

GOLDEN WHEEL

No. 000003

CS-2180	1-NEEDLE, ZIGZAG LOCKSTITCH MACHINE
INSTRUCTION MANUAL	

Please read this Instruction Manual carefully before using the unit in order to get the most out of it and to enjoy using it for a long time. Please keep this Instruction Manual at hand taking care not to lose it.

BEFORE OPERATION

1. Do not operate the machine even for trial before lubrication it.
2. Confirm that the voltage and phase (single or 3-phase) are correct by checking them against the ratings shown on the motor nameplate.
3. When running your machine for the first time after the set-up, check the rotational direction of the handwheel. ★ Turn on the power switch. Run the machine at a low speed while checking the rotational direction of the handwheel. (The handwheel should turn counterclockwise as observed from the handwheel side.)
4. For the first month, run the machine at speed of 1000 s.p.m. or less.

CAUTIONS IN OPERATION

1. Keep your hands away from the needle when you turn on the power switch or while the machine is operating.
2. During operation, be careful not to allow your or any other person's head or fingers to come close the handwheel, V-belt, bobbin winder or motor. Also, do not place anything close to them.
3. Do not turn the machine with the finger guard, belt cover or any other protectors removed.
4. Be sure to turn off the power switch and confirm that the motor is completely stopped before removing the V-belt.

SPECIFICATIONS

Usage	Light to medium weight material
Sewing speed *	Max. 2000s.p.m
Stitch length	Forward stitch: 5mm, Reverse stitch: 5mm
Max. stitch width	12mm
Needle bar stroke	34.8mm
Lift of presser foot	Hand lifter: 6.35 mm, Knee lifter: 9 mm
Needle	See page 1 for table on "NEEDLE AND THREAD"
Lubricating oil	Machine oil (white spindle oil)

* Maximum speed will vary depending on fabric, threads and sewing condition.

RELATIONSHIP BETWEEN ZIGZAG WIDTH AND MAXIMUM SPEED

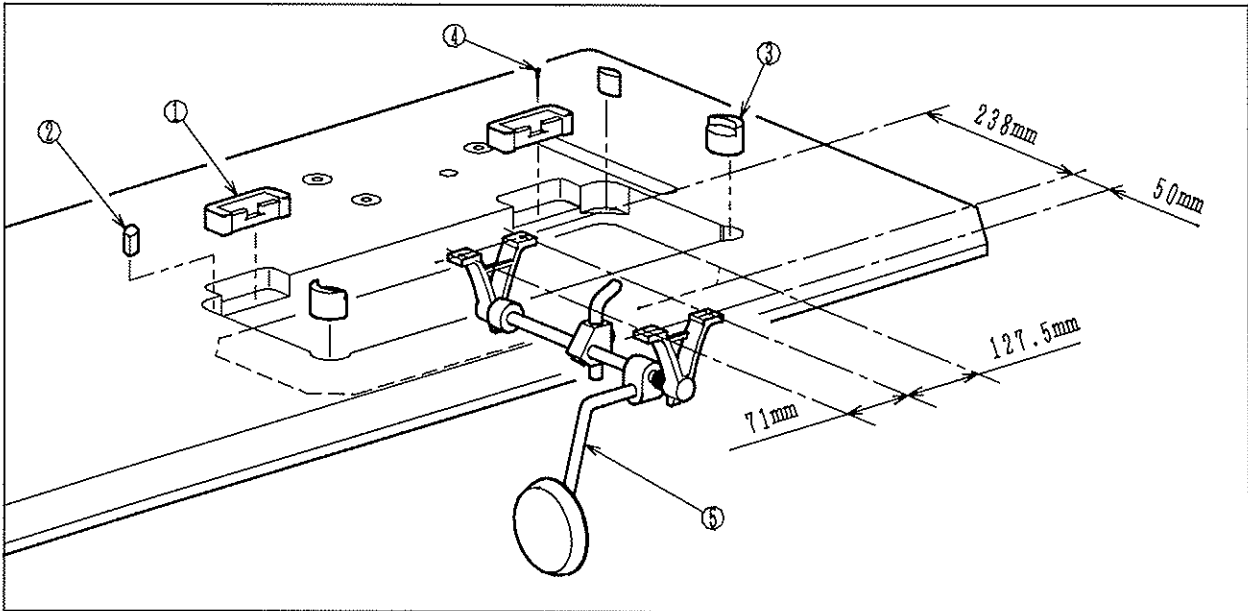
Zigzag width	0mm~5mm	5mm~12mm
Max. speed	2000s.p.m	1800s.p.m

1. NEEDLE AND THREAD

Selection of the proper needle depends not only on the machine model, but also on the material thread used. For selection of proper needle and thread sizes to be used on the various machine models, please refer to the table below.

Application of class	For light-weight materials	For medium-weight materials	For medium-heavy weight materials
Max thread size (Nm) - Synthetic	120	60	30
Needle size	DPx5 #10	DPx5 #12~#16	DPx5 #18~#19

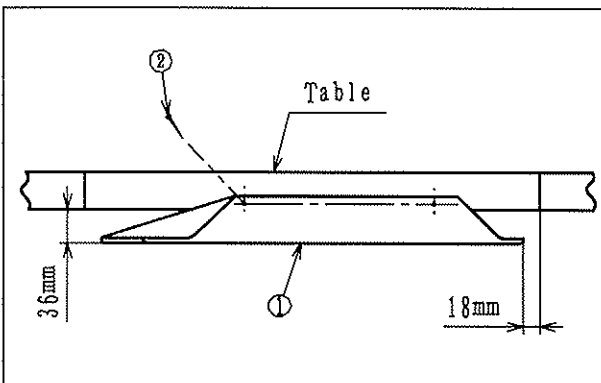
2. SETTING UP THE SEWING MACHINE



(1) Installing the cushion and the knee lifter

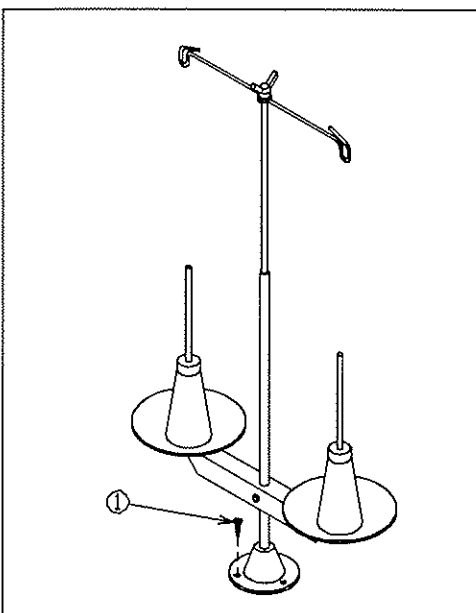
Fasten the hinge supporter ① and rubber cushion ②, ③ on the table using the nail ④ .
Fasten the knee lifter ⑤ to underside of table.

(Note) The knee lifter should be mounted before the motor installed.



(2) Installing oil pan

1) Fasten the oil pan ① on the table using nails ② (at 4 places) .

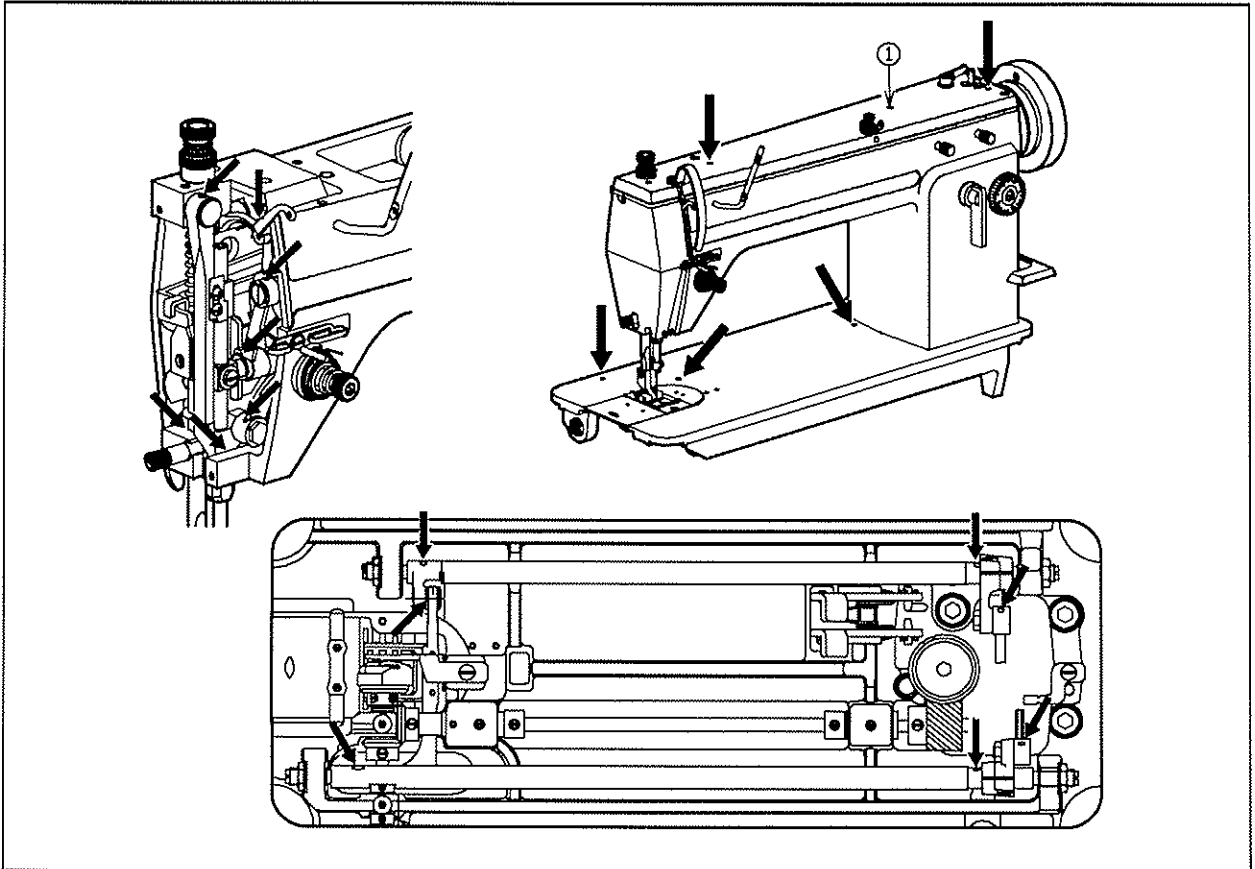


3. INSTALLING THE THREAD STAND

Assemble the thread stand, and install it to the right-hand side of the far side of the table with screws ① (at 3 places) .

4. LUBRICATION

⚠ CAUTION TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.



Before starting the machine.

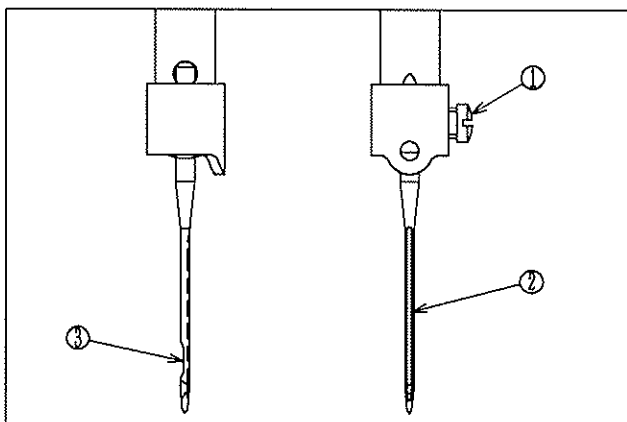
- 1) Prior to operation, be sure to properly lubricate the points marked with the arrows.
- 2) Filling the oil reservoir ①.

When oiling all sections requiring lubrication, after installation of the machine has been completed, wait for a while (approximately 10 minutes) so that oil can penetrate each section sufficiently before starting continuous operation.

When starting the machine initially and after kept away for a long time without using at all, apply two or three drops of oil each section noted with an arrow mark, and to operate the machine continuously, apply two or three drops of oil each section whenever starting operation in the morning and in the afternoon.

4. HOW TO INSTALL THE NEEDLE

⚠ CAUTION TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.



★BE SURE TO POWER-OFF THE MOTOR.

The normal needle system is "DPx5".

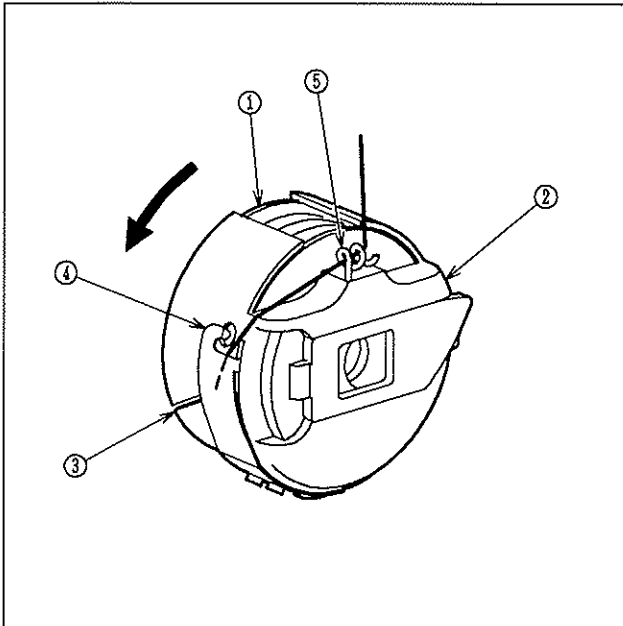
- 1) Turn the handwheel by hand and raise the needle bar to its top position.
- 2) Loosen screw ① and insert the needle ② into the hole until it will go no further.
◇ Insert the needle with its recess ③ facing directly to the rear side.
- 3) Securely tighten the screw in the needle.

6. HOW TO INSTALL THE BOBBIN



CAUTION

TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.



- 1) Put the bobbin ① into the bobbin case ②.
- 2) Pass the thread through the threading groove ③ and the notch ④ of tension spring in the bobbin case.
- 3) Pass the end of thread through bobbin case thread guide ⑤ and pull it out a length of about 40mm.

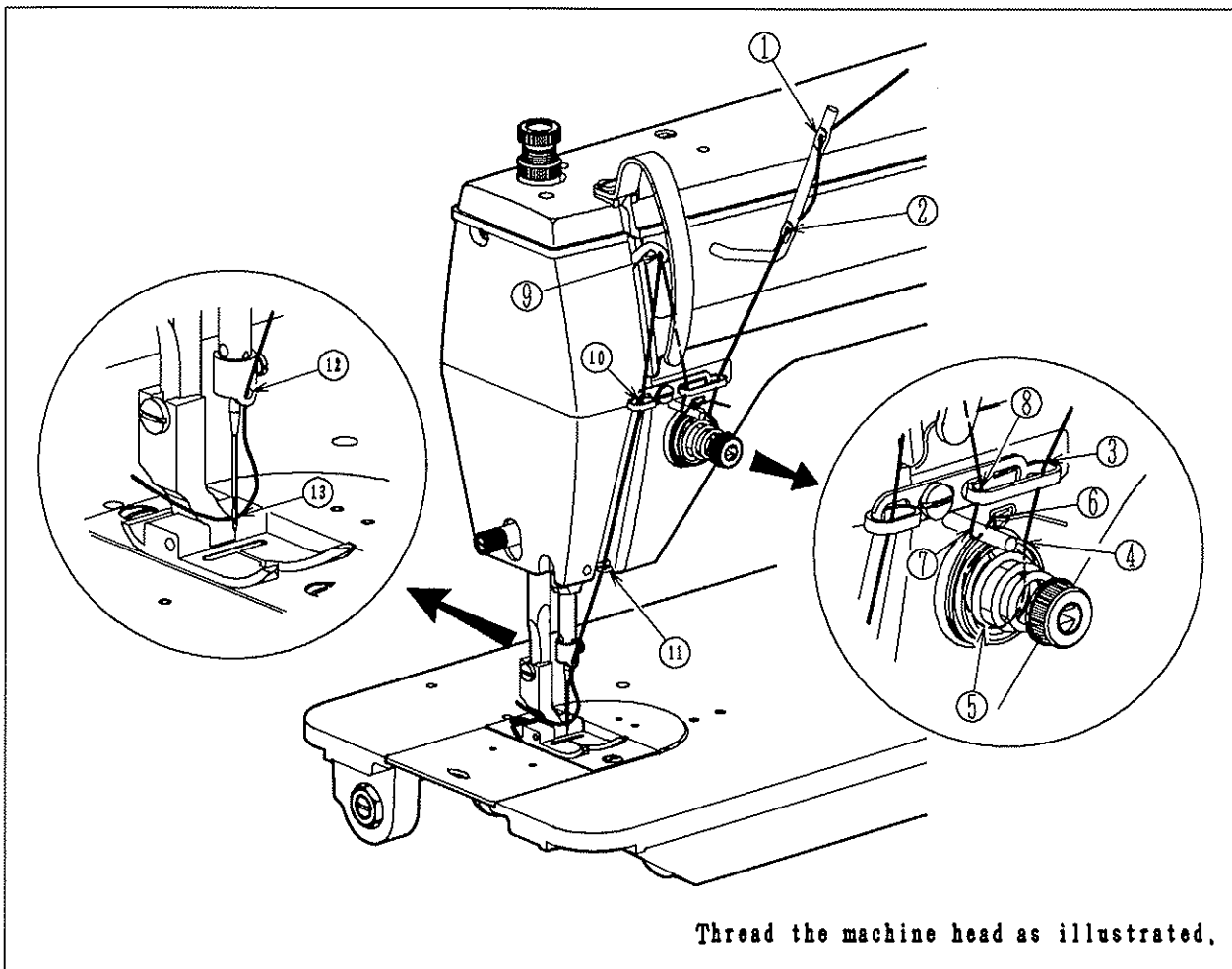
CAUTION: Fit the bobbin in the bobbin case so that the bobbin turns in the direction of the arrow when the bobbin thread is pulled.

7. HOW TO THREAD THE MACHINE HEAD



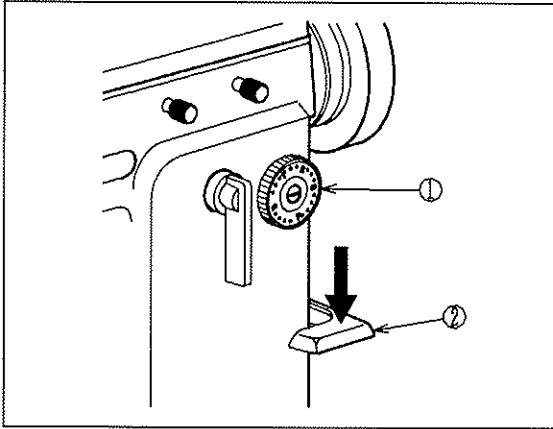
CAUTION

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Thread the machine head as illustrated.

8. ADJUSTING THE STITCH LENGTH

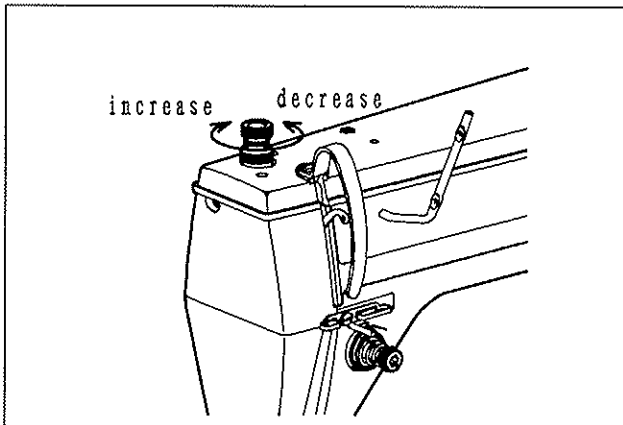


Turn stitch length dial ① counterclockwise or clockwise to bring the desired value to the top.

★ Reverse stitching

- 1) Push the feed lever ② down.
- 2) The machine performs reverse feed stitching as long as the lever is held depressed.
- 3) The moment you release the lever, the machine resumes the normal stitching mode.

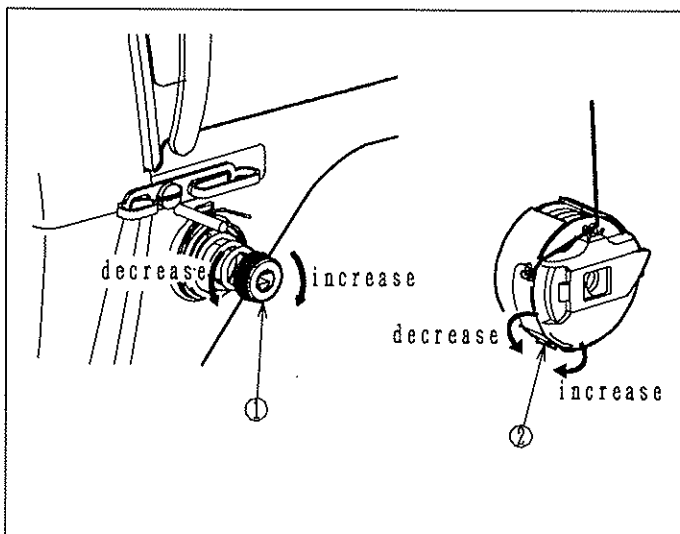
9. ADJUSTING THE PRESSER FOOT PRESSURE



- 1) Turn the presser spring regulator to the right to increase and to the left to decrease pressure.

10. THREAD TENSION

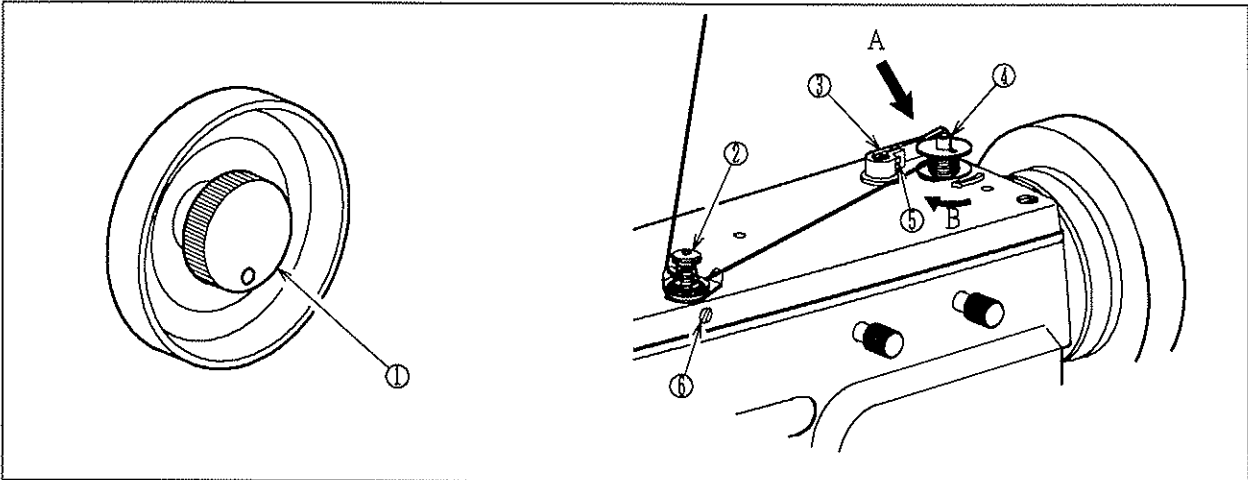
⚠ CAUTION TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.



- (1) Adjusting the needle thread tension
Turn the thread tension nut ① clockwise to increase or counterclockwise to decrease the needle thread tension.
- (2) Adjusting the bobbin thread tension
Turn the tension screw ② clockwise to increase or counterclockwise to decrease the bobbin thread tension.

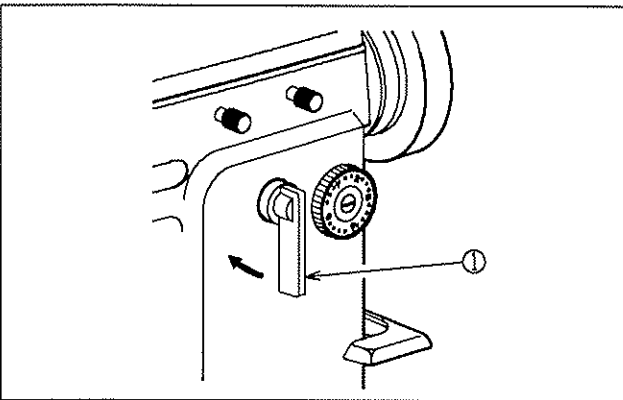
11. TO WIND THE BOBBIN

CAUTION DO NOT GUIDE OR HOLD THREAD WHEN WINDING THE BOBBIN.



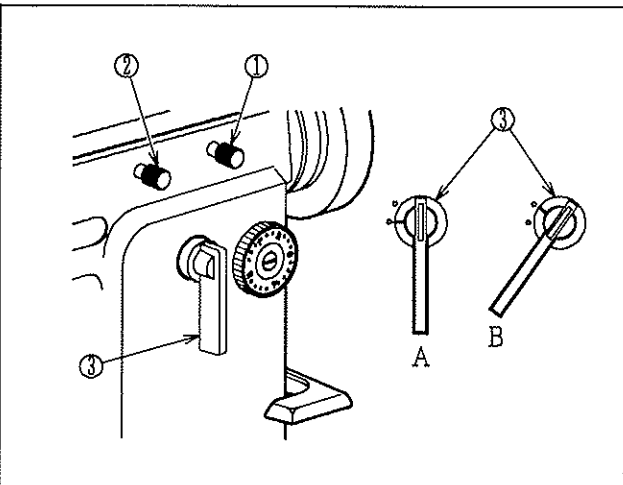
- 1) Stop motion of needle by loosening stop-motion screw ①. Hold hand wheel with left hand and turn stop-motion screw toward you with right hand.
- 2) Place bobbin on bobbin winder spindle ④, pushing it as far as it will go. Turn the thread tension nut ② clockwise to increase or counterclockwise to decrease the thread tension.
- 3) Push latch ③ in the direction indicated by arrow (A), then start the machine. Bobbin winder spindle ④ rotates in the direction indicated by arrow (B). To adjust the amount of thread on bobbin, loosen screw ⑤ on latch ③ and swing the latch ③ away from you or toward you, as required. For more thread on bobbin, swing latch ③ away from you. For less thread on bobbin, swing latch ③ toward you, if thread winds unevenly on bobbin, loosen screw ⑥ and move thread tension nut ② up or down, as required, and tighten screw ⑥.

12. STITCH WIDTH REGULATOR



The width of zigzag stitch is controlled with biased stitch width regulating lever ①. Do not make any needle position adjustment while the needle is in the fabric.

13. HOW TO CONTROL THE WIDTH OF ZIGZAG STITCH



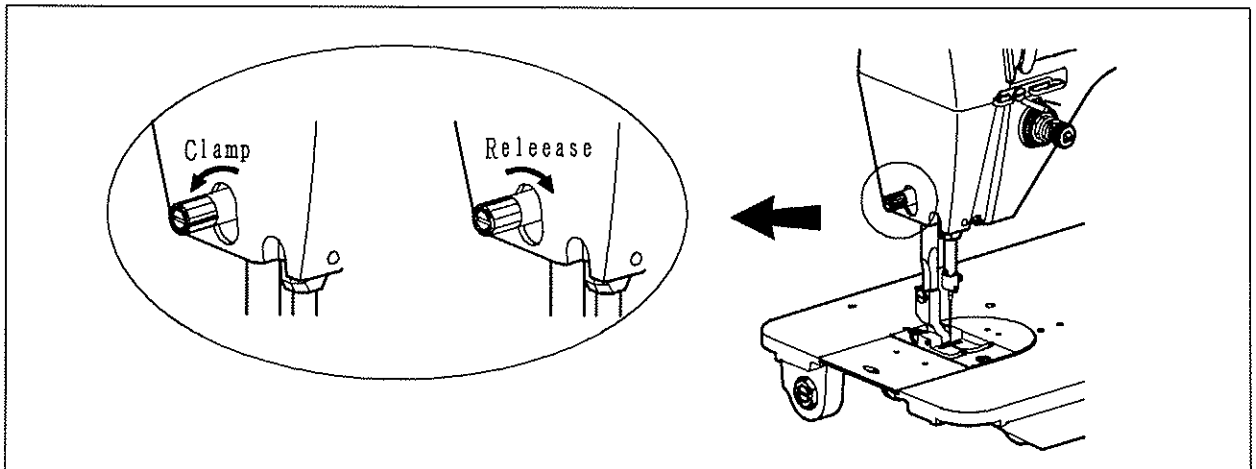
To obtain minimum to maximum width zigzag stitches, first loosen thumb screw ②, to permit the stitch width regulator ③, to return to its zero position (A) and retighten thumb screw ②.

Then loosen thumb screw ①, turn stitch width regulator ③ clockwise as far as it will go and while holding the regulator ③ in this position (B), retighten thumb screw ①.

You can now regulate the stitch width regulator within the range of zero to maximum.

14. NEEDLE BAR FRAME CRAMPING DEVICE

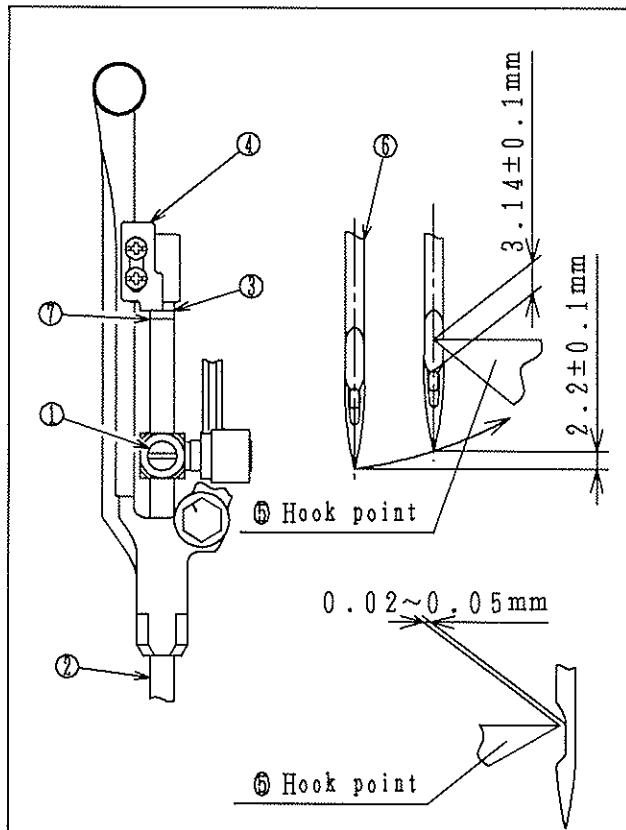
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When straight stitching, a better sewing result can be obtained by locking the needle bar frame immovable with the clamping device.

15. NEEDLE-TO-HOOK RELATIONSHIP

CAUTION TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.



◇ Set the needle bar at the proper height first as follows

- 1) Remove face plate.
- 2) Set stitch width regulator for straight stitching.
- 3) Turn machine pulley over toward you until needle descends to its lowest position.
- 3) Loosen needle bar screw ① so that only the needle bar ② will move up and down freely.
- 4) Move needle bar ② up or down as required, and align its upper timing mark ③ with underside of needle bar timing indicator plate ④. Then securely tighten needle bar set screw ①.

CAUTION: The needle bar timing indicator plate ④ has been correctly positioned at the factory and it should not be disturbed.

◇ Adjust the timing between the needle and the hook as follows

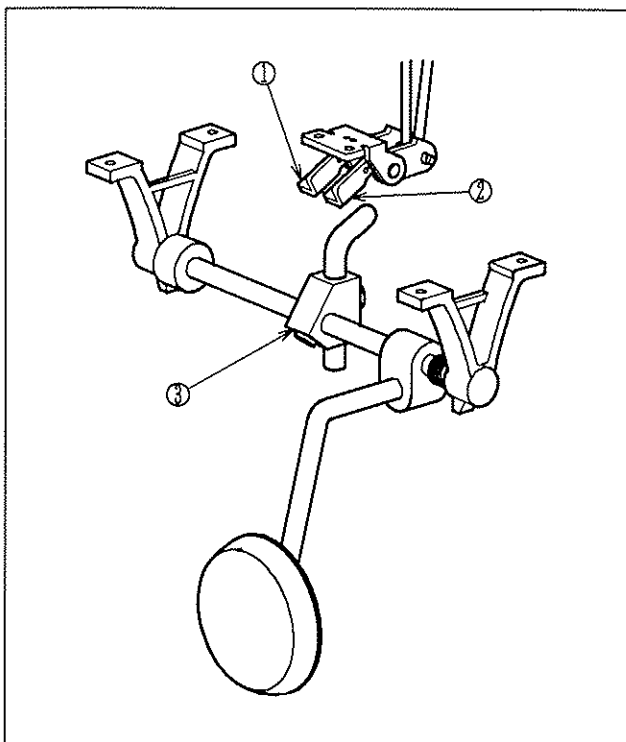
- 1) Set machine for straight stitching at center needle position.
- 2) Adjust so that, when the needle bar goes up to 2.2mm above its lowest position, hook point ⑤ nearly meets the center of needle ⑥. then tighten hook setscrew. (As a rough indication of this adjustment, marker line ⑦ on needle bar aligns with the bottom face of the needle bar timing indicator plate ④.)
- 3) Adjust the clearance between needle ⑥ and hook point ⑤ to 0.02 to 0.05mm.

16. HOW TO KNEE LIFTER OPERATING



CAUTION

TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.

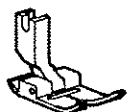






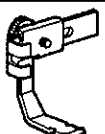



Bell cranks ① and ② are fastened to the underside of the bed. Bell crank ① is used for lifting and lowering the presser foot with knee and bell crank ② is used for controlling the stitch width.

To raise or lower the presser foot with knee, move knee lifter shaft arm ③ just under the bell crank ①.

To control the stitch width with knee, move knee lifter shaft arm ③ just under the bell crank ②.

17. EXCHANGEABLE GAUGE PARTS

Applications	Presser foot	Throat plate	Feed dog
Straight and Zigzag stitching	 2180153305	 2180111300	 2180161400
Straight stitching	 A1231-0A		
Hem sewing	 21801533W5	 21801113X0	 21801614X0
Zipper and Cord sewing	 21801533V5		
Embroidery sewing		 21801113W5	

18. TROUBLESHOOTING CHART

Problem	Cause	Solution
Needle thread breaks	<ol style="list-style-type: none"> 1. Is machine properly threaded ? 2. Are thread guides or tension disc area lint-free? 3. Is needle-thread tension too tight? 4. Is needle bent or have a blunt point? 5. Is needle inserted correctly? 6. Is needle the correct size for thread and fabric? 7. Is thread free of slubs and knots? 	<ol style="list-style-type: none"> 1. Correct needle threading 2. Remove lint and fluff in bobbin case and hook 3. Adjust needle thread tension 4. Replace the new needle 5. Insert needle correctly 6. Select proper needle size and thread 7. Remove slubs and knots
Bobbin thread breaks	<ol style="list-style-type: none"> 1. Is bobbin threading correct? 2. Is thread tangled or caught? 3. Is thread tension correct? 4. Does bobbin rotate smoothly? 	<ol style="list-style-type: none"> 1. Correct bobbin threading 2. Untangle thread from bobbin case thread tension 3. Adjust needle and bobbin case thread tension 4. Check whether bobbin thread is wound correctly
Stitches skip	<ol style="list-style-type: none"> 1. Is needle inserted correctly? 2. Is needle bent or have blunt needle point? 3. Is size of needle and thread suitable for fabric? 4. Is threading correct? 	<ol style="list-style-type: none"> 1. Insert needle correctly 2. Replace the new needle 3. Select proper needle size and thread 4. Correct needle threading
Needle breaks	<ol style="list-style-type: none"> 1. Is needle properly inserted? 2. Is needle bent? 3. Is needle the correct size for the fabric? 4. Is needle clamping screw loose? 5. Is the fabric pulled while sewing? 	<ol style="list-style-type: none"> 1. Insert needle correctly 2. Replace the new needle 3. Select proper needle and thread for fabric 4. Tighten needle set screw 5. Do not pull fabric while sewing
Fabric fails to feed	<ol style="list-style-type: none"> 1. Is feed regulating dial properly adjusted? 2. Is presser foot pressure adjusted properly? 	<ol style="list-style-type: none"> 1. Lengthen stitch length by feed regulating dial 2. Increase presser foot pressure
Fabric puckers	<ol style="list-style-type: none"> 1. Is needle threading correct? 2. Is needle point blunt? 3. Is thread tension too tight? 	<ol style="list-style-type: none"> 1. Correct needle threading 2. Replace the new needle 3. Adjust needle tension properly
Rotating heavy noisy	<ol style="list-style-type: none"> 1. Is there any lint or fluff on feed dog? 2. Is there any lint in rotating hook? 	<ol style="list-style-type: none"> 1. Remove lint and fluff from feed dog 2. Remove lint and fluff from rotating hook
Machine fails to start	<ol style="list-style-type: none"> 1. Are electrical plugs properly connected? 2. Is power and light switch turned on? 	<ol style="list-style-type: none"> 1. Connect plug to power source 2. Turn on power switch

GOLDEN WHEEL
啓翔股份有限公司

CHEE SIAN INDUSTRIAL CO.,LTD
No.32,Wu Chuan 7th Road, Wu Ku Industrial Area,
Wu Ku Hsiang 24248, Taipei Hsien, Taiwan
Tel:886-2-2999518 Fax:886-2-2999519

※Appear and specification listed in this instruction
manual are subjected to change without notice.