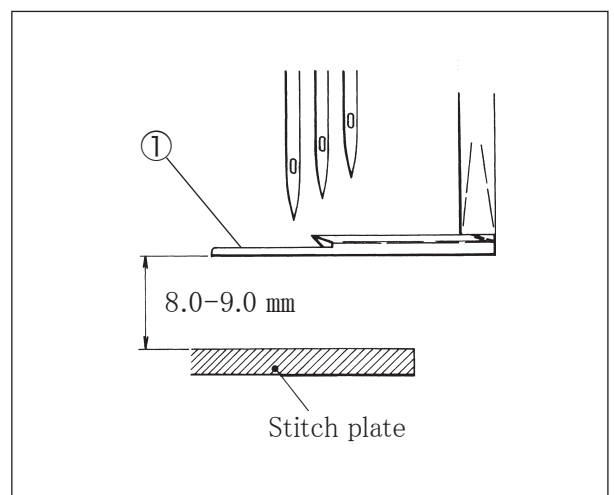


Fig. 6-14 VE2711-1-8

6.4.2 Top cover thread guide

- (1) Loosen the screws ② of the top cover thread guide ①. (Fig. 6-15)
- (2) Adjust the clearance between the top surface of the spreader ③ and the bottom of the top cover thread guide ① to 0.5 mm. (Fig. 6-15)
- (3) When the spreader ③ is at the extreme right, adjust the top cover thread guide ①'s position so that the center of slot of the top cover thread guide ① is at the tip ④ of the hook. Tighten the screws ② securely. (Figs. 6-15, 6-16)

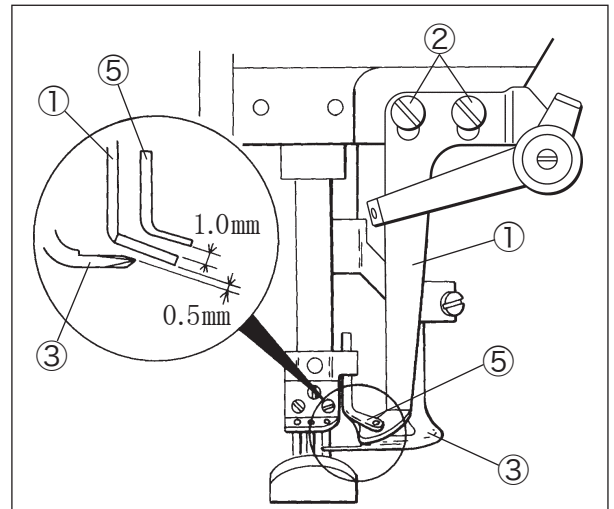


Fig. 6-15

6.4.3 Top cover thread eyelet

- (1) Loosen the screw ⑥ of the top cover thread eyelet ⑤. (Fig. 6-16)
- (2) Adjust the clearance between the top of the top cover thread guide ① and the top cover thread eyelet ⑤ to 1.0 mm when the needle bar is at the lowest point. (Fig. 6-15)
- (3) Set the eye of the top cover thread eyelet ⑤ on the extended line from the slot of the top cover thread guide ①. (Fig. 6-16)
- (4) Tighten the screw ⑥ securely. (Fig. 6-16)

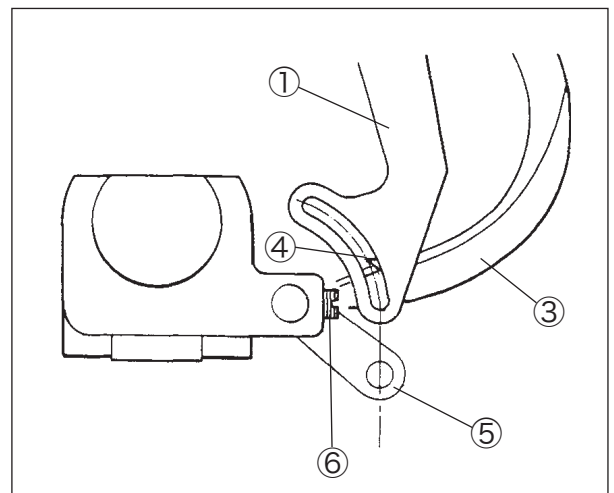


Fig. 6-16

6. Adjustments

6.5 Distance between the needle and the looper

The distance **L** between the looper tip and the center of the right needle differs according to the needle distance when the needles are at the lowest points and the looper ① is at the extreme right.

Refer to Table 5 and loosen the screw ② of the looper holder to adjust the distance.

i SUPPLEMENT

The distance between the center of the needle bar and the looper ① tip is 6.0 mm regardless of the needle distance.

Needle distance(mark)	Gauge mark	Looper's distance (L)
3.2 mm (32)	A	4.4 mm
4.0 mm (40)	B	4.0 mm
4.8 mm (48)	C	3.6 mm
5.6 mm (56)	D	3.2 mm
6.4 mm (64)	E	2.8 mm

Table 5

The distance **L** can be adjusted easily by using the timing gauge (No. 95220).

The gauge is a special order part. Place an order with our agents or directly with us, if needed.

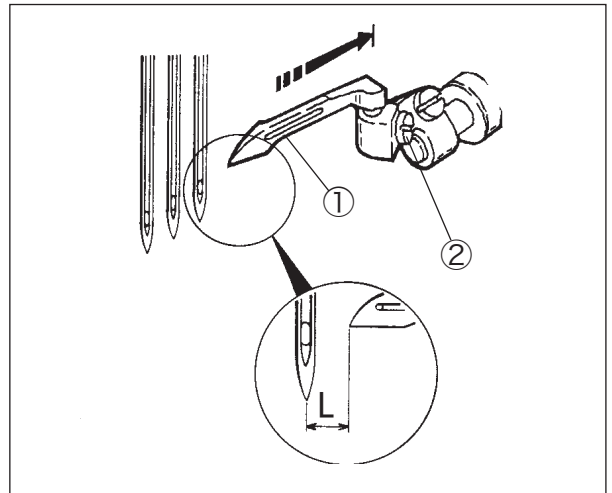


Fig. 6-17

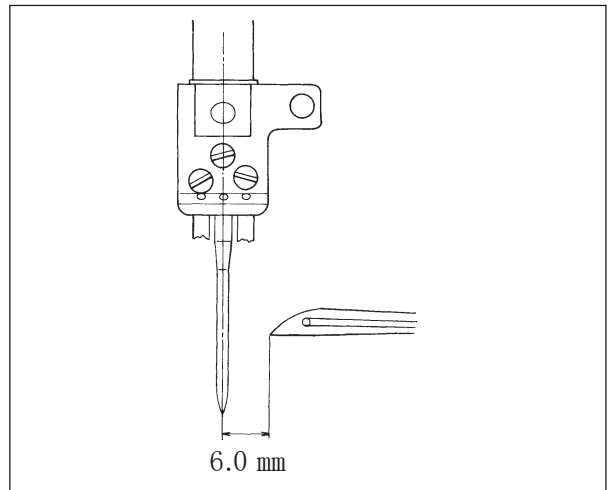


Fig. 6-18

6.6 Using the timing gauge

The gauge has the marks (A, B, C, D, E) for each needle distance.

Move the looper to the extreme right. Keep fitting the right needle into the V-shaped groove according to the needle distance, and fit the looper tip to the gauge. Then, tighten the screw ② securely.

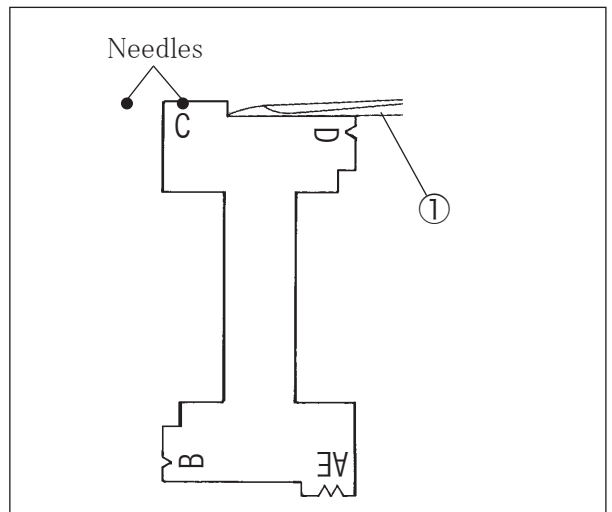


Fig. 6-19

6.7 Height of the needle

- (1) Install the needle into the left hole of the needle clamp.
- (2) Make sure the looper has been inserted into the looper holder fully.
- (3) When the looper moves to the left from the right, turn the handwheel until the looper tip meets the center of the left needle.
- (4) Loosen the screw ① of the needle bar bracket and move the needle bar up and down. Make the looper tip pass 0.8 to 1.3 mm above the top of the needle eye.
- (5) Tighten the screw ① securely. Make sure that the needle drops in the center of the needle holes on the stitch plate.

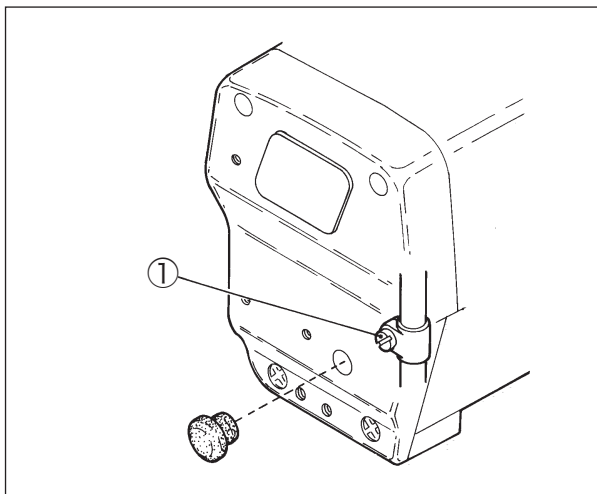


Fig. 6-21

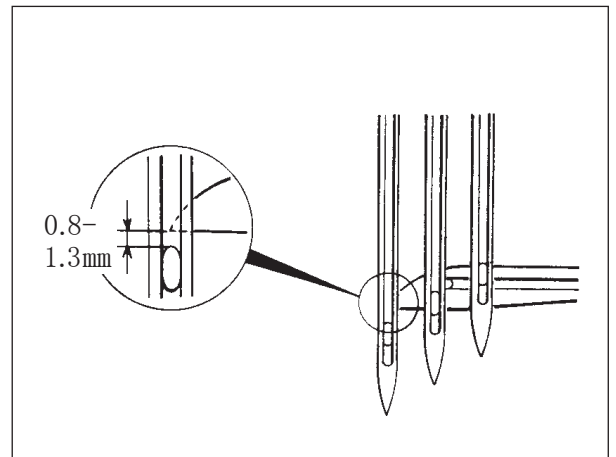


Fig. 6-20

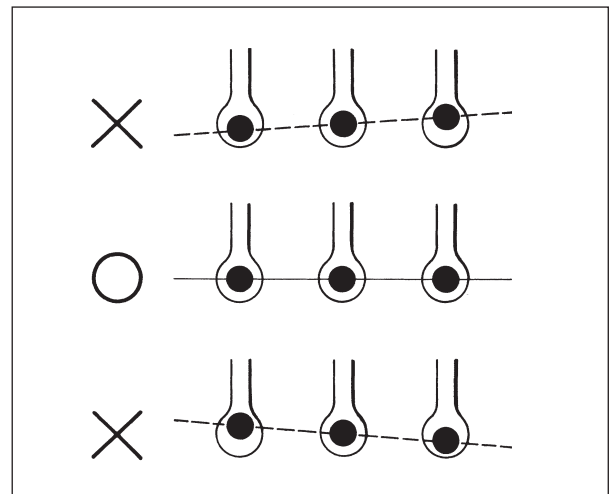


Fig. 6-22

6.8 Back-and-forth position of the needle and the looper

- (1) Turn the handwheel until the looper tip ④ meets the center of the left needle ⑤.
- (2) Loosen the screw ③ and move the looper holder back or forth. Adjust the clearance between the back of the left needle ⑤ and the looper tip to 0.2 to 0.3 mm. Then, tighten the screw ③ securely.

! ATTENTION

When tightening the screw ③, the back-and-forth position of the looper may be shifted. Recheck the position after tightening it.

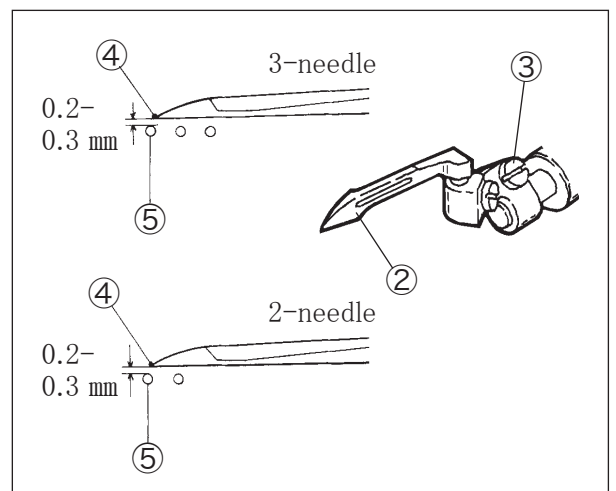


Fig. 6-23

6.9 Needle and needle guard

6.9.1 Needle guard (rear)

Height of the needle guard (rear) (standard)

When the needle bar is at the lowest point, align the line ② of the needle guard (rear) ① with the center of the needle eye of the right needle ③. (Fig. 6-24)

For VE2711-1-8, when the needle bar is at the lowest point, align the line ② of the needle guard (rear) ① with the bottom of the needle eye of the right needle ③. (Fig. 6-25)

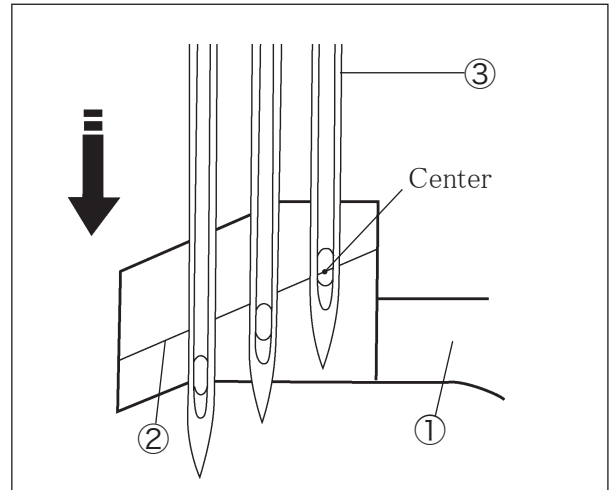


Fig. 6-24 VE2700-8 class
(except for VE2711-1-8)

Back-and-forth position of the needle guard (rear)

- (1) Loosen the screws ④⑤. (Fig. 6-27)
- (2) When the looper tip meets the center of the right needle, push the right needle with the needle guard (rear) ① and adjust the clearance between the looper and the right needle to 0 to 0.05 mm. At the same time, adjust the clearance between the needle guard (rear) ① and the left needle to 0 to 0.05 mm. (Fig. 6-26)
- (3) Tighten the screws ④⑤ securely.

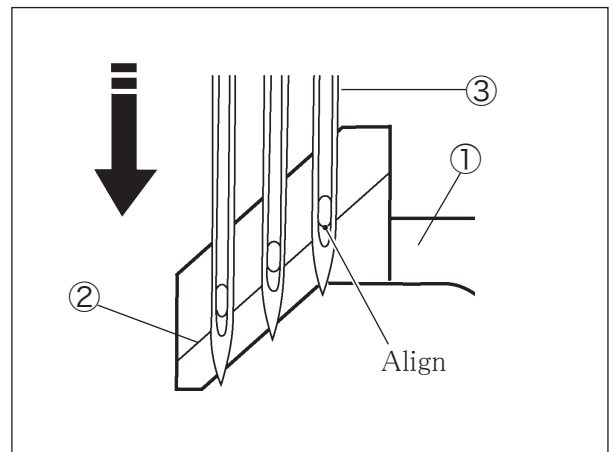


Fig. 6-25 VE2711-1-8

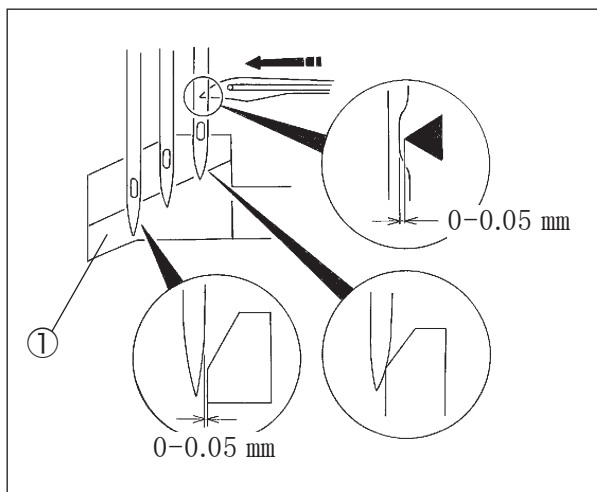


Fig. 6-26

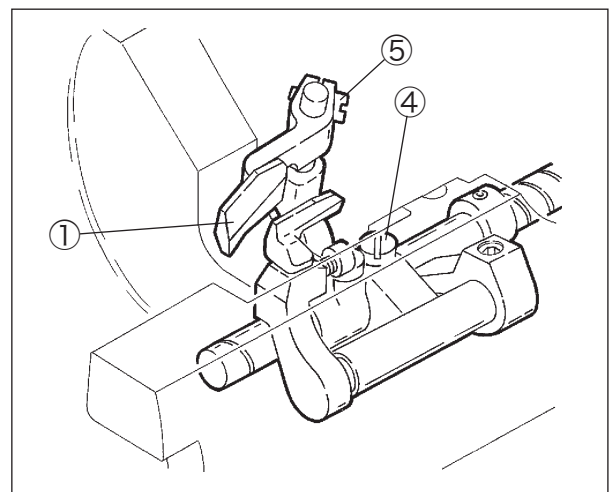


Fig. 6-27

6.9.2 Needle guard (front)

- (1) Loosen the screws ②③. (Fig. 6-29)
- (2) Turn the handwheel clockwise until the looper tip comes to the center of the left needle. Adjust the height of the needle guard (front) ① so that the corner of the needle guard (front) ① is 1.5 to 2.0 mm above the needle tips. (Fig. 6-28)
- (3) Adjust the clearance between the needle guard (front) ① and the right needle or the left needle to 0 to 0.3 mm respectively. (Fig. 6-30)
- (4) Tighten the screws ②③ securely.

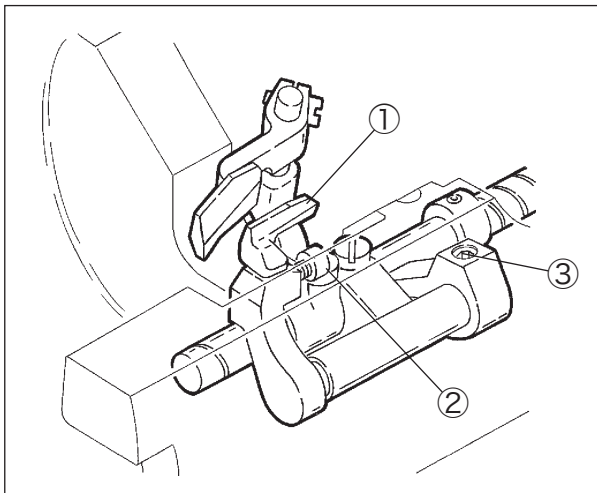


Fig. 6-29

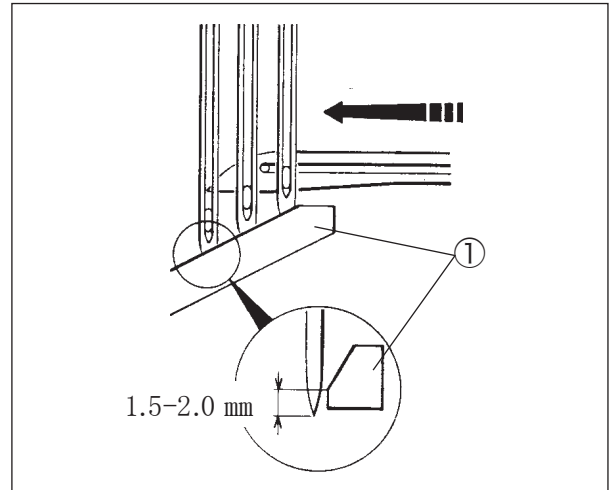


Fig. 6-28

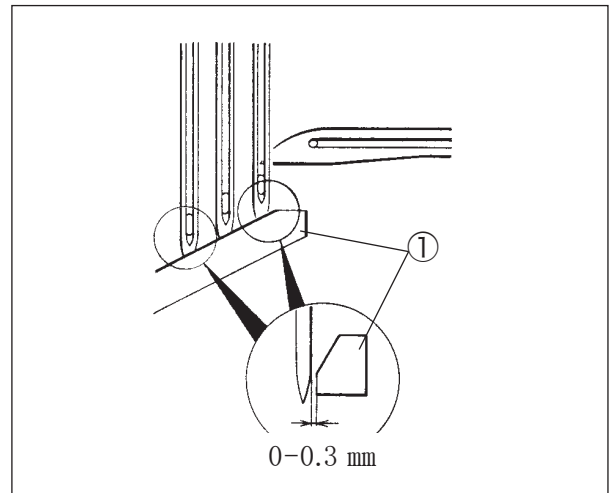


Fig. 6-30

6.10 Height of the feed dog

When the feed dogs are at the highest points, the tops of the feed dogs and the top of the stitch plate are parallel.

- (1) Loosen the screws ③④.
- (2) When the feed dogs are at the highest points, adjust the differential feed dog ① and the main feed dog ② to the same height.
- (3) Adjust the height from the top of the stitch plate to the tops of the differential feed dog ① and the main feed dog ② to 1.0 to 1.2 mm
- (4) Tighten the screws ③④ securely.

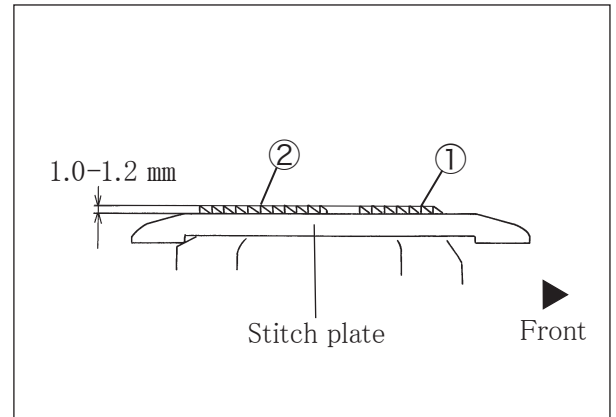


Fig. 6-31

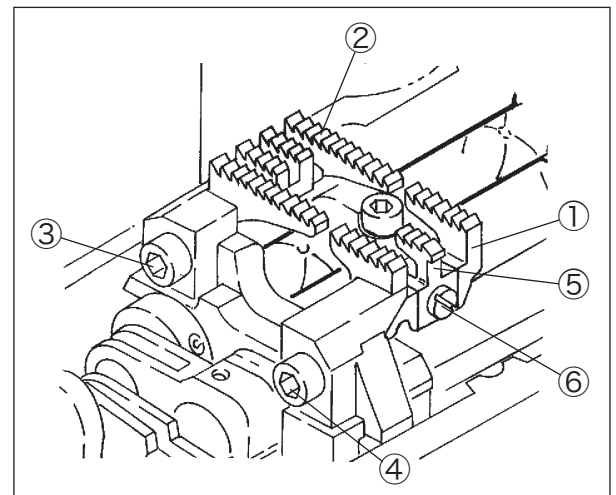


Fig. 6-32

Differential feed dog (middle)

Loosen the screw ⑥ to adjust the differential feed dog (middle) ⑤.

The standard height is 1.0 mm below the differential feed dog ①. (Fig. 6-33)

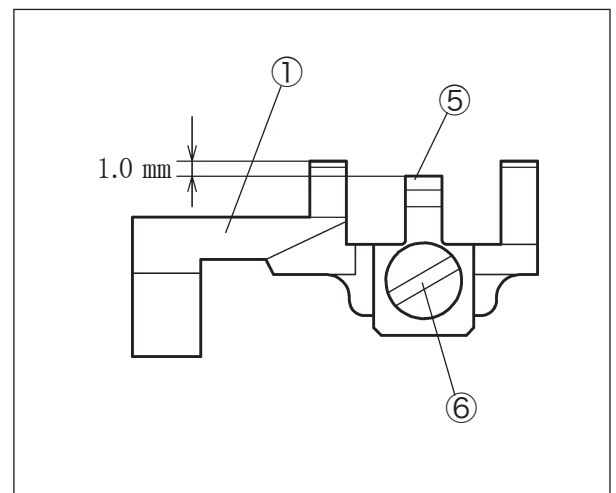


Fig. 6-33

6.11 Removing the presser foot and presser foot lift

The presser foot lift for the needle distance of 5.6 mm is as follows:

- with spreader: 5.0 mm
- without spreader: 7.0 mm

Removing the presser foot

- (1) Loosen the screws ② of the lifter lever stop ① and the screws ⑤ of the collar ④.
- (2) Loosen the screw ⑦ of the presser foot.
- (3) Lower the lifter lever ③ and remove the presser foot ⑧.

Adjusting the height of the presser foot

- (1) Lower the lifter lever ③ to adjust the clearance between the top of the stitch plate and the bottom of the presser foot to 5.0 mm (7.0 mm).
- (2) Apply the lifter lever stop ① to the pin ⑨ and tighten the screws ②.
- (3) Adjust the clearance between the bottom of the presser bar bushing ⑥ and the collar ④ to 0.2 mm.
- (4) Tighten the screws ⑤ securely.

After adjustment, push down the lifter lever ③ fully and check the height of the presser foot.

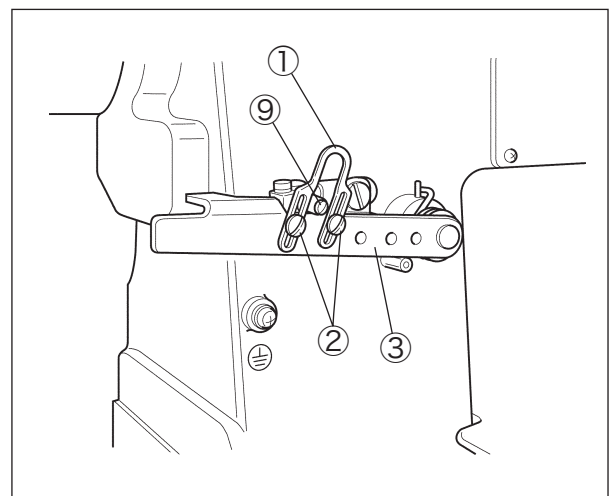


Fig. 6-34

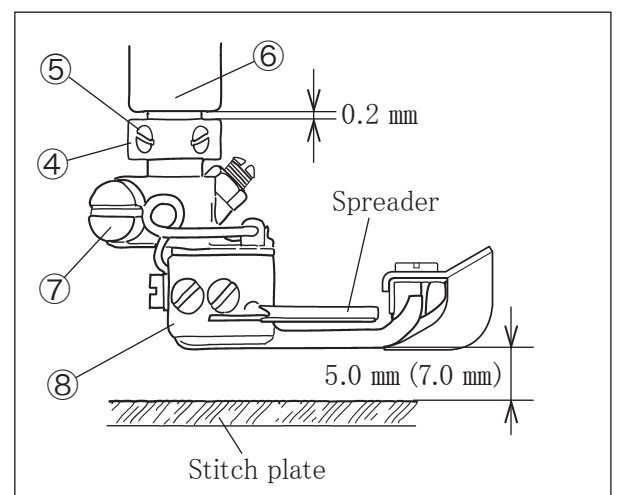


Fig. 6-35 For the needle distance of 5.6 mm

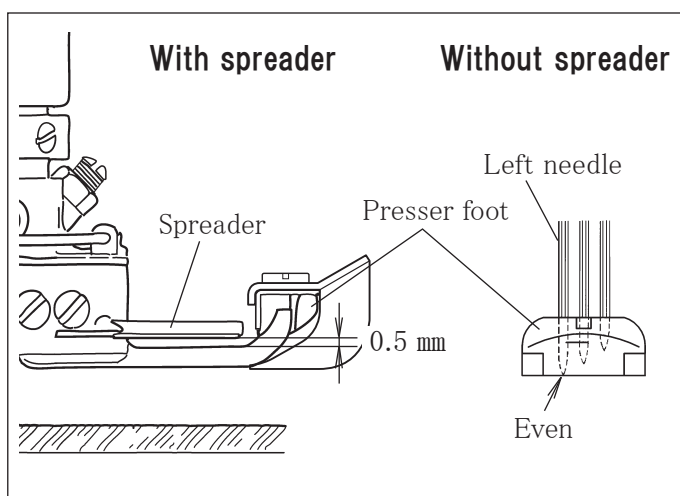


Fig. 6-36 For the needle distance except of 5.6 mm

When the needle distance is not 5.6 mm, adjust the presser foot lift referring to that for the needle distance of 5.6 mm as standard. (Fig. 6-36) For a model with the spreader, adjust the presser foot lift to make a clearance of 0.5 mm is made between the spreader and the presser foot in a horizontal state.

For a model without the spreader, adjust the presser foot lift so that the tip of the left needle at the highest point does not protrude from the bottom of the presser foot in a horizontal state.

6. Adjustments

6.12 Toeing up and down the presser foot

○ Toeing up and down the presser foot (Standard)

The presser foot can be toed up and down between 0° and 5° . (Fig. 6-37A)

○ Toeing up the presser foot

Loosen the screw ①.

- To decrease the amount of toeing down of the presser foot, turn the screw ② clockwise.
- To increase the amount of toeing down of the presser foot, turn the screw ② counterclockwise.

After adjustment, tighten the screw ①.

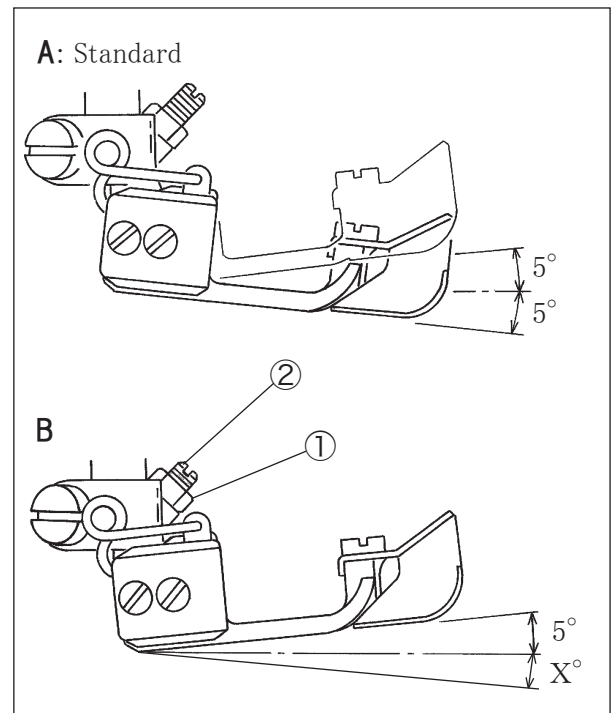


Fig. 6-37

6.13 Adjusting the walking presser foot (VE2711-8F-WF1)

Correct balance between the presser bar spring ① and the walking presser foot spring ② is required for the walking presser foot to operate properly.

- (1) Adjust the height of the walking presser foot spring ② to 20 mm. Refer to “5.10 Pressure of the walking presser foot”.
- (2) Remove the head cover.
- (3) Loosen the adjusting screw ⑤ to set the presser bar connecting bracket ③ at 2.7 mm below the top of the presser bar ④.
- (4) Tighten the screw ⑦ of the presser bar stopper ⑥ in the center of the slot slightly.
- (5) Adjust the height from the top of the arm to the top of the presser spring regulator ⑧ to 11 mm. (With standard presser spring regulator ⑬ #77270: 33 mm)
- (6) Check the bottom of the presser foot touches the stitch plate closely when the feed dog lowers under the stitch plate.
If not closely, readjust (3) to (5).
- (7) Turn the handwheel clockwise to raise the needle to the highest point. Place two materials to be sewn under the presser foot.
- (8) Lower the needle tip until just before the material. Loosen the screw ⑦ to adjust the height of the presser bar stopper ⑥ so that the center of the needle is aligned with that of the mark **a**.
- (9) Check only the bottom ⑩ of the presser foot synchronizes up and down with the feed dog.
If not synchronized or the whole presser foot moves, readjust it.
- (10) Raise the needle to the highest point. Set the bottom of the presser foot so that it moves about 1 mm backward when raising the presser foot.
Turn the adjusting screw ⑨ to adjust it.
 - To move forward, turn it clockwise.
 - To move backward, turn it counterclockwise.

Reference: The standard distance from the bottom of the washer ⑪ to the hinge pin ⑫ is 9.7 mm. Adjust it with the screw ⑨.

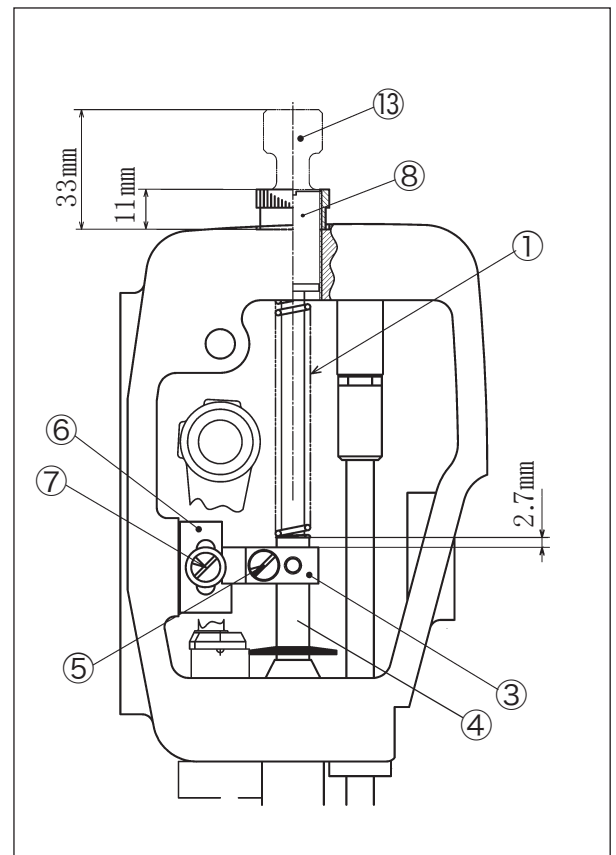


Fig. 6-38

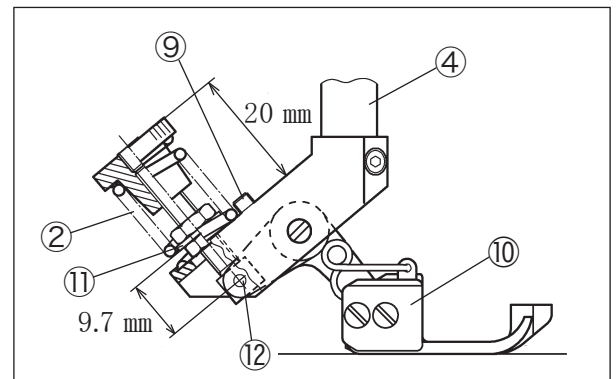


Fig. 6-39

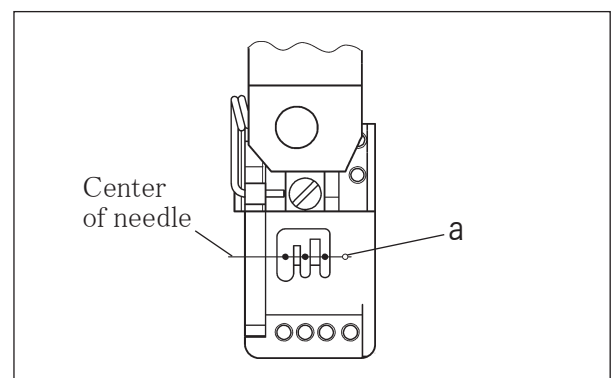


Fig. 6-40

6. Adjustments

6.14 Feeding amount of the puller (VE2740PR-8F)

- (1) Remove the top cover seal plug ①.
- (2) Turn the handwheel until the screw ② of the upper feed roller regulator comes to the right above.
Loosen the screw ② with a hexagon socket screwdriver.
- (3) Turn the handwheel until the adjusting screw ③ comes to the right above. (Fig. 6-41)
- (4) Turn the adjusting screw ③ to adjust the feeding amount.
 - To decrease the amount, turn it clockwise.
 - To increase the amount, turn it counterclockwise.
- (5) Tighten the screw ② securely with a tightening torque of 2.5 N·m.

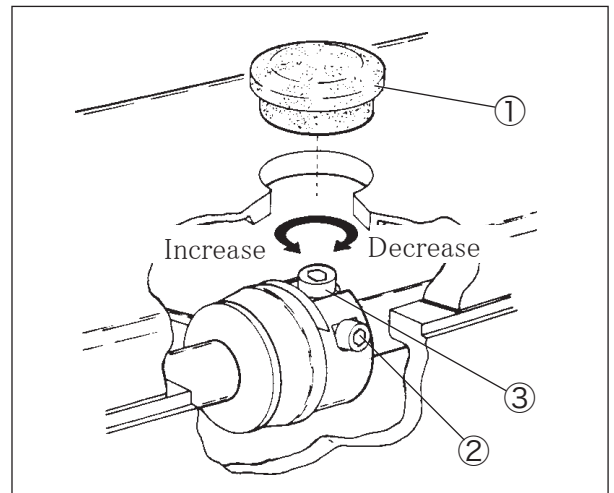


Fig. 6-41

To make fine adjustment, loosen the nut ⑥ of the upper feed roller lever rod ⑤ for the upper feed roller lever ④. And move the screw ⑥ up or down to adjust it.

- To decrease the amount, raise it.
- To increase the amount, lower it.

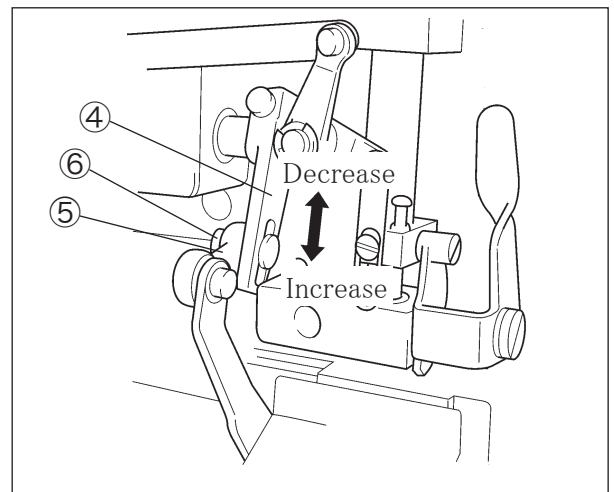


Fig. 6-42

6.15 Pressure of the clutch tension spring (VE2740PR-8F)

- (1) Loosen the two screws ⑧ to tighten the collar ⑦ slightly.
- (2) Turn the adjusting screw ⑨ to adjust the pressure of the clutch tension spring ⑩.
 - To increase the pressure, turn it clockwise.
 - To decrease the pressure, turn it counterclockwise.

Adjust the pressure so that the spring ⑩ can be turned by pushing with a finger.

- (3) Tighten the two screws ⑧ securely.

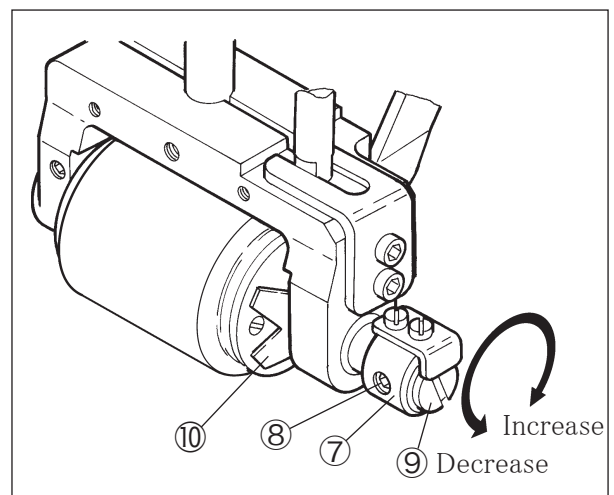


Fig. 6-43

7. Specifications

Model	VE2711-1-8	VE2711-2-8F	VE2713-2-8F	VE2740PR-1-8F	VE2740PR-2-8F
Description	High speed small cylinder bed 3-needle (2-needle) interlock stitch machine for hemming		High speed small cylinder bed 3-needle (2-needle) interlock stitch machine for covering	High speed small cylinder bed 3-needle interlock stitch machine with puller for lace attachment	
Dimensions	445 mm (L) × 270 mm (W) × 405 mm (H)			445 mm (L) × 320 mm (W) × 405 mm (H)	
Circumference of Cylinder	180 mm			233 mm (including lower feed roller) 243 mm (including lower feed roller, supplementary roller)	
Weight	39 kg			45 kg	
Stitch Type	ISO 406, 407, 602, 605				
Application	Hemming operation for knitted material		Covering operation for knitted material	Attaching elastic lace for panty hose etc.	
Sewing Speed	Up to 4500sti/min (during intermittent operation)*				
Stitch Length	1.4-4.2 mm Number of stitches per inch (25.4 mm): 6-18 stitches per 30 mm: 7-21 stitches				
Needle System	UY × 128GAS #10-14 (Standard #10)		UY × 128GAS #10-14 (Standard #11)	UY × 128GAS #9-14	
Needle Distance	3-needle: 4.8 mm, 5.6 mm, 6.4 mm (2-needle: 4.0 mm)			3-needle: 4.8 mm, 5.6 mm, 6.4 mm	
Needle Stroke	31 mm	33 mm		31 mm	33 mm
Presser Foot Lift	For needle distance of 5.6 mm (Presser foot (lower) in horizontal state) with spreader: 5.0 mm, without spreader: 7.0 mm				
Feed Regulation	Lever type (or adjusting knob)				
Differential Ratio	1:0.8-1:1.4 (Standard)				
Differential Feed Regulation	Lever type (adjustable with a screwdriver)				
Lubrication	Automatic lubrication by trochoid-shaped pump (in combination with splash lubrication)				
Lubricating Oil	YAMATO SF OIL 28				
Capacity of Oil Reservoir	800 ml				
Installation	Table top type or semi-submerged type (exclusive supporting board is necessary)				
Compliance With Regulation	Machinery directive, RoHS directive, Packing and packing waste directive				
Noise Declaration	L _{pA} = 74.3 dB (A) (4500 sti/min) Standard complied with: ISO 10821-C6.2, ISO 11204 GR2				

*Intermittent operation: Actual running time is less than 75% of operation time per 1 cycle. If actual running time is over 75% of operation time per 1 cycle, run a machine at 10% lower than the maximum sewing speed.

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