

B. & G. LIEBERMAN CO., INC.

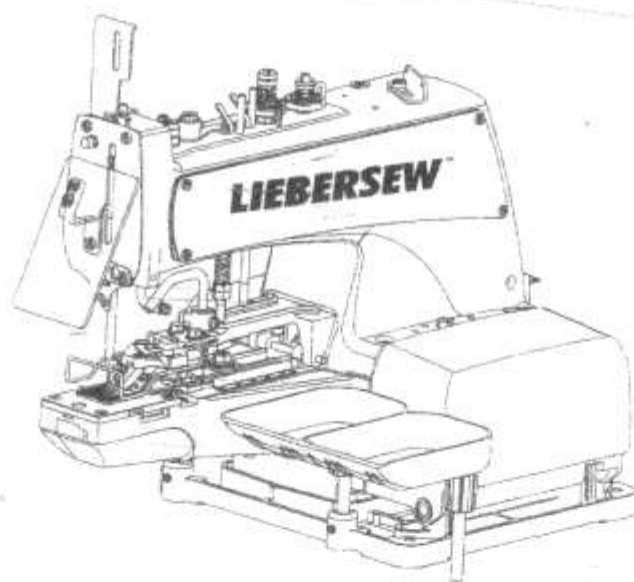
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系列
1377 SERIES

钉扣机

BUTTON MOUNTING MACHINE





使用说明
Operation Manual

感谢您购买本公司的产品!

为了安全地使用, 请您在使用之前一定阅读本说明书。
另外, 请您注意保管本使用说明书, 以便随时查阅。

FOR SAFE OPERATION

	<ol style="list-style-type: none">1. To avoid personal injury, never put your fingers under the needle when you turn ON the power switch or operate the sewing machine.2. To avoid personal injury, turn OFF the power switch when you tilt the machine head.3. To prevent possible personal injury caused by being caught in the machine, keep your fingers, head and clothes away from the handwheel and the thread take-up while the sewing machine is in operation. In addition, place nothing around it.4. Never operate the machine with the safety devices such as needle bar cover, finger guard, eye guard cover, etc. removed.5. To avoid personal injury, be careful not to allow your fingers in the machine when tilting the machine head.
	<ol style="list-style-type: none">1. For the safety, never operate the sewing machine with the ground wire for the power supply removed.2. Be sure to turn OFF the power switch in prior when connecting/disconnecting the power plug.3. When thunders occurs, stop the work for the safety and disconnect the power plug.4. When the sewing machine is suddenly moved from a cold place to a warm place, there is a case where dew condensation may occur. Turn ON the power after there is no worry of the drop of water.5. To prevent fires, periodically draw out the power plug from the plug socket and clean the root of the pins and the space between pins.

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

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

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

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

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

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



Danger of injury to operator or service staff



Items requiring special attention

① →

② →

③ →

① →

② →

③ →

① - There is the possibility that slight to serious injury or death may be caused.

② - There is the possibility that injury may be caused by touching moving part.

③ - To perform sewing work with safety guard.

④ - To perform sewing work with safety cover.

⑤ - To perform sewing work with safety protection device.

⑥ - Turn OFF the power and perform "threading", "replacement of bobbin or needle", "cleaning", "adjustment" and "lubrication".

CAUTION BEFORE OPERATION



WARNING :

To avoid malfunction and damage of the machine, confirm the following.

- Use the oil adaptable to the machine specifications.
- Clean the sewing machine thoroughly before using it for the first time.
- Remove all dust collected on the sewing machine during the transportation.
- Confirm that the voltage and phase are correct.
- Confirm that the power plug is properly connected.
- Never use the sewing machine in the state where the voltage type is different from the designated one.
- The direction of rotation of the sewing machine is clockwise as observed from the handwheel side. Be careful not to rotate it in reverse direction.
- Before applying power, release the stop-motion mechanism and turn by hand the needle driving pulley in order to ensure that the machine is in order.
- To install the machine, the frame support bar has to be firstly inserted into the table.
- When operating the sewing machine, turn ON the power switch after properly setting the head on the table.
- Operate the handwheel after the sewing machine has totally stopped.

ENGLISH

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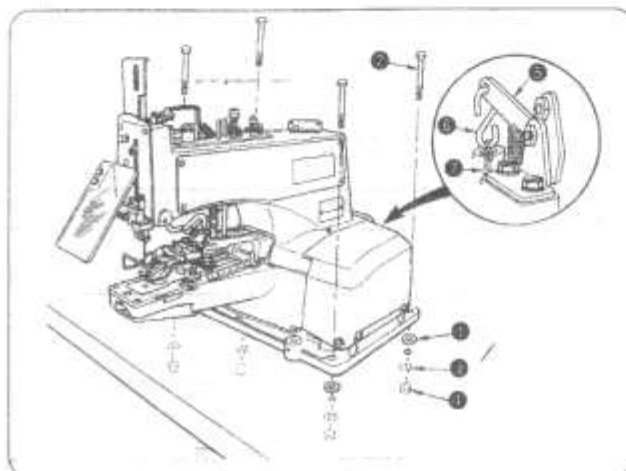
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1. SPECIFICATIONS

	MB-1373	MB-1377
Sewing speed	Normal 1,300 rpm (Max. 1,500 rpm)	
Number of stitches	8, 16 and 32 stitches	
Feed amount	Lateral feed 2.5 to 6.5mm Longitudinal feed 0, 2.5 to 6.5mm	Lateral feed 2.5 to 6.5mm Longitudinal feed 0, 2.5 to 4.5mm
Button size	10 to 28 mm	
Needle used	TQx1 #18 (#14 to #20) TQx7 #16 (#14 to #20)	
Lubricating oil	New Detrix Oil No. 1	
Noise	Workplace-related noise at sewing speed $n = 1,500 \text{ min}^{-1}$: $L_{pa} \leq 84 \text{ dB(A)}$ Noise measurement according to DIN 45635-48-B-1.	

2. PREPARATION OF THE SEWING MACHINE

2-1. Installation



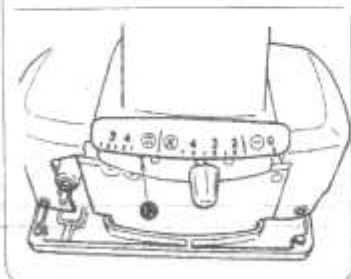
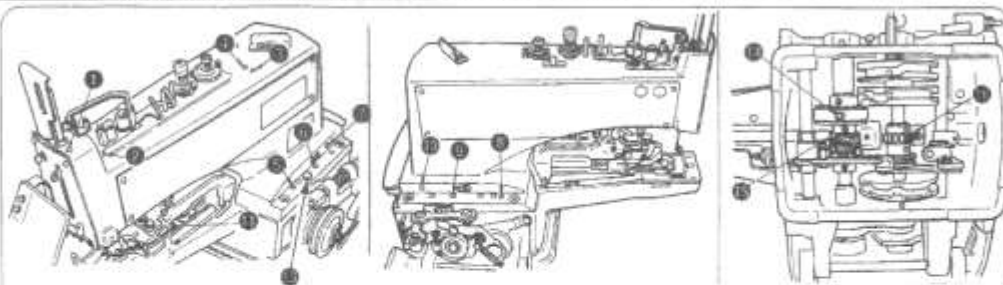
Put rubber cushion ① on the table, place the machine head on the rubber cushion and fix it to the table using screws ②, plain washers ③ and nuts ④. Attach "S" chain hook ⑤ and chain ⑥ to stop motion trip lever ⑦.

2-2. Lubrication

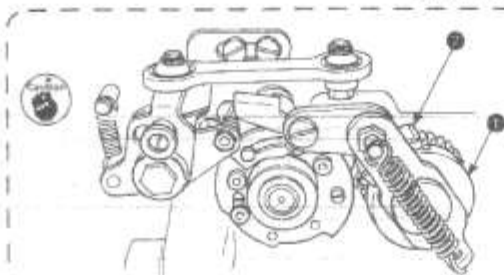


WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



- 1) Open the side cover, and apply New Defrix Oil No. 1 to the portions shown by the red marks ① to ⑩ (⑦ : MB-1377 only). (Apply approximately 1 cc of oil to the respective lubricating places one to two times a week.)
- 2) Loosen connecting screw ⑪, tilt the machine head backward and apply grease (designated grease) to crossed helical gear ⑫ and worm gear ⑬.
- 3) Check, approximately once a week, that oil amount is sufficient to reach the top of the oil felt placed inside the bed mounting base. If the amount of oil is insufficient, add an adequate amount of oil. At this time, also apply oil to crank rod ⑭.



[Caution at the time of lubricating]

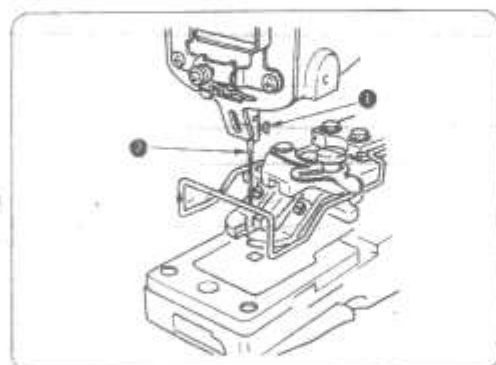
1. Take care not to allow speed slowing friction wheel ① and friction plate ② to be clogged with oil to prevent them from the deterioration of retardation performance. In addition, when the components are clogged with oil, wipe the oil from them.
2. Take care not to allow the machine belt to be clogged with oil to prevent it from the deterioration.

2-3. Attaching the needle



WARNING :

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★ Use a standard needle of TQx1 #16.

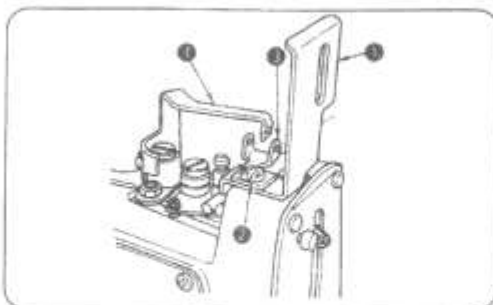
Loosen setscrew ③ and hold needle ① with the long groove facing toward you. Then fully insert it into the hole in the needle bar, and tighten setscrew ③.

2-4. Attaching the needle bar cover



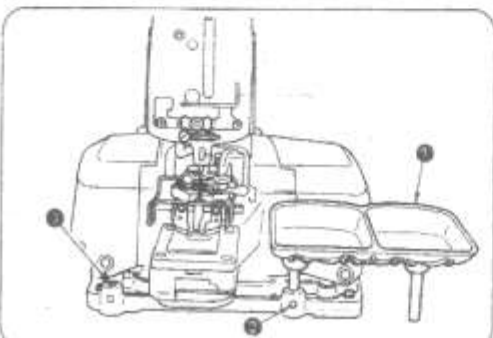
WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



- 1) Loosen screw ② and remove thread guide ③.
- 2) Place needle bar guard ① under thread guide ③ and attach thread guide ③ so that lever ④ comes to the center of it at the start of the machine.
- 3) Fix the cover with screw ②.

2-5. Attaching the button tray assembly



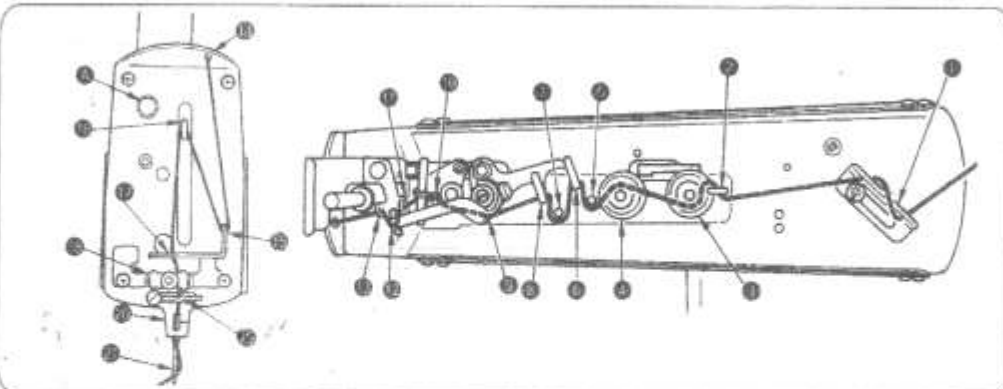
Insert the posts of button tray ① in hole on the right of the machine sub-base and tighten each setscrew ②. If it is difficult for the operator to pick up the buttons on the right side, change it to hole ③ on the left side.

2-6. Threading the machine



WARNING :

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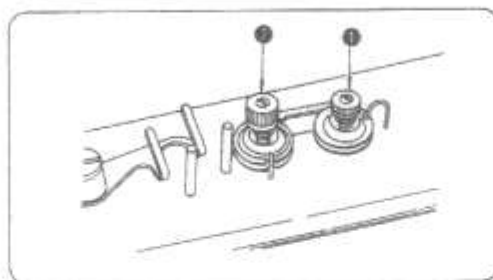


Thread the machine head in the order of ① to ⑪ as shown in the illustration given above. Then, pass the thread through the needle eye from the front for approximately 60 to 70 mm as you depress nipper releasing knurled thumb nut ⑫.

* Standard needle is TQ X 1 #16.

3. ADJUSTMENT OF THE SAWING MACHINE

3-1. Thread tension adjustment



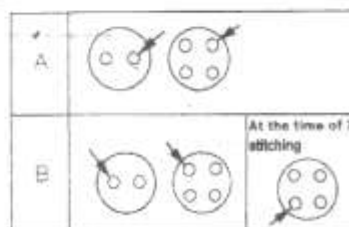
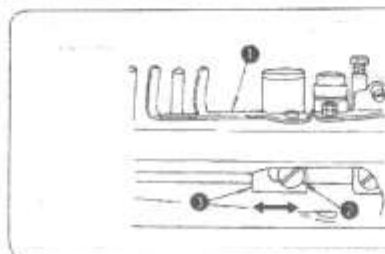
Tension post No. 1 ① is used to adjust the thread tension to sew on the button and a relatively low tension will be enough. Tension post No. 2 ② is used to adjust the thread tension applied to the root of the button sewing stitches. This tension must be determined according to the type of thread, fabric and thickness of the button and must be higher than that of tension post No. 1 ①. Turn the tension nuts clockwise to increase or counterclockwise to reduce the thread tension.

3-2. Adjustment of the thread pull-off lever



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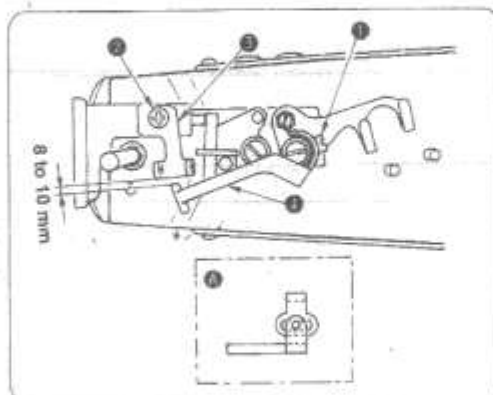
To adjust the thread pull-off lever ①, insert a screwdriver through an opening in the machine arm side cover (left), loosen screw ② and adjust the position of nipper bar block (rear) ③ to the left or the right. If the end of thread is drawn from arrow hole A in the button after sewing, change the position of nipper bar block (rear) ③ to the left. Move the lever to the right when the thread end comes out from arrow hole B.

3-3. Adjusting the tension lever



WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



- 1) When the machine is in the stop-motion state, loosen screw ①.
- 2) Tighten setscrew ① so that there is a clearance of 8 to 10 mm as a standard between the end of thread tension guide ② and end of lever ①.

After the adjustment, make sure that the thread path is within the slot as illustrated in Fig. ④ when the machine starts.



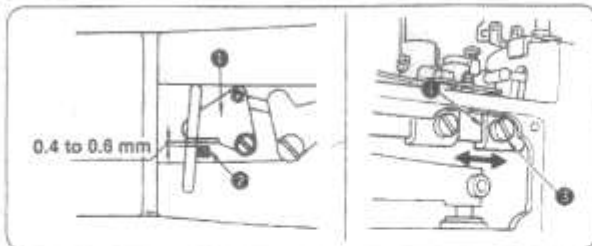
If the thread paths do not coincide with each other, loosen screw ② in the tension thread guide and adjust it properly.

3-4. Adjusting the nipper



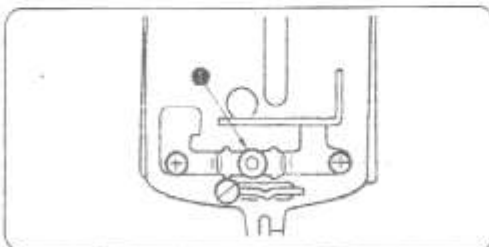
WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



- 1) Provide a 0.4 to 0.6 mm clearance between nipper block ② and nipper ① to prevent the nipper ① from holding the thread while the machine is in operation.
- 2) Loosen screw ③ and move nipper bar block ④ to the right or the left.

3-5. Adjusting the thread tension guide on the face plate



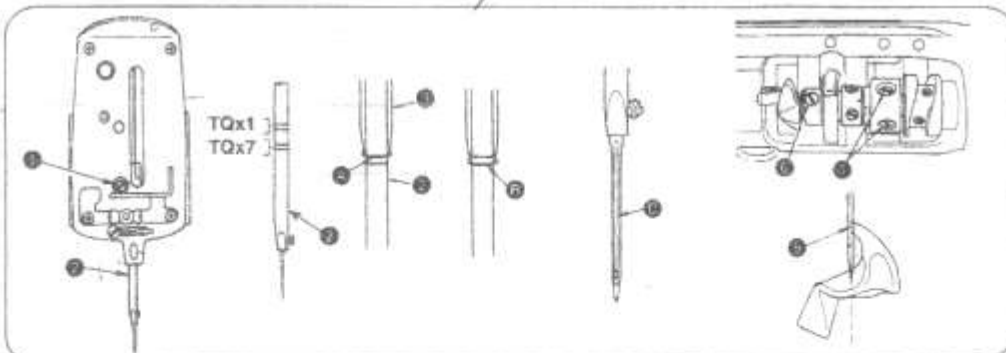
If the formation of seams at the start of sewing is failed and the seams are formed on the way even when the thread pull-off lever is adjusted, turn thumb nut ① (double nut) to decrease the thread tension.

3-6. Needle-to-looper relation



WARNING :

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★ Adjust the needle-to-looper relation as follows :

- 1) Depress the pedal fully forward, turn the needle driving pulley in the normal sewing direction by hand to bring down the needle bar to the lowest position of its stroke and loosen screw ①.

(Adjusting the needle bar height)

- 2) Adjust the height of the needle bar using the top two lines engraved on the needle bar ② for the TQx1 needle and using the bottom two lines for the TQx7 needle. Align the upper line ③ with the bottom end face of needle bar bushing (lower) ④ and tighten screw ①. At this time, tighten the screw so that groove ⑤ of the needle faces the front.

(Looper position)

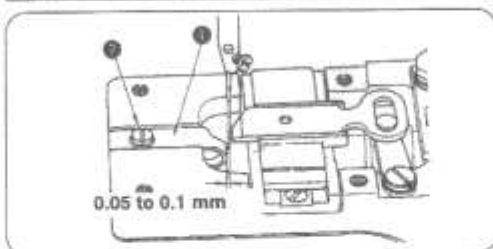
- 3) Loosen screws ⑥ and turn by hand the needle driving pulley until lower line ③ of two lines aligns with the bottom end face of needle bar bushing (lower) ④.
- 4) By keeping the machine in this state, align looper blade ⑤ with the center of the needle and tighten screws ⑥.
- 5) Loosen screws ⑦ and provide a 0.01 to 0.1 mm clearance between the looper and the needle. Tighten screws ⑦.

3-7. Position of the needle guide



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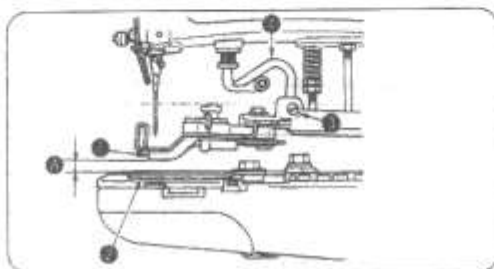
Loosen screw (2) and provide a 0.05 to 0.1 mm clearance between the needle guide (1) and the needle by moving the needle guide (1) to the left or the right when the needle is in the lowest position.

3-8. Height of the button clamp



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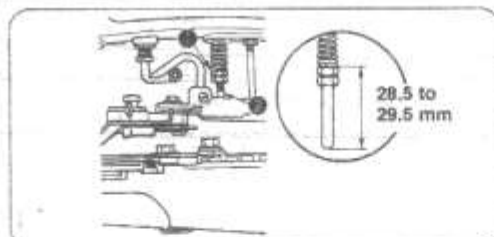
- 1) The standard clearance (2) between the rear side of the bottom face of button clamp jaw lever (1) and the top surface of feed plate (2) is 8 mm at the position where the machine has stopped after sewing.
- 2) To adjust the height of the button clamp unit, loosen screw (1) in the button clamp lifting hook and move button clamp lifting hook (2) up or down.

3-9. Work pressing force



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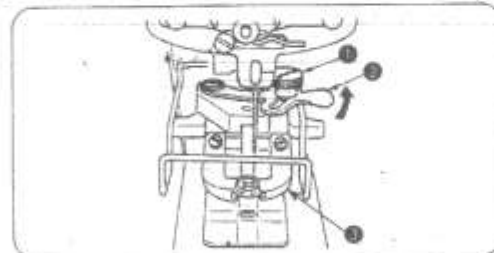
The standard work pressing force is by providing a 28.5 to 29.5 mm between the top end of nut (1) and the bottom end of pressure adjusting bar (2). Turn nut (1) to adjust it.

3-10. Adjustment of the button clamp stop lever



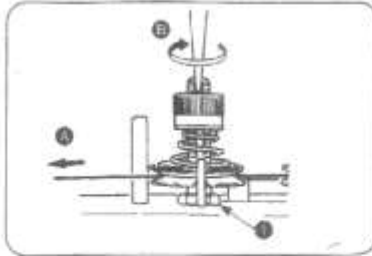
WARNING :

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When clamp screw (1) is loosened in the state of stop-motion, button clamp jaw levers (2) opens/closes with button clamp stop lever (3). Set a button to the correct position and fix button clamp stop lever (3) at the position where taking in and out of the button is easily performed with clamp screw (1).

3-11. Timing of thread tension release



Turn the needle driving pulley as you draw the thread in the direction of arrow mark ➊ and you will find a point at which the tension discs on the tension post No. 2 release the thread. At this moment, the standard distance from the top end of the needle bar bushing (upper) to the top end of the needle bar is 44 to 47 mm (in case of the needle of TQ X 7, 54 to 57 mm).

Perform the following adjustments especially when the undermentioned troubles occur frequently.

Loosen nut ➋, insert the blade of a screwdriver to the top slot of the tension post No. 2 and turn it in the direction of arrow mark ➌ to lower the height of the thread floating bar and in the opposite direction to raise the height.

Phenomenon	Height of thread floating bar
1. When the stitch made on the wrong side of the workpiece is too loose ;	Make the needle bar slightly higher.
2. When the thread is broken at the time of stop-motion ;	Make the needle bar slightly lower.
3. When the thread is broken frequently ;	Make the needle bar slightly lower.

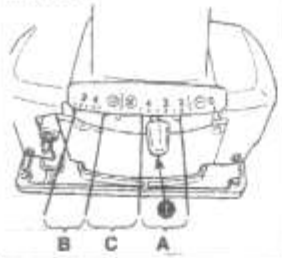
3-12. Setting for 2- or 4-hole buttons



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MB-1377



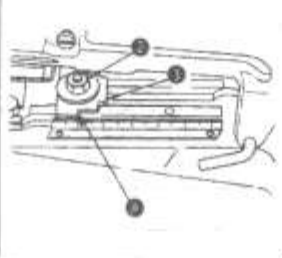
[In case of MB-1373]

★ Lengthwise feed

Push down lengthwise feed adjusting lever ➊ and set it to "0" for 2-hole buttons or a corresponding amount for 4-hole buttons.

★ Crosswise feed

Loosen nut ➋ and set section ➌ of pointer ➍ to a corresponding amount. Then tighten nut ➋.



[In case of MB-1377]

★ Lengthwise feed

Push down lengthwise feed adjusting lever ➊ and set it to "0" for 2-hole buttons or a corresponding amount for 4-hole buttons by the respective procedures below according to the sewing methods.

X stitch : Set the lengthwise feed adjusting lever to the position corresponding to the amount for the button within the range of A.

U-sharp stitch : Set the lengthwise feed adjusting lever to the position corresponding to the amount for button within the range of B.



When setting the lengthwise feed adjusting lever to the position of C (outside of range of setting the lever), not only the sewing cannot be performed but also trouble will be caused. Do not set the feed adjusting lever at the position of C.

★ Crosswise feed

Loosen nut ➋ and set section ➌ of pointer ➍ to a corresponding amount. Then tighten nut ➋.



Before operating the machine, ensure that the needle enters the center of each hole in the button.

Perform the adjustment after confirming that the sewing machine is located at the position of the stop-motion (refer to "3-14. Adjusting the position of the stop-motion", p.8.).

Measure the distance between two holes in a button and set equally crosswise and lengthwise feed regulators for 4-hole buttons.

3-13. Setting a number of stitches

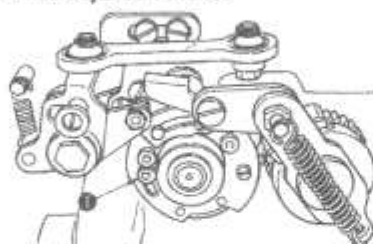


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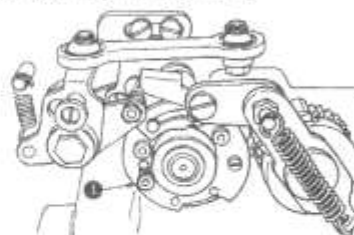
To change the number of stitches, open the left-hand side cover and change the number of stitches using stitch number adjusting screw ① and stitch number adjusting lever ② (optional).

★ How to adjust 8 stitches



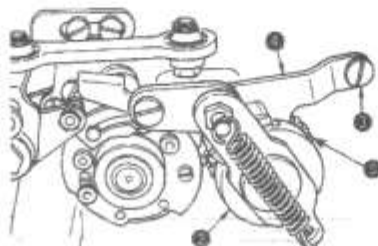
To make 8 stitches, loosen stitch number adjusting screw ① and fix it to the position as shown in the illustration.

★ How to adjust 16 stitches



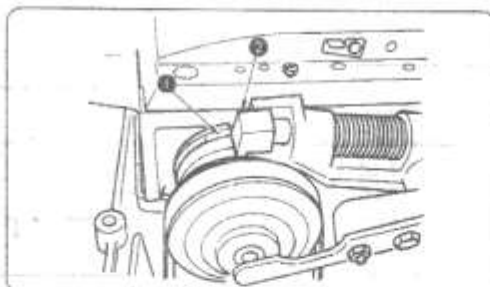
When stitch number adjusting screw ① being set for "8 stitches" has arrived at the left end, loosen stitch number adjusting screw ① and fix it to the position as shown in the illustration.

★ How to adjust 32 stitches



In the state of 16 stitches, stitch number adjusting gear roller ③ which is attached to the large gear ④ comes to the lower side, assemble stitch number adjusting lever ② (supplied as accessories) using hinge screw ⑤ (supplied as accessories).

3-14. Adjusting the position of the stop-motion



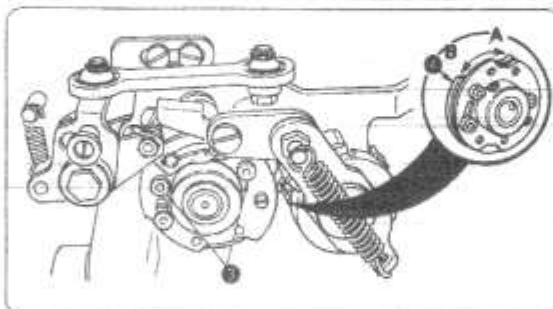
Adjust so that claw ① of the stop-motion cam comes in contact with stop-motion hook ② when the sewing machine completes the sewing and stops.



When replacing the motor pulley and changing the sewing speed from 1,300 rpm to 1,500 rpm, and vice versa, be sure to re-adjust the position of the stop-motion.

[Adjusting procedure]

- When the stop-motion hook comes in contact with the stop-motion cam and rebounds, (When there is a clearance between claw ① and stop-motion hook ②) loosen two stop-motion position adjusting screws ③, turn stop-motion adjusting cam ④ in the direction of A, and fix stop-motion position adjusting screws ③.
- When the stop-motion hook stops before it comes in contact with the stop-motion cam claw. Loosen two stop-motion position adjusting screws ③, turn stop-motion adjusting cam ④ in the direction of B, and fix stop-motion position adjusting screws ③.



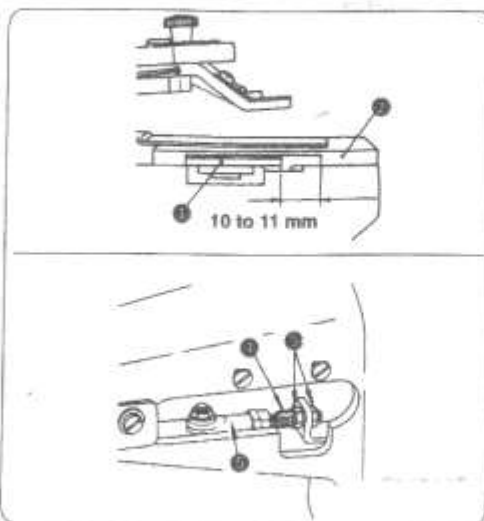
3-15. Automatic thread trimmer

(1) Adjusting the position of the moving knife



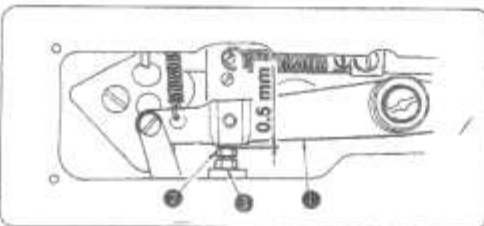
WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



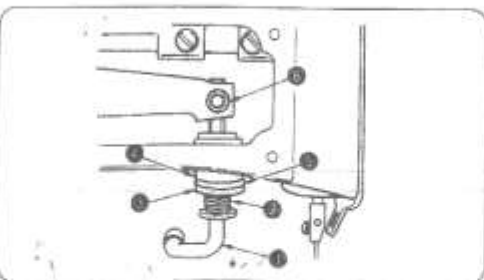
When the presser has completely lifted at the stop-motion position (refer to "3-14. Adjusting the position of the stop-motion", p.8), it is the standard that the clearance between thread trimming connecting plate (front) ① and the end face of the slit throat plate ② is 10 to 11 mm. To adjust the aforementioned clearance, tilt the machine head, remove the oil shield, loosen two nuts ③ and move connecting screw ④ back or forth. When you tighten nuts ③, ensure that joint ⑤ stays in the horizontal position.

3-16. Clearance between the button clamp lifting lever and the adjusting screw



Provide a 0.5 mm clearance between the end face of button clamp lifting lever ① and adjusting screw ② at the stop-motion position (refer to "3-14 Adjusting the position of the stop-motion", p.8) and tighten with adjusting screw nut ③.

3-17. How to set the L-shaped lifting rod



Put moving knife push-back spring ①, stop-motion rubber cushion washer ②, stop-motion rubber cushion ③ and stop-motion rubber cushion washer ④, in this order, to L-shaped lifting rod ⑤. Make the jaw of the machine arm come into close contact with the end face of the stop-motion rubber cushion washer at the stop-motion position (refer to "3-14 Adjusting the position of the stop-motion", p.8) and set the L-shaped lifting rod without a play. Then tighten it with screw ⑥.

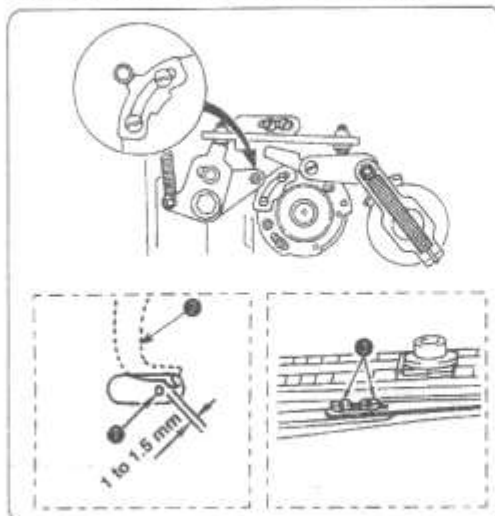
3-18. Knot-tying mechanisms



WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.

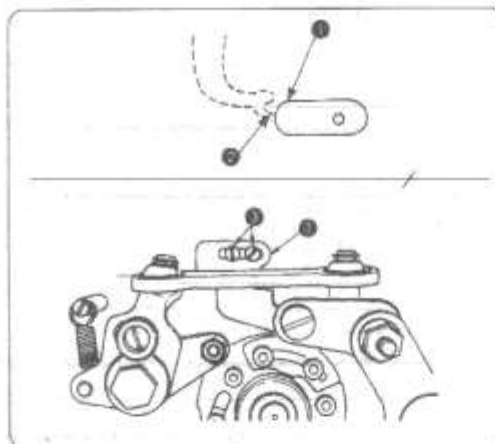
(1) Adjusting the knot-tying connecting plate



Loosen screws ① and adjust so that a clearance of 1 to 1.5 mm is provided between the needle ② and the knot-tying plate ③ when the roller of the knot-tying arm gets on the outmost periphery of the knot-tying notch.

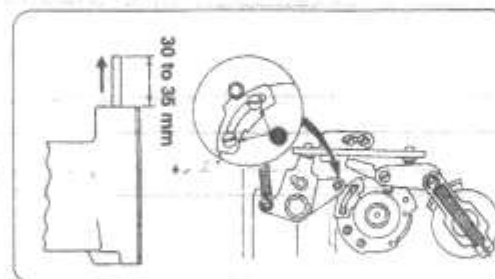
(After the adjustment, ascertain that the needle does not come in contact with the knot-tying plate.)

(2) Adjusting the knot-tying arm stopper



When starting the sewing machine and the roller of knot-tying arm does not come into contact with the knot-tying notch, loosen screws ① and adjust with stopper ② so that outside periphery ③ of the needle hole almost aligns with top end ④ of the knot-tying plate.

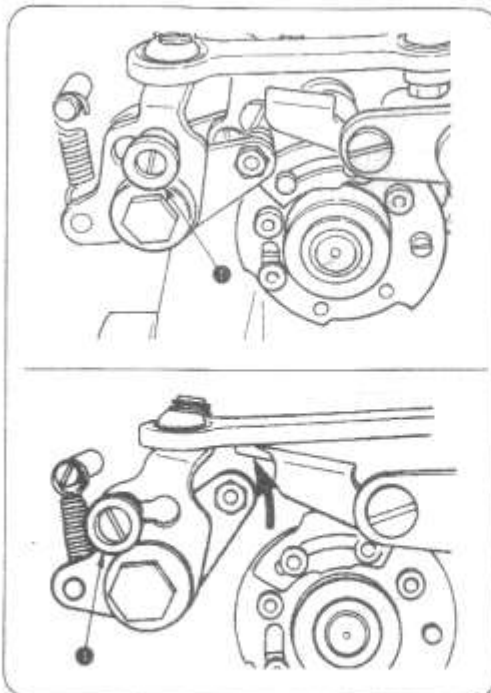
(3) Adjusting the knot-tying notch



Loosen screws ① and adjust so that the roller of the knot-tying arm comes in contact with the knot-tying notch when the needle bar goes up at the fourteenth stitch as high as 30 to 35 mm (40 to 45 mm when a TQ x 7 needle is used) above the needle bar upper bushing.

If two knot-tying notches are to be installed (without crossover stitch), make the aforementioned adjustment at the 6th and 14th stitches.

(4) Changeover of with/without knot-tying

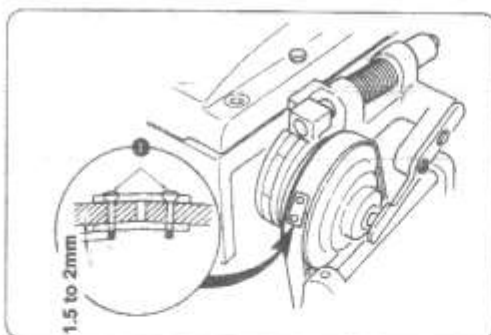


To make "with knot-tying", pull knot-tying changeover knob ❶ toward the front and place it to the position in the figure.

To make "without knot-tying", pull knot-tying changeover knob ❶ toward the front and place it to the position in the figure.

4. MAINTENANCE, SUBCLASS MODELS AND ATTACHMENTS

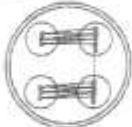

4-1. How to connect the metal fittings of the belt



Tighten connecting screws ❶ of the belt so that the screws protrude approximately 1.5 to 2 mm from the reverse side as the standard.

1. When assembling the belt to the pulley and rotating the motor after closing the side cover, confirm that the side cover does not interfere with the metal fitting of the belt.
2. Take care not to allow the belt to be clogged with oil when assembling it.

4-2. Subclass models

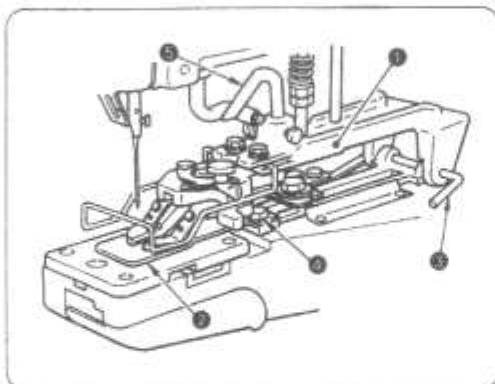
MB-1373	MB-1373-11
8, 16, 32 stitches	8, 16, 32 stitches
	

4-3. Attachments



WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



- 1) In order to install the attachment on the machine, you may have to remove button clamp mechanism ① or feed plate ②.
- 2) Detach the snap ring from button clamp installing stud ③, and you will be able to remove button clamp mechanism assembly ①. Remove screw ④, and you can remove feed plate ②.



The only feature that makes the difference between the attachment of MB-373NS and that of MB-377NS is button clamp lifting hook ⑤.

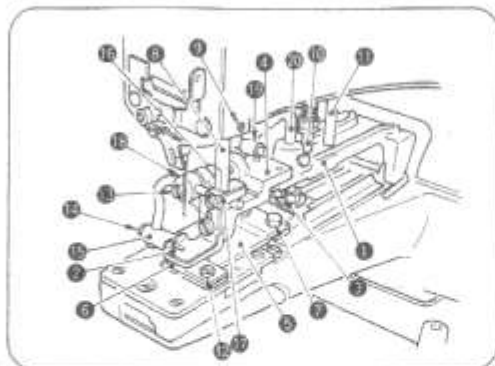
Use	Flat buttons		Shank buttons	Snaps
	Large-size	Medium-size	General	
MB-1373 MB-1377	Z201	Z202	Z033	Z037
Schematic drawing				
Remarks	Button size : A : 3 to 6.5 mm B : ø20 to ø28 mm	Button size : A : 3 to 5 mm B : ø12 to ø20 mm	Button diameter : Less than 16 mm Shank size : Thickness : 6 to 5 mm Width : 3 to 2.5 mm	Snap size : A : 8 mm
Use	Wrapped-around buttons		Metal buttons	Labels
	First process	Second process	General	
MB-1373 MB-1377	Z041	Z035	Z038	Z039
Schematic drawing				
Remarks	Thread shank height A : 5.5 mm			Common to Z041
				Stitch width : 3 to 6.5 mm

(1) Attachments for shank buttons (Pearl buttons) (Z033)



WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



(INSTALLATION)

Remove both the button clamp mechanism assembly and the feed plate from the machine and install attachment 1 in place. Loosen screws 3 and adjust button clamp bracket 4 to permit the needle to come down in the middle of the needle slot in shank button adaptor 2. Attach button clamp feed plate 5 using screws 7 in the way that it permits the needle to come down in the middle of the needle slot in feed plate 5. Insert the top end of button clamp stud 8 into an opening in the jaw of the machine arm and fasten it by screw 9.

(ADJUSTMENT AND OPERATION)

- 1) Loosen screw 12, let feed plate 5 recede 0.5 to 1.0 mm from the left end of button clamp jaw lever 2 and retighten screw 12.
- 2) Set a button in place, loosen screws 11 and 13 and align shank button holding clamp 14 with the center of the button.
- 3) Shank button holding clamp 14 must give proper pressure to the button so that the button stays steadily in position while being sewn. Loosen a setscrew in thrust collar 15 and rotate the thrust collar until shank button holding clamp 14 provides proper pressure.
- 4) You may fix button clamp block 17 in a convenient position for operation.



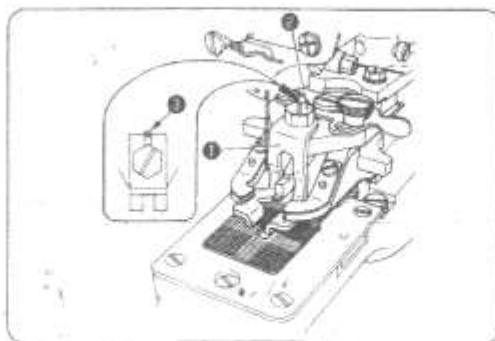
1. When you fix the thrust collar, ensure that button clamp rotating shaft 16 does not play axially in its bracket.
2. Adjust lifting hook 18 and stopper pin 19 so that L-shaped lifting rod roller 20 does not come in contact with button clamp bracket 4.

(2) Attachment for the first process of wrapped-around buttons (Z041)



WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



(INSTALLATION)

Attach wrapped-around button foot 1 to the ordinary button clamp jaw levers using screw 2 and guide pin screw 3.

Align foot 1 with the jaw levers so that they permit a button to rest in the middle.

(ADJUSTMENT AND OPERATION)

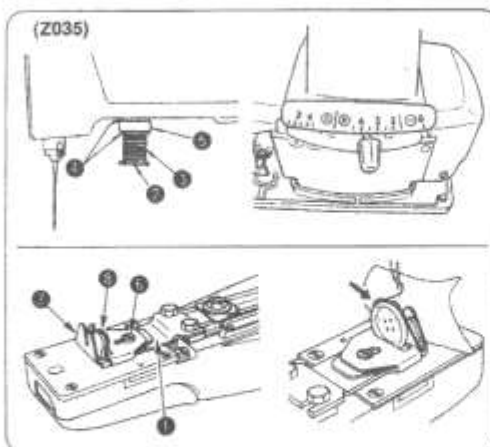
Adjustment and operation are almost same as those for the flat buttons, but you must adjust the thread pull-off lever to provide more amount of thread in order to make the thread loose below the button for thread shank formation. (refer to "3-2. Adjustment of the thread pull-off lever", p.4)

(3) Attachment for the second process of wrapped-around buttons (Z035)



WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



(INSTALLATION)

Remove the button clamp mechanism assembly, button clamp pressure adjusting bar and feed plate from the machine and install attachment for the second process of wrapped-around buttons ①. When you install a Z035 attachment, you must remove also the L-shaped lifting rod.

Insert moving knife push-back spring ②, washer ④, cushion ⑤ and washer ③ in spring guide shaft ② in this order. Make certain that the stop-motion mechanism has completely engaged, and install the attachment assembly in place in the way that cushion ⑤ comes in close contact with the surface of the machine arm without play.

(ADJUSTMENT AND OPERATION)

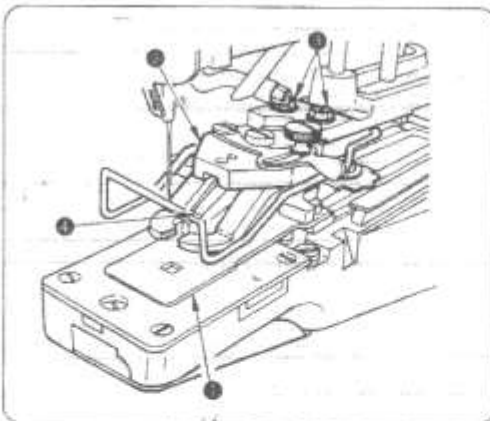
- 1) Loosen screw ⑥ and adjust the thread shank length by moving guide (large) ⑦ and guide (small) ⑧ in line with the point of needle entry.
- 2) Set a button (tilt it slightly for easy insertion) and pass the thread as the arrow shows.
- 3) Set the lengthwise feed to "0".

(4) Attachment for snaps (Z037)



WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



(INSTALLATION)

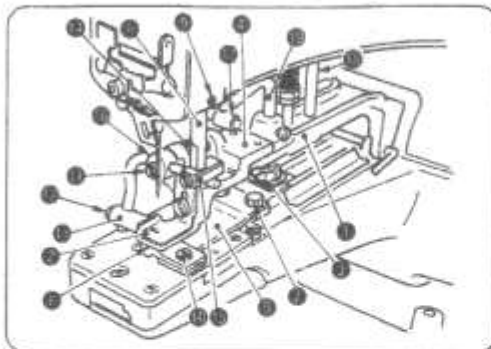
Remove the button clamp mechanism assembly and the feed plate. Set both the crosswise feed and lengthwise feed graduated plates to "4 mm". Install snap clamp feed plate ① in the way that the needle drops evenly at four corners of its square opening. Install snap attachment assembly ② on the machine, place a snap on the snap clamp jaw levers and make sure that the needle drops accurately in each hole in the snap. If necessary, loosen hex head screws ③ and adjust the position accurately. Lastly, make sure that the concave section on the bottom face of snap clamp slide guide ④ accurately matches the convex section on snap clamp feed plate ①.

(5) Attachment for metal buttons (Z038)



WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



(INSTALLATION)

Remove both the button clamp mechanism assembly and the feed plate from the machine and install attachment ① in place. Loosen screws ② and adjust button clamp bracket ① to permit the needle to come down in the middle of the needle slot in metal button adaptor ③. Attach button clamp feed plate ④ using screws ⑤ in the way that it permits the needle to come down in the middle of the needle slot in feed plate ④. Insert the top end of button clamp stud ⑥ into an opening in the jaw of the machine arm and fasten it by screw ⑦.

(ADJUSTMENT AND OPERATION)


- 1) Loosen screw ⑩, let feed plate ④ recede 1.0 to 1.5 mm from the left end of button clamp jaw lever ⑦ and retighten screw ⑩.
- 2) Set a button in place, loosen screws ⑪ and ⑫ and align metal button holding clamp ⑬ with the center of the button.
- 3) Metal button holding clamp ⑬ must give proper pressure to the button so that the button stays steadily in position while being sewn. Loosen a setscrew in thrust collar ⑭ and rotate the thrust collar until metal button holding clamp ⑬ provides proper pressure.
- 4) You may fix button clamp block ⑮ in a convenient position for operation.



1. When you fix the thrust collar, ensure that button clamp rotating shaft ⑮ does not play axially in its bracket.
2. Adjust lifting hook ⑯ and stopper pin ⑰ so that L-shaped lifting rod roller ⑱ does not come in contact with button clamp bracket ①.

4-4. Motor pulley and belt

- 1) For this machine a single-phase or 3-phase 200 watts (1/4 HP) induction motor is used.
- 2) Use a V belt.
- 3) The sewing speed depends on the diameter of the motor pulley as listed below :

Hz	rpm	Motor pulley part No.	mm 
50	1500	40038291	φ 76
	1300	40038298	φ 64.5
60	1500	40038298	φ 64.5
	1300	40042229	φ 57

- ★ The pulley of 50Hz and 1,300 rpm is in common with that of 60Hz and 1,500 rpm.
- ★ The rotating direction of motor is counterclockwise when viewed from the motor pulley side. Be careful not to rotate in reverse direction.
- ★ When replacing the motor pulley and changing the sewing speed from 1,300 rpm to 1,500 rpm and vice versa, be sure to re-adjust the position of the stop-motion. (Refer to "Adjusting the position of the stop-motion", p.8.)

5. TROUBLES AND CORRECTIVE MEASURES

TROUBLES	CAUSES	CORRECTIVE MEASURES
1. Thread breakage	<ol style="list-style-type: none"> ① The yoke slide does not move in the correct way. ② The tension lever has been improperly adjusted. ③ The thread tension post No. 2 fails to release the thread at correct timing. ④ Lifting amount of the button clamp jaw unit is excessive. ⑤ The thread nipper catches the thread. The nipper has been improperly adjusted. (The clearance is too small.) ⑥ The needle does not enter the center of the holes in the button. ⑦ The needle is too thick for the diameter of the hole in the button. 	<ul style="list-style-type: none"> ○ Adjust the timing of forward, backward and sideways of the yoke slide. ○ Properly adjust the tension lever. ○ Make the thread release timing slightly earlier. ○ Adjust the lifting amount of the button clamp jaw lever to 8 mm. ○ Adjust the position of the nipper bar block. ○ Adjust the button clamp jaw lever holder. ○ Replace the needle by a thinner one.
2. The machine forms a seam after it has run for a while instead of forming it from the start of sewing.	<ol style="list-style-type: none"> ① The thread pull-off lever has been improperly adjusted. ② Tension of the thread tension guide on the face plate is excessive. 	<ul style="list-style-type: none"> ○ Adjust the thread tension guide on the face plate so that it provides a lower tension. ○ Properly adjust the tension lever.
3. Buttons are not sewn lightly	<ol style="list-style-type: none"> ① The yoke slide does not move in the correct way. ② The thread tension post No. 2 fails to release the thread at correct timing. ③ The thread tension post No. 2 does not give sufficient tension. ④ The needle does not enter the center of the holes in the button. ⑤ The work pressing force is too high or too low. 	<ul style="list-style-type: none"> ○ Adjust the timing of the motion of the yoke slide at each end. ○ Make the thread release timing slightly later. ○ Tighten the tension nut of tension post No. 2. ○ Adjust the button clamp jaw lever holder. ○ Adjust the work pressing force properly.
4. The last back-tack stitch is poorly tensed.	<ol style="list-style-type: none"> ① The tension lever has been improperly adjusted. ② Timing of the knot-tying plate is incorrect. ③ The nipper has been improperly adjusted. (The clearance is too large.) 	<ul style="list-style-type: none"> ○ Properly adjust the tension lever. ○ Advance the timing of the knot-tying plate. (Adjustment of the knot-tying notch) ○ Adjust the nipper with the nipper bar block.
5. The first stitch trails relatively long thread from the right side of the button.	The thread pull-off lever does not work properly.	○ Adjust the thread pull-off lever by the nipper bar block (rear).
6. Thread trimming failure in the state of stop-motion	<ol style="list-style-type: none"> ① The thread tension post No. 2 fails to release the thread at correct timing. ② The needle hits the edge of the holes in the button. ③ The thread nipper fails to press the thread. ④ The work pressing force is too high. 	<ul style="list-style-type: none"> ○ Make the thread release timing slightly later to give more tension to the stitches. ○ Adjust the button clamp jaw lever holder. ○ Adjust the nipper bar block. ○ Adjust the work pressing force by the pressure adjusting nut.
7. Thread trimming failure	<ol style="list-style-type: none"> ① The moving knife does not separate the thread on the fabric with its separation nail. ② The needle does not enter the center of the holes in the button. ③ The last stitch skips. ④ The moving knife thread separation nail is too high or too low. 	<ul style="list-style-type: none"> ○ Adjust the position of the moving knife. ○ Adjust the button clamp jaw lever holders. ○ Adjust the looper. ○ Adjust the height of the moving knife thread separation nail.
8. The needle thread is cut in two places on the wrong side of the fabric.	<ol style="list-style-type: none"> ① The moving knife is set in wrong place. ② The moving knife thread separation nail is too high or too low. 	<ul style="list-style-type: none"> ○ Adjust the position of the moving knife when the machine is in the stop-motion state. ○ Adjust the height of the thread separation nail.
9. Button trails too long thread after thread trimming.	<ol style="list-style-type: none"> ① Timing of the moving knife motion is wrong. ② Lifting amount of the button clamp jaw unit is excessive. 	<ul style="list-style-type: none"> ○ Adjust the position of the moving knife when the machine is in the stop-motion state. ○ Adjust the lifting amount of the button clamp jaw lever to 8 mm.
10. Length of thread remaining, after thread trimming, on the wrong side of the material varies.	<ol style="list-style-type: none"> ① Position of the moving knife is not correct. ② Lifting amount of the button clamp jaw unit is excessive. 	<ul style="list-style-type: none"> ○ Adjust the position of the moving knife when the machine completes stop-motion. (10 to 11 mm) ○ Adjust the lifting amount of the button clamp jaw lever to 8 mm.