

BE185030B0A

No.05

HIGH-SPEED 1-NEEDLE CYLINDER BED LOCKSTITCH BAR TACKING INDUSTRIAL SEWING MACHINE

LK-1850

INSTRUCTION MANUAL

CAUTIONS BEFORE OPERATION



 Do not hold the belt cover whe carrying the sewing machine.



2. The sewing machine should run in the arrowed direction. Never allow the machine to run in the reverse direction.



Congratulations on your purchase of a JUKI

To get the most out of many functions of the machine and operate it in safety, it is necessary to use the unit correctly, so please read this Instruc-

tion Manual carefully before using it. We hope you will enjoy using it for a long time. It is also

necessary to keep this Instruction Manual taking

sewing machine.

care not to lose it.

felt placed inside has dried, lubricate the machine referring to the description given in "9. Lubrication".







4. Before starting a machine which has been newly set up or has not been used for a long period of time, apply a few drops of the lubricating oil to main shaft components through hole ①, one drop to the racing surface ② of the shuttle race, and infiltrate sufficient amount of the lubricating oil to the machine bed oil felt ③.

CAUTIONS IN OPERATION



- 1. Do not place your fingers near the work clamp foot while the machine is in operation.
- 3. Never bring your fingers or hair close to, or place anything on the handwheel, V-belt, bobbin winder wheel or motor during operation. It may lead to serious personal injuries.



4. If your machine is provided with a belt cover, finger guard and eye guard, never operate your machine with any of them removed.

personal injuries. From the library of: Superior Sewing Machine & Supply LLC

1. INSTALLING THE MOTOR



- 1. Attach motor base 2 to table 1 using bolt 4, vibration-proof rubber pad 5, washer 6, spring washer 7, and nut 8.
- washer (7), and nut (8). 2. Using bolt (9), washer (10), spring washer (11), and nut (12), install motor (8) to motor base (2).



3. REMOVING THE BELT

- To remove the belt cover, loosen screw ① and tilt the belt cover away from you until it comes off then lift it.
- ★ Install the belt cover by reversing the above procedure.

2. INSTALLING THE THREAD STAND



Assemble the thread stand, and set it in the hole in the table. Tighten nut **1** to fix the thread stand.

If ceiling wiring is made, pass the power cord through spool rest rod \boldsymbol{Q} .



- Remove the belt cover. With the machine head set in its installing position on the machine table, raise the machine head in direction
 while pushing down (in direction) (2) bed locker (1).
- 2. Releasing the bed locker, further raise the machine head in direction (3) until it locks.
- ★ To lower the machine head, push up the bed locker to release the lock.

5. INSTALLING THE MACHINE HEAD



- 1. Install bed mounting base 1 to machine table (i) using bolts (2), flat washers (3) and (4), and nuts (5) (each 3 pcs.).
- 2. Fix point (a) before raising the machine head. Then fix two points (3).

6. ATTACHING THE IDLER PULLEY



7. MOTOR PULLEYS AND BELTS

1. M-type V belts are used for this model of sewing machine.

2. This sewing machine uses two V belts, one for high-speed sewing, and the other for low-speed sewing.

3. The table below shows the relation between the motor pulleys, V belts, and sewing speeds.

Frequency	Sewing speed	Motor pulley part No.	Engraved mark	High-speed V belt	Low-speed V belt
50 Hz	2300 s.p.m.	*13531108	50-2300	MTJVM005000 (50")	
	2000	*13531207	50-2000	MTJVM004900 (49")	MTJVM004600 (46")
	1800	13531306	50-1800	MTJVM004800 (48")	
60 Hz	2300	*13531405	60-2300	MTJVM004900 (49")	
	2000	*13531504	60-2000	MTJVM004800 (48")	MTJVM004600 (46")
	1800	13531603	60-1800	MTJVM004800 (48")	

Note: The motor pulleys marked with asterisks are applicable only to cotton thread. Please order the motor pulleys for threads other than cotton thread.



★ installing the motor pulley Set motor pulley ① onto motor shaft ② so that one of two setscrews ③ meets the flat part of the motor shaft. Then tighten setscrews ③ .





* Attaching the belts

- 1. Set high-speed V belt () on the large diameters of high-speed pulley (2) and the motor pulley.
- 2. Set low-speed V belt (5) on the small diameters of lowspeed pulley (6) and the motor pulley through pressure decreasing pulley (1) and idler pulley (5).
- 3. Move the motor pulley back or forth to provide a 2 to 3mm clearance between high-speed V belt **1** and bobbin winder wheel **7**.
- 4. Loosen setscrew (3), and move the motor to the right or left to make adjustment so that the high-speed V belt comes evenly in contact with the bobbin winder wheel when the bobbin winder is used (refer to "15. Winding a bobbin").
- 5. Loosen setscrew (1), and move motor base (1) up or down by adjusting nut (1) to perform adjustment so that the high-speed V belt slacks about 10mm when you push the belt at middle (2).
- 6. Loosen setscrew (2), and move idler pulley (18) in the arrowed direction to perform adjustment so that the low-speed V belt slacks about 10mm when you push the belt at middle (3). (At this time, set the idler pulley so that it is aligned with engraved marker dot (18) on

From the library of: Superior Sewing Machine & Supply the line alling plate.)

- Fix idler pulley 1 to mounting plate 2 by setscrew 3.
- (Caution) Adjust the clearance at (2) to just allow the V belt to pass it through.

8. ATTACHING THE CHAIN



Hook S-shaped hook 3 into the hole in the tip of starting lever 2, and attach chain 1 to the S-shaped hook.

9. LUBRICATION



1. Lubricate the machine once a day from lubrication hole ② . The machine can also be lubricated by removing rubber plug ① .

2. Use Juki New Defrix Oil No. 2 or spindle oil No. 2 as the lubricating oil.

* When using the thread guide (optionally available)

Supply silicone oil through silicone oil lubricating hole 0 when using thread guide 0.

At this time, check that the thread which has passed through thread guide 0 has the silicone oil on it.

10. OPERATING THE SEWING MACHINE

Operate the sewing machine in the following procedure:

- 1. Turn on the power switch.
- 2. Depress the starting pedal a little, and the work clamp foot will come down. When you want to make the work clamp foot go up, release the pedal.
- 3. Further depress the pedal, and the sewing machine starts bar-tacking. Immediately after the sewing machine starts bar-tacking, release the pedal.
- 4. When the machine has completed the specified bar-tacking cycle, the work clamp foot will automatically go up, and the needle and bobbin threads are trimmed before the machine stops.



- (Cautions) 1. Be sure to release the pedal as soon as the machine starts bar-tacking, or else the machine will not stop at the predetermined point.
 - 2. If you fail to depress the pedal sufficiently, the machine may stop at the first stitch. In this case, depress the pedal gain sufficiently.
 - 3. If the machine will not start even when you depress it strong enough, turn of the power switch, and remove the belt cover. Then turn changeover pulley (Knurled part) in the arrowed direction of low-speed pulley (
 - 4. This sewing machine may run rather unsmoothly on a cold morning because it uses grease for the lubrication of several parts. In such a case, allow the machine to idle for 5 or 6 times before starting the work.

★ To operate the sewing macine manually;

Turn off the power switch, remove the upper end of spring 0, give low-speed pulley 0 two turns in the arrowed direction and the work clamp foot will come down. Then depress the starting pedal, and the machine can be run manually.

11. MATERIALS AND NEEDLES TO BE USED

Material	Needle	Needle plate needle hole guide	Class or work
Extra light-weight material	#11 (DPx5)	D2426282C00	Knit goods, tricot wear
Synthetic fiber material	#14 (DPx5, SUPER needle)	B2426280000 (standard)	Men's suits, Ladies' wear
Medium-weight material	#16 (DPx5)	B2426280000 (standard)	Men's suits, Ladies' wear
Heavy-weight material	#18 (DPx5)	B2426280000 (standard)	Working wear, overcoats

12. ATTACHING THE NEEDLE

Loosening setscrew **1**, insert needle **2** fully into the needle bar hole with the long groove of the reedle facing towards you, then tighten setscrew **1**. (Cautions) **1**. If the bar-tacking stitches as

- shown above are produced, install the needle so that it slightly faces to the left.
- 2. Use a SUPER needle for synthetic fiber when sewing with synthetic fiber thread or material.



- 1. Open cylinder arm cap 🕕 .
- 2. Raise and hold the latch lever of bobbin case 2 to take it out. The bobbin in the bobbin case does not fall as far as latch lever 3 is raised and held.
- 3. To load the bobbin case into the shuttle, fit it onto he shaft of the shuttle and snap in the latch lever of te bobbin case.



- 1. Hold bobbin 1 in hand so that it spins counterclockwise and set it in bobbin case 2.
- 2. Pass the thread through slot ③ in the bobbin case. Pull the thread to pass it under the tension spring out to thread exit ④. At this time, confirm that the bobbin spins in the arrowed direction when the thread is pulled.
- 3. Pass the thread through hole (5), and allow the thread to trail about 2.5cm from the hole.

13. THREADING THE MACHINE



Thread the machine in the order as shown above. Leave thread of approx. 4cm on the needle.

(Cautions) 1. If the machine is equipped with a silicon oil lubricating unit, pass the thread through thread guide **1** of the silicon oil lubricating unit. (The silicon oil lubricating unit is optionally available.)
2. For a thick thread, pass the thread through only one of the two holes in needle bar thread guide

15. WINDING A BOBBIN

0.



- 1. Attach bobbin 1 to bobbin winder spindle 2
- 2. Thread the winder in the order as illustrated and wind the thread onto the bobbin four or five turns.
- 3. Push bobbin winder trip latch (6) towards the bobbin (in the arrowed direction), and the winder starts to wind the bobbin. The winder will automatically stop as soon as it has wound a predetermined amount (80% of the capacity of the bobbin) of thread round the bobbin.
- 4. To adjust the amount of thread wound round the bobbin, loosen nut (4) and screw in adjusting screw (5) to decrease the thread amount.
- 5. If the thread is not wound evenly round the bobbin, loosen screw
 and move bobbin winder base in the arrowed direction to make adjustment.

(Caution) Ensure to use the genuine JUKI bobbin case and bobbin.

17. THREAD TENSION



★ Adjusting the needle thread tension

As thread tension controller No. 1 is turned clockwise, the length of the thread remaining on the needle after thread trimming will decrease, and vice versa. Minimize the length of the thread remaining on the needle as far as the thread does not slip off the needle. As thread tension controller No. 2 is turned clockwise, the needle thread tension increases, and vice versa.

Adjusting the bobbin thread tension

Turning thread tension adjusting screw ③ clockwise will increase the bobbin thread tension, and vice versa.

18. ADJUSTING THE THREAD TAKE-UP SPRING



The normal stroke of thread take-up spring ① is 6 to 8mm, and the tension at the starting point is 30 to 50g.

★ Adjusting the stroke

Loosen screw 2 , and turn tension controller assembly 3 clockwise to increase the stroke or counterclockwise to decrease it.

Adjusting the tension

Insert the blade of a flat-bit screwdriver into the groove in the tension post (1), and turn it clockwise to increase the tension or counterclockwise to decrease it.

(Caution) Decrease the tension of the thread take-up spring for a synthetic fiber thread.

19. ADJUSTING THE LENGTH AND WIDTH OF BAR-TACKING



Adjusting the bartacking length

Push and open bed cover (A) \bigcirc in the arrowed direction, and loosen nut @. Move feed across regulator O towards you to increase the bartacking length or away from you to decrease it. After adjustment, tighten nut O and close bed cover (A) O.

* Adjusting the bartacking width

Push and open bed cover (B) \bigcirc in the arrowed direction, and loosen nut \bigcirc . Move feed regulator \bigcirc to the left to increase the bartacking width or to the right to decrease it. After adjustment, tighten nut \bigcirc and close bed cover (B) \bigcirc .

20. ADJUSTING THE FEED TIMING



- 1. Raise the machine head. (See "4. Raising the machine head")
- Loosening hexagon nut ③ and socket screw ④, turn feed cam ④ to perform adjustment so that the material feed is completed at the moment the point of needle ① has lowered to a height of 7 to 10mm above the surface of throat plate ④. Turning the feed cam clockwise will delay the completion of the material feed, and vice versa.
- 3. After adjustment, securely tighten socket screw ④ and hexagon nut ⑧.
- ☆ Better thread tension is obtained as the above-mentioned height is adjusted to about 7mm.
- ☆ If starting stitches formed are loose when using a synthetic fiber thread, adjust the above-mentioned height to about 10mm in order to prevent such trouble.
- 4. Stop-motion regulating cam (i) is turned together with feed cam (i). Therefore, loosen setscrew (ii) and turn the stop-motion regulating cam to make adjustment so that stop-motion regulating cam roller (ii) enters stop motion from the low-speed revolution when stop-motion hook (i) falls onto stop-motion cam screw No. 1 (i) at the final stitch.

21. NEEDLE-TO-SHUTTLE RELATION



(Adjusting the height of the needle bar)

- 1. Turn the changeover pulley by hand to bring needle bar 1 to the lowest position of its stroke (see "To operate the sewing machine manually").
- 2. Remove the rubber cap, and loosen setscrew 2.
- 3. Turn the driving pulley by hand to make upper marker line (a) engraved on the needle bar meet the bottom end of lower bushing (3) of the needle bar. Tighten setscrew (2).

(Positioning the shuttle)

- 4. Further turn the driving pulley until lower marker line ③ engraved on needle bar ① meets the bottom end of lower bushing
 ③ of the needle bar.
- 5. Loosen shuttle driver setscrew 4, and open shuttle race latches 5 to the right and left, respectively while pulling them towards you to remove shuttle race ring 6.
- (Caution) At this time, be careful not to allow shuttle 7' to fall.
- 6. Perform adjustment so that no clearance is provided between the needle and the front end of shuttle driver ④ when the blade point of shuttle ⑦ is aligned with center ⑥ of needle ⑧. Then tighten shuttle driver setscrew ④.
- (Caution) At this time, be very careful not to cause the shuttle race to slip in the direction of rotation.
- 7. Loosening setscrew (1), turn shuttle race adjusting shaft (1) clockwise or counterclockwise for adjustment to provide a 0.05 to 0.1 mm clearance between needle (3) and shuttle (7), then tighten setscrew (1).
- 8. After adjustment, install shuttle race ring 6.

22. ADJUSTING THE THREAD TENSION RELEASE TIMING



- 1. Remove five setscrews 1 to take off top cover 2
- 2. Loosen socket screw (1) of tension arm (3) by L-shaped wrench (5), and turn the tension arm to make adjustment so that a 4mm clearance is provided between the end of connecting rod (3) and that of tension post support plate (7) when the work clamp foot is up (when connecting rod (5) is retreated).
- 3. After adjustment, securely tighten socket screw 4.

23. ADJUSTING THE THREAD TRIMMER



- 1. Remove starting lever tension spring **①**, and start the machine. (The work clamp foot stays down when the machine stops.)
- Loosen adjusting screw (4) and adjust the position of moving knife (6) in the arrowed direction to align hole (2) of the moving knife with the needle hole in needle hole guide (2).
- 3. Loosen setscrew (6) and adjust the position of counter knife (5) to provide a 0.5mm clearance between needle hole guide (2) and counter knife (5).

24. ADJUSTING THE LATERAL POSITION OF THE WORK CLAMP FOOT



Loosen nut (3), and move feed across regulator in direction (5) to shift lateral center (2) of work clamp foot (1) to the right or in direction (6) to shift it to the left.

- ★ For 42-stitch bar-tacking, adjust the lateral center at the 26th stitch.
- ★ For 28-stitch bar-tacking, adjust the lateral center at the 18th stitch.
- (Caution) To correct a slight deviation of the lateral feed center, loosen the nut described in "19. Adjusting the length and width of bar tacking", and push the work clamp foot to the right or left by hand to make adjustment.

25. ADJUSTING THE LIFT OF THE WORK CLAMP FOOT



- The lift of the work clamp foot can be adjusted up to 17mm.
- 1. With the machine in stop mode, remove five setscrews 1 to take off top cover 2.
- 2. Apply L-shaped wrench **3** to socket screw **5** of clamp **4**, and loosen socket screw.
- 3. Push down L-shaped wrench ③ to increase the lift of the work clamp foot, or pull it up to decrease the lift.
- 4. Securely tighten socket screw 6 after adjustment.
- 5. If the right and left work clamp feet are not levelled, loosen screw

 and adjust the position of work clamp foot lever support plate

 to level them.
- (Caution) Be careful not to cause work clamp foot lever support plate (2) to interfere with feed bracket (2). If the work clamp foot lever support plate interferes with the wiper, readjust the height of the wiper using setscrew (1)

26. ADJUSTING THE SAFETY PLATE



1. Loosening two setscrews ③, perform adjustment so that a 0.2 to 0.5mm lateral clearance is provided between safety plate ① and lifting lever ② when the work clamp foot is up at the time of stop motion, and a 1.5 to 2.5mm longitudinal clearance between them when the work clamp foot is down.



2. Check that the longitudinal clearance between safety plate ① and lifting lever ② is 1.5 to 2.5mm during the high-speed bar tacking (the work clamp foot is down).

27. SPECIFICATIONS

	Standard	Subclass				
Model	LK-1850	LK-1852-5	LK-1854-10	LK-1852-20	LK-1852-30	LK-1854-40
Application	Large size bar tacking	~	*1 Attaching band loops	*1 ←	*1 ←	*1 ←
Sewing speed (s.p.m.)	1800	←	~	~	~	←
Stitching pattern		28 WWWWWWW		28	28	42
Number of stitches	42	28	21	28	←	42
Bar tacking width (mm)	1.5 ~ 3	~	0	~	←	~
Bar tacking length (mm)	8~16	~	6.5 ~ 14 (standard 14)	6.5 ~ 14 (standard 14)	13 ~ 25 (standard 25)	*2 18 ~ 35 (standard 25)
Needle	DPx5 #14, #16	←	~	+	+	→
Work clamp foot lift (mm)	Max. 17	~	~	+	~	+
Lubricating oil	Juki New Defrix Oil No. 2	4	~-	~	+	←
		Subclass				
Model	LK-1854-6	LK-1852-3	LK-1854-4	LK-1852-1	LK-1854-11	LK-1852-2
Application	Knit goods bar tacking	4	*3 Buttonhole bar tacking	←	Small size bar tacking	+
Sewing speed (s.p.m.)	1800	Ť	~	<i>←</i>	←	+
Stitching pattern		₩ <u>₩</u> ₩₩				28 MAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
Number of stitches	21	28	21	28	21	28
Bar tacking width (mm)	1.3 ~ 3 (standard 2.5)	+	1.5 ~ 3 (standard 2.5)	~	+	~
Bar tacking length (mm)	4 ~ 8 (standard 6.5)	+	4 ~ 8 (standard 6)	÷	4 ~ 8 (standard 8)	÷
Needle	DPx5 #11	~	DPx5 #14, #16	←	←	~
Work clamp foot lift (mm)	Max. 17	÷	~	~	←	←
Lubricating oil	Juki New Defrix Oil No. 2	÷	←	←	←	~



*1. The machine head of the band-loop attaching machine is installed sideways. See the figure at left and use the pedal shaft supplied with the machine for easier pedal operation.

- *2. For bar-tacking of 25 to 35mm length, use feed plate (part No. 13547005) and work clamp foot (part No. 13547112).
- *3. This model of bar-tacking machine is designed to make the work clamp feet automatically close from the right and left of an eyelet buttonhole (closing width adjustable from 0 to 4mm), thus preventing the button-hole from opening when bar-tacking the end of the eyelet buttonhole.
- ★ By replacing the pedal pressure decreasing unit (asm) (part No. 13523188) with the P-type pedal pressure decreasing unit (asm) (part No. 13545959), the work clamp foot lifting operation can be changed from the standard one-pedal system to two-pedal system.

28. TROUBLES AND CORRECTIVE MEASURES

Trouble	Cause	Corrective measures	Page
1. The needle thread slips off the needle at the start of bar- tacking.	 Stitches are skipped at the start. The needle thread remaining on the needle after thread trimming is too short. 	 Adjust the clearance between the needle and the shuttle to 0.05 to 0.1mm. Correct the thread tension release timing of the thread tension controller No. 2. Increase the tension of the thread take-up spring, or decrease the tension of the thread tension controller No. 1. 	7 7 6
	3 The bobbin thread is too short.4 The feed timing is bad.	 Decrease the tension of the bobbin thread. Increase the clearance between the needle hole guide and the counter knife. Correct the feed timing. 	6 8 • 6
2. Thread often breaks or synthetic fiber thread splits	 The shuttle or the driver has scratches. The needle hole guide has scratches. 	 Take it out and remove the scratches using a fine whetstone or buff. Buff or replace it. 	
finely.	 Fibrous dust is in the groove of the shuttle race. 	 Correct the position of the work clamp foot. Take out the shuttle and remove the fibrous dust from the shuttle race. 	8
	 (5) The needle thread tension is too high. (6) The tension of the thread take-up spring is too high. (7) The synthetic fiber thread melts due to 	 Reduce the needle thread tension. Reduce the tension. Use silicone oil. 	6 6 4
3. The needle often breaks.	heat generated on the needle. ① The needle is bent. ② The needle hits the work clamp foot.	 Replace the bent needle. Correct the position of the work clamp 	5 8
	 ③ The feed timing is bad. ④ The needle is too thin for the material. ⑤ The driver excessively bends the needle. 	 ioot. Correct the feed timing. Replace it with a thicker needle according to the material. Correctly position the needle and the 	6 4 7
4. Threads are not trimmed.	 The counter knife is dull. The difference in level between the needle hole guide and the counter knife is not 	 Snuttle. Replace the counter knife. Increase the bend of the counter knife. 	8 8
	 enough. The moving knife has been improperly positioned. The last stitch is skipped. 	 Correct the position of the moving knife. Correct the timing between the needle and the shuttle. 	8 7
5. Stitch skipping often occurs.	 The motions of the needle and shuttle are not properly synchronized. The clearance between the needle and 	 Correct the positions of the needle and shuttle. Correct the positions of the needle and 	7 7
	 shuttle is too large. The needle is bent. The feed timing is bad. The driver excessively bends the needle. 	 shuttle. Replace the bent needle. Correct the feed timing. Correctly position the driver. 	5 6 7
6. The needle thread comes out on the	① The needle thread tension is not high enough	• Increase the needle thread tension.	6
wrong side of the material.	 The tension release mechanism fails to work properly. The needle thread after thread trimming is too long. 	 Check whether or not the tension disc No. 2 is released during bar-tacking. Increase the tension of the thread tension controller No. 1. 	7 6
7. Threads break at time of thread trimming.	The moving knife has been improperly positioned.	• Correct the position of the moving knife.	8

29. HOW TO SUPPLY GREASE TO THE REDUCER



Supply grease to the reducer in accordance with the following procedure when the machine has been used for more than half year or if it chatters.

- 1. Stop the machine and remove screw 0
- 2. Uncap grease tube 2 supplied with the machine, screw the tube into hole (a), and push the grease out of the tube.
- 3. Removing grease tube 😢 from 🙆 , push in the grease by screw 1
- 4. Repeat the step of injecting the grease and pushing it in by the screw twice or so. 5. Tighten screw **①**.
- (Caution) If the grease will not get into the unit smoothly, screw in grease tube turn on the motor switch, and move the presser foot up and down two or three times using lever **1** . By doing this, you can make the grease get into the unit easily.



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To order or for further information, please contact :

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