

SEIKO

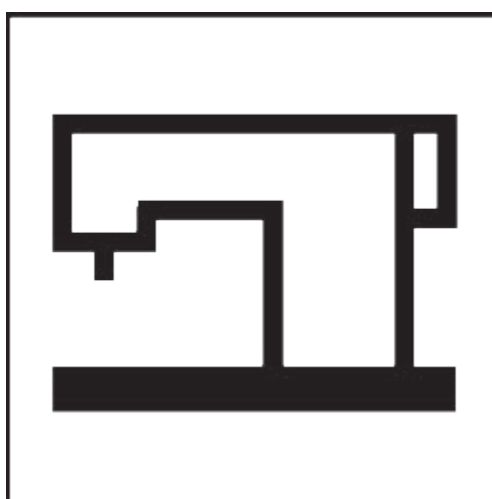
INSTRUCTION MANUAL

BLW-8BLCE-DM

BLW-8BLCS-DM

BLW-8BLCE

BLW-8BLCS



SEIKO SEWING MACHINE CO., LTD.

Thank you very much for buying a SEIKO sewing machine. Before using your new machine, please read the safety instructions below and the explanations given in the instruction manual.


With industrial sewing machines, it is normal to carry out work while positioned directly in front of moving parts such as the needle and thread take-up lever, and consequently there is always a danger of injury that can be caused by these parts. Follow the instructions from training personnel and instructors regarding safe and correct operation before operating the machine so that you will know how to use it correctly.

SAFETY INSTRUCTIONS




1 Safety indications and their meanings










This instruction manual and the indications and symbols that are used on the machine itself are provided in order to ensure safe operation of this machine and to prevent accidents and injury to yourself or other people. The meanings of these indications and symbols are given below.

Indications

 CAUTION	The instructions which follow this term indicate situations where failure to follow the instructions could cause injury when using the machine or physical damage to equipment and surroundings.
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Symbols













-  This symbol (Δ) indicates something that you should be careful of. The picture inside the triangle indicates the nature of the caution that must be taken.
(For example, the symbol at left means "beware of injury".)
-  This symbol ($\textcircled{\text{X}}$) indicates something that you must not do.
-  This symbol ($\textcircled{\text{!}}$) indicates something that you must do. The picture inside the circle indicates the nature of the thing that must be done.
(For example, the symbol at left means "you must make the ground connection".)

 CAUTION	
Environmental requirements	
 • Use the sewing machine in an area which is free from sources of strong electrical noise such as highfrequency welders. Sources of strong electrical noise may cause problems with correct operation.	 • The ambient temperature should be within the range of 5°C to 35°C during use. Temperatures which are lower or higher than this may cause problems with correct operation.
 • Any fluctuations in the power supply voltage should be within $\pm 10\%$ of the rated voltage for the machine. Voltage fluctuations which are greater than this may cause problems with correct operation.	 • The relative humidity should be within the range of 45% to 85% during use, and no dew formation should occur in any devices. Excessively dry or humid environments and dew formation may cause problems with correct operation.
 • The power supply capacity should be greater than the requirements for the sewing machine's electrical consumption. Insufficient power supply capacity may cause problems with correct operation.	 • Avoid exposure to direct sunlight during use. Exposure to direct sunlight may cause problems with correct operation.
 • The pneumatic delivery capability should be greater than the requirements for the sewing machine's total air consumption. Insufficient pneumatic delivery capability may cause problems with correct operation.	 • In the event of an electrical storm, turn off the power and disconnect the power cord from the wall outlet. Lightning may cause problems with correct operation.










2 Notes on safety

CAUTION

Installation

- | | |
|--|--|
| <ul style="list-style-type: none">  Machine installation should only be carried out by a qualified technician.  Contact your SEIKO dealer or a qualified electrician for any electrical work that may need to be done.  The sewing machine weighs more than 54kgf. The installation should be carried out by two or more people.  Avoid setting up the sewing machine near sources of strong electrical noise such as highfrequency welding equipment.
If this precaution is not taken, incorrect machine operation may result.  Do not connect the power cord until installation is complete, otherwise the machine may operate if the treadle is depressed by mistake, which could result in injury.  Be sure to connect the ground. If the ground connection is not secure, you run the risk of receiving a serious electric shock. | <ul style="list-style-type: none">  All cords should be secured at least 25 mm away from any moving parts. Furthermore, do not excessively bend the cords or secure them too firmly with staples, otherwise there is the danger that fire or electric shocks could occur.   Install the belt guards to the machine head and motor.  If using a work table which has casters, the casters should be secured in such a way so that they cannot move.  Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.  Be sure to wear protective goggles and gloves when handling the lubricating oil, so that no oil gets into your eyes or onto your skin, otherwise inflammation can result. Furthermore, do not drink the oil under any circumstances, as they can cause vomiting and diarrhoea. Keep the oil out of the reach of children. |
|--|--|

Sewing

- | | |
|--|--|
| <ul style="list-style-type: none">  This sewing machine should only be used by operators who have received the necessary training in safe use beforehand.  The sewing machine should not be used for any applications other than sewing.  Turn off the power switch at the following times, otherwise the machine may operate if the treadle is depressed by mistake, which could result in injury. <ul style="list-style-type: none"> When threading the needle When replacing the bobbin and needle When not using the machine and when leaving the machine unattended * When using a clutch motor, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.  If using a work table which has casters, the casters should be secured in such a way so that they can not move. | <ul style="list-style-type: none">  Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, injury may result.  Do not touch any of the moving parts or press any objects against the machine while sewing, as this may result in personal injury or damage to the machine.  Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.  If an error occurs in machine operation, or if abnormal noises or smells are noticed, immediately turn off the power switch. Then contact your nearest SEIKO dealer or a qualified technician.  If the machine develops a problem, contact your nearest SEIKO dealer or a qualified technician. |
|--|--|

! CAUTION

Cleaning



- Turn off the power switch before carrying out cleaning, otherwise the machine may operate if the treadle is pressed by mistake, which could result in injury.



* When using a clutch motor, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.

- If using a work table which has casters, the casters should be secured in such a way so that they cannot move.
- Use both hands to hold the machine head when



tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.



- Be sure to wear protective goggles and gloves when handling the lubricating oil, so that no oil gets into your eyes or onto your skin, otherwise inflammation can result. Furthermore, do not drink the oil under any circumstances, as they can cause vomiting and diarrhoea. Keep the oil out of the reach of children.

Maintenance and inspection



- Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.



- Ask your SEIKO dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.



- Turn off the power switch and disconnect the power cord from the wall outlet at the following times, otherwise the machine may operate if the treadle is depressed by mistake, which could result in injury.

- When carrying out inspection, adjustment and maintenance
- When replacing consumable parts such as the rotary hook.

* When using a clutch motor, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.



- Disconnect the air hoses from the air supply and wait for the needle on the pressure gauge to drop to "0" before carrying out inspection, adjustment and repair of any parts which use the pneumatic equipment.



- If the power switch and air need to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.



- If using a work table which has casters, the casters should be secured in such a way so that they cannot move.



- Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.



- Use only the proper replacement parts as specified by SEIKO.



- If any safety devices have been removed, be absolutely sure to re-install them to their original positions and check that they operate correctly before using the machine.



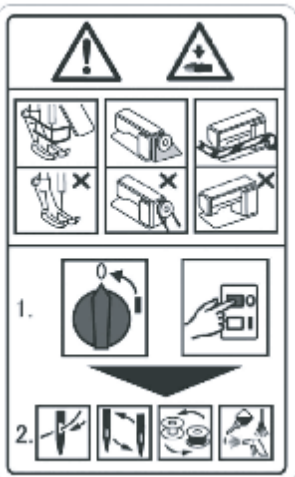
- Any problems in machine operation which result from unauthorized modifications to the machine will not be covered by the warranty.

3 Warning labels

★ The following warning labels appear on the sewing machine.

Please follow the instructions on the labels at all times when using the machine. If the labels have been removed or are difficult to read, please contact your nearest SEIKO dealer.

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Causinon
Moving parts may cause
injury.


Attach all safety devices
before using the sewing
machine

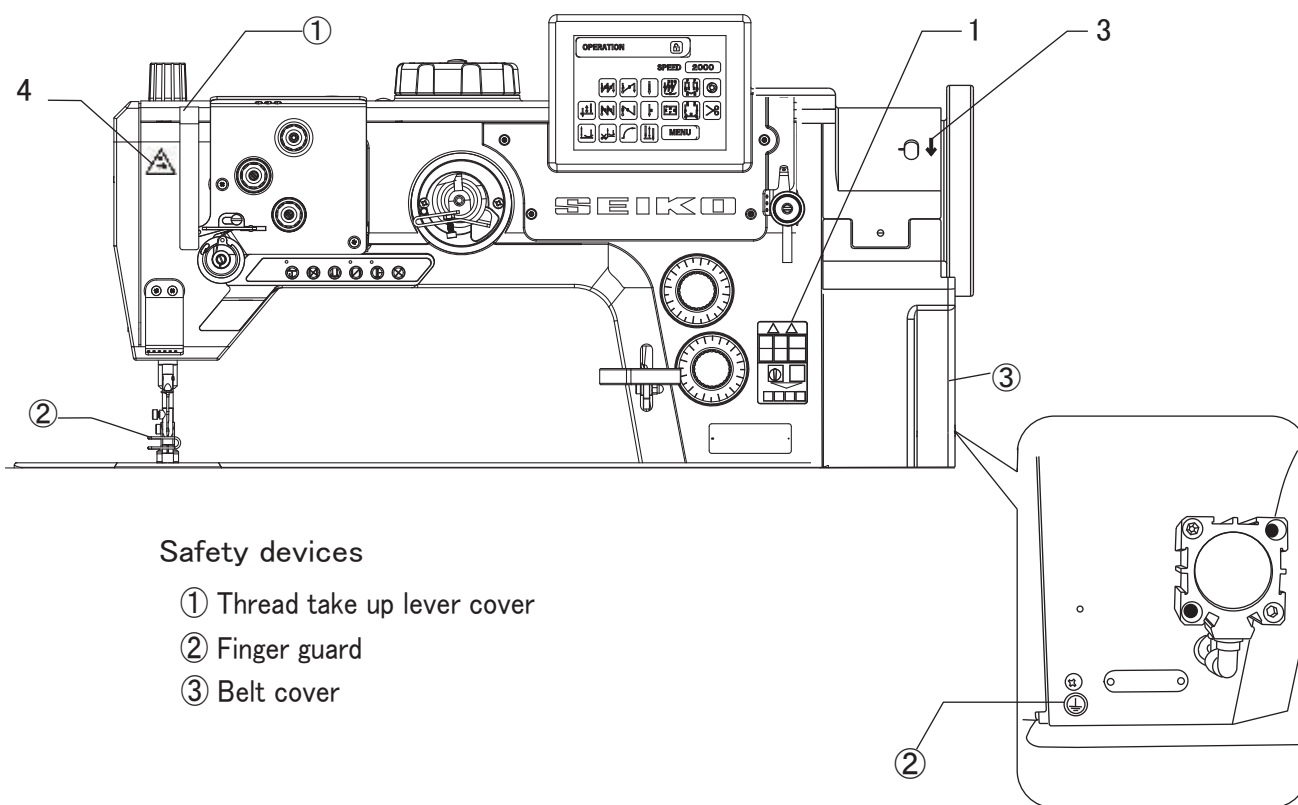
Turn off the power swich
at the following times.

- When threading the needle.
- When replacing the bobbin needle, knife, rotary hook.
- When lubrication, cleaning, adjustmen and maintenance.

2  • Be sure to connect the ground.
If the ground connection is not secure, you run the risk of receiving a serious electric shock.

3  • Direction of operation

4  • this symbol means “beware of injury”.



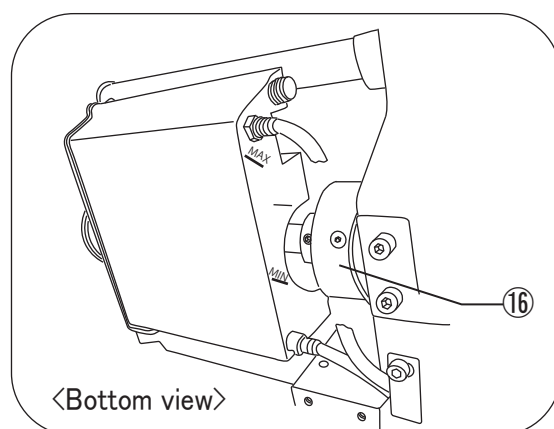
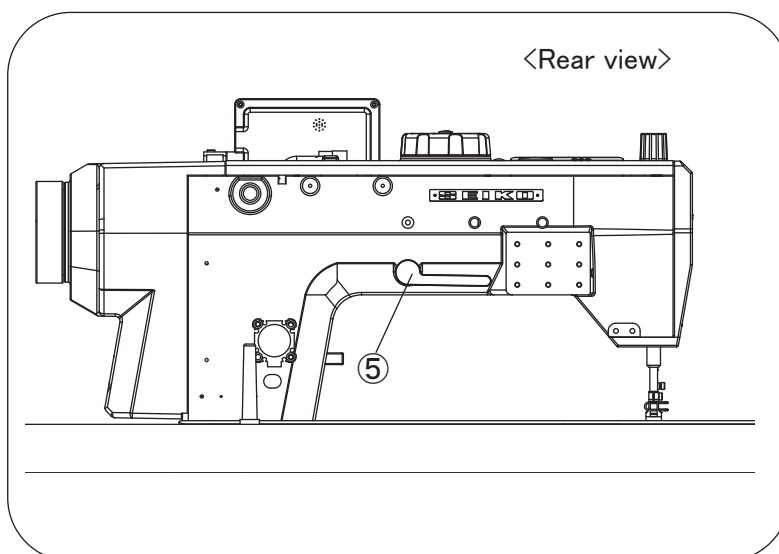
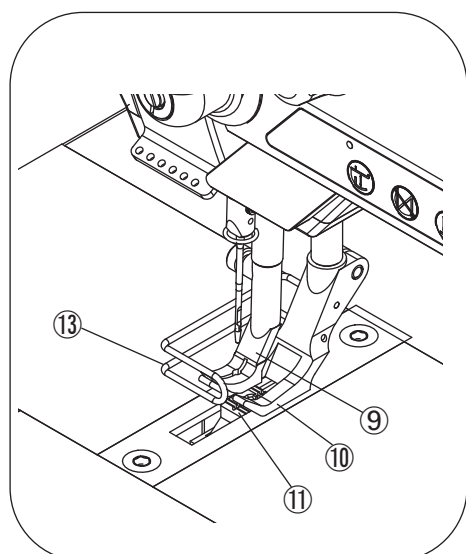
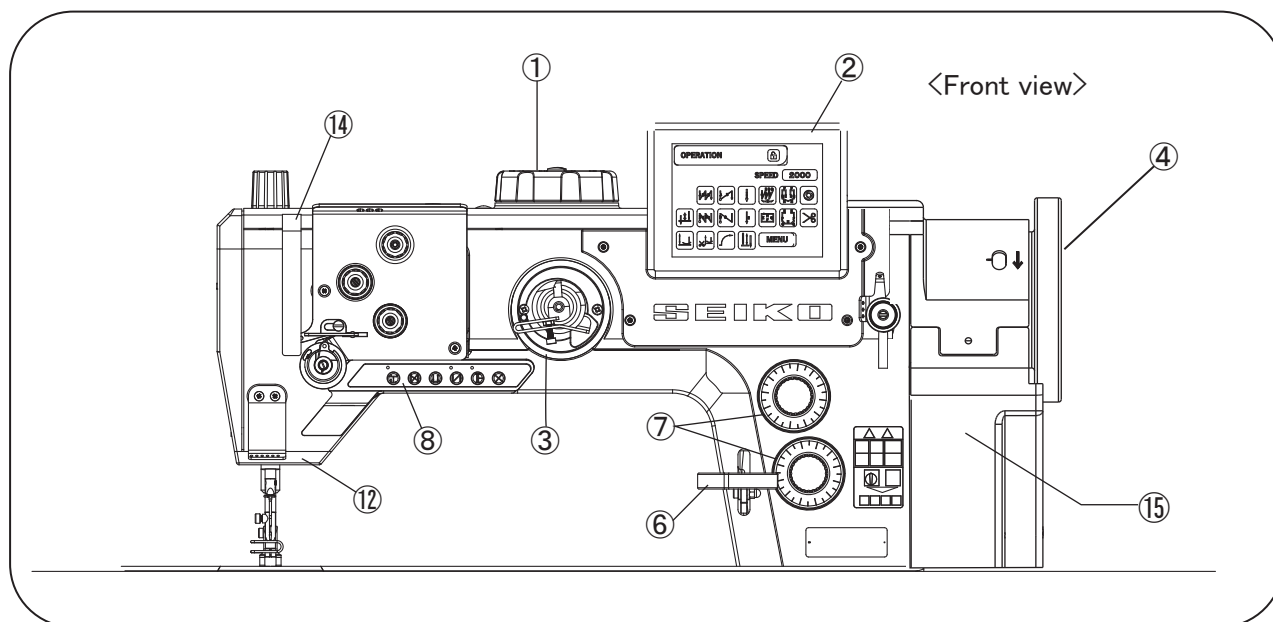
Safety devices

- ① Thread take up lever cover
- ② Finger guard
- ③ Belt cover

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1. MAIN PARTS NAMES



- ① Alternating presser foot movement dial
- ② Operation panel
- ③ Bobbin winder
- ④ Machine pulley
- ⑤ Presser lifter bar
- ⑥ Reverse lever
- ⑦ Feed adjustment dial
- ⑧ Manual switch
- ⑨ Vibrating presser foot
- ⑩ Lifting presser foot
- ⑪ Feed dog
- ⑫ LED lamp switch

Safety devices

- ⑬ Finger guard
- ⑭ Thread take-up cover
- ⑮ Belt cover
- ⑯ Safety clutch

2. MACHINE SPECIFICATIONS

■ MODEL

	Direct drive motor type	V-belt drive type
Needle gage: type E	BLW-8BLCE-DM	BLW-8BLCE
Needle gage: type S	BLW-8BLCS-DM	BLW-8BLCS

■ SPECIFICATIONS

	Direct drive motor type	V-belt drive type
Thread trimmer	○	○
Quick reverse switch	○	○
Alternating presser foot movement change switch	○	○
Automatic presser lifter	○	○
Needle up switch	○	○
Stitch length change switch	○	○
Auto backtack select switch	○	○
The second thread tension switch	○	○
Stop switch	○	○
LED lamp switch	○	○
Operation panel	○	○

		Direct drive motor	V-belt drive
		BLW-8BLCE-DM	BLW-8BLCE
		BLW-8BLCS-DM	BLW-8BLCS
Max. sewing speed (*1)		3,500 s.p.m. (Refer to page 3)	
Max. stitch length		12 mm (Forward/Reverse)	
Clearance under presser foot	Presser foot bar lifter	9 mm	
	A.F.L.(*2)	20 mm	
Needle bar stroke		40 mm	
Needle		DP X 17 #16~#23 (Standard #23)	
Thread		#20~#5 (Standard #5)	
Hook		Large vertical axis hook (2.7 times)	
Thread length after trimming		13 mm	
Thread take-up lever		Link type	
Alternating presser foot movement amount		1~9 mm	
Alternating presser foot movement change switch		Dial type	
Bobbin winder		Built-in type located at the front of the sewing machine	
Auto presser foot lifting device		Pneumatic	
Alternating presser foot movement change device		Pneumatic	
Safety device		Standard	
Lubrication		Automatic lubrication type	
Bed size		605 mm X 208 mm	
Working space		350 mm X 130 mm	
Net weight (Head only)		76 kgf	73 kgf
Motor		AC Servo motor	

*1 Speed depends on thread, materials, type of operation.

*2 A.F.L : Automatic Foot Lifter.

■ Sewing speed table

Alternating presser foot movement amount	Stitch length		
	6 mm or less	6.1 mm ~ 9.0 mm	9.1 mm ~ 12.0 mm
1.0 ~ 2.4 mm	3,500 s.p.m.	2,000 s.p.m.	1,500 s.p.m.
2.5 ~ 3.9 mm	3,000 s.p.m.		
4.0 ~ 4.7 mm	2,500 s.p.m.		
4.8 ~ 7.0 mm	2,000 s.p.m.		
7.1 ~ 9.0 mm	1,500 s.p.m.	1,500 s.p.m.	

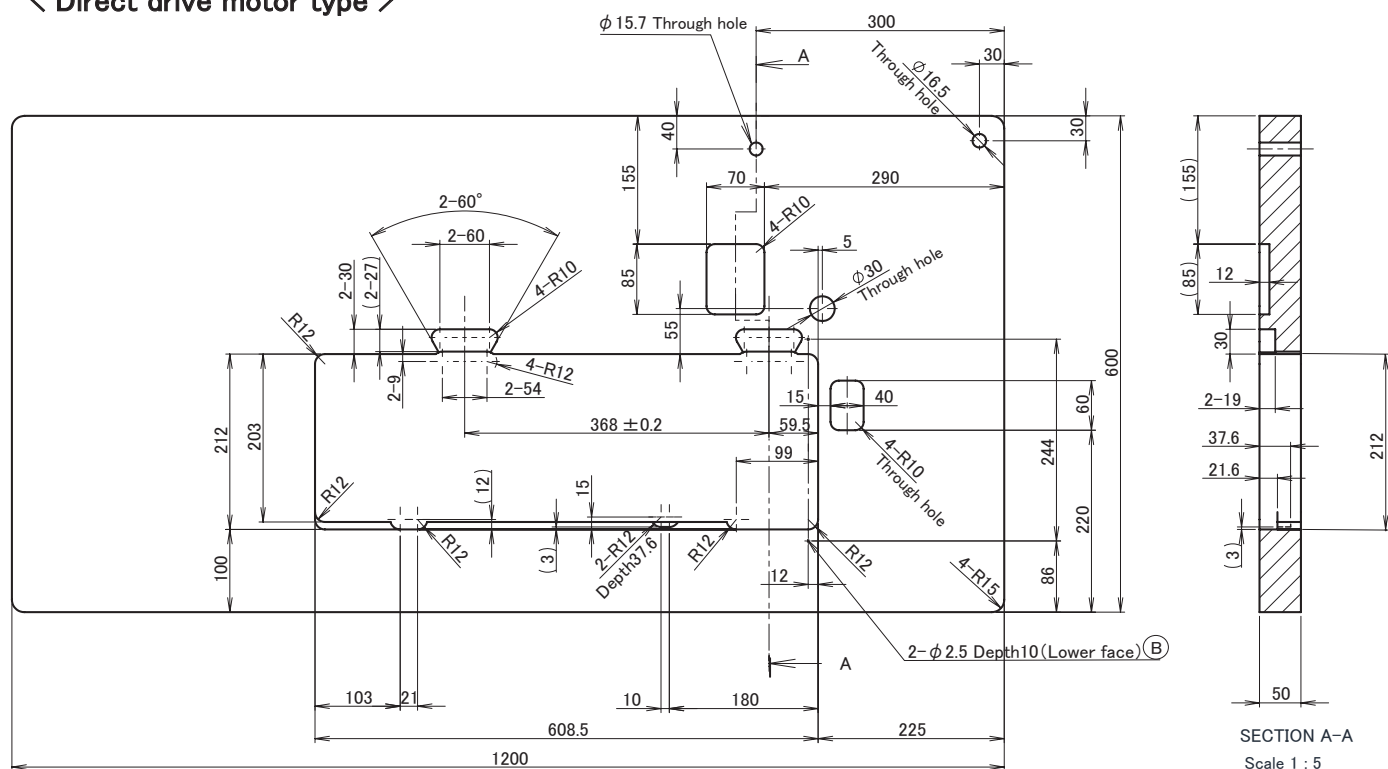
※Set the sewing speed to the value that is equal to or less than the value shown in the table in accordance with the alternating presser foot movement amount setting. Furthermore, if sewing with a stitch length of 9.1mm or more, set the sewing speed to 1,500 s.p.m or less.

3. WORK TABLE

■ If using a commercially-available table

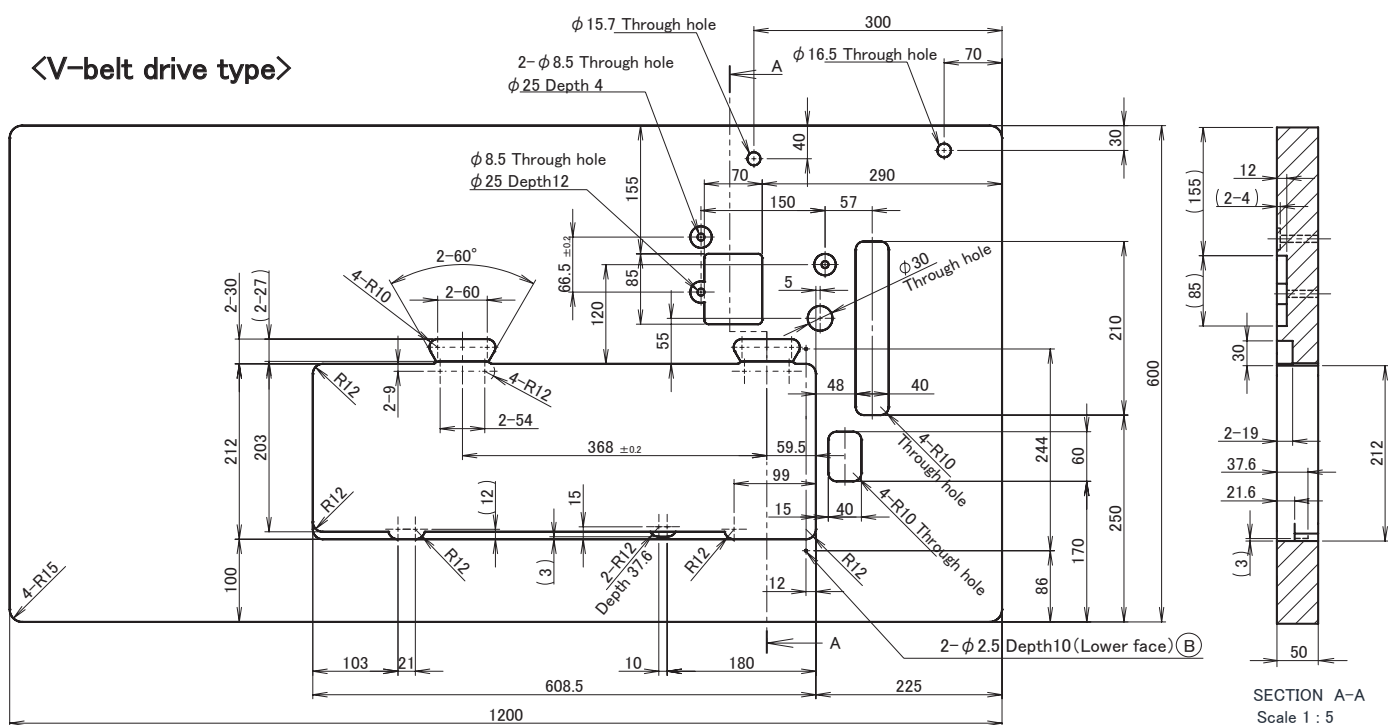
- The top of the table should be 50 mm in thickness and should be strong enough to hold the weight and with-stand the vibration of the sewing machine.
- Drill holes as indicated in the illustration below.

< Direct drive motor type >



(B): Positioning holes to install the oil pan.

< V-belt drive type >



(B): Positioning holes to install the oil pan.

4. MOTOR AND V-BELT



CAUTION



• All cords which are connected to the motor should be secured at least 25 mm away from any moving parts. Furthermore, do not excessively bend the cords or secure them too firmly with staples, otherwise there is the danger that fire or electric shocks could occur.



• Install the correct belt cover which corresponds to the motor being used.

■ Motor

	Voltage	Motor
Single-phase	100–120V / 200–240V	SEIKO AC Servo, 850W
Three-phase		

- Select the correct motor from those listed in the above table.
- Refer to the instruction manual for the motor for details on installing and using the motor.

■ Motor pulley and V-belt (V-belt drive type)

Sewing speed (s.p.m.)	Frequency(Hz)	Motorpulley (mm)	V-belt (inch)
3,500	50	ϕ 75	M46
	60	ϕ 75	M46

5. INSTALLATION



CAUTION



- Machine installation should only be carried out by a qualified technician.



- Contact your SEIKO dealer or a qualified electrician for any electrical work that may need to be done.



- The sewing machine weighs more than 76kgf. The installation should be carried out by two or more people.



- Avoid setting up the sewing machine near sources of strong electrical noise such as high frequency welding equipment. If this precaution is not taken, incorrect machine operation may result.



- Do not connect the power cord until installation is complete, otherwise the machine may operate if the treadle is depressed by mistake, which could result in injury.

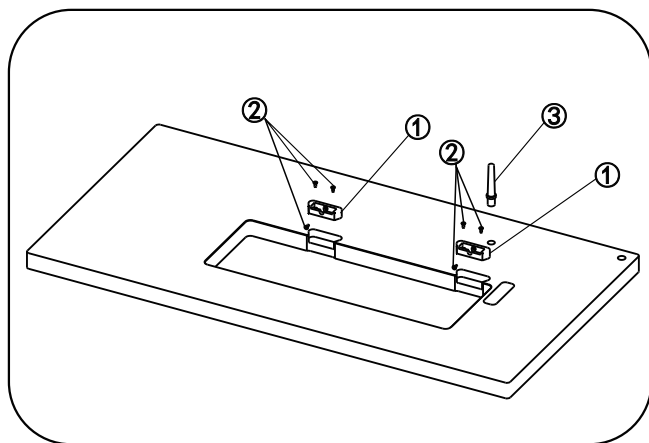


- Be sure to connect the ground. If the ground connection is not secure, you run the risk of receiving a serious electric shock.



- Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.

5.1 RUBBER CUSHION

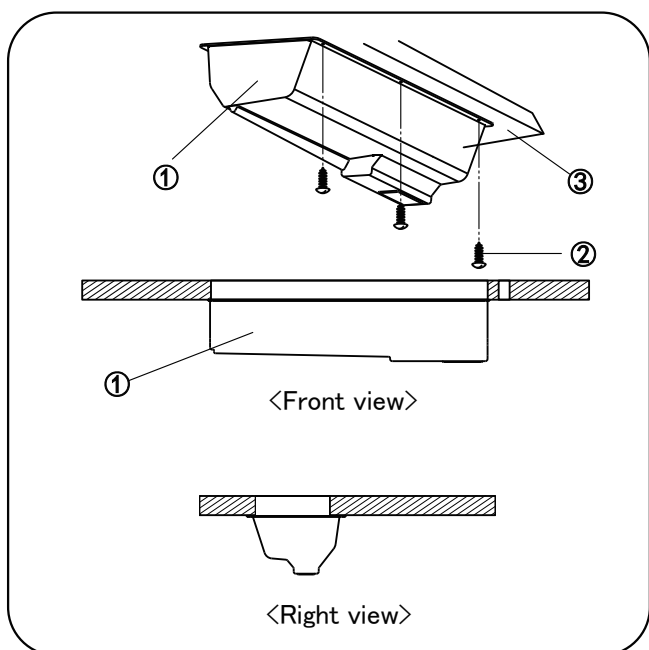


- Insert the rubber cushions ① into the cut-away sections of the work table (2 places), and secure each of them with the three wood screws ②.

- Tap the head rest ④ into the table hole.

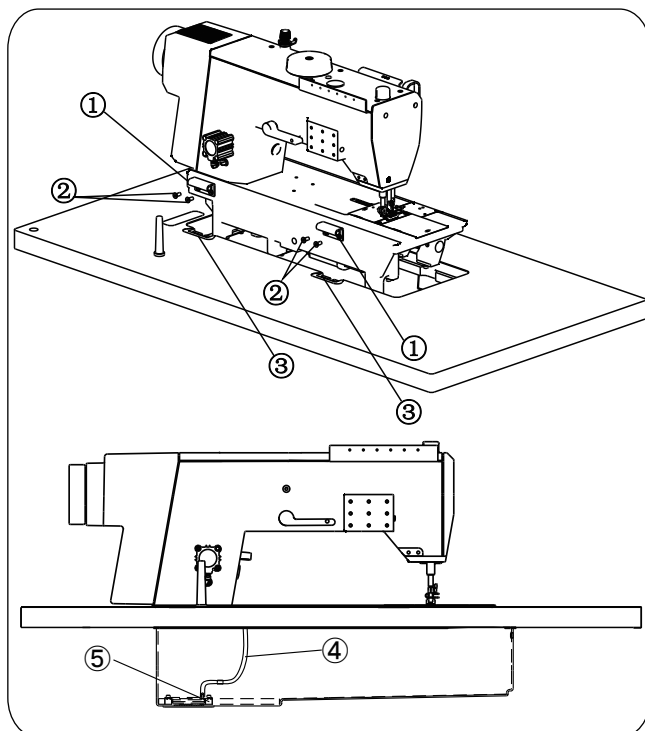
NOTE: Tap the head rest securely into the table hole. If the head rest is not pushed in as far as it will go, the machine head will not be sufficiently stable when it is tilted back.

5.2 OIL PAN



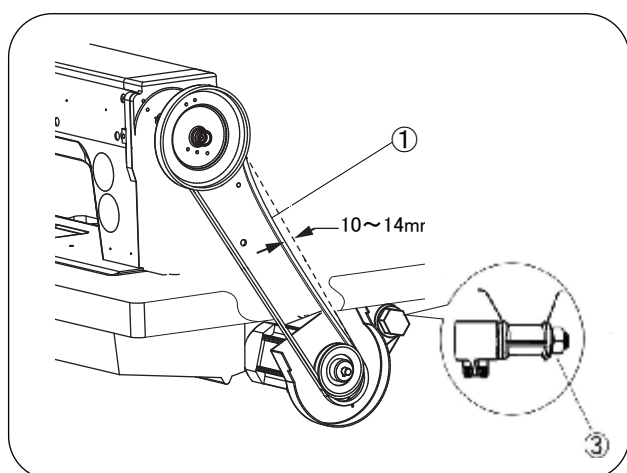
- Install the oil pan ① to the underside of the work table ③ in the place shown the illustration using the wood screws ②.

5.3 MACHINE HEAD



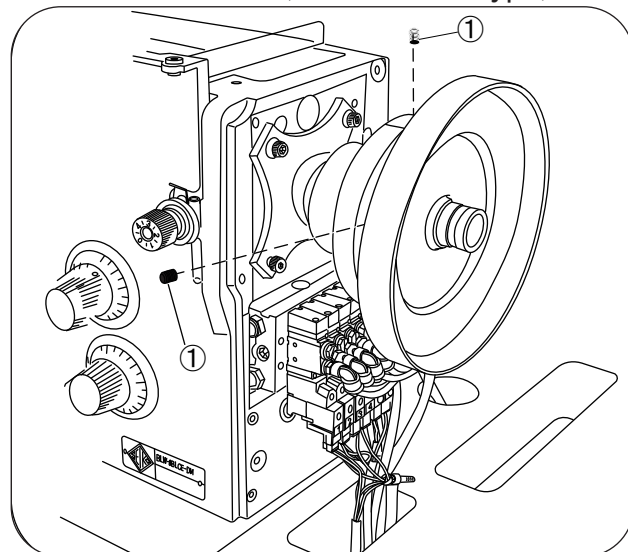
- (1) Install the two hinges ① to the machine bed with the two screws ②.
- (2) Clamp the hinges ① onto the rubber cushions ③ in the work table.
- (3) Connect the oil return pipe ④ from the sewing machine to the nipple ⑤ of the oil pan.

5.4 V-BELT (V-belt drive type)

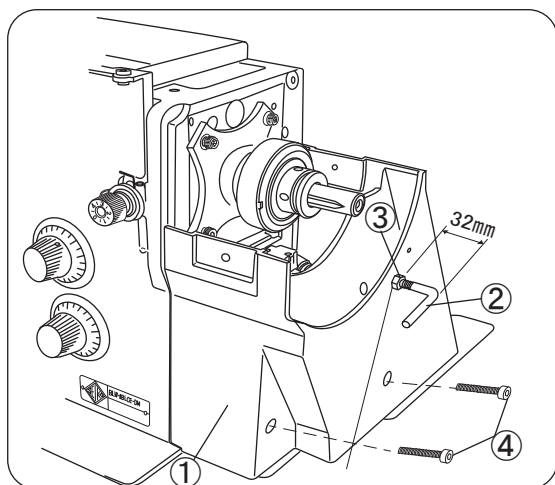


- (1) Tilt back the machine head, and then place the V-belt ① onto the motor pulley and the machine pulley.
- (2) Turn the nut ③ to adjust so that there is 10–14 mm of deflection in the V-belt ① when it is pressed at the midway point with a force of 4.9 N (500gf).

5.5 BELT COVER (V-belt drive type)

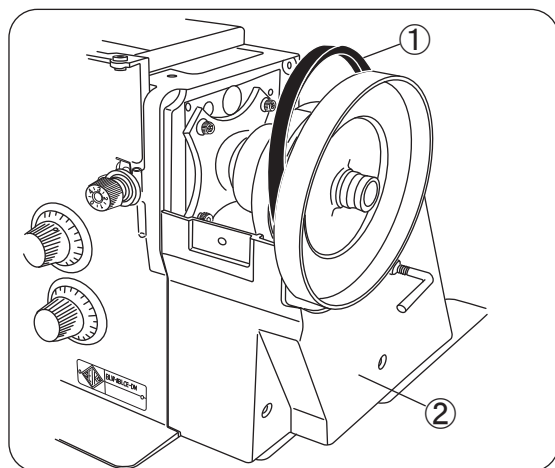


- (1) Turn the pulley until it reaches the lowest point of the needle bar.
(Pulley positioning screw is on the front, other set screw is on the top)
- (2) Loosen the pulley set screws ① (2 pieces) and remove the pulley.

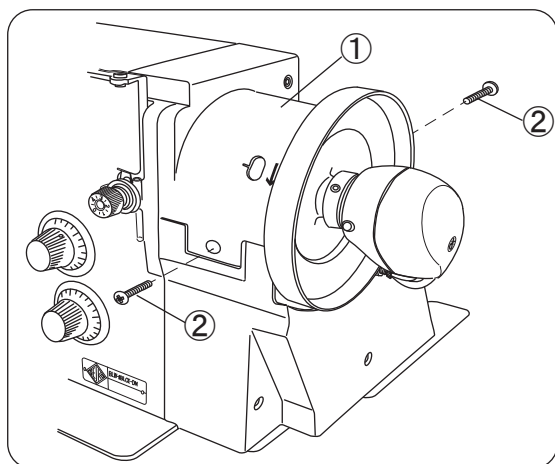


(1) Temporarily fix the synchronizer support rods ② to the belt cover (bottom) ① with nut ③ as shown in the figure.

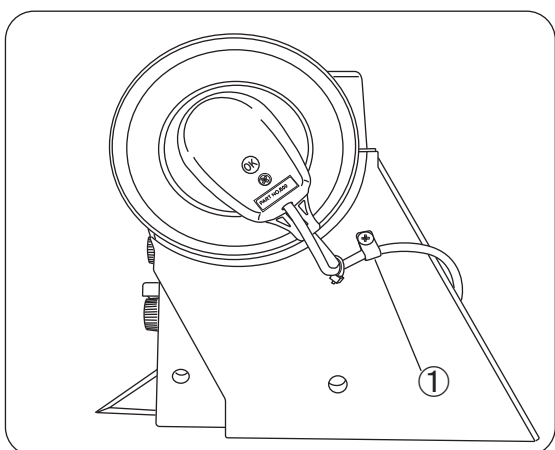
(2) Install the belt cover (bottom) ① to the sewing machine with two screws ④.



(1) Insert the V-belt ① into the belt cover (bottom) ②, and install the pulley to the upper shaft with two screws.



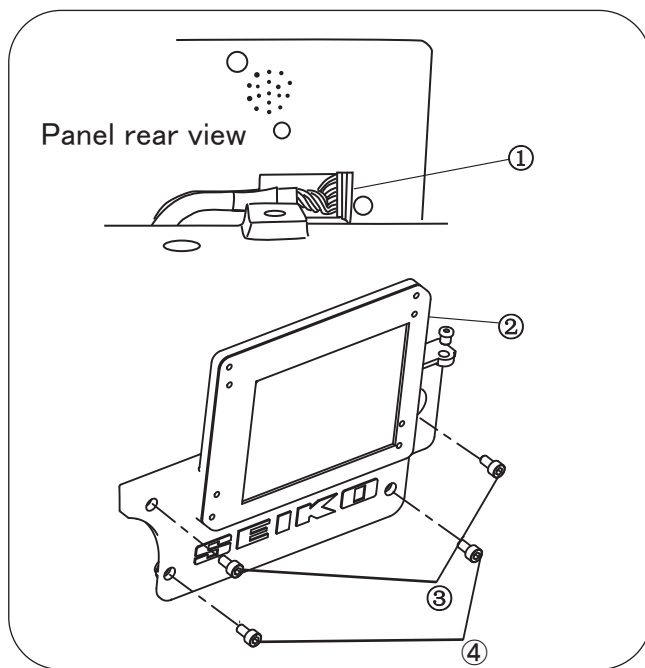
(1) Install the belt cover (top) ① with two screws ②.



(1) Fix the synchronizer support bar so that it faces the center of the upper axis.

(2) Install the synchronizer to the pulley and fix the cord with clamp ①.

5.6 OPERATION PANEL (OPTIONAL)

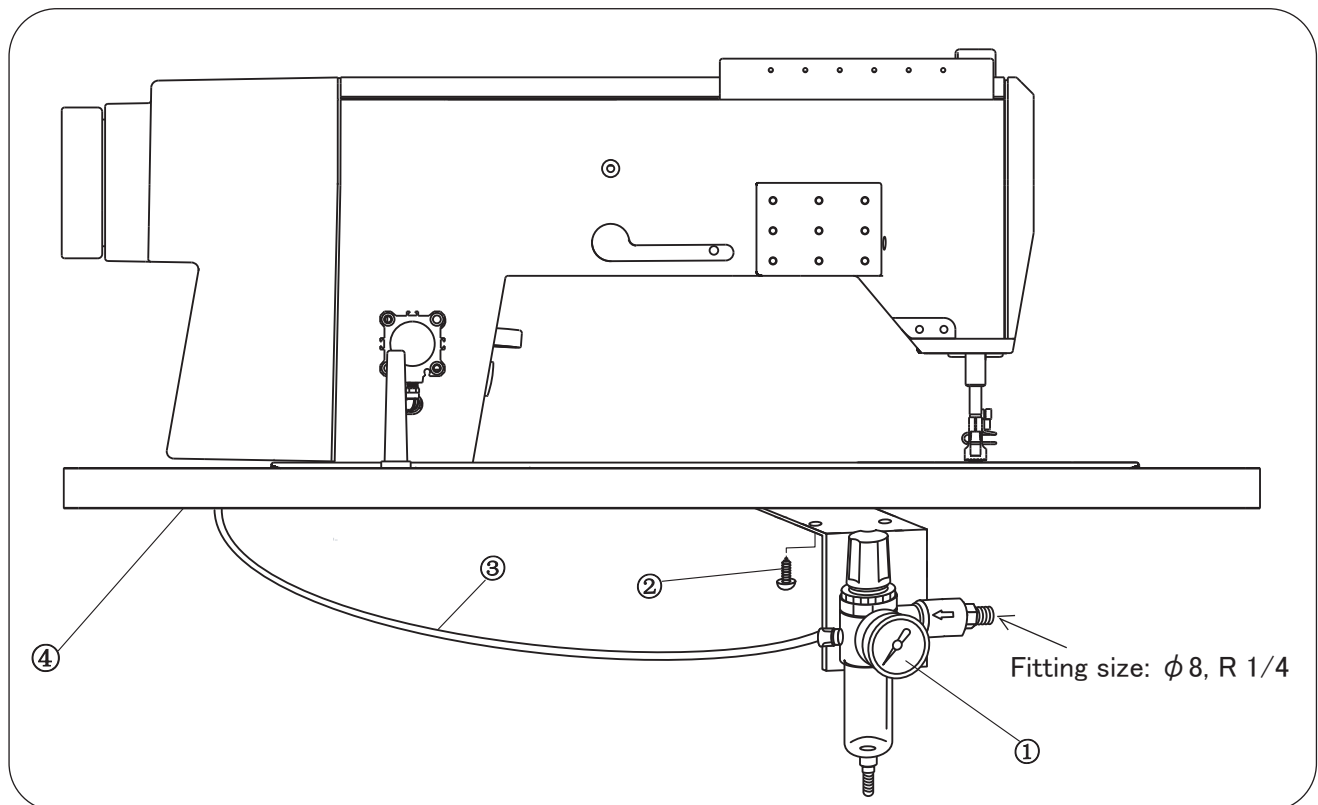


- (1) Connect the connector ① to the operation panel ②.
- (2) Install the operation panel ② to the machine head with the four screws ③ (L=14) and ④ (L=10).

5.7 AIR UNIT

5.7.1 INSTALLATION

- (1) Install the air unit ① to the underside of the work table ④ with the wood screws ②.
- (2) Connect the air tube ③ as shown in the illustration.



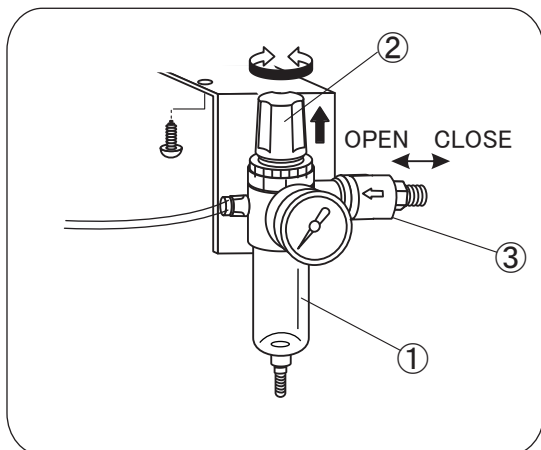
5.7.2 ADJUSTING THE AIR PRESSURE



CAUTION

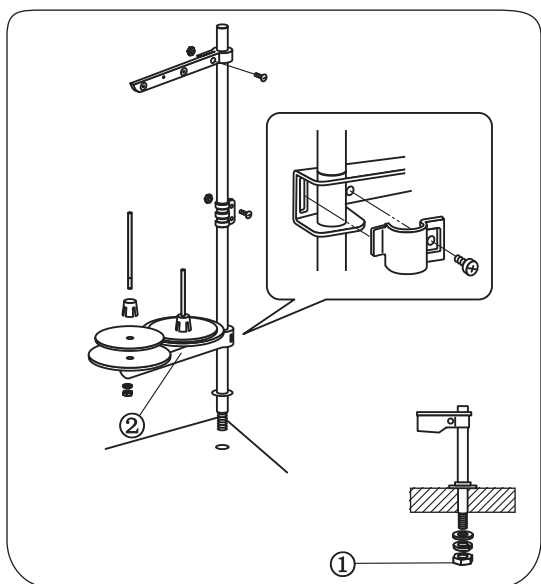


• If the power switch and air need to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.



- (1) Slide the slide valve ③ to the left to open it, and lift and turn the knob ② of the air unit ① to adjust the air pressure.
- (2) The air pressure should be set to 0.49 MPa(5 kgf/ cm²) before use.
- (3) After adjusting, push the knob ② back in.

5.8 THREAD STAND SET

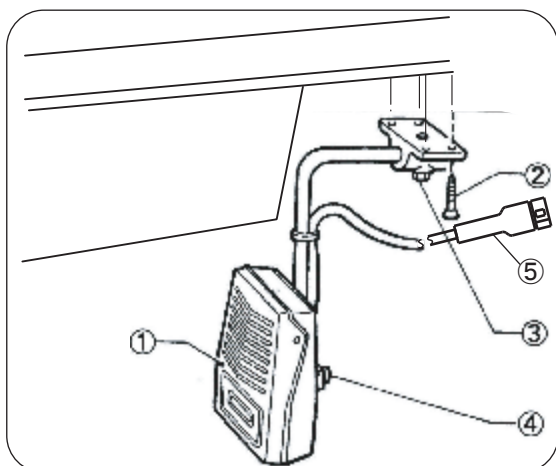


- (1) Assemble the thread stand as shown in the illustration, and then install it to the work table.

※1. Securely tighten the nut ① so that the thread stand does not move.

※2. When installing the thread stand, raise the spool holder ② to a position where it does not touch the machine head when the machine head is tilted back.

5.9 KNEE SWITCH



- (1) Install the knee switch ① to the underside of the work table with the four wood screws ②.
- (2) Loosen the bolts ③ and ④, and then adjust the position of the knee switch ① so that it can be operated easily with your knee.
- (3) Tighten the bolts ③ and ④.
- (4) Connect the knee switch connector ⑤ to the relay connector of the control box.

6. LUBRICATION

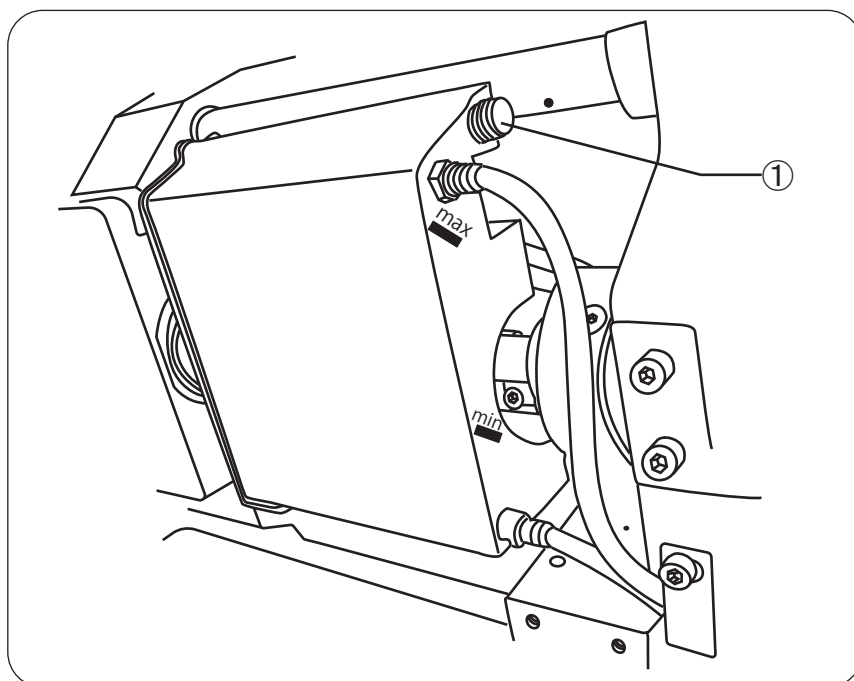


CAUTION

- ⊘ Do not connect the power plug until refueling is complete, otherwise the machine may operate if the treble is pressed by mistake, which could result in injury
- Be sure to wear protective goggles or gloves when handling lubricating oil, so that no oil gets into your eyes or onto your skin, otherwise inflammation can result.
- ⊘ Furthermore, do not drink the oil under any circumstances, as it can cause vomiting and diarrhoea.
- Keep the oil out of the reach of children.

◆ The sewing machine should always be lubricated and the oil supply replenished before it is used for the first time, and also after long periods of non- use. If the oil level drops to the lower reference line on the oil tank ②, add more oil. Use only the lubricating oil specified by SEIKO.

■ Lubrication

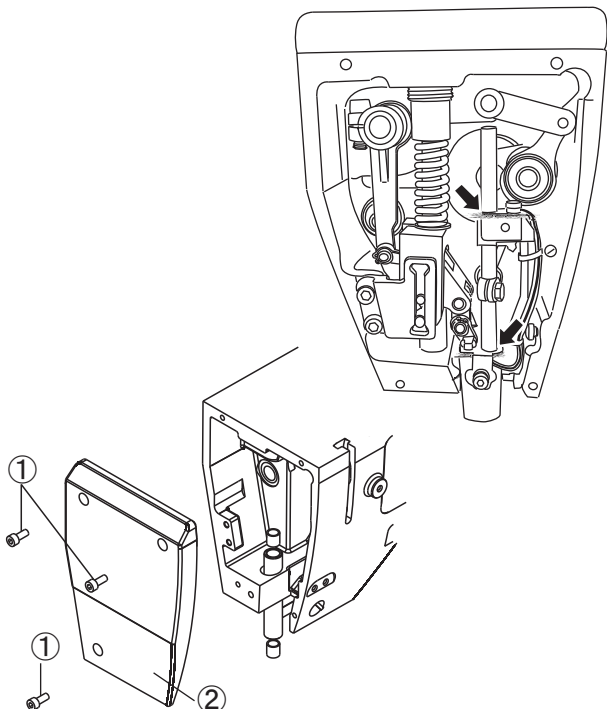


- (1) Turn off the power, tilt the sewing machine, and open the oil tank cap ①.
- (2) Pour lubricating oil from the filler inlet to the upper reference line.
- (3) After lubrication, push in the oil tank cap ① to close it.

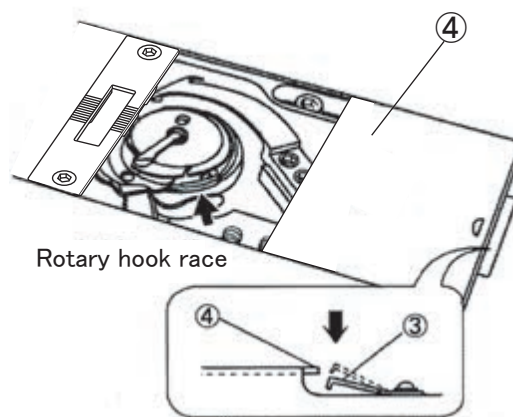
■ OILING

Add 1–2 drops of oil in the places indicated by the arrows.

- Remove the bolts ① (3 pieces) and remove the face plate ②.



- Open the side plate (R) ④ while pushing the spring plate ③ downward.



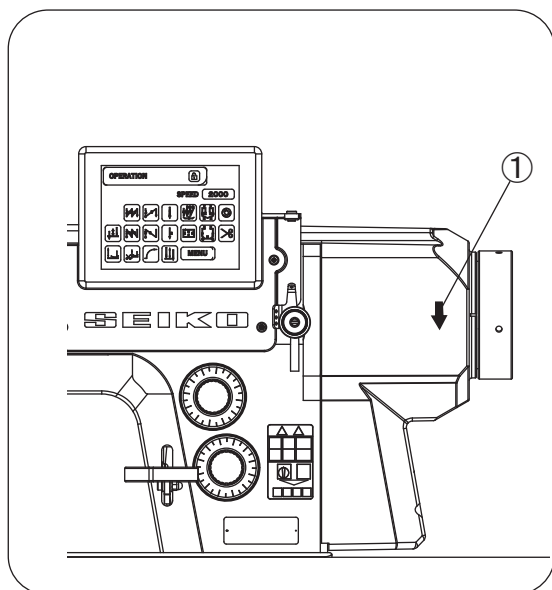
7. CHECKING THE MACHINE PULLEY ROTATING DIRECTION



CAUTION



Do not touch any of the moving parts or place any objects against the machine while sewing, as this may result in personal injury or damage to the machine.



- Insert the power cord plug into the wall outlet, and then turn on the power switch.
 - Depress the treadle slightly and check that the machine pulley starts to turn in the direction of the arrow ①.
- ※ If the rotation of the sewing machine pulley is reversed, refer to the instruction manual of the motor.
 - ※ It takes about 1 minute for the lubricating oil to reach the sewing machine body.

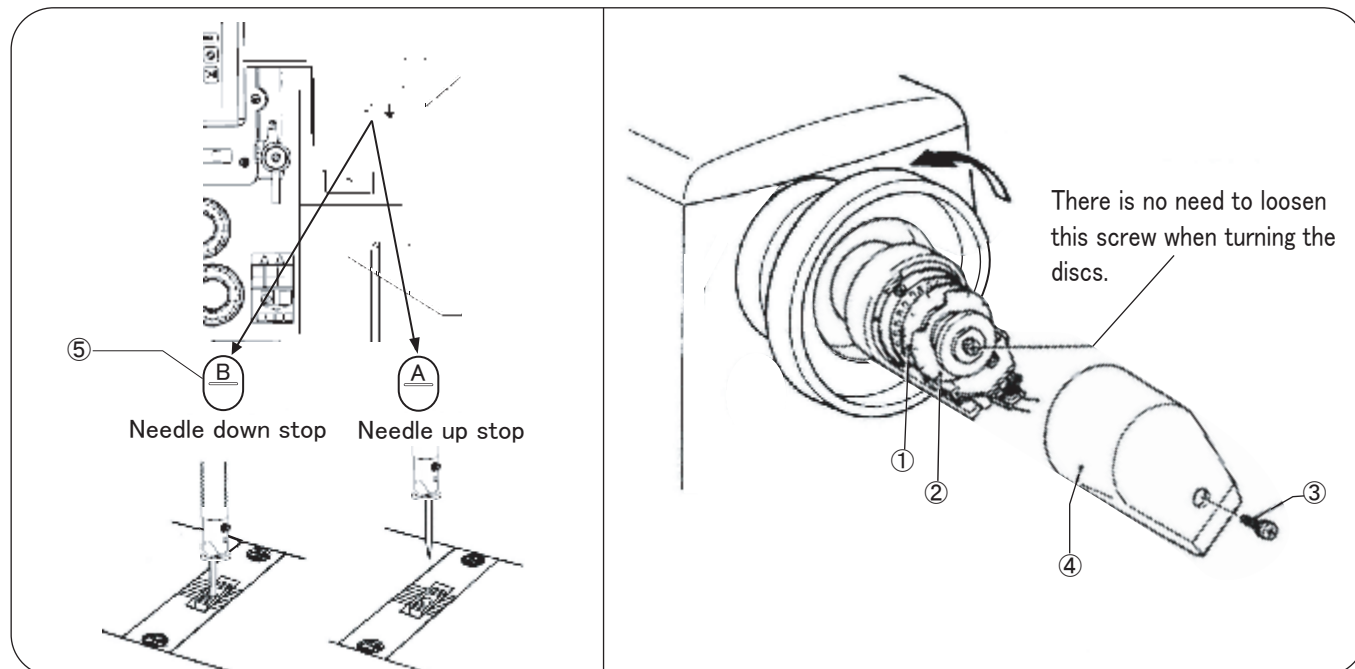
8. ADJUSTING THE NEEDLE STOP POSITION (V-BELT TYPE)



CAUTION



•If power switch and air need to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.



The synchronizer detects the needle position of the needle with two disks ① and ②.

■ Adjusting the needle up stop position

When the sewing machine stops at the needle down stop position and steps back on the tread, the sewing machine stops at the needle up stop position where the thread trimming operation ends, and the "A" line can be seen from the window of the belt cover. However, in order to improve workability, the reverse needle raising after thread trimming of the motor is usually set to "ON", so the "A" mark appears only momentarily. When this setting is set to "OFF", the "A" mark is displayed. Turns off the value of motor parameter No. 57. For details, refer to the instruction manual of the motor.

※ Follow the procedure below to adjust the needle-up stop position correctly as it may cause a thread trimming error.

- (1) Turn off the power switch.
- (2) Loosen the screw ③ and remove the cover ④.
- (3) When the needle up position disk ① is turned in the same rotation direction as the sewing machine pulley, the "A" mark stops at a position earlier than before the adjustment. If the disc ② turns in the opposite direction, it will stop at a position later than before the adjustment.

■ Adjusting the needle down stop position (thread trimming signal position)

When the sewing machine stops at the needle down stop position, the "B" line can be seen from the window of the belt cover.

※ If the "A" line cannot be seen from the window of the belt cover, the bobbin thread cannot be reliably captured. Follow the procedure below to make adjustments.

- (1) Turn off the power switch.
- (2) When the needle down stop disk ② is turned in the same rotation direction as the sewing machine pulley, the "A" line stops at a position earlier than before the adjustment. If the disc ② turns in the opposite direction, it will stop at a position later than before the adjustment.
- (3) After adjustment, attach the cover ④ and tighten the screw ③.

9. PREPARATION BEFORE SEWING

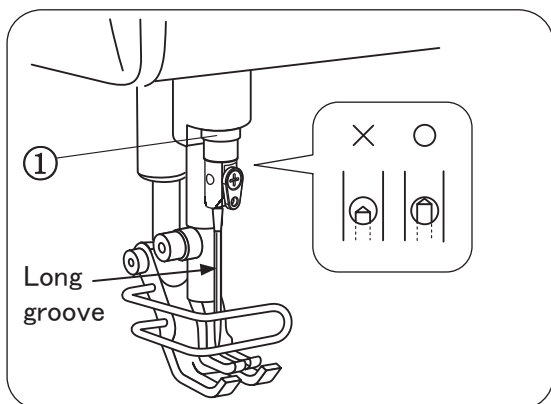
9.1 INSTALLING THE NEEDLE



CAUTION



• Turn off the power switch when installing the needle. otherwise the machine may operate, if the tread is pressed by mistake, which could result in injury.



- (1) Turn off the power or put into stop mode, Turn the machine pulley to move the needle bar ① to its highest position.
- (2) Loosen the needle set screw.
- (3) Insert the needle in the straight line as far as it will go, making sure that the long groove is at the left, and then securely tighten the needle set screw.

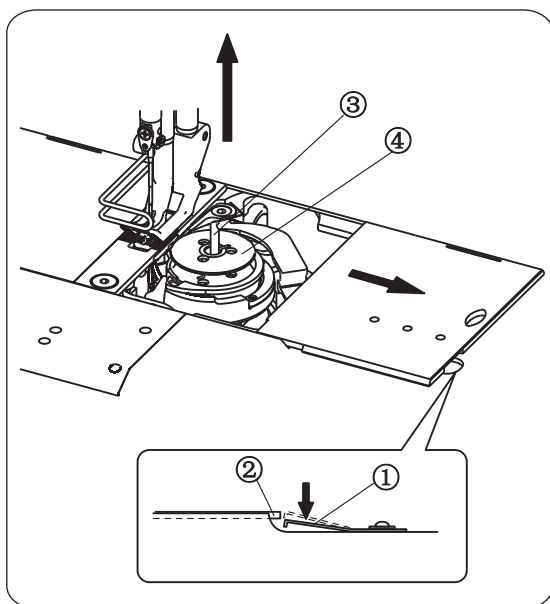
9.2 REMOVING THE BOBBIN



CAUTION

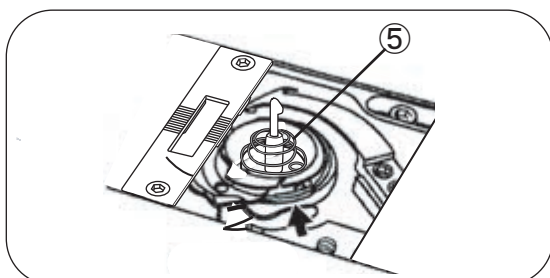


• Turn off the power switch when removing the bobbin. If the tread plate is operated by mistake, the sewing machine may operate and cause injury.



- (1) Turn off the power switch before removing the bobbin. While pushing the spring plate ① downward, open the slide plate ②.
- (2) Lift up the latch ③ of the rotary hook, and then remove the bobbin ④.

■ Anti spin spring



Anti spin spring ⑤ prevents bobbin from racing during sewing. Furthermore, it also prevents the bobbin from racing during thread trimming.

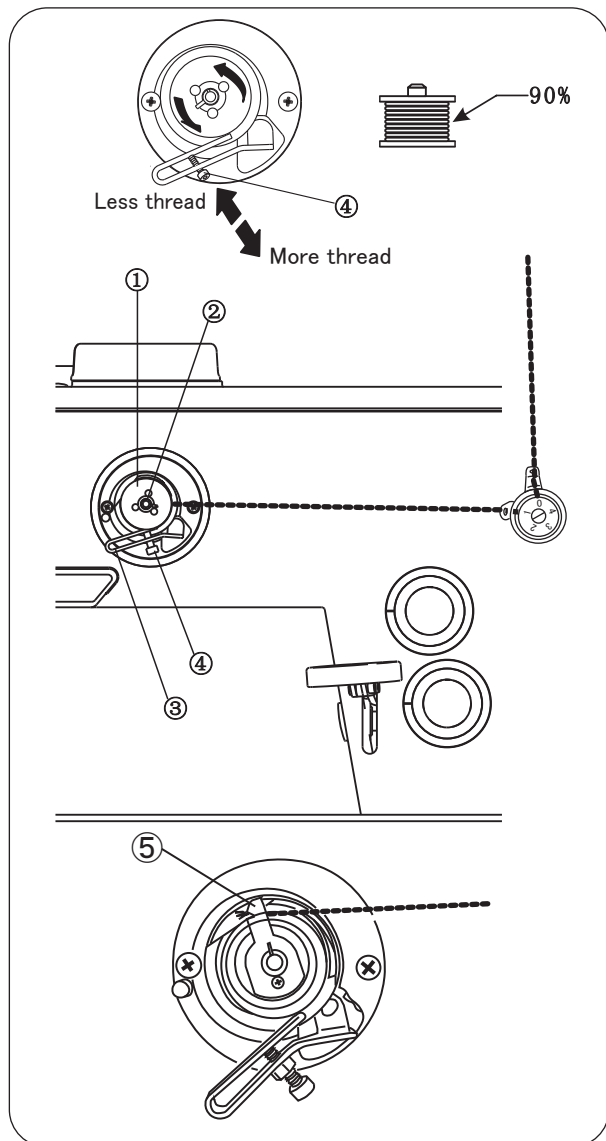
9.3 WINDING THE LOWER THREAD



CAUTION



• Turn off the power switch before installing the bobbin, otherwise the machine may operate if the treadle is pressed by mistake, which could result in injury.



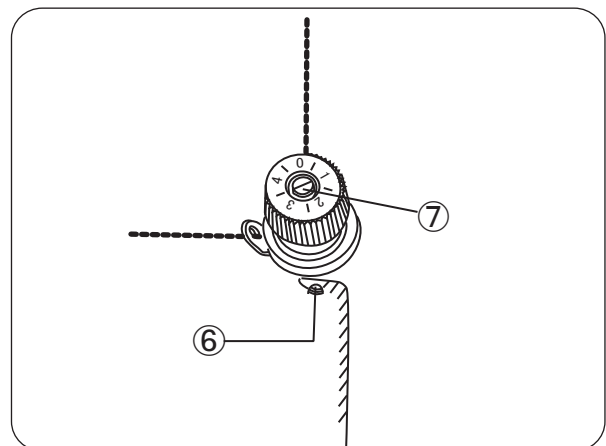
- (1) Turn on the power switch.
- (2) Place the bobbin ① onto the bobbin winder shaft ②.
- (3) Push the bobbin presser ③ toward the bobbin.
- (4) Depress the treadle. Lower thread winding will then start.
- (5) Once winding of the lower thread is completed, the bobbin presser arm ③ will return automatically.

* The bobbin lever ③ adjusts the bobbinwinding amount with the bobbin lever adjustment screw ④. The maximum amount of thread wound should be 90%.

Note : The maximum amount of thread wound on the bobbin should be 90%.

- (6) After winding the bobbin, remove the bobbin and cut thread with a thread trimmer to pinch the thread and prepare for the next

** If the thread cannot be wound evenly, use screw ⑥. Loosen and move the bobbin tension rod ⑦ back and forth to adjust.



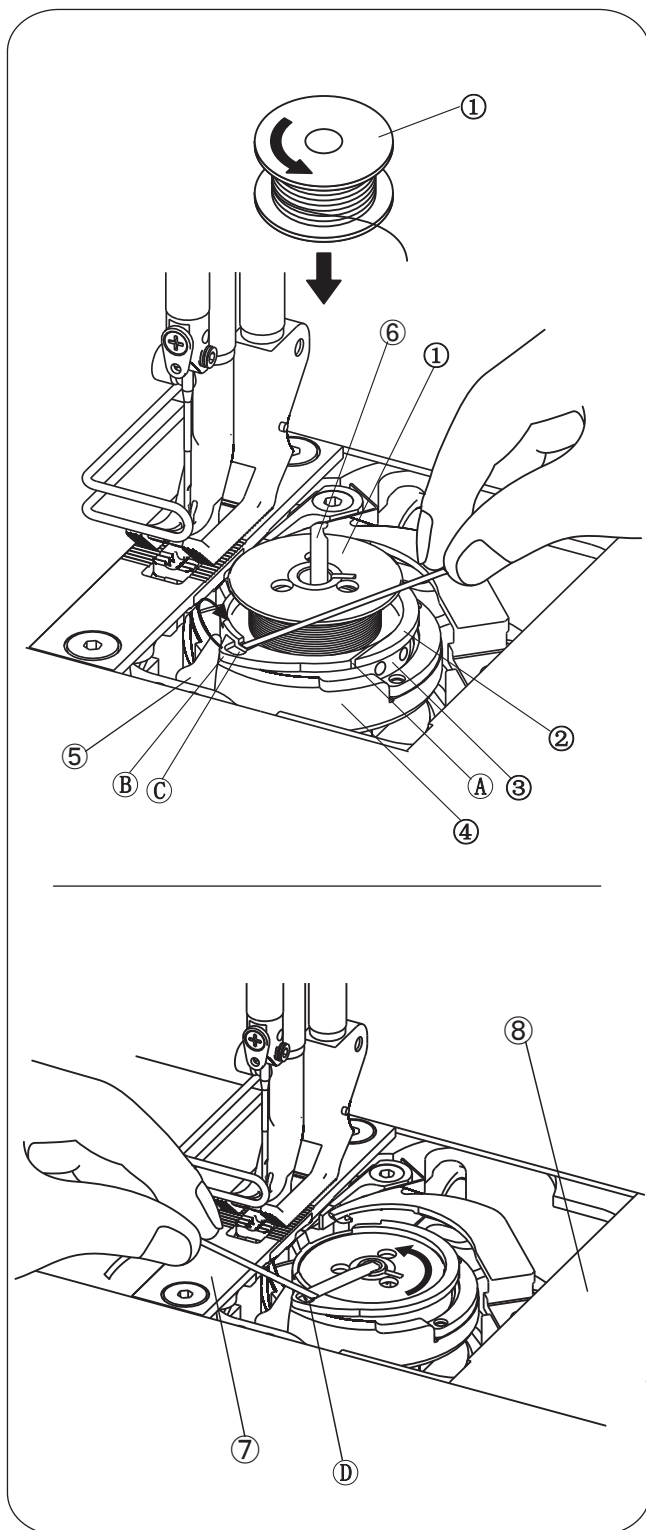
9.4 INSTALLING THE BOBBIN



CAUTION



• Turn off the power switch before installing the bobbin, otherwise the machine may operate if the treadle is pressed by mistake, which could result in injury.



- (1) Turn off the power. Place the bobbin ① onto the rotary hook ② so that the thread winding direction is as shown in the illustration.
- (2) Turn the machine pulley to rotate the outer hook ④ until the tension spring ③ can be seen.
- (3) Pass the lower thread through the groove A in the inner rotary hook, pull it around between the opener ⑤ and the projection B on the inner rotary hook, and then pass it along the inside of the tension spring ③ and pull the lower thread out from the back of the groove C, and then lower the latch ⑥.
- (4) Pull the lower thread to check that it comes out smoothly from the hole D and that the bobbin ① turns in the direction of the arrow.
- (5) Pull the lower thread until there is a length of about 50mm of thread above the throat plate ⑦.
- (6) Close the slide plate ⑧ with a gap that allows the bobbin thread to pass through.

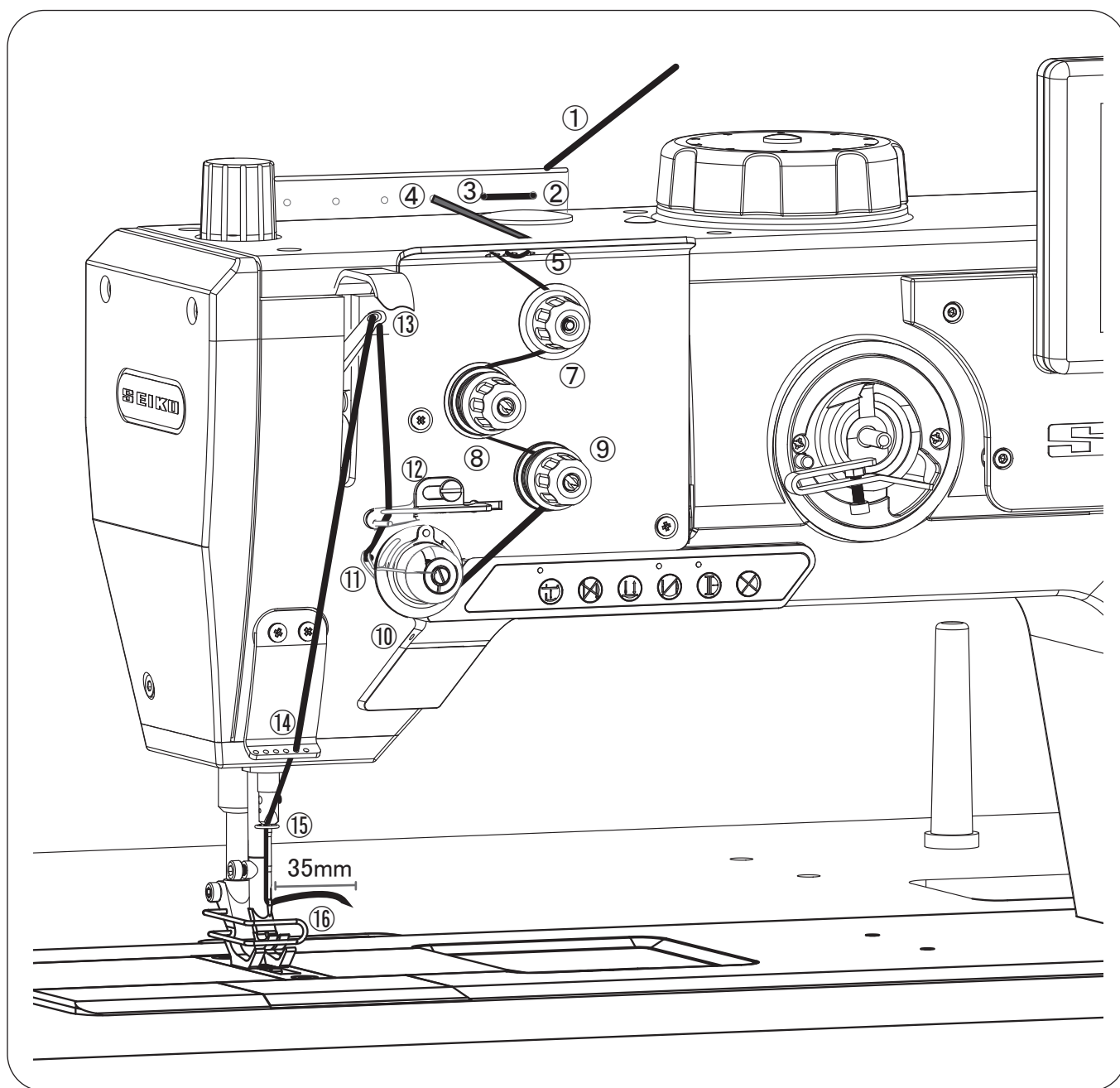
9.5 THREAD THE UPPER THREAD

CAUTION



· Turn off the power switch before threading the upper thread, otherwise the machine may operate if the treadle is pressed by mistake, which could result in injury.

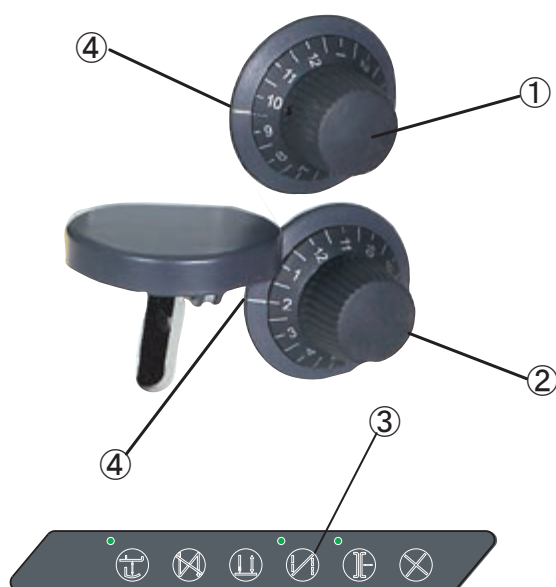
Raise the thread take-up lever before threading the upper thread. This will make threading easier and it will prevent the thread from coming out at the sewing start.





9.6 ADJUSTING THE STITCH LENGTH

- The feed adjustment dials ① and ② can be used to set two different types of stitch length. The machine switches between the two different stitch lengths each time the stitch length change switch ③ is pressed.
- Set the stitch lengths by tuning feed adjustment dials ① and ② clockwise or counterclockwise to align the numbers with the marks ④
- * The greater the number, the longer the stitch length.

NOTE : Forcibly turning the dial may damage the sewing machine. Set the upper dial to a higher number than the lower dial.



●  OFF Sewing is carried out using the stitch length set by feed adjustment dial ① (longer stitch length).

☀  ON Sewing is carried out using the stitch length set by feed adjustment dial ② (shorter stitch length).

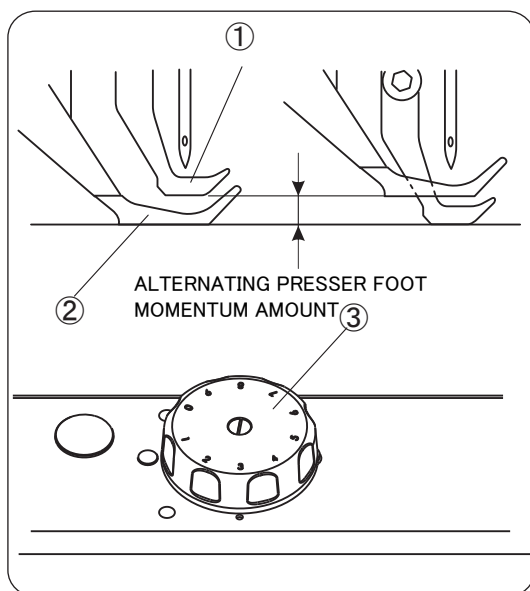
■ Adjusting the normal stitch length
(When using only one type of stitch length)
In this case adjust feed adjustment dial ① only.

NOTE:
Feed Adjustment dial ② is not used at this time, so set it to the smallest number.
Check that the indicator for the stitch length change switch ③ is turned off.

■ Setting two different stitch lengths

- (1) Use the feed adjustment dial ① to set the longer stitch length.
 - (2) Use feed adjustment dial ② to set the shorter stitch length.
- ※ It is not possible to use feed adjustment dial ① to set the shorter stitch length and feed adjustment dial ② to set the longer stitch length.
- (3) The sewing machine will switch between the two stitch lengths each time the stitch length change switch ③ is pressed.

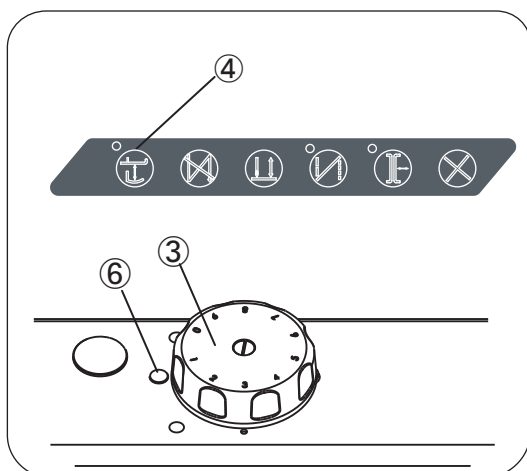
9.7 ALTERNATING PRESSER FOOT MOMENTUM AMOUNT



The alternating movement amount for the inner presser foot ① and the outer presser foot ② can be adjusted within the range of 1–9 mm using the alternating presser foot movement dial ③.

■ Using the alternating presser foot movement change switch

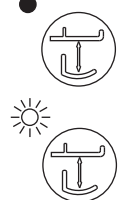
This switch can be used to change between two types of alternating movement: the movement amount set by the alternating presser foot movement dial ③ and the maximum movement amount [9mm].



The alternating presser foot movement amount switch ④

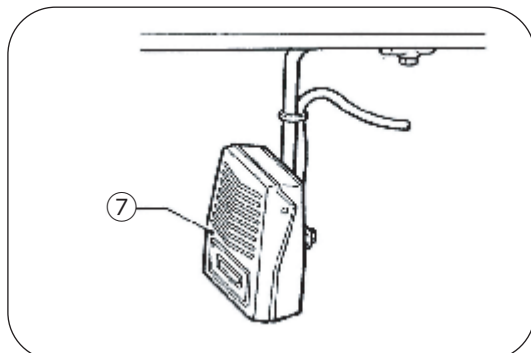
- (1) Turn the alternating presser foot movement dial ③ to set the alternating presser foot movement amount in accordance with the material which is normally sewn.
- (2) Check that the indicator for the alternating presser foot movement change switch ④ is turned off, and then start sewing.
- (3) When you reach a thick joint in the material while sewing, press the alternating presser foot movement change switch ④.

Note: The maximum alternating momentum is limited to 7 mm at the time of shipment. To make it 9 mm, it is necessary to remove the rubber stopper ⑥ and remove the limiting screw inside. In this case, the sewing speed should be 1,500 s.p.m. or less.



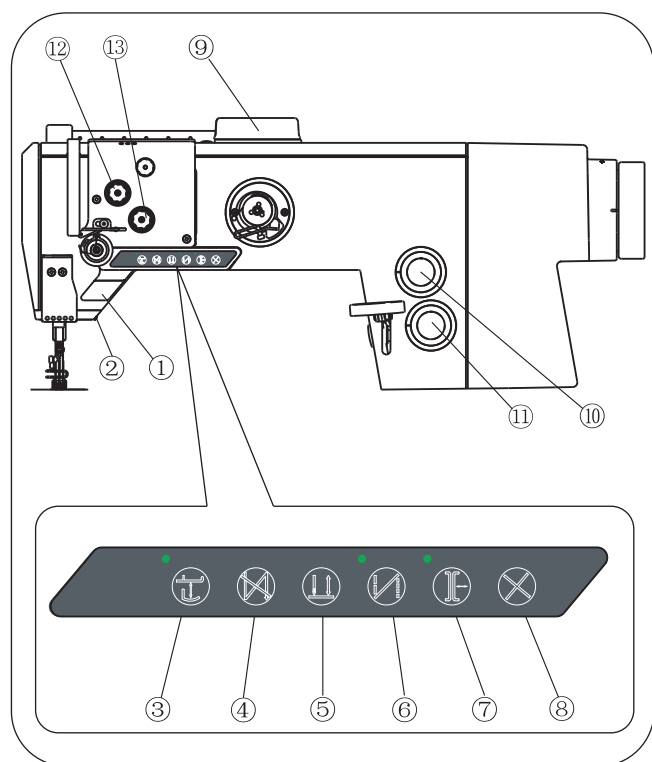
(OFF) ... The alternating presser foot movement amount equals the amount set by the alternating presser foot movement dial ③.

(ON) ... The alternating presser foot movement amount equals the maximum movement.



- ※ The knee switch can also be used to change the alternating presser foot movement amount. Change the motor parameter settings.
(Refer to the description P22 parameters, P24)

9.8 USING THE MANUAL SWITCHES



(1) Quick reverse switch ①

Back tacking is carried out during sewing only while this switch is being pressed.

(2) LED switch ②

The brightness changes by sliding in two steps.

(3) Alternating presser foot movement change switch ③

The sewing machine can be switched between two different alternating presser foot movement amounts each time this switch ③ is pressed.

* If the indicator is turned off, the alternating presser foot movement amount equals the amount set by the alternating presser foot movement dial ⑨. If the indicator is turned on, the alternating presser foot movement amount equals the maximum movement amount (9mm). (Refer to the description P19 for details)

(4) Auto backtack select switch ④

If this switch ④ is pressed when either start backtacking or end backtacking has been set to ON at the operation panel, backtacking is canceled for the first time only.

Furthermore, if this switch ③ is pressed when neither start nor end backtacking has been set, backtacking is carried out for the first time only. (The number of backtack stitches sewn at this time will equal the number previously set.)

(5) Half-needle operation switch ⑤

If this switch ⑤ is pressed while the machine is at the needle down stop position, the needle will move up to the needle up stop position, and more pressed, the needle will down to the needle down position. (It will not move after thread trimming has been carried out.)

(6) Stitch length change switch ⑥

The stitch length changes alternately between two different stitch length settings each time this switch ⑥ is pressed.

- The switch lamp is OFF ... Sewing is carried out using the stitch length set by feed adjustment dial (longer stitch length) ⑩.
- The switch lamp is ON Sewing is carried out using the stitch length set by feed adjustment dial (shorter stitch length) ⑪.

(Refer to the description P18 for details.)

(7) Second thread tension switch ⑦

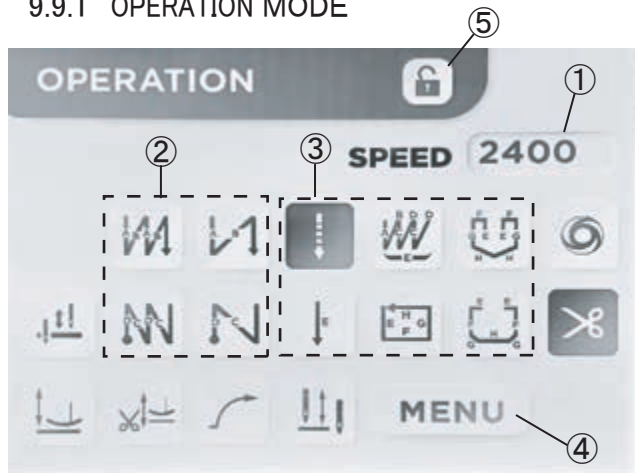
When the thickness of the sewn item changes during sewing, or when step sewing, pressing this switch closes the second tension disc ⑫ and increases the needle thread tension.

(8) Sewing operation stop mode switch ⑧

This press the switch will not rotate even sewing machine is stepping on the pedal, tension discs ⑫, ⑬ will go open.

9.9 USING THE OPERATION PANEL(1)

9.9.1 OPERATION MODE

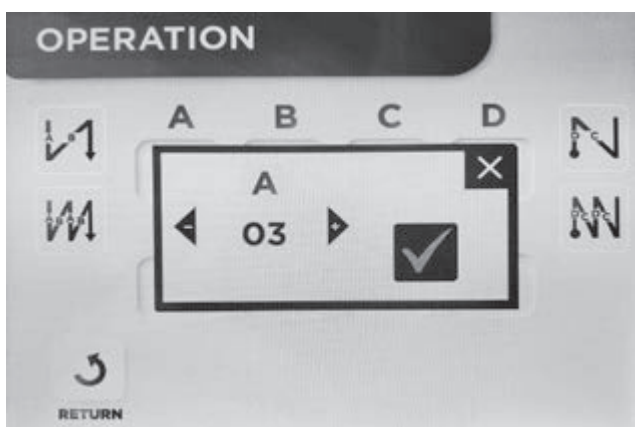


- ① Setting the maximum sewing speed.
Press the displayed figures to change sewing speed.
- ② Choice of automatic back-tacking.
Press the back-tacking icon you want.
Press and hold the icon to change numbers of back-tack stitch.
- ③ Choice of the sewing pattern.
Press the pattern icon you want.
Press and hold the icon to change number of stitches.

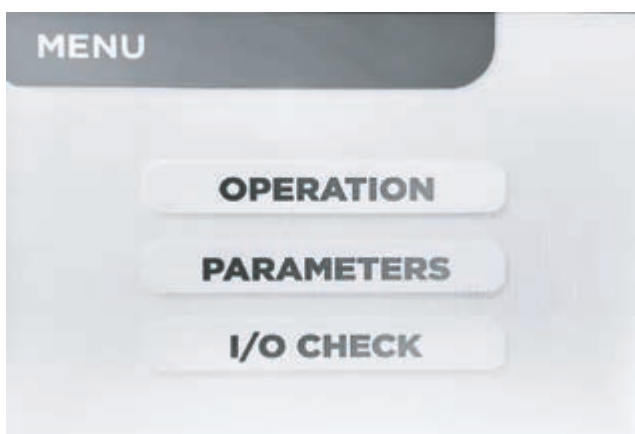


- ④ Move to Menu screen.
- ⑤ Lock of key operation.
Press and hold the icon to lock all key operation.
Press and hold again to cancel locking.

- (1) Setting the figures,
Press the displayed figure to move into the figure change screen.



- (1) Press key to change the figure.
Press key to register the figure you want.
Press key if you do not want to change.

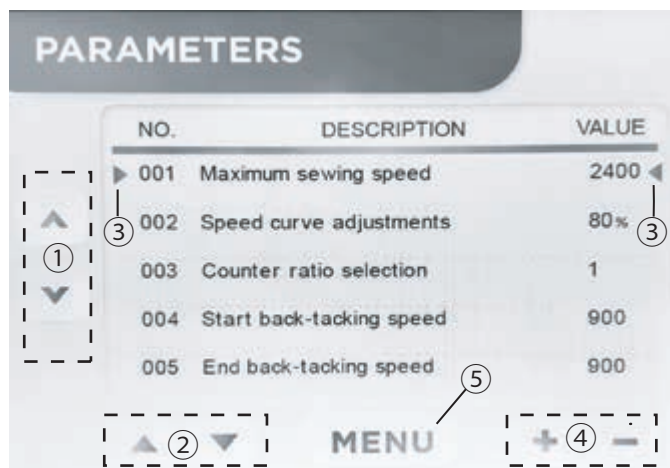


- (1) Menu screen
OPERATION
Sewing condition setting screen

PARAMETERS
Parameters setting screen

I/O CHECK
Checking screen of Input and Output

9.10.1 PARAMETER MODE

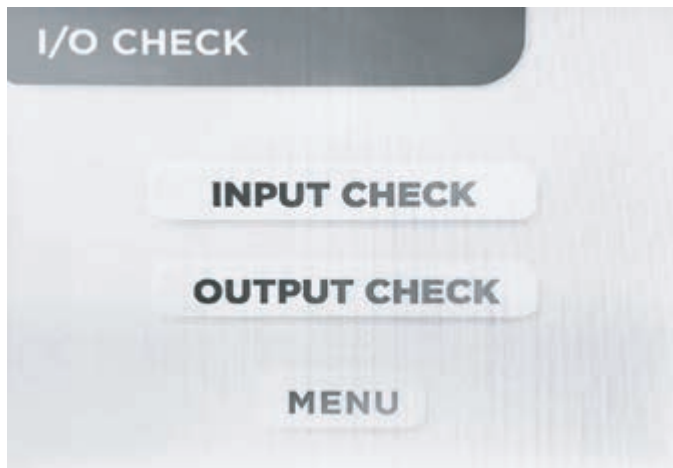


- ① Page feed key
- ② Line feed key
- ③ Line in execution
- ④ Figure change key
- ⑤ Return to Menu.

9.10.3 MAIN PARAMETERS

No.		Function	Initial- setting	Description
1	H	Maximum sewing speed	2800	Maximum sewing speed adjustments
4	N	Back-tacking speed at start	900	Back-tacking speed adjustment at start
5	V	Back-tacking speed at end	900	Back-tacking speed adjustment at end
6	B	Bar-tacking speed	900	Bar-tacking speed adjustments
7	S	Slow start speed	185	Slow start speed adjustments
57	TRU	Needle position up by motor after trimming	ON	ON: Valid OFF: Invalid
58	TR8	Setting needle up position (57.TRU)	50	Valid only when 057.TRU= ON
60	L	Lower speed	185	Lower speed adjustments
61	T	Trimming speed	185	Thread trimming speed adjustments
122	HL	Upper limit of maximum speed of motor	3500	Maximum speed setting of motor
125	USM	Setting the needle up switch	A	A: Stitch changeover + inching B: Stitch changeover only
151	INF	Setting the knee switch	F	F: Foot lifter HP: Change in the momentum of the presser foot
176	VDN	Positioning by index point	B	B: Needle up, down, and needle up dead point A: Needle up, down
187	WS	Presser foot lifting speed	1500	The speed of HP solenoid on (switch 9.8 ③ is ON)

9.11 USING THE OPERATION PANEL(3)



(1) Input and Output signal can be checked.

9.11.2 INPUT SIGNAL CHECK MODE

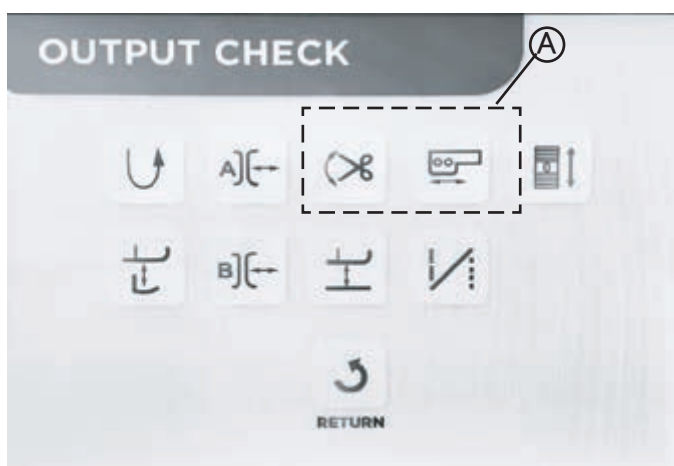


(1) The signal of Input switch can be checked.

When the input switch ①~⑦ is pressed, the color of the corresponding icon will change.



9.11.3 OUTPUT SIGNAL CHECK MODE



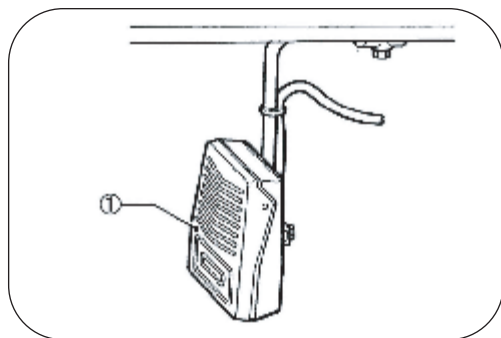
(1) The movement of output unit can be checked.

(2) When the output icon is pressed, the corresponding output unit will move.

CAUTION

1. Make the thread trimming time within 2 seconds, otherwise it will be burn out.
2. Output functions displayed at ① are not equipped.

9.12 USE OF KNEE SWITCH



Press the knee switch ① to raise the presser foot. Also, if you change the parameter setting of the motor control box, this switch ① can be used as an alternating momentum changeover switch. However, at this time, the presser foot function is lost. (Set the value of parameter No. 151 to HP)

10 SEWING



CAUTION



- Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, injury may result.



- Turn off the power switch at the following times, otherwise the machine may operate if the treadle is pressed by mistake, which could result in injury.

- When threading the needle
- When replacing the needle and bobbin
- When not using the machine and when leaving the machine unattended

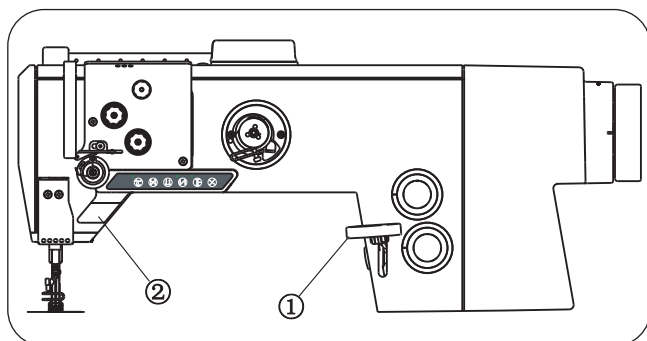


- Do not touch any of the moving parts or place any objects against the machine while sewing, as this may result in personal injury or damage to the machine.

10.1 SEWING

- (1) Turn on the power switch.
- (2) Depress the treadle to start sewing.




10.2 BACK TACKING




When the reverse lever ① or the quick reverse switch ② is pressed during sewing, the feed direction will be reversed. When it is released, the feed direction will return to normal.

11. THREAD TENSION

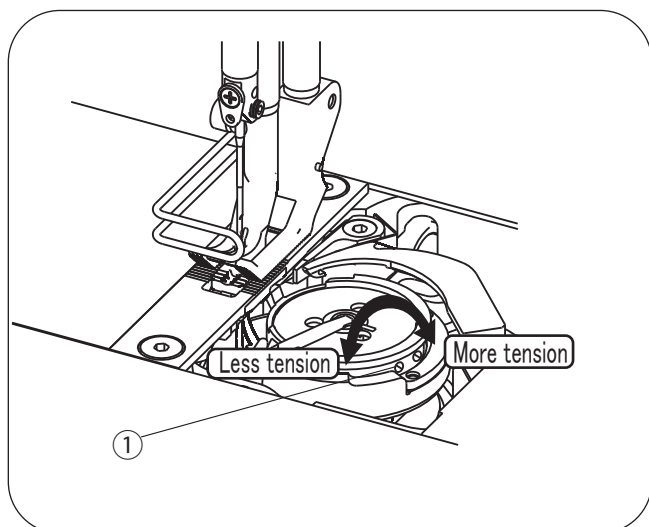
11.1 ADJUSTING THE THREAD TENSION

-  ... Good even stitches
- ×  ... upper thread tension too strong or lower thread tension too weak.
- ×  ... upper thread tension too weak or lower thread tension too strong.

CAUTION

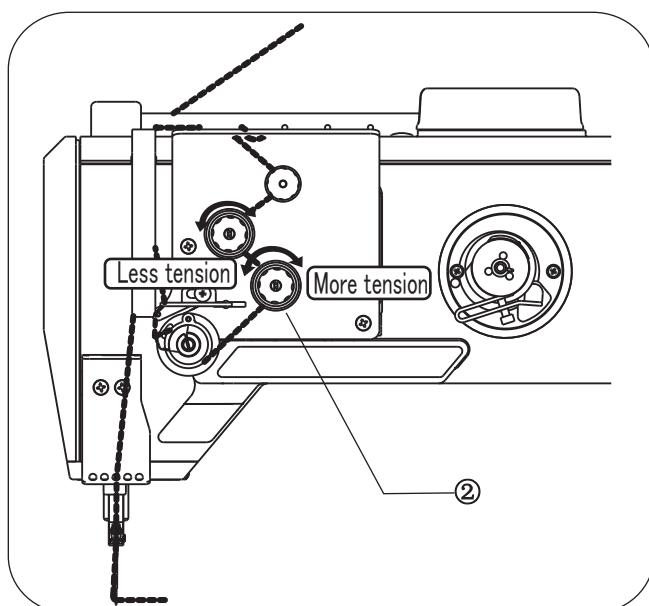
-  • Turn off the power switch before adjusting the thread tension, otherwise the machine may operate if the treadle is pressed by mistake, which could result in injury.

■ Lower thread tension



Turn the adjustment screw ① to adjust the lower thread tension.

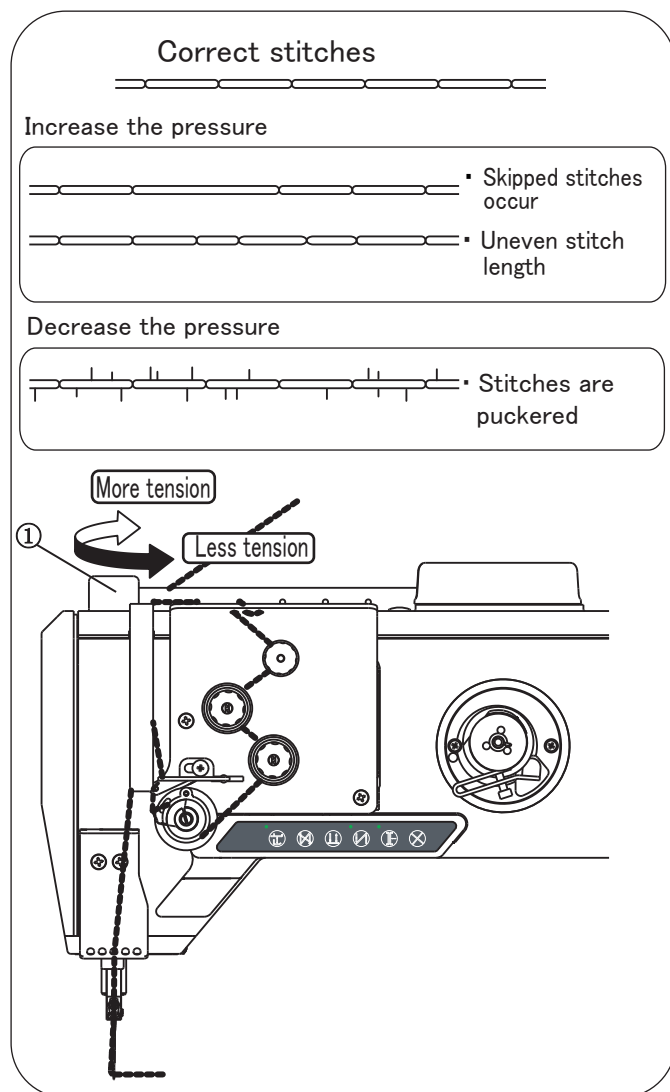
■ Upper thread tension



After the lower thread tension has been adjusted, adjust the upper thread tension so that a good, even stitch is obtained.

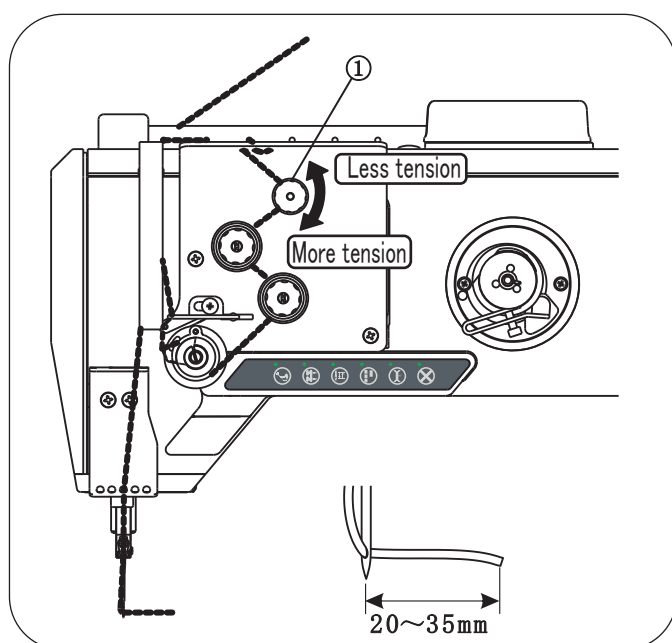
- (1) Lower the presser foot.
- (2) Adjust by turning the thread tension nut ②.

11.2 ADJUSTING THE PRESSER FOOT PRESSURE



- (1) If the presser adjusting dial ① is turned clockwise, the presser foot pressure will become stronger, and if it is turned counterclockwise, the pressure will become weaker.
- (2) The presser foot pressure should be as weak as possible, but strong enough so that the material does not slip.

11.3 ADJUSTING THE TAILING LENGTH AFTER THREAD TRIMMING






- (1) The tailing length can adjust by turning pre-tension ①. (The standard tailing length is 20 to 35mm)
- (2) If the tension of the pretension ① is increased, the length of the thread trailing from the needle tip will make short; if the tension is decreased the length will make long.

12. CLEANING



CAUTION

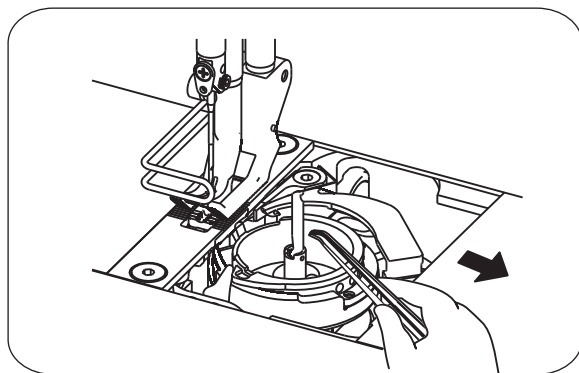
-  • Turn off the power switch before carrying out cleaning, otherwise the machine may operate if the treadle is pressed by mistake, which could result in injury.
-  • Be sure to wear protective goggles and gloves when handling the lubricating oil, so that no oil gets into your eyes or onto your skin, otherwise inflammation can result. Furthermore, do not drink the oil under any circumstances, as it can cause vomiting and diarrhoea. Keep the oil out of the reach of children.
-  • Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.

12.1 DAILY CLEANING PROCEDURES

The following cleaning operations should be carried out each day in order to maintain the performance of this machine and to ensure a long service life.

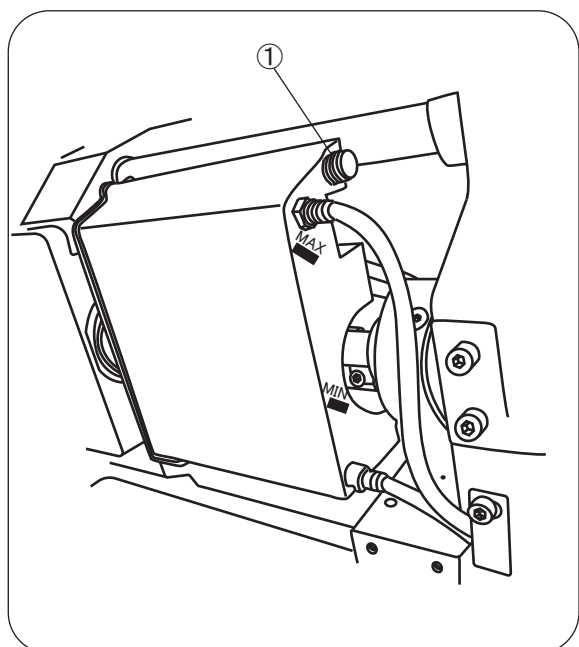
Furthermore, if the sewing machine has not been used for a long period of time, carry out the following cleaning procedures before using it again.

■ Cleaning the sickle



- (1) Turn off the power, Open slide plate and then remove the bobbin.
- (2) Remove any thread scraps from inside the rotary hook.
- (3) Install the bobbin, and close the side plate.

■ Luburication

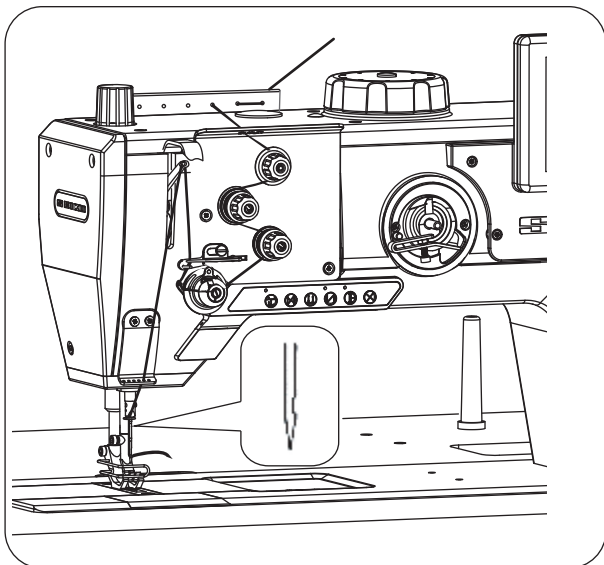


◆ Use only the lubricating oil specified by SEIKO.

- (1) Lubricate before the lubricating oil drops to the min baseline. Remove the oil tank cap ① and pour lubricating oil up to the max baseline from the inlet.

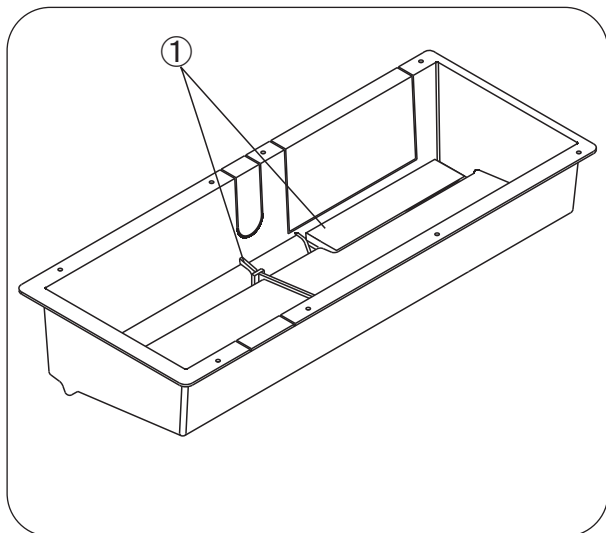
Note : Dispose of waste oil properly in accordance with the law.

■ Checking



- (1) Check that the upper threads have been threaded correctly.(Refer to p17)
- (2) Check that the end of the needle is not broken. If the end of the needle is broken, the needle should be replaced.
- (3) Carry out a test sewing.

12.2 CLEANING THE OIL FILTER (CARRY OUT ONCE A MONTH)



- (1) If the oil pan filter ① is dirty, or if the oil consumption is significantly increased, clean or replace it.

SEIKO SEWING MACHINE CO., LTD.

2-13-6 Sakaecho, Funabashi-shi Chiba Prefecture, 273-0018, Japan

TEL: 81-47-420-3561 (Overseas dept.)

FAX: 81-47-420-3560

E-mail: export@seiko-sewing.co.jp

<http://www.seiko-sewing.co.jp/>

Parts No. IM99413(0516)