

ALFA

INSTRUCTION MANUAL

INDUSTRIAL SEWING MACHINE

▪ A1960



IMPORTANT SAFETY INSTRUCTIONS

To get the most out of the many functions of this machine and operate it in safety, it is necessary to use this machine correctly. Please read this Instruction Manual carefully before use. We hope you will enjoy the use of your machine for a long time. Please remember to keep this manual in a safe place.

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 any-time 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) and replacing bobbin.
 - 7-2 For replacing part(s) of needle, presser foot, throat plate, feed dog, cloth guide etc.
 - 7-3 For repair work.
 - 7-4 For when leaving the working place or when the working place is unattended.
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. Repairing, reforming and adjustment works must only be done by appropriately trained technicians or specially skilled personnel.
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. Periodically clean the machine throughout the period of use.
14. 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.
15. An appropriate power plug has to be attached to the machine by electric technicians, Power plug has to be connected to grounded receptacle.
16. Remodel or modify the machine in accordance with the safety rules/standards while taking all the effective safety measures. We assume no responsibility for damage caused by reforming or modification of the machine.
17. The machine is only allowed to be used for the purpose intended. Other uses are not allowed.
18. Warning hints are marked with the two shown symbols.



Danger of injury to operator or service staff



Items requiring special attention

ALFA

FOR SAFE OPERATION



1. To avoid electrical shock hazards, neither open the cover of the electrical box for the motor nor touch the components mounted inside the electrical box.



1. To avoid personal injury, never operate the machine with any of the belt cover, finger guard of safety devices removed.
2. To prevent possible personal injuries caused by being caught in the machine. Keep your fingers, head and clothes away from the handwheel, cover and the motor while the machine is in operation. In addition, place nothing around them.
3. To avoid personal injury, never put your hand under the needle when you turn ON the power switch or operate the machine.
4. To avoid personal injury, never put your fingers into the thread take-up cover while the machine is in operation.
5. The hook rotates at a high speed while the machine is in operation. To prevent possible injury to hands, be sure to keep your hands away from the vicinity of the hook during operation. In addition, be sure to turn OFF the power to the machine when replacing the bobbin.
6. To avoid possible personal injuries, be careful not to allow your fingers in the machine when tiling/raising the machine head.
7. To avoid possible accidents because of abrupt start of the machine, turn OFF the power to the machine when tiling the machine head.
8. If your machine is equipped with a serve-motor, the motor does not produce noise while the machine is at rest. To avoid possible accidents due to abrupt start of the machine, be sure to turn OFF the power to the machine.
9. To prevent possible accidents because of electric shock or damaged electrical component(s), turn OFF the power switch in prior to the connection /disconnection of the power plug.

Precautions Prior to Startup

1. The machine head is coated with a thick layer of rust-prevention grease before encasement, and the encased machine head may possibly be subjected to grease hardening and dust buildup on the machine surface in process of long storage and long-haul traffic; therefore, take care to remove the grease and dust from the surface using soft cloth and gasoline.
2. Though the machine was inspected and tested with care before factory leaving, it might be affected by violent vibration resulting in looseness or distortion of the machine parts; therefore the operator shall thoroughly check the machine, turn the upper wheel by hand and check it for difficulty in free rotation, slight impact, and other uneven resisting force or abnormal noises, and make appropriate adjustment if any to restore the machine state before formal trial run.
3. Never start up the machine if the oil liquid level in the oil box falls outside the normal range.
4. The upper wheel shall rotate counterclockwise (when it is viewed from the lateral surface of the upper wheel) when the machine is operating.
5. Check whether the voltage and phases indicated on the electric-control data plate are correct.
6. The date of manufacture is indicated on the certificate of conformity.

Precautions for Use

1. Never touch the needle by hand when the machine is powered on or while it is operating.
2. Never put your finger into the protection cover of take-up lever during operation of the machine.
3. The operator must not put his finger into the needle guard bracket when he feeds the sewing materials by hand.
4. Operator must trim off the electricity supply before he turns over the machine head or removes the hand cover.
5. The operator must trim off the electricity supply before he gets away from the machine.
6. Prohibit the head, hands and anything to approach the upper wheel and bobbin winder while the machine is operating.
7. Never remove or mount the protection cover or other protection devices before the machine is stopped.
8. Never wipe up the surface of machine head using paint thinner such as acetone.

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1. Brief introduction

This machine is designed with link type feed mechanism and link lever thread take-up mechanism and full lubrication by pump. It's suitable for sewing leather, canvas, and other heavy weight materials, such as suitcase, car seat, tent, sofa, etc.

It's reliable and accurate on such functions as thread trimming, needle positioning, etc.

2. Main specifications

Applications for medium and heavy weight materials

- Max sewing speed: 2000 s.p.m
- Max stitch length: 8 mm
- Needle bar stroke: 37 mm
- Lifting amount of presser foot: 3,5 – 5,5 mm
- Needle: DP X 17 23#
- Presser foot lifting height (by hand): 8 mm
- Presser foot lifting height (by knee): 16 mm
- Hook: Large lubrication hook
- Lubrication: Automatic lubrication
- Motor power: Servo motor

3. Installing the oil pan (Fig.1)

1. Insert the two head cushion 2 into the front corners of the oil pan 1.
2. Insert the two head cushion 3 into the back corners of the oil pan 1.
3. Place the oil pans 4 into the cutouts of table.
4. Insert the two-rubber cushion 5 into the notches of table.

4. Installing the mechanical head (Fig.2)

1. Insert the knee lifter lifting bar 1.
2. Insert the two hinges 2 into the holes in the machine bed.
3. Clamp the two hinges onto the rubber cushions 3 in the worktable, and then place the machine head onto the head cushions 4 which are on the top of the oil pan corners.
4. Tap the rest bar 5 into the table hole.

NOTE: Tap the rest bar securely into the table hole, if not, the machine head will not be safe when it is tilted back.

5. Installing the knee lifter assy. (Fig.3)

Insert the knee lifter assy. 1 into the shaft 2 under the oil pan, and slightly tight the screw 3.

6. Adjusting knee lifter (Fig.4)

1. Lower the presser foot 2 by turning the presser foot bar lifter 1.
2. Loosen the nut 3.
3. Turn the screw 6 to adjust the bracket 5 to 2mm play.
4. Securely tighten the nut 3.
5. Loosen the nut 7
6. Turn the screw 8 until the distance between the end of the screw and bracket is approximately 8mm.
7. Turn the adjusting screw 8 to adjust, so that the presser foot is at the desired position within 16mm above the needle plate when the knee lifter plate 4 is fully pressed.
8. After adjustment, tighten the nut 7.

7. Lubrication (Fig.5)

1.Oil amount

Please fill the oil according to the mark indicated on the oil pan. Mark (A) means the highest position. Mark (B) means the lowest position. If the oil amount is lower than the Mark (B), oil will not be pumped, and machine will be jammed.

2. Fill the oil

Please fill the 18# sewing oil into the oil pan until to the Mark (A)

3. Change the oil

- a) Uninstall the screw (C), and drain out the used oil
- b) Clean the oil pan, and tighten the screw (C), fill the fresh oil again according to the requirement.

8. Test operation (Fig.6)

Carry out the test operation when start up a new sewing machine for the first time, or restart after a long period of non-use.

Remove the rubber cap (A) on the top of the arm and face plate, fully lubricate the parts showed by the arrows.

Install the face plate again, lift the presser foot and operate the machine at a lower speed of 1000-1500spm, and observe the oil running through the oil gauge window.

After one month, then the speed can be increased according to the different sewing operation.

9. Installing the needle (Fig.7)

1. Turn the machine pulley to move the needle bar 1 to its highest position.
2. Loosen the screw 2.
3. Insert the needle 3 in a straight line as far as it will go, making sure that the long groove on the needle is at the left, and then securely tighten the screw 2.

10. Removing the bobbin case (Fig.8)

1. Turn the machine pulley to lift the needle bar to its highest position. Pull the latch 1 of the bobbin case upward and then put the bobbin into the bobbin case, finally insert the complete bobbin case with bobbin into the hook shaft.
2. To remove the bobbin case, pull the latch and draw the bobbin case out of the hook.

11. Winding the bobbin thread (Fig.9)

1. Turn the power on.
 2. Place the bobbin 1 onto the bobbin winder shaft 2.
 3. Wind the thread several circles around the bobbin in the direction indicated by arrow.
 4. Push down the bobbin presser arm 3.
 5. Lift the presser foot.
 6. Depress the treadle, the winding operation will start.
 7. Once finished, the bobbin presser arm 3 will recover automatically
- * If the thread winding is not neat and even, loosen the screw 4 to adjust the position of bobbin winder base.

Turn the screw 6 to adjust the bobbin winding amount:

- a) Tighten the screw to increase the winding amount.
- b) Loosen the screw to decrease the winding amount.

NOTE: The proper winding amount should be around 80% of the bobbin capacity.

12. Threading the bobbin thread (Fig.10)

1. Turn the machine pulley to lift the needle to its highest position.
2. The bobbin thread should be right twist, place the bobbin into the bobbin case.
3. Pass the thread through the slot 1 and spring plate 2. and finally pull it out of the notch 3.
4. Check that the bobbin should turn clockwise if the thread is pulled.

5. Hold the latch 4 and place the bobbin case in the hook.

13. Threading the needle thread (Fig.11)

Raise the thread take-up lever to its highest position. This will make threading easier and will prevent the thread from coming out at the sewing start.

14. Adjusting the stitch thread (Fig.12)

While press the stopper 2, turn the stitch length dial 1 to make the number on the dial along in with the mark on the stopper 2. The number is the stitch length in mm:

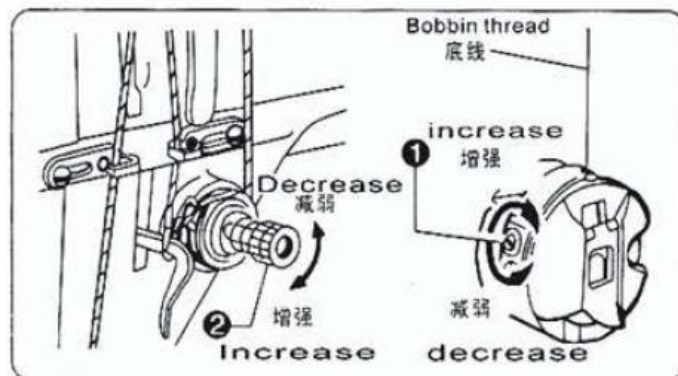
* The larger the number, the longer the stitch length will be.

* When turn the dial from a larger setting to a smaller setting, it will be easy to turn if the reverse lever 3 is pressed down.

15. Sewing and backtracking (Fig.13)

1. Turn the power on.
 2. Depress the treadle to start sewing.
- When the reverse lever 1 is pressed or the backtracking button is on during sewing, the feed will be reversed. After release, the feed will recover to normal.

16. Adjusting the thread tension



Bobbin thread tension

Adjust by turning the screw 1 until the bobbin case, drops gently by its own weight while the thread end coming out of the bobbin case is held.

Needle thread tension

After adjusting the bobbin thread tension, adjust the needle thread tension so that a good, even stitch seam is obtained.

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

17. Adjusting the presser foot pressure (Fig.15)

Adjusting the presser foot pressure

1. Loosen the lock nut 1:
2. Turn the adjusting screw 2 to adjust the pressure of presser foot. if it's not enough. please turn the screw 5 to increase the pressure.

*The pressure should be as weak as possible, but strong enough so that the material doesn't slip.

3. Tighten the nut 1.

Adjusting the walking foot presser

1. Loosen the nut 3.
2. Turn the screw 4 clockwise to increase the pressure, on the contrary, turn the screw counterclockwise to decrease the pressure.
3. Tighten the nut 3.

18. Adjusting the trailing length after thread trimming (Fig.16)

Turn the nut 1 to adjust the trailing length.

- a) At the time of thread trimming. the thread tension mechanism will release, and the needle thread tension is only applied by the thread guide 1.
- b) The standard trailing length for the needle thread is 40-70mm.

*If increase the thread guide tension. the trailing length will be short; if decrease the thread guide tension, the trailing length will be longer.

19. Adjusting the thread tension spring (Fig.17)

The standard position of the thread tension spring 1 is 5-8mm above the upper surface of the thread guide 3 when the presser foot 2 is lowered.

1. Lower the presser foot 2.
2. Loosen the screw 4.
3. Turn the thread tension bracket 5 to adjust the spring position.
4. Tighten the screw 4.

*The standard tension of the spring is 0.3-0.6N.

5. Push the needle thread with your finger until it is slightly higher than the thread tension bracket 5 and so that the upper thread is not pulled out:

6. Pull the needle thread down until the spring 1 is at the same height with the upper surface of thread guide 3 and then measure the tension of the spring.
7. Insert a screwdriver into the slot of the thread tension stud 6 and turn the stud to adjust the tension of the spring 1.

NOTE: If using a tension gauge 7 to measure the tension, take the reading from the scale on the side of the red line.

20. Adjusting the upper thread guide (Fig.18)

The standard position of upper thread guide 1 is where the screw 2 is in the center of the adjustable range of upper thread guide.

To adjust the position, loosen the screw 2 and move the thread guide.

* If stitch the heavy materials, move the thread guide leftward. (To increase the thread take-up tension)

* If stitch the light materials, move the thread guide rightward. (To decrease the thread take-up tension)

21. Adjusting the pressor foot height (Fig.19)

The standard height of presser foot is 8mm when it is lifted by hand.

1. Loosen the screw 3 to lift the presser bar.
2. Put a measurement gauge with 8mm height under the presser foot.
3. Loosen the screw 4 and adjust the height of presser foot.
4. Tighten the screw 4.

22. Adjusting the feed dog height (Fig.20)

1. Set the stitch length maximum, when the feed dog 1 at its highest position above the needle plate, the standard height is 1.2mm.
2. Loosen the screw 2 and turn the feed lifting arm 3 to adjust the height of feed dog.

23. Adjusting the feed dog angle (Fig.21)

The standard angle of the feed dog is when the feed dog is at its highest position above the needle plate, the Mark on the feed bracket shaft is on the horizontal position.

1. Turn the machine pulley to lift the feed dog to its highest position.

2. Loosen the screw 7.
3. Turn the feed bracket shaft in the direction of the arrow within a range of 90 with respect to the standard angle position.

* To prevent puckering, lower the front of the feed dog (Fig. A)

* To keep the materials straight, raise the front of the feed dog (Fig. B)

4. Securely tighten the set screw 7.

It's necessary to adjust the feed dog height a gain after this adjustment.

24. Adjusting the difference of stitch length between the forward and back tracking (Fig.22)

1. Remove the rear cover.
2. Loosen the screw 1 and turn the connecting stud 2
 - *Turn the stud 2 clockwise, the forward stitch length will be longer, and the backtracking stitch length will be shorter.
 - * Turn the stud 2 counterclockwise, the forward stitch length will be shorter and the backtracking stitch length will be longer.
3. Tighten the screw 1.

25. Adjusting the tension release (Fig.23)

The opening time of the thread tension discs can be adjusted.

Remove the rubber cap on the rear of arm. and turn the screw 1. then the thread release cam 2 can be moved left or right.

Move the cam rightward, the release time will be slow. Move the cam leftward, the release time will be quick.

26. Adjusting the timing of needle and feed mechanism (Fig.24)

The standard timing is when the feed dog is lowered from its highest position until it is flush with the top of the needle plate 2, and the needle eye R is also aligned horizontally with the surface. Adjust by changing the phases of feed cam and eccentric wheel UD.

1. Remove the rear cover.
2. Turn the machine pulley in reverse direction, set the second screw 4 on the gear of upper shaft as

reference mark, make the third screw 5 of eccentric wheel UD slightly lower than the reference mark screw 4.

3. Continue to turn the machine pulley, set the second screw 6 of eccentric wheel UD as reference mark, make the third screw 7 of feed cam slightly higher than the reference mark screw 6.

4. If need a non-timing position. loosen the three screws of eccentric wheel UD, adjust the eccentric cam 8 in the direction of arrow (A) or (B).

*To increase the tension of thread. turn the eccentric cam 8 to direction (A). To avoid the needle bent, turn the eccentric cam 8 to direction (B).

5. After adjustment, tighten all the screws.

27. Adjusting the rotary hook lubrication amount (Fig.25)

Tilt back the machine head and turn the oil adjustment screw 1 to adjust the hook oiling amount.

28. Adjusting the height of needle bar and the timing with hook (Fig.26)

When the needle bar 1 is at its lowest position. the top reference line (A) on the needle bar should be aligned with the bottom edge of the needle bar bush 2.

1. Turn the machine pulley to lower the needle bar to its lowest position.
2. Take out the rubber cap 3.
3. Loosen the screw 4. And move the needle bar 1 to proper position.
4. Tighten the screw 4.
5. Close the rubber cap 3.

Lift the needle bar 1 from the lowest position. when the second reference line (B) on the needle bar is aligned with the bottom edge of the needle bar bush 2. The tip 5 of the hook should be aimed at the center of needle 6.

1. Turn the machine pulley to raise the needle bar 1 from its lowest position until the reference line (B) is aligned with the bottom edge of the needle bar bush 2.
- *When the needle bar moves up 2mm. the clearance between the upper of needle hole and the hook tip should be 1.3-1.8mm.

2. Loosen the screw 7 and make the hook tip aimed at the center of needle 6, the clearance between the hook tip and needle should be 0.05mm.
3. Tighten the screw 7.

29. Adjusting the oil pump (Fig.27)

If the oil is not circled observed from the oil gauge window at a lower sewing speed, turn the oil adjustment plate 1 to cover the oil hole 2.

30. Adjusting the lifting amount of presser feet (Fig. 28)

1. Vertical movement of presser foot and walking foot.

*The walking foot 1 and presser foot 2 move vertically one after another.

*Usually, the stroke of walking foot and presser foot is same, or the stroke of presser foot is slightly lower. Place the thread take-up lever at the lowest position. and lower the presser bar lifter. loosen the screw 3 and move the upper feed lifting cam.

Move it rightward to make the stroke of two feet be equal.

Move It leftward to make the stroke of presser foot be smaller.

2. Adjusting the lifting amount of presser feet Adjust the lifting amount of two feet to match the materials to be sewn.

Loosen the screw 5 and move the screw upward to increase the lifting amount or move the screw downward to decrease the lifting amount.

3. Adjusting the forward/backward clearance of the two feet.

To keep the front groove of walking foot does not strike the rear of the presser foot, the clearance of C must be kept about 3mm.

Loosen the screw of feed arm R, and then turn the feed rock shaft 6 to adjust.

4. Adjusting the feed amount of walking foot (Fig.A)

*The standard ration of feed amount between feed dog and walking foot is 1:1.

The feed amount of walking foot can be adjusted to suit for the materials to be sewn.

Loosen the nut 7 and move the slide block 8 Upward: decrease the distance L to make the feed amount be smaller.

Downward: increase the distance L to make the feed amount be larger.

31. Adjusting the trimming mechanism

1. Trimming mechanism (Fig.29)

2. The relation between fixed knife and movable knife (Fig.30)

(1) The clearance between fixed knife 1 and movable knife 2 should be 0.3mm.

(2) Adjust the position illustrated by the Fig. 35.

(3) Move the bobbin case opener and adjust the holder of fixed knife.

3. Thread trimmer cam lever shaft (Fig.31)

(1) Install the shaft 1 on the machine bed first.

(2) Install the cam lever L on the shaft 1 as illustrated.

(3) Slightly turn the shaft 1 and install the positioning block 2 as illustrated.

4. Installing the trimming solenoid (Fig.32)

(1) The stoke of solenoid

a. The standard stroke is 6.0mm.

b. Turn the nut (A) to adjust the stroke.

(2) installing the solenoid

a. Fixed the solenoid by the screws Band C.

b. Be sure to keep the clearance between the driven plate 1 and cam lever R 2 1mm.

c. When the solenoid is active. there should be a 0.5mm clearance between the cam lever L 3 and cam lever R 2. If need to adjust, please move the solenoid base shown by the arrow.

5. Installing the trimming cam (Fig.33)

(1) Align the second mark A on the machine pulley with the Positioning Mark on the arm.

(2) Set the solenoid active and turn the trimming cam 1 until the cam is touched with the roller, then fix the cam.

(3) Set the solenoid inactive and make the cam lever 2 restore to the original position. there should be a 0.5-1.0mm clearance between cam and roller.

6. Adjusting the knives (Fig.34)

(1) The relation between fixed knife and movable knife

The clearance between movable knife 1 and needle center is 7.5mm, and the clearance between fixed knife 2 and needle center is 5mm.

(2) Set the solenoid active, the movable knife 1 will turn rightward driven by the trimming cam. When the movable knife 1 moves to its left furthest position, the clearance between two knives 1 and 2 should be 1.5-2.0mm.

(3) Adjusting the trimming solenoid

a. If the thread trimming not smoothly, especially the thick thread used, just need to increase the trimming pressure.

b. Adjusting the trimming pressure: loosen the nut B, adjust the screw A to get the reasonable pressure.

32. Clean (Fig.35)

1. Raise the presser foot.
2. Remove the two screws 1 and needle plate 2.

3. Clean the feed dog with a soft brush.

4. Install the needle plate 2 by two screws 1.

5. Turn the machine pulley slowly and check if the needle drops into the hole center of needle plate

*If not:

- check if the needle is bent.

- Loosen the screw 1 and reinstall the needle plate 2.

6. Turn the machine pulley and lift the needle above the needle plate, check if the needle tip is blunt, if yes, change a new one.

7. Tilt back the machine head.

8. Remove the bobbin case 4.

9. Clean the hook with a soft cloth and check if the hook is worn out.

10. Take out the bobbin from the bobbin case and clean the bobbin case with a soft cloth.

11. insert the bobbin into the bobbin case and place the bobbin case back into the machine.

12. Clean the dust on the filter (A) of oil pump.

