GLOBAL

BT 1850 series

Instruction & parts Manual

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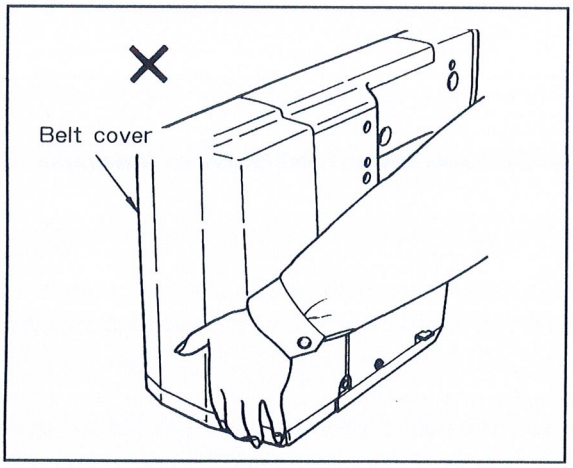
High speed 1-Needle Cylinder Bed Lockstitch Bar Tacking Industrial Sewing Machine

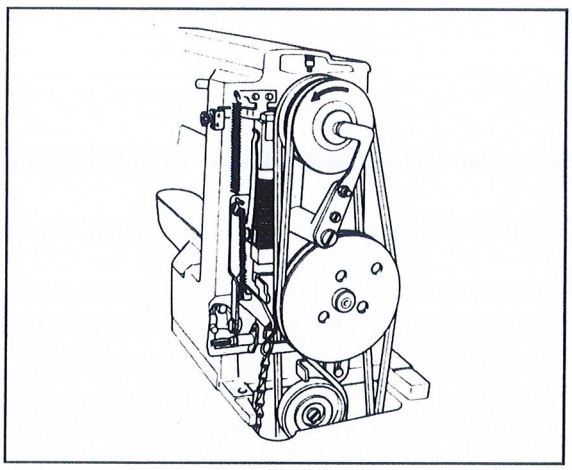
INSTRUCTION MANUAL

Thank you for buying a sewing machine. Please read this Instruction Manual carefully before using this unit in order to get the most out of it and to enjoy using it for a long time.

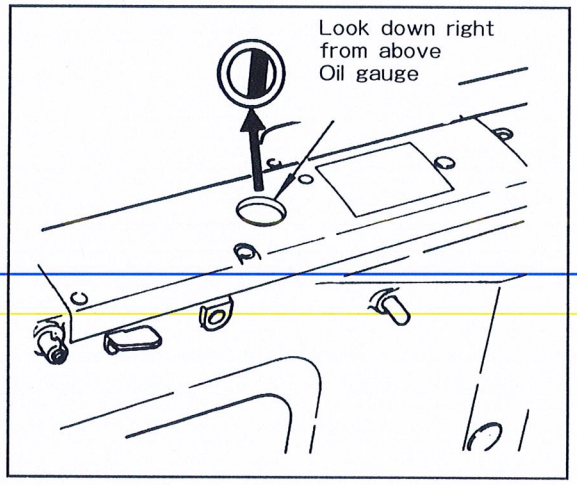
CAUTIONS BEFORE OPERATION

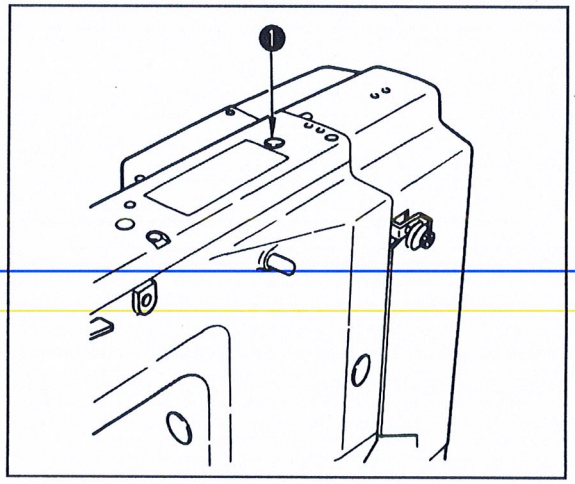


1.Do not hold the belt cover when carrying the sewing machine.

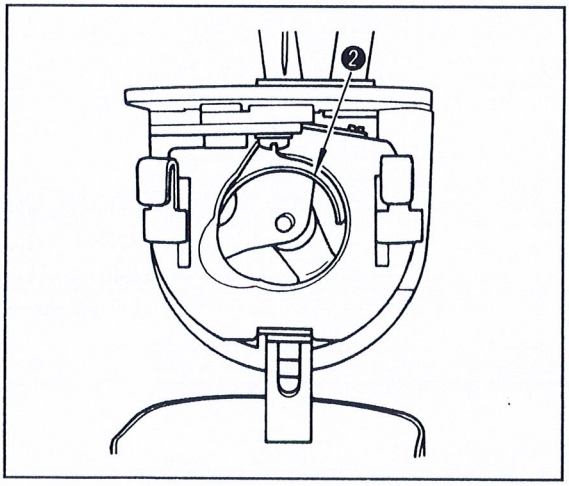


2. The sewing machine should run in the arrowed direction. Never allow the machine to run in the reverse direction.



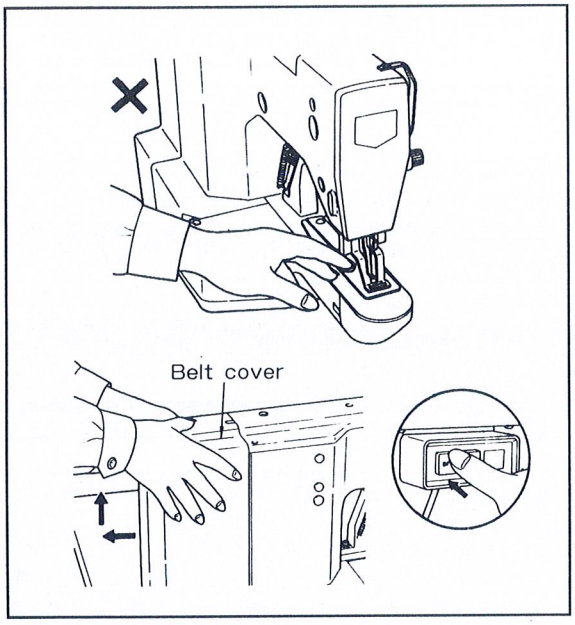


3. If the red color is observed in the oil gauge when looking down from just above the oil gauge, supply the lubricating oil according to "09.Lubrcation" .



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.

CAUTIONS IN OPERATION



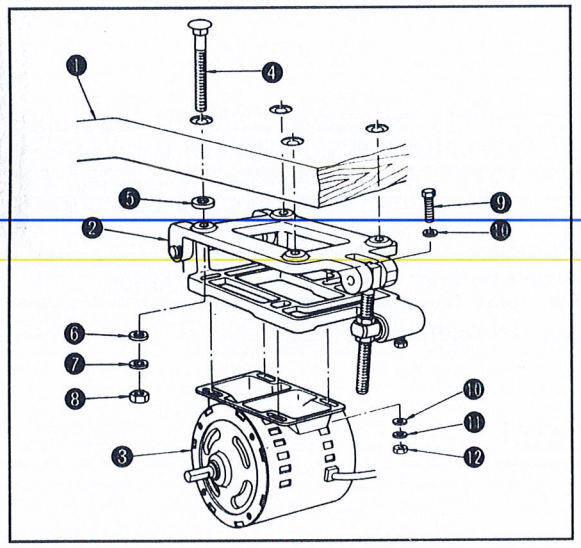
1.Do not place your fingers near the work clamp foot while the machine is in operation.

2.Make sure to turn off the power switch before removing the belt cover.

3.Never bring your fingers or hair close to, or place any-thing 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.

01 INSTALLING THE MOTOR

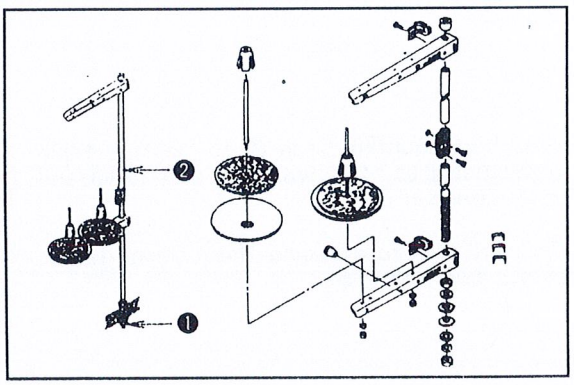


1.Attach motor base ② to table ① using bolt ④ vibration-proof rubber pad ⑤, washer ⑥, spring washer ⑦, and nut ⑧.

2.Using bolt ⑨, washer ⑩, spring washer ⑪, and nut ⑫, install motor ③ to motor base ②.

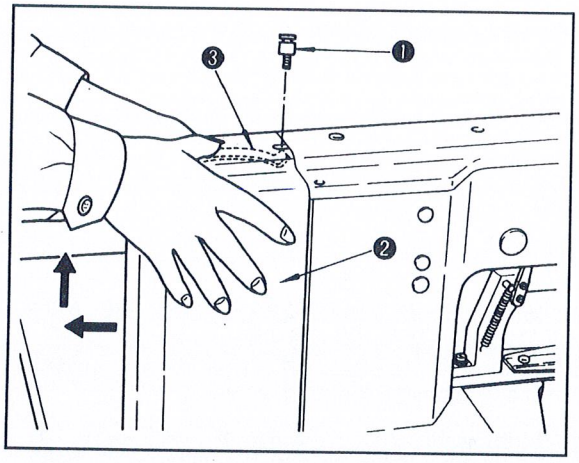
Note:
When installing, please determine the direction of the motor base ② comparing with the shaft of motor ⑬. You can also see the figure of "Parts List" Page 48.

02 INSTALLING THE THREAD STAND



1.Assemble the thread stand, and set it in the hole in the table.
2.Tighten nut ① to fix the thread stand.
If ceiling wiring is made, pass the power cord through spool rest rod ②.

03 REMOVING THE BELT COVER

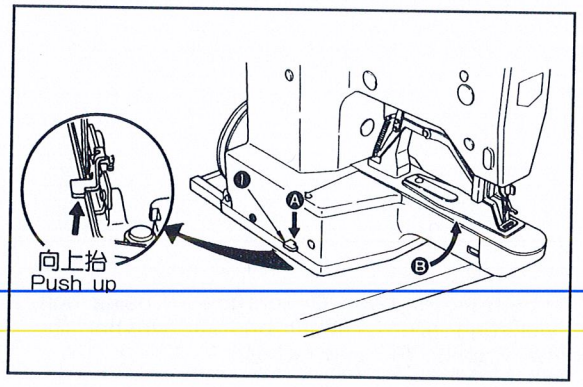


1. After carrying the sewing machine to a desired installing place, remove setscrew ①, then belt cover ② can be attached or removed very easily and quickly.

2. To remove the belt cover, pull it towards you until holding spring ③ is released, then lift it off.

★ Install the belt cover by reversing the above procedure.

04 RAISING THE MACHINE HEAD

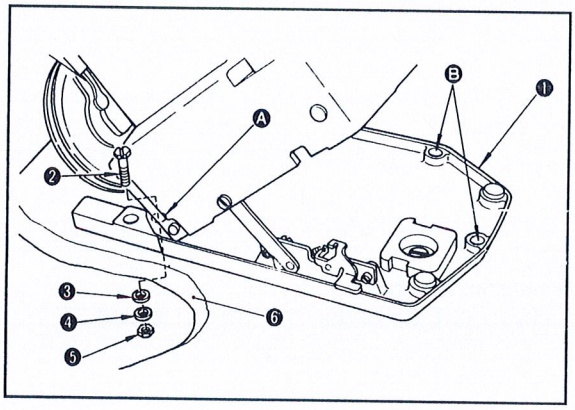


1. Remove the belt cover. With the machine head set in its installing position on the machine table, raise the machine head in direction B while pushing down(in direction) Ⓐ bed locker ①.

2. Releasing the bed locker, further raise the machine head in direction Ⓑ until it locks.

★To lower the machine head, push up the bed locker to release the lock.

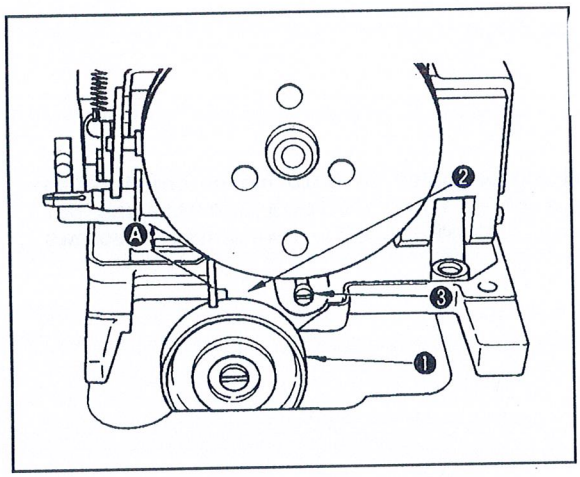
05 INSTALLING THE MACHINE HEAD



1. Install bed mounting base ① to machine table ⑥ using bolts ②, flat washers ③ and ④, and nuts ⑤ (each 3 pcs.)

2. Fix point Ⓐ before raising the machine head. Then fix two points Ⓑ.

06 ATTACHING THE IDLER PULLEY



Fix idler pulley ① to mounting plate ② by setscrew ③.

(Note): Adjust the clearance at A to just allow the V belt to pass it through.

07 MOTOR PULLEYS AND BELTS

CHOOSE

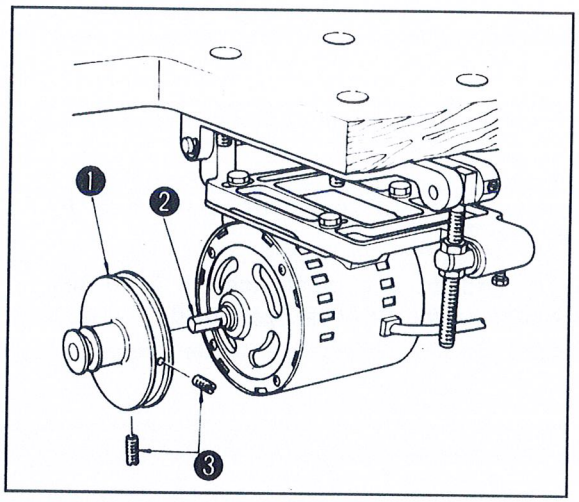
1. M-type V belts are used for this model of sewing machine.
2. This sewing machine uses two V belts, one for high-speed sewing, and the other for low-speed sewing.
3. The table below shows the relation between the motor pulleys, V belts, and sewing speeds.

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

Frequency	Sewing speed	Motor pulley part No.	Engraved mark	High-speed V belt	Low-speed V belt
50Hz	2300 2000 1800	*D8.18-5 *D8.18-4 *D8.18-1	50-2300 50-2000 50-1800	D8.18-11 (50") D8.18-10 (49") D8.18-3 (48")	D8.18-2 (46")
60Hz	2300 2000 1800	*D8.18-8 *D8.18-7 D8.18-6	60-2300 60-2000 60-1800	D8.18-10 (49") D8.18-3 (48") D8.18-9 (47")	D8.18-2 (46")

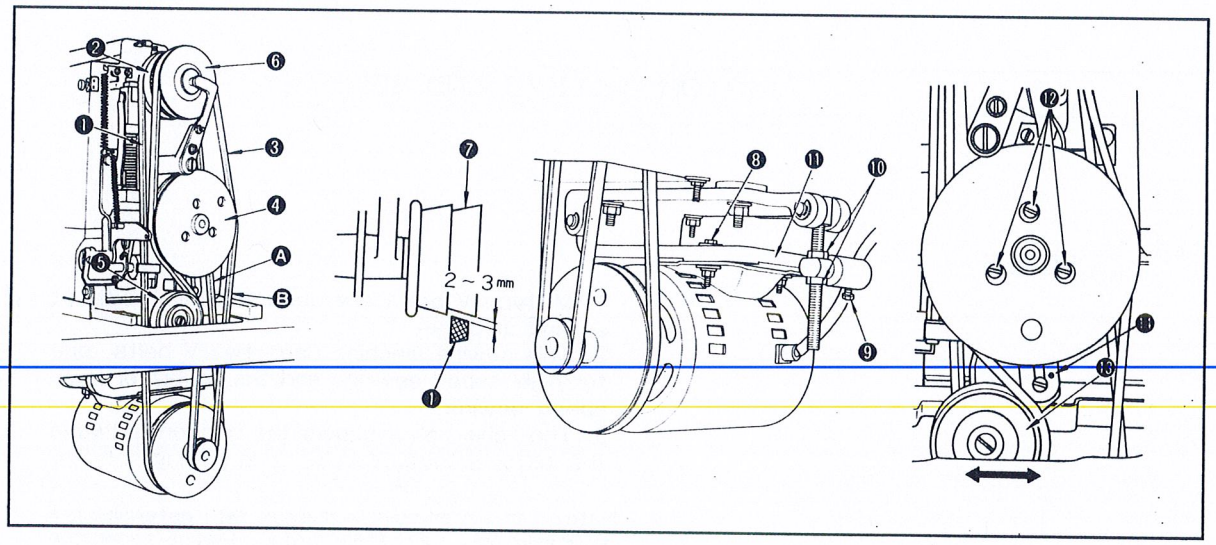
(2)

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 ① on the large diameters of high-speed pulley ② and the motor pulley.

2. Set low-speed V belt ③ on the small diameters of low-speed pulley ⑥ and the motor pulley through pressure decreasing pulley ④ and idler pulley ⑤.

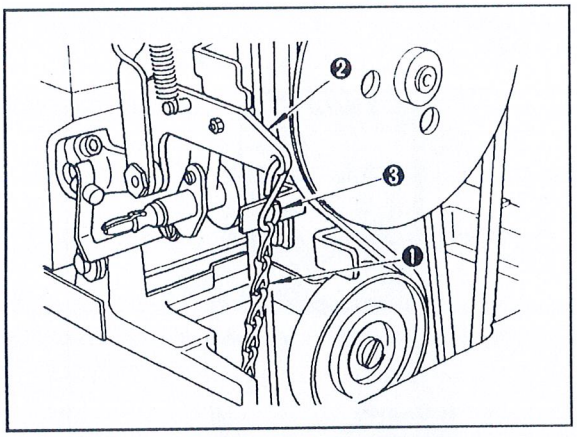
3. Move the motor pulley back or forth to provide a 2 to 3mm clearance between high-speed V belt ① and bobbin winder wheel ⑦.

4. Loosen setscrew ⑧, 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. Loosed setscrew ⑨, and move motor base ⑪ up or down by adjusting nut ⑩ to perform adjustment so that the high-speed V belt slacks about 10mm when you push the belt at middle Ⓐ.

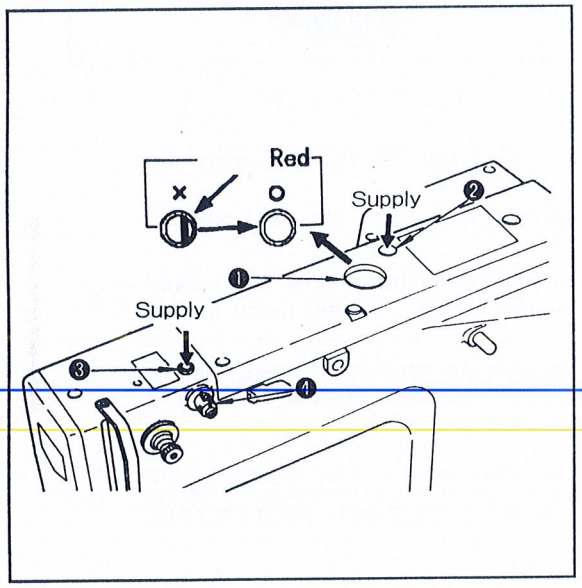
6. Loosen setscrew ⑫, and move idler pulley ⑬ in the arrowed direction to perform adjustment so that the low-speed V belt slacks about 10mm when you push the belt at middle Ⓑ. (At this time, set the idler pulley so that it is aligned with engraved marker dot ⑭ on the installing plate.)

08 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.

09 LUBRICATION



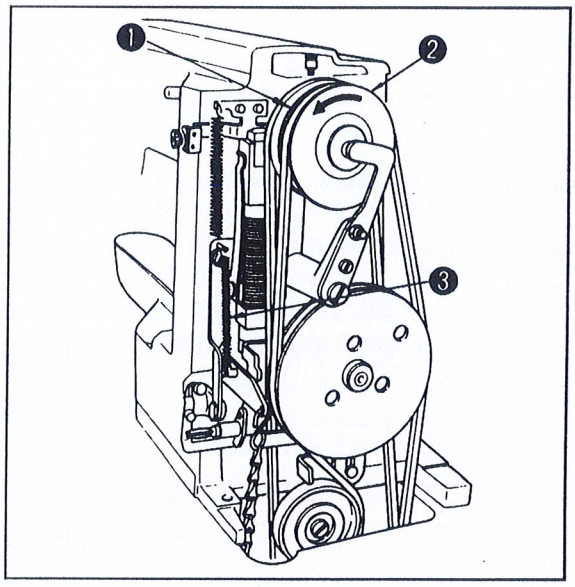
1. Lubricate the machine once everyday. Supply the lubricating oil through lubricating hole ② until the red color in oil gauge ① completely disappears as observed from right above the oil gauge.
2. Use Juki New Defrix Oil No.2 or spindle oil No.2 as the lubricating oil.

When using the thread guide a synthetic fiber thread and cloth
Supply silicone oil through silicone oil lubricating hole ③ when using thread guide ④ for a synthetic fiber thread. At this time, check that the thread which has passed through thread guide ④ 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 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 ① (Knurled part) in the arrowed direction of low-speed pulley ② ;

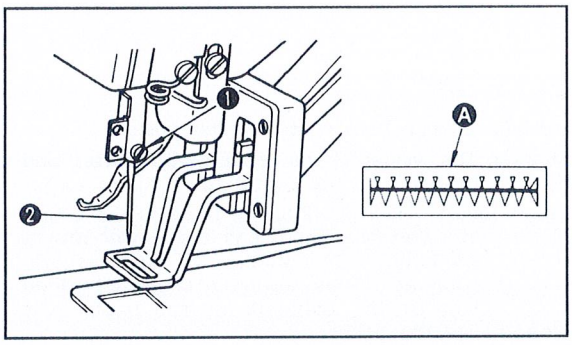
4.This sewing machine may run rather unsmoothly on a cold morning because it uses grease for the lubrication of several parts. In such a case, allow the machine to idle for 5 or 6 times before starting the work.

To operate the sewing machine manually;
Turn off the power switch, remove the upper end of spring ③, give low-speed pulley ② 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 of work
Synthetic fiber	#14	D8.16-11	Men' s suits, Ladies' wear
Medium-weight	#16	D8.16-11	Men' s suits, Ladies' wear
Heavy-weight	#18	D8.16-11 D8.16-14	Working wear, overcoats
Thin material	#14	D8.16-11	Umbrella

12 ATTACHING THE NEEDLE



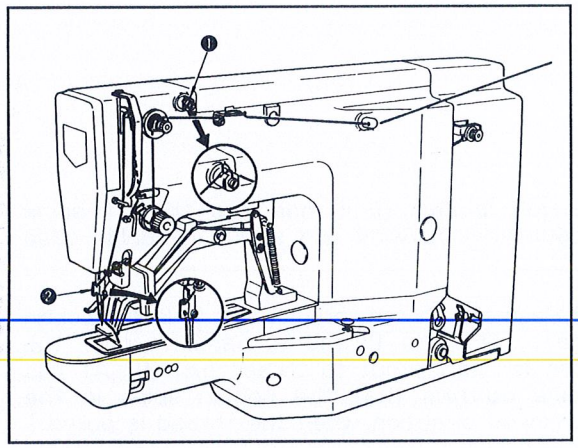
Loosening setscrew ①, insert needle ② fully into the needle bar hole with the long groove of the needle facing towards you, then tighten setscrew ①

(Note):

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.

13 THREADING THE MACHINE



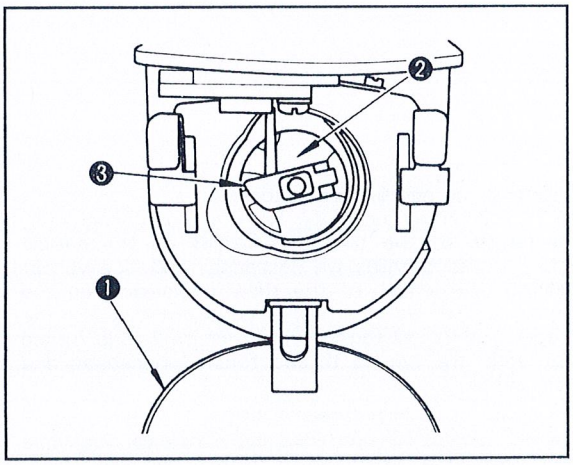
Thread the machine in the order as shown above. Leave thread of approx. 4cm on the needle.

(Note):

1.For a synthetic fiber thread (silicone oil is used), pass the thread also through silicone lubricant thread guide ①.

2.For a thick thread, pass the thread through only one of the two holes in needle bar thread guide ②.

14 REMOVING AND INSTALLING THE BOBBIN CASE

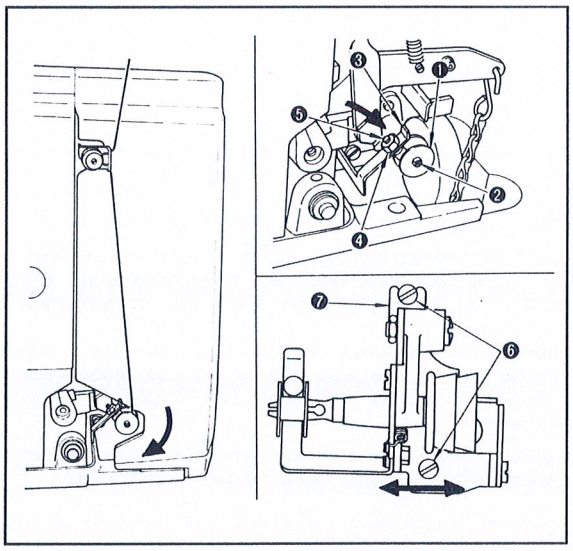


1.Open cylinder arm cap ①.

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.

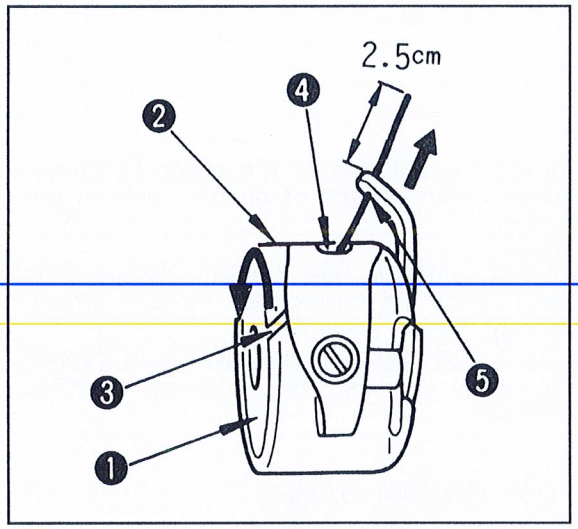
3.To load the bobbin case into the shuttle, fit it onto the shaft of the shuttle and snap in the latch lever of the bobbin case.

15 WINDING A BOBBIN



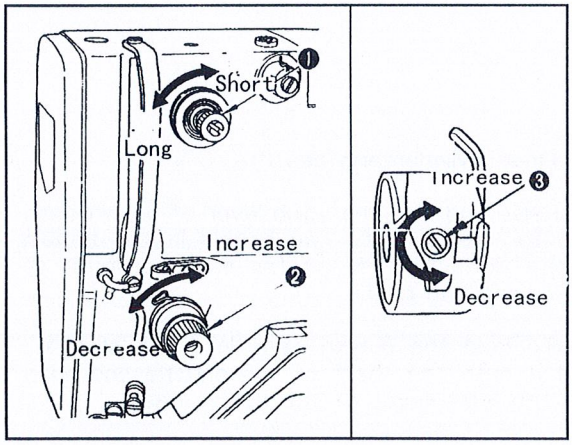
1. Attach bobbin ① to bobbin winder spindle ②.
2. Thread the winder in the order as illustrated and wind the thread onto the bobbin four or five turns.
3. Push bobbin winder trip latch ③ towards the bobbin (in the arrowed direction), and the winder starts to wind the bobbin. The winder will automatically stop as soon as it has wound a predetet mined 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 dectease the thread amount.
5. If the thread is not wound evenly round the bobbin, loosen screw ⑥ and move bobbin winder base ⑦ in the arrowed direction to make adjustment.

16 THREADING THE BOBBIN CASE



1. Hold bobbin ① in hand so that it spins counter-clockwise 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.

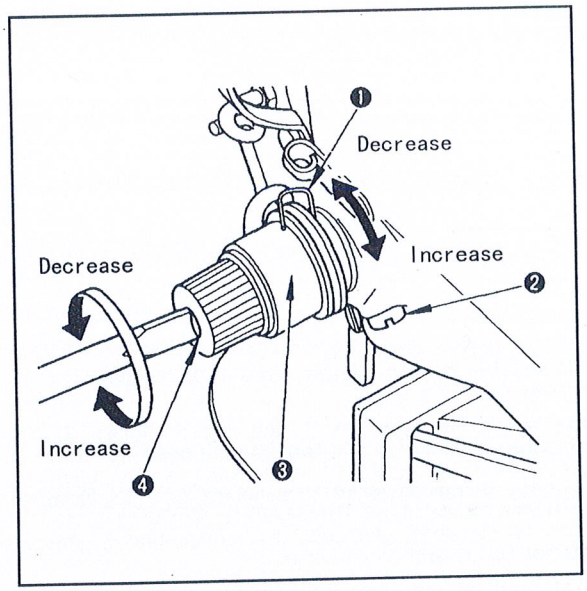
17 THREAD TENSION



Adjusting the needle thread tension
As thread tension controller No.1 ① 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 ② is turned clockwise the needle thread tension increased 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

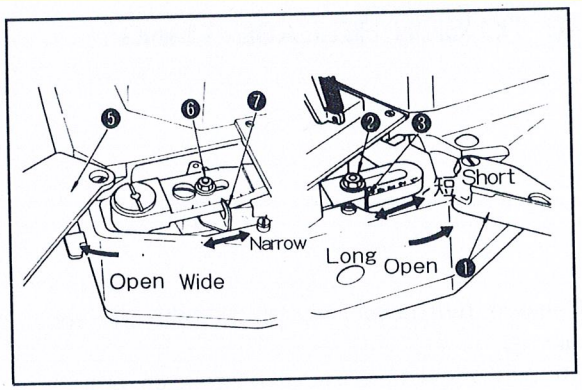
Loosen screw ②, and turn tension controller assembly ③ clockwise to increase the stroke or counterclockwise to decrease it.

Adjusting the tension

Insert the blade of a flat-bit screwdriver into the grove in the tension post ④, and turn it clockwise to increase the tension or counterclockwise to decrease it.

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

19 ADJUSTING THE LENGTH AND WIDTH OF BAR-TACKING



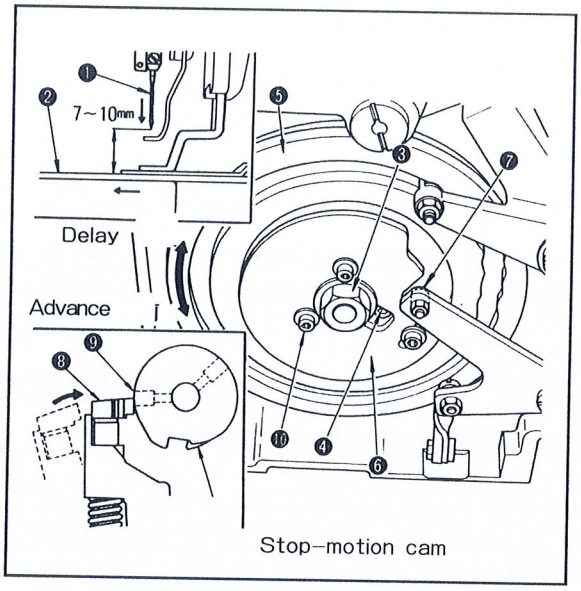
Adjusting the bar-tacking length

Push and open bed cover (A) ① in the arrowed direction, and loose nut ② using the wrench supplied with the machine. Turn feed across regulator ③ towards you to increase the bar-tacking length, and vice verse. After adjustment, tighten nut ② and close bed cover (A) ①.

Adjusting the bar-tacking width

Push and open bed cover (B) ⑤ in the arrowed direction, and loosen nut ⑥ using the wrench supplied with the machine. Turn feed regulator ⑦ counterclockwise to increase the bar-tacking width, and vice verse. After djustment, tighten nut ⑥, and close bed cover (B) ⑤.

20 ADJUSTING THE FEED TIMING



1.Raise the machine head.(See "04.Raising the machine head")

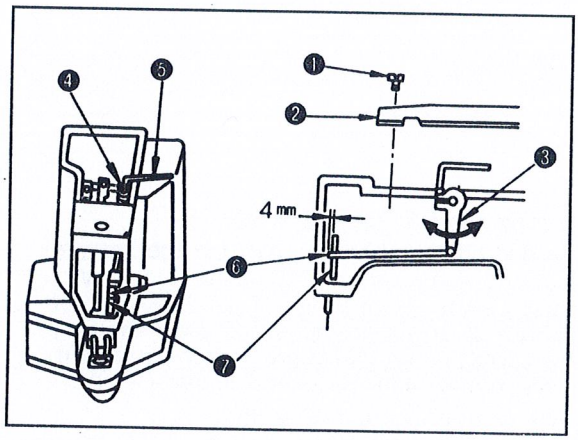
2.Loosening hexagon nut ③ and socket screw ④, turn feed cam ⑤ to perform adjustment so that material feed is completed at the moment the point of needle ① has lowered to a height of 7 to 10mm above the surface of throat plate ②.Turning the feed cam clockwise will delay the completion of the material feed, and vice versa.

3.After adjustment, securely tighten socket screw ④ and hexagon nut ③.

*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 ⑥ is turned together with feed cam ⑤. Therefore, loosen setscrew ⑩ and turn the stop-motion regulating cam to make adjustment so that stop-motion regulating cam roller ⑦ enters stop motion from the low-speed revolution when stop-motion hook ⑧ falls onto stop-motion cam screw No.1 ⑨ at the final stitch.

21 ADJUSTING THE THREAD TENSION RELEASE TIMING

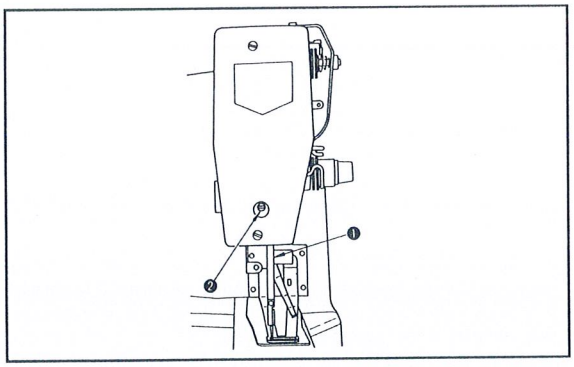


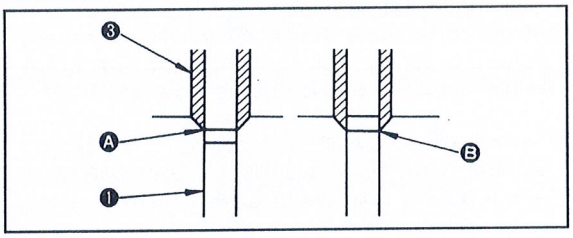
1.Remove five setscrews ① to take off top cover ②.

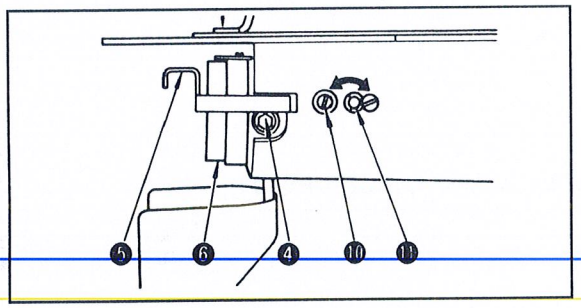
2.Loosen socket screw ④ of tension arm ③ by L shaped wrench ⑤, and turn the tension arm to make adjustment so that a 4mm clearance is provided between the end of connecting rod ⑥ and that of tension post support plate ⑦ when the work clamp foot is up (when connecting rod ⑥ is retreated).

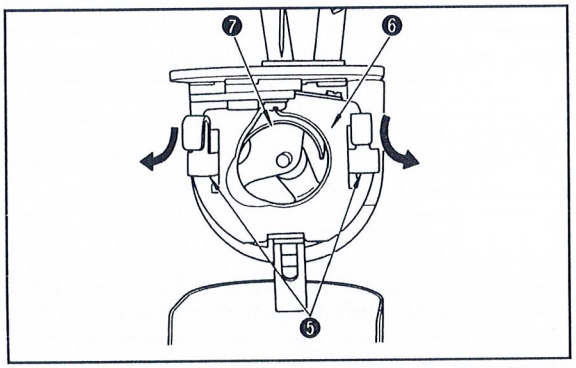
3.After adjustment, securely tighten socket screw ④.

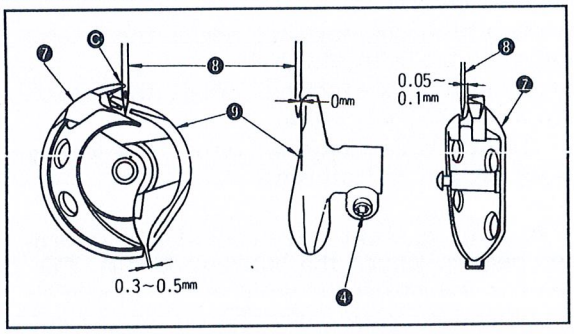
22 NEEDLE-TO-SHUTTLE-RELATION











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 Ⓐ 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 Ⓑ engraved on needle bar ① meets the bottom end of lower bushing ③ of the needle bar.

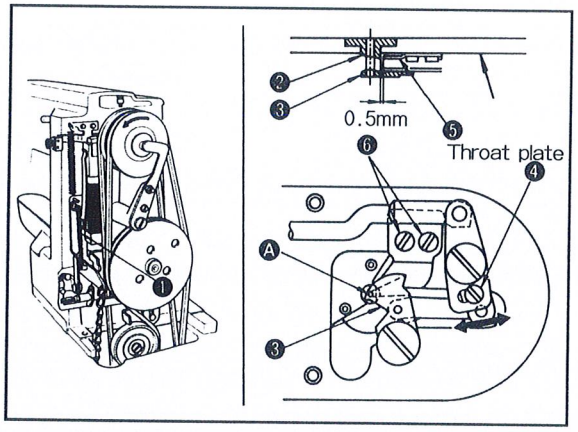
5. Loosen shuttle driver setscrew ④, and open shuttle race latches ⑤ to the right and left, respectively while pulling them towards you to remove shuttle race ring ⑥.
Note: At this time, be careful not to allow shuttle ⑦ to fall.

6. Perform adjustment so that no clearance is provided between the needle and the front end of shuttle driver ⑨ when the blade point of shuttle ⑦ is aligned with center Ⓒ of needle ⑧. Then tighten shuttle driver setscrew ⑥.
(Caution) At this time, be very careful not to cause the shuttle race to slip in the direction of rotation.

7. Loosening setscrew ⑩, turn shuttle race adjusting shaft ⑪ clockwise or counterclockwise for adjustment to provide a 0.05 to 0.1mm clearance between needle ⑧ and shuttle ⑦, then tighten setscrew ⑩.

8. After adjustment, install shuttle race ring ⑥.

23 ADJUSTING THE THREAD TRIMMER

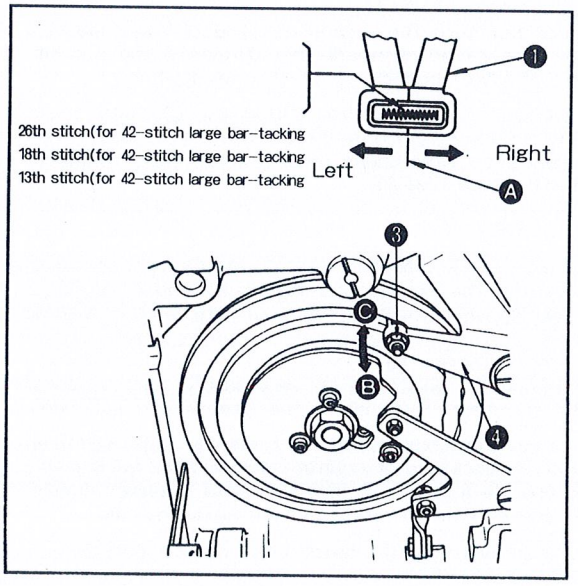


1.Remove starting lever tension spring ①, and start the machine. (The work clamp foot stays down when the machine stops.)

2.Loosen adjusting screw ④ and adjust the position of moving knife ③ in the arrowed direction to align hole Ⓐ 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 Ⓑ to shift lateral center Ⓐ of work clamp foot ① to the right or in direction Ⓒ to shift to the left.

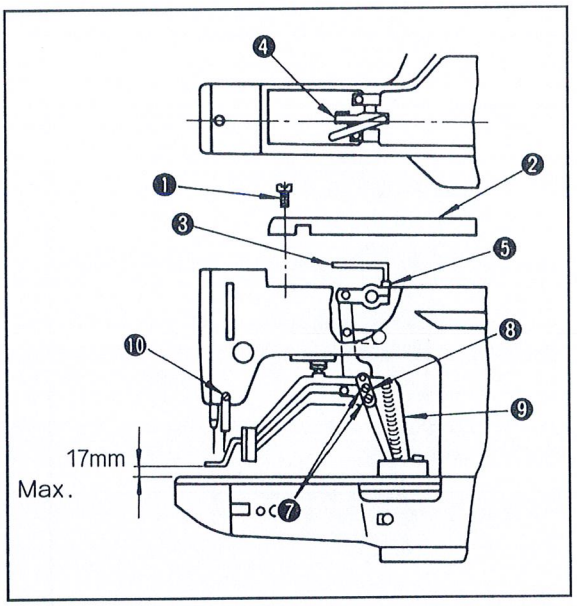
For 42-stitch bar-tacking, adjust the lateral center at the 26th stitch.

For 28-stitch bar-tacking, adjust the lateral center at the 18th stitch.

For 21-stitch bar-tacking, adjust the lateral center at the 13th stitch.

Note:
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

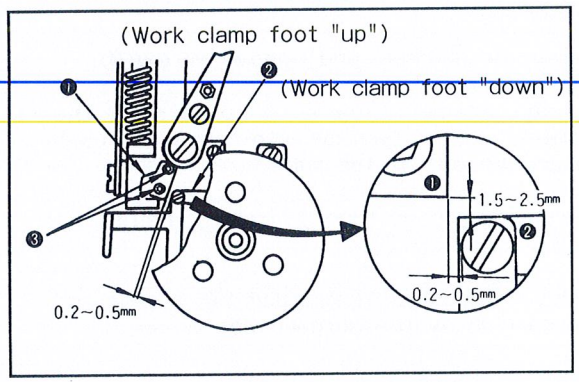


(Caution)Be careful not to cause work clamp foot lever support plate ⑧ to interfere with feed bracket ⑨. If the work clamp foot lever supper plate interferes with the wiper, readjust the height of wiper using setscrew ⑩.

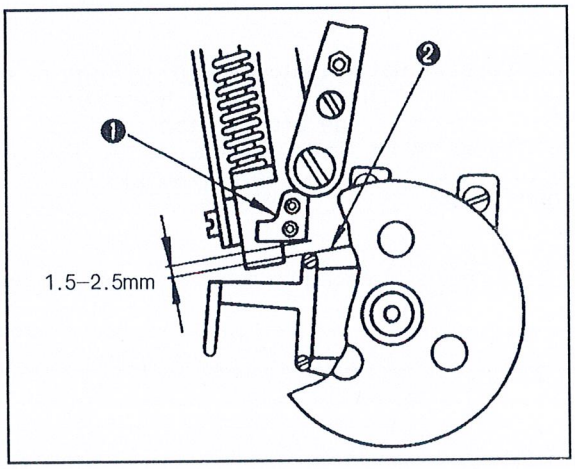
The lift of the work clamp foot can be adjusted up to 17mm.

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 ⑤ after adjustment.
5. If the right and left work clamp feet are not levelled, loosen screw ⑦ and adjust the position of work clamp foot lever support plate ⑧ to level them.

26 ADJUSTING THE SAFETY PLATE

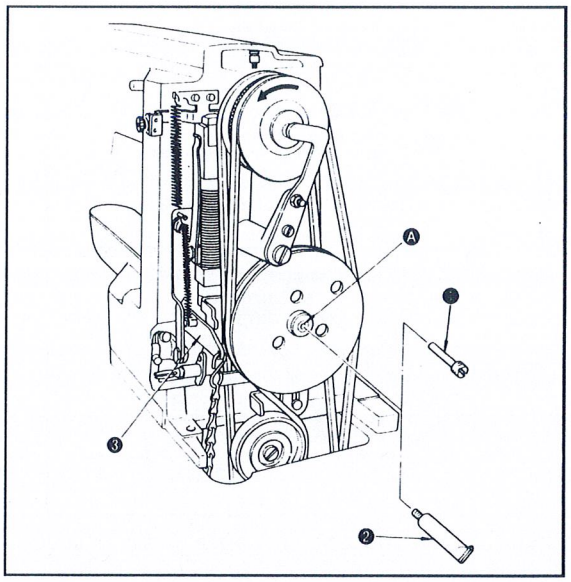


Loosening two setscrews ③, perform adjustment so that a 0.2 to 0.5mm lateral clearance is provided between safety plate ① and lifting lever ② when the work clamp foot is up at the time of stop motion, and a 1.5 to 2.5mm longitudinal clearance between them when the work clamp foot is down.



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).

28 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 ①.

2. Uncap grease tube ② supplied with the machine, screw the tube into hole Ⓐ and push the grease out of the tube.

3. Removing grease tube ② 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.

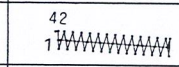
5. Tighten screw ①.

Note
If the grease will not get into the unit smoothly, screw in grease tube ②. turn on the motor switch , and move the presser foot up and down two or three times using lever ③. By doing this, you can make the grease get into the unit easily.

29 TROUBLES AND CORRECTIVE MEASURES

Trouble	Cause	Corrective measures	Page
1. The needle thread slips off the needle at the start of bar-tacking.	① Stitches are skipped at the start.	● Adjust the clearance between the needle and the shuttle to 0.05 to 0.1mm.	12
	② The needle thread remaining on the needle after thread trimming is too short.	● Correct the thread tension release timing of the thread tension controller No.2.	9
		● Increase the tension of the thread take-up spring or decrease the tension of the thread tension controller No.1.	9
	③ The bobbin thread is too short.	● Decrease the tension of the bobbin thread.	9
		● Increase the clearance between the needle hole guide and the counter knife.	13
	④ The feed timing is bad.	● Correct the feed timing.	11
2. Thread often breaks or synthetic fiber thread splits finely.	① The shuttle or the driver has scratches.	● Take it out and remove the scratches using a fine whetstone or buff.	
	② The needle hole guide has scratches.	● Buff or replace it.	
	③ The needle strikes the work clamp foot.	● Correct the position of the work clamp foot.	14
	④ Fibrous dust is in the groove of the shuttle race.	● Take out the shuttle and remove the fibrous dust from the shuttle race.	12
	⑤ The needle thread tension is too high.	● Reduce the needle thread tension.	9
	⑥ The tension of the thread take-up spring is too high.	● Reduce the tension.	10
	⑦ The synthetic fiber thread melts due to heat generated on the needle.	● Use silicone oil.	6
3. The needle often breaks.	① The needle is bent.	● Replace the bent needle.	8
	② The needle hits the work clamp foot.	● Correct the position of the work clamp foot.	14
	③ The feed timing is bad.	● Correct the feed timing.	11
	④ The needle is too thin for the material.	● Replace it with a thicker needle according to the material.	7
	⑤ The driver excessively bends the needle.	● Correctly position the needle and the shuttle.	12
4. Threads are not trimmed.	① The counter knife is dull.	● Replace the counter knife.	13
	② The difference in level between the needle hole guide and the counter knife is not enough.	● Increase the bend of the counter knife.	13
	③ The moving knife has been improperly positioned.	● Correct the position of the moving knife.	13
	④ The last stitch is skipped.	● Correct the timing between the needle and the shuttle.	12
5. Stitch skipping often occurs.	①The motions of the needle and shuttle are not properly synchronized.	● Correct the positions of the needle and shuttle.	12
	②The clearance between the needle and shuttle is too large.	● Correct the positions of the needle and shuttle.	12
	③The needle is bent.	● Replace the bent needle.	8
	④The feed timing is bad.	● Correct the feed timing.	11
	⑤The driver excessively bends the needle.	● Correctly position the driver.	12
6. The needle thread comes out on the wrong side of the material.	① The needle thread tension is not high enough.	● Increase the needle thread tension.	9
	② The tension release mechanism fails to work properly.	● Check whether or not the tension disc No.2 is released during bar-tacking.	9
	③ The needle thread after thread trimming is too long.	● Increase the tension of the thread tension controller No.1.	9
7. Threads break at time of thread trimming.	① The moving knife has been improperly positioned.	● Correct the position of the moving knife.	13

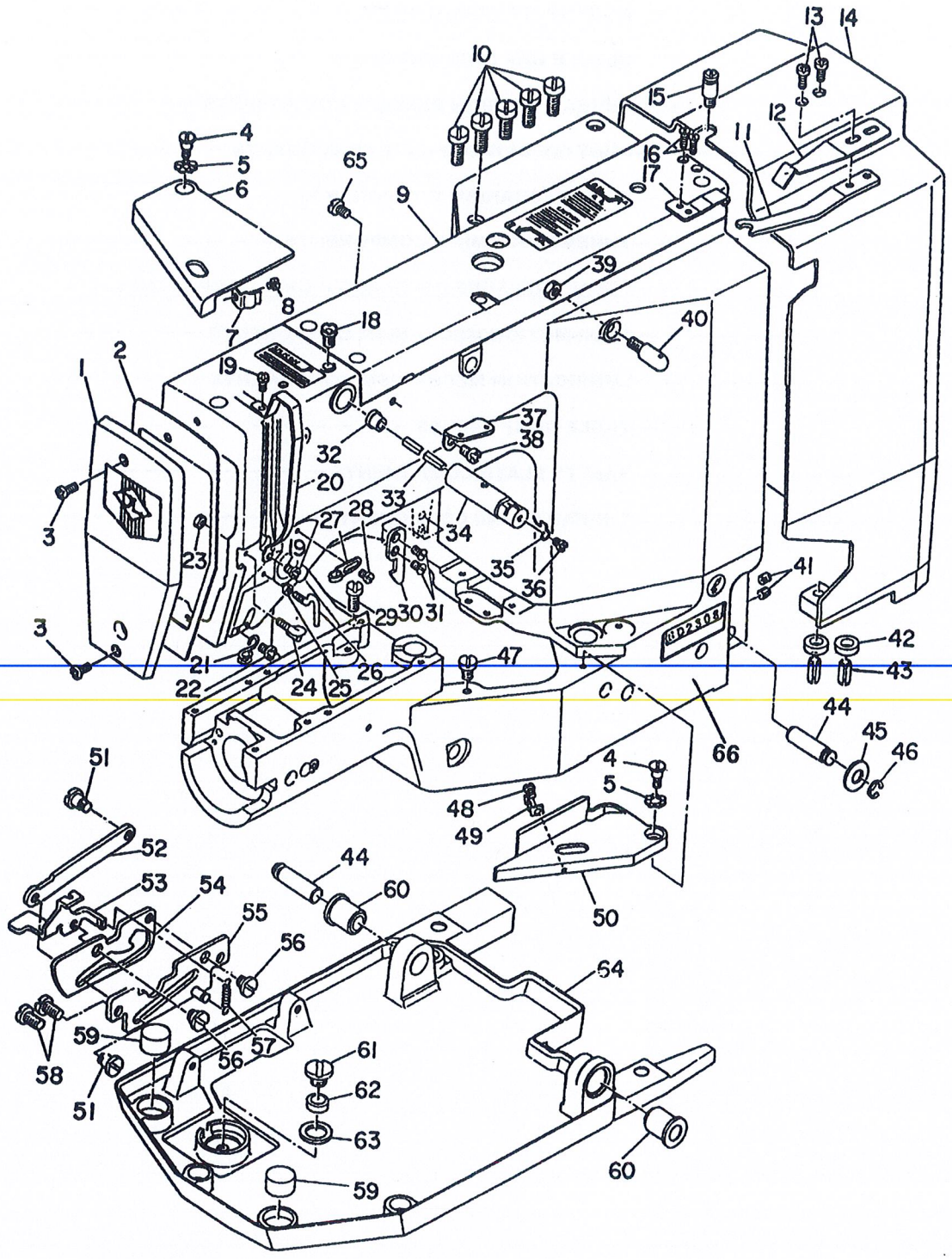
SPECIFICATIONS

MODEL	APPLICATION	SPEED	STITCHING PATTERN	NUMBER OF STITCHES	BAR TACKING WIDTH	BAR TACKING LENGTH	NEEDLE	WORK CLAMP FOOT LIFT
BT 1850-28	SMALL SIZE BAR TACKING	1800 SPM		28	1,5 - 3 MM	4 – 8 MM	DPX17	MAX 17 MM
BT 1850-42	HEAVY DUTY BAR TACKING	1800 SPM		42	1,5 - 3 MM	8 – 16 MM	DPX17	MAX 17 MM

High speed 1-Needle Cylinder Bed Lockstitch Bar Tacking Industrial Sewing Machine

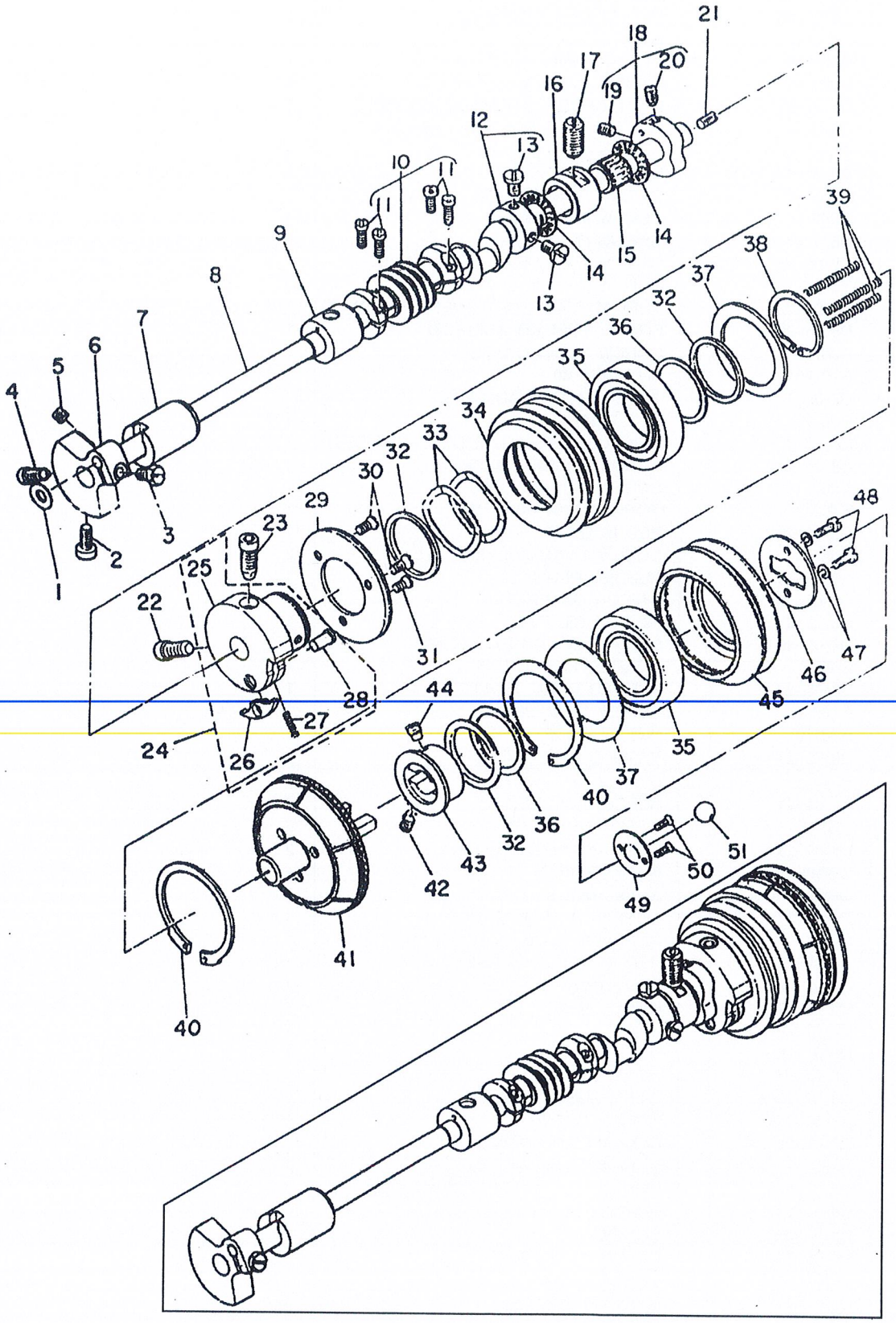
PARTS LIST

01. FRAME & MISCELLANEOUS COVER COMPONENTS



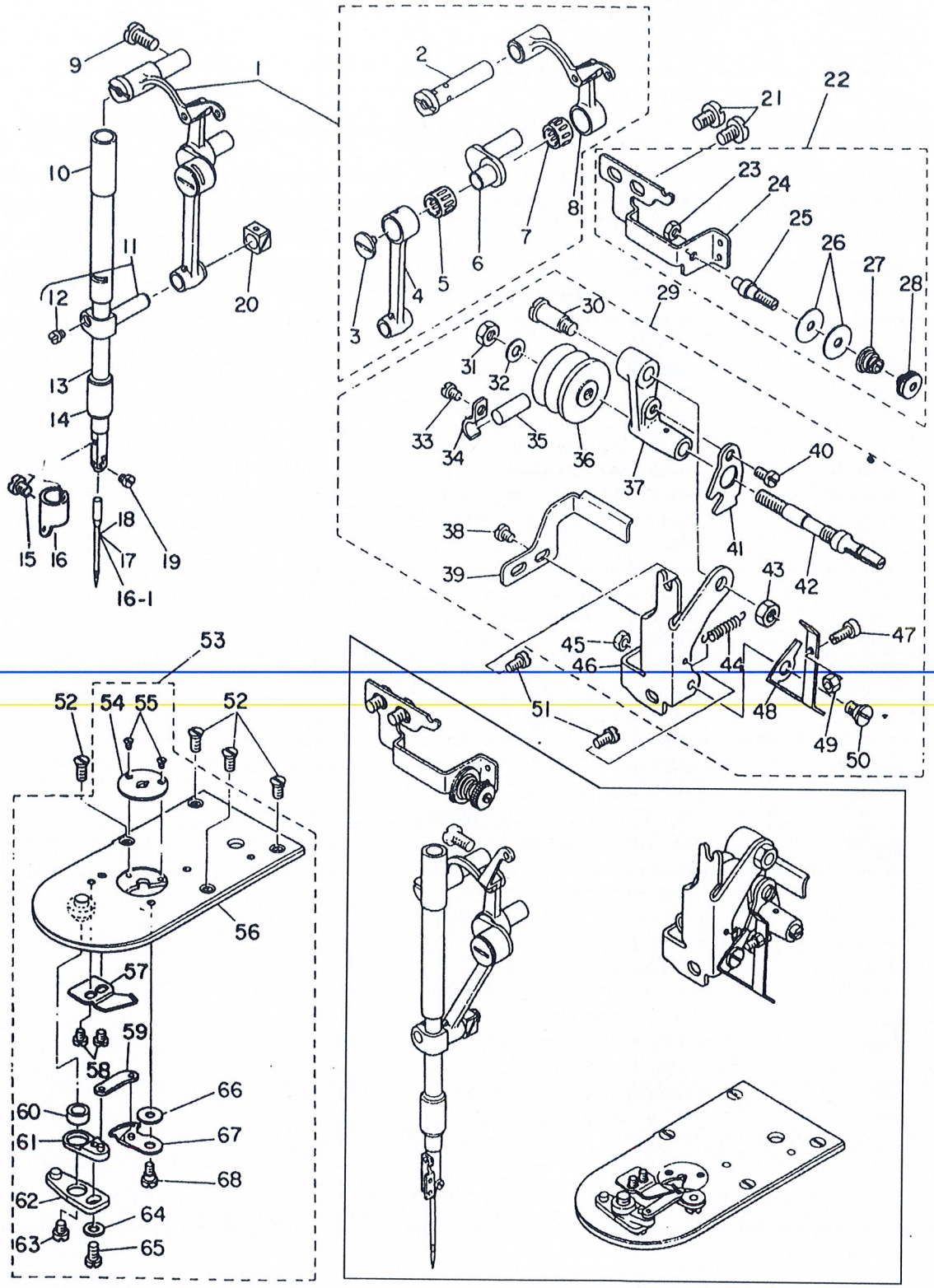
			Description	
1	D8.01-1		FACE PLATE ASM.	1
2	D8.01-2		FACE PLATE GASKET	1
3	FJ65		SCREW 11/64-40 L=10	2
4	D8.01-37		HINGE SCREW D=6.35 H=4.7	2
5	GB955		WAVED WASHER 6	2
6	D8.01-17		BED COVER B	1
7	D8.01-16		BED COVER B SPRING	1
8	FJ65		SCREW 11/64-40 L=4	1
9	D8.01-4		TOP COVER	1
10	FJ65		SCREW 15/64-28 L=17.0	5
11	D8.01-9		BELT COVER STOPPER PLATE	1
12	D8.01-8		BELT COVER PRESSER SPRING	1
13	FJ65		SCREW 11/64-40 L=8	2
14	D8.01-10		BELT COVER	1
15	D8.01-6		SPRING SUSPENSION SCREW STUD	1
16	FJ69		SCREW 9/64-40 L=8	2
17	D8.01-7		SPRING RECEIVER	1
18	D8.05-18		SILICON OIL LUBRICATING HOLE	1
19	FJ65		SCREW 9/64-40 L=7	2
20	D8.01-3		THREAD TAKE-UP LEVER OIL GAURD	1
21	D8.05-23		FRAME THREAD GUIDE(B)	1
22	FJ67		SCREW 11/64-40 L=6.5	1
23	FJ6170		NUT 9/64-40	1
24	D8.05-1		TAKE-UP THREAD GUIDE	1
25	FJ6170		NUT 9/64-40	1
26	D8.05-2		TENSION THREAD GUIDE(L-SHAPED)	1
27	D8.05-24		FRAME THREAD GUIDE A	1
28	FJ67		SCREW 9/64-40 L=6	1
29	FJ65		SCREW 15/64-28 L=11.5	1
30	D8.01-26		BED HOOK B	1
31	FJ68		SCREW 11/64-40 L=8.3	2
32	D8.05-20		RUBBER PLUG	1
33	D8.05-19		SILICON OIL FELT	1
34	D8.05-17		SILICON OIL PIPE	1
35	D8.05-16		SILICON OIL THREAD GUIDE	1
36	FJ67		SCREW 11/64-40 L=5	1
37	D8.05-22		THREAD GUIDE PLATE	1
38	FJ67		SCREW 15/64-28 L=7	1
39	FJ6170		NUT 15/64-28	1
40	D8.05-21		THREAD GUIDE NO.1	1
41	FJ74		SCREW 15/64-28 L=8	2
42	D8.01-11		RUBBER WASHER	2
43	GB879		SPRING PIN 8×16	2
44	D8.01-21		BASE CONNECTING PIN	2
45	GB848		WASHER 10	1
46	GB896		SNAP RING 6	1
47	FJ65		SCREW 15/64-28 L=11	1
48	FJ65		SCREW 9/64-40 L=4.0	1
49	D8.01-20		BED COVER A SPRING	1
50	D8.01-19		BED COVER A	1
51	D8.01-31		HINGE SCREW	2
52	D8.01-29		STAY	1
53	D8.01-25		BED LOCKER	1
54	D8.01-24		STAY LOCKER	1
55	D8.01-23.2		STAY GUIDE ASM	1
56	D8.01-28		HINGE SCREW	2
57	D8.01-27		NIPPER BAR SPRING	1
58	FJ65		SCREW 15/64-28 L=12	2
59	D8.01-33		VIBRATION-PROOF RUBBER PAD	2
60	D8.01-22		RUBBER BUSHING	2
61	D8.01-36		SCREW	1
62	D8.01-35		OIL DRAIN GASKET	1
63	D8.01-34		GASKET RING	1
64	D8.01-14		MACHINE BASE	1
65	FJ65		SCREW 11/64-40 L=7	1
66	D8.01-5.1		MACHINE HEAD ASM.	1

2. MAIN SHAFT COMPONENTS



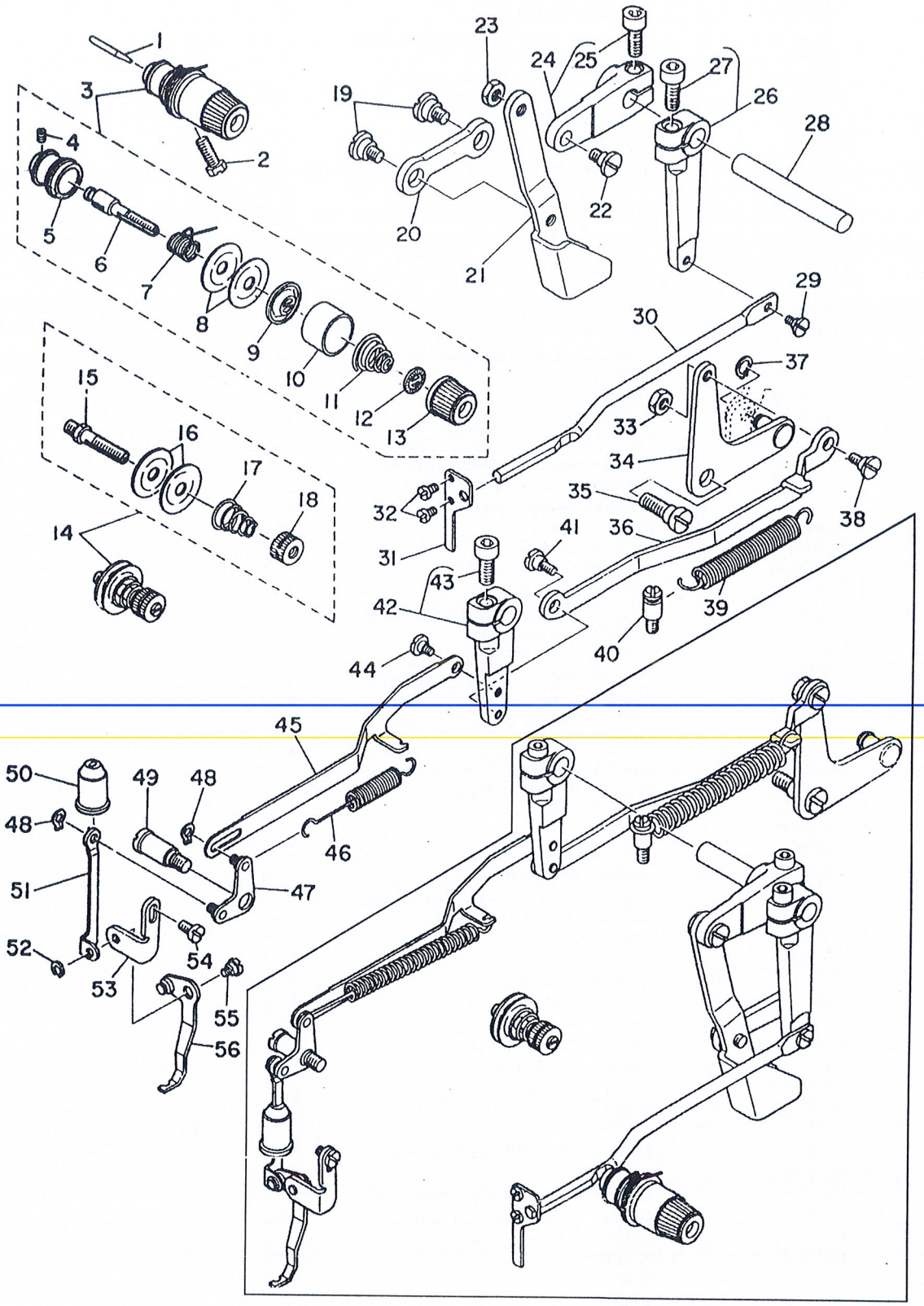
			Description	
1	D8.02-1		THRUST WASHER,	1
2	FJ70		SCREW 15/64-28 L=14	1
3	FJ29.1		SCREW 1/4-40 L=12	1
4	D8.02-2		SCREW	1
5	FJ74		SCREW 1/4-40 L=6	1
6	D8.02-3		COUNTERWEIGHT	1
7	D8.02-4		BUSHING, FRONT	1
8	D8.02-5		MAIN SHAFT	1
9	D8.02-6		BUSHING, INTERMEDIATE	1
10	D8.02-7		WORM ASM.	1
11	FJ67		SCREW 11/64-40 L=14	4
12	D8.02-8		THRUST COLLAR ASM.	1
13	FJ65		SCREW 1/4-40 L=11	2
14	GB4605		MAIN SHAFT THRUST BEARING	2
15	GB5846		MAIN SHAFT NEEDLE BEARING	1
16	D8.02-9		MAIN SHAFT BUSHING, REAR	1
17	D8.02-10		SCREW	1
18	D8.02-11		THREAD TRIMMING CAM ASM.	1
19	FJ80		SCREW 1/4-40 L=10	1
20	D8.02-25		SCREW	1
21	FJ73		SCREW 15/64-28 L=8	1
22	FJ70		SCREW 3/8-28 L=14.5	1
23	D8.06-1		SCREW	1
24			STOP-MOTION CAM ASM	1
25	D8.02-12		STOP-MOTION CAM	1
26	D8.02-29		STOP-MOTION CAM LATCH	1
27	D8.02-27		SAFETY PLATE STOPPER SPRING	1
28	D8.02-28		PIN	1
29	D8.02-13.1		HIGH SPEED CLUTCH PLATE ASM.	1
30	FJ68		SCREW 11/64-40 L=8.5	2
31	FJ68		SCREW 11/64-40 L=5.5	1
32	D8.02-16		SPACER	3
33	D8.02-24		SPRING	2
34	D8.02-14		HIGH SPEED PULLEY	1
35	GB278		BEARING D=35×62	2
36	D8.02-20		SHIM	4-6
37	D8.02-15		WASHER	2
38	GB894.1		RETAINING RING 35	1
39	D8.02-19		SLOW SPEED PULLEY SPRING	3
40	GB893.1		RETAINING RING 62	2
41	D8.02-17.2		PULLEY ASM.	1
42	FJ80		SCREW 1/4-40 L=6.0	1
43	D8.02-22		SLOW SPEED PULLEY SHAFT	1
44	D8.02-26		SCREW	1
45	D8.02-18.3		SLOW SPEED PULLEY	1
46	D8.02-21		SLOW SPEED PULLEY PLATE	1
47	GB859		SPRING WASHER 5	2
48	FJ67		SCREW 11/64-40 L=8.5	2
49	D8.02-23		BALL RETAINER	1
50	FJ69		SCREW 9/64-40 L=7.2	2
51	GB308		STOP-MOTION BALL 12	1

3. NEEDLE BAR COMPONENTS



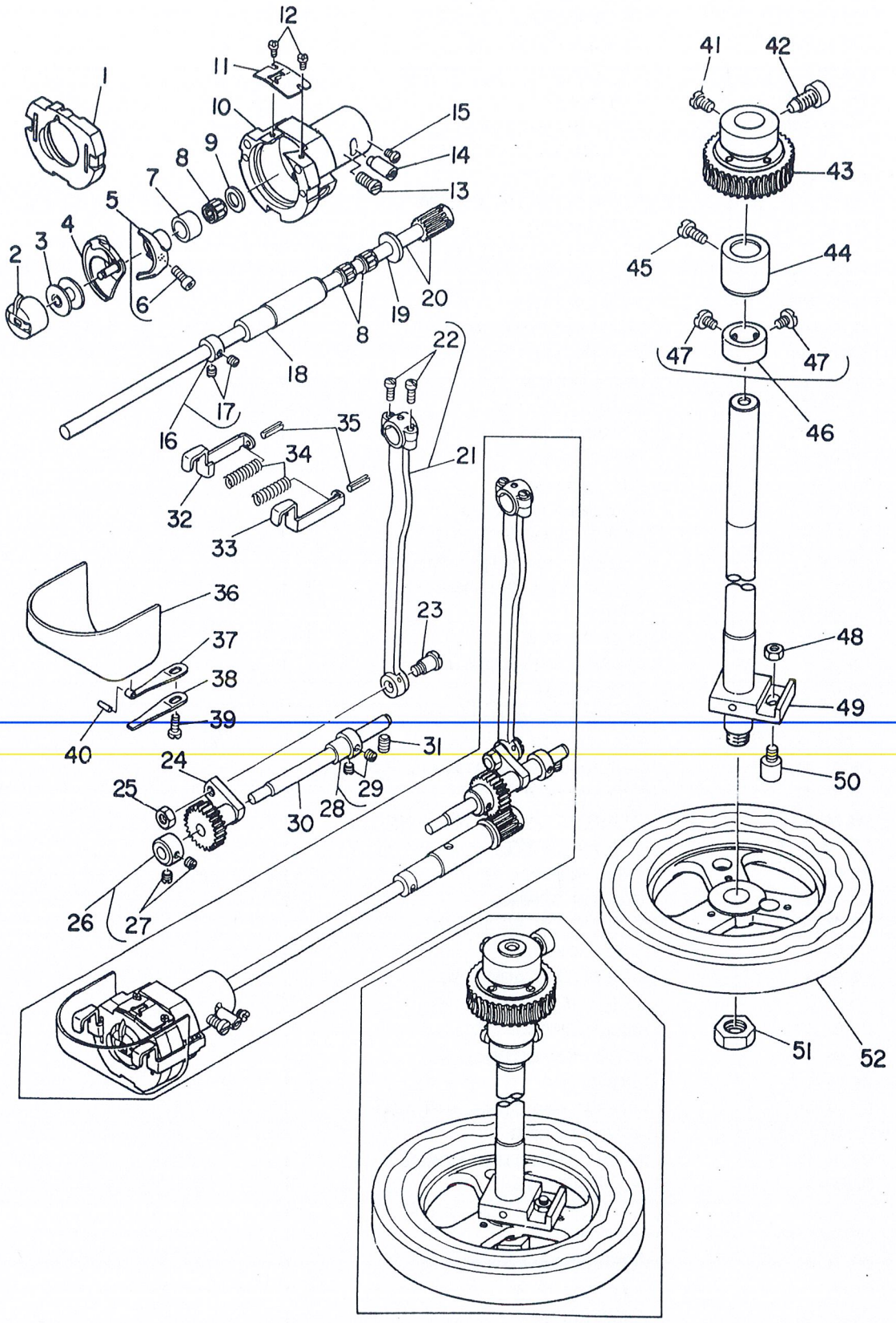
			Description	
1	D8.15-3G		THREAD TAKE-UP LEVER ASM.	1
2	D8.15-2		TAKE-UP LEVER PIN	1
3	D8.15-10		END SCREW LEFT	1
4	D8.15-11		NEEDLE BAR CRANK ROD	1
5	GB5846-86		NEEDLE DRIVING LEVER BEARING	1
6	D8.15-9		NEEDLE BAR CRANK	1
7	GB5846-86		NEEDLE BUSHING	1
8	D8.15-8		THREAD TAKE-UP LEVER ASM.	1
9	FJ65		SCREW 15/64-28 L=11	1
10	D8.15-1		NEEDLE BAR BUSHING, UPPER	1
11	D8.15-5		NEEDLE BAR CONNECTION ASM.	1
12	FJ65		SCREW 9/64-40 L=6	1
13	E380206		NEEDLE BAR	1
14	D8.15-6		NEEDLE BAR BUSHING, LOWER	1
15	FJ65		SCREW 3/32-56 L=4.5	1
16	E380207		NEEDLE BAR THREAD GUIDE	1
				1
				1
18	DP×17#19		NEEDLE#100	1
19	FJ65		SCREW 1/8-44 L=3.0	1
20	D8.15-12		CRANK SLIDE BLOCK	1
21	FJ67		SCREW 15/64-28 L=9	1
22			THREAD GUIDE BRACKET ASM.	1
23	FJ6170		NUT 11/64-40	1
24	D8.03-14		THREAD GUIDE BRACKET	1
25	D8.03-15		BOBBIN WINDER TENSION POST	1
26	SJ08A.21-5		BOBBIN WINDER TENSION DISC	2
27	SJ08A.21-4		BOBBIN WINDER TENSION SPRING	1
28	D8.03-16		BOBBIN WINDER TENSION NUT	1
29			BOBBIN WINDER ASM.	1
30	D8.03-6		HINGE SCREW	1
31	FJ6170		NUT 15/64-28	1
32	GB848-85		WASHER 6	1
33	FJ67		SCREW 11/64-40 L=5	1
34	D8.03-2		BOBBIN WINDER BRAKE PRESSURE FLATE	1
35	D8.03-3		BOBBIN WINDER BRAKE	1
36	D8.03-7		BOBBIN WINDER WHEEL	1
37	D8.03-5		BOBBIN WINDER SPINDLE BUSHING	1
38	FJ67		SCREW 11/64-40 L=5	1
39	D8.03-1		BOBBIN WINDER BELT SUPPORT	1
40	FJ67		SCREW 11/64-40 L=7	1
41	D8.03-12		BOBBIN WINDER TRIP LATCH	1
42	D8.03-4		BOBBIN WINDER SPINDLE	1
43	FJ6170		NUT 15/64-28	1
44	D8.03-10		SPRING	1
45	FJ6170		NUT 11/64-40	1
46	D8.03-13		BOBBIN WINDER BASE	1
47	D8.03-11		BOBBIN WINDER ADJUSTING SCREW	1
48	D8.03-9		BOBBIN WINDER TRIP LATCH	1
49	FJ6170		NUT 11/64-40	1
50	D8.03-8		HINGE SCREW	1
51	FJ67		SCREW 11/64-40 L=8.5	2
52	FJ68		SCREW 11/64-40 L=5.5	4
53			NEEDLE PLATE ASM.	
54	D8.16-14		NEEDLE PLATE NEEDLE HOLE GUIDE	1
55	FJ68		SCREW 3/32-56 L=2.2	2
56	D8.16-1;9		NEEDLE PLATE ASM.	1
57	D8.16-6		COUNTER KNIFE	1
58	FJ67		SCREW 9/64-40 L=3.5	2
59	D8.16-4		MOVING KNIFE CONNECTING LINK	1
60	D8.16-10		COLLAR	1
61	D8.16-7;8		MOVING KNIFE DRIVING LEVER ASM.	1
62	D8.16-5.1		MOVING KNIFE DRIVING LEVER ASM.	1
63	FJ65		SCREW 11/64-40 L=4.0	1
64	GB848-85		WASHER	1
65	FJ67		SCREW 11/64-40 L=6.5	1
66	D8.16-13		WASHER	1
67	D8.16-3;12		MOVING KNIFE ASM.	1
68	D8.16-2		HINGE SCREW	1

04. THREAD TENSION RELEASE COMPONENTS



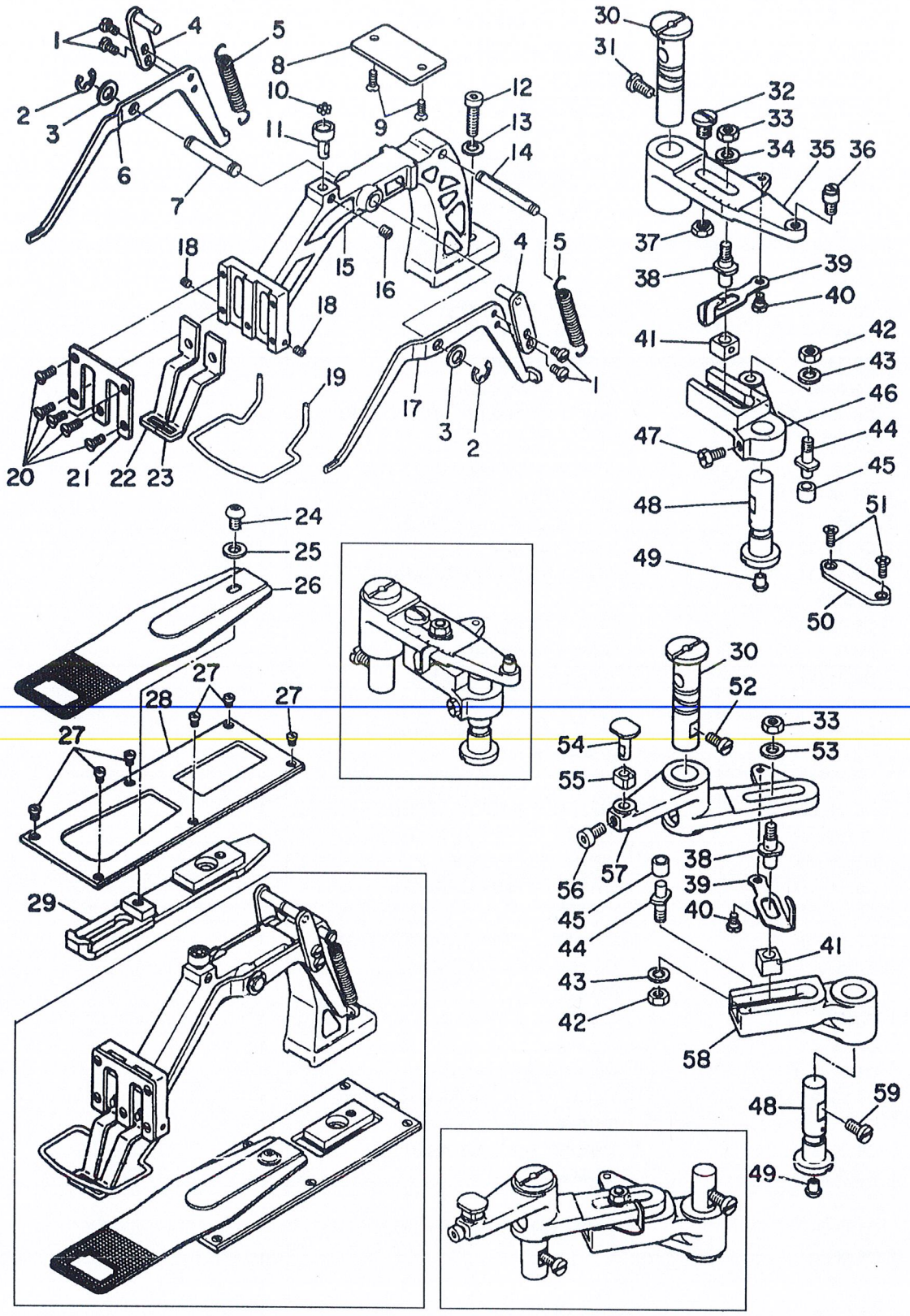
			Description	
1	Y01.06-2		TENSION RELEASE PIN	1
2	FJ65		SCREW 15/64-28 L=17	1
3			TENSION CONTROLLER, NO.2 ASM.	1
4	FJ75		SCREW 9/64-40 L=5.9	1
5	D8.05-7		TENSION POST SOCKET	1
6	D8.05-11		TENSION POST, NO.2	1
7	E380204		THREAD TAKE-UP SPRING	1
8	SJ15-368		TENSION DISC	2
9	SJ15-369		TENSION DISC HOLDER	1
10	Y01.06-1		TENSION DISC PRESSER TUBE	1
11	E380205		TENSION SPRING, NO.2	1
12	SJ15-371		TENSION DISC STOPPER	1
13	D8.05-12.1		TENSION NUT	1
14			TENSION CONTROLLER NO.1 ASM	1
15	D8.05-14		TENSION POST NO.1	1
16	SJ15-368		TENSION DISC	2
17	SJ15-370		TENSION SPRING NO.1	1
18	D8.05-13		TENSION NUT, NO.1	1
19*	D8.07-9		HINGE SCREW	2
20*	D8.07-6		CONNECTING LINK	1
21*	D8.07-4		LOWERING FOOT	1
22*	D8.07-10		HINGE SCREW	1
23*	FJ6170		NUT 15/64-28	1
24*	D8.07-5		LOWERING ARM ASM.	1
25	FJ70		SCREW 15/64-28 L=16.5	1
26	D8.05-3		TENSION RELEASE ARM ASM	1
27	FJ70		SCREW 15/64-28 L=16.5	1
28	D8.04-26		SHAFT	1
29	D8.05-5		HINGE SCREW	1
30	D8.05-4		TENSION RELEASE BAR	1
31	D8.05-6		SUPPORTER	1
32	FJ67		SCREW 9/64-40 L=6	2
33	FJ6170		NUT 15/64-28	1
34	D8.04-15.3		LOWERING CONNECTING LEVER ASM.	1
35*	D8.04-14		HINGE SCREW	1
36	D8.04-9		LOWERING CONNECTING LINK	1
37	GB894.1-86		RETAINING RING 8	1
38	D8.04-12		HINGE SCREW	1
39	D8.04-11		TENSION SPRING	1
40	D8.04-10		SUSPENSION SCREW (B)	1
41	D8.04-18		HINGE SCREW	1
42*	D8.04-8		CONNECTING ARM ASM.	1
43	FJ70		SCREW 15/64-28 L=16.5	1
44	D8.04-17		HINGE SCREW	1
45	D8.04-7		WIPER CONNECTING LINK	1
46	D8.04-6		SPRING	1
47	D8.04-5.2		WIPER CONNECTING ARM ASM.	1
48	GB894.1-86		RETAINING RING 5	2
49	D8.04-16		WIPER CONNECTING SCREW	1
50	D8.04-3		OIL SHIELD CAP	1
51	D8.04-4		WIPER CONNECTING PLATE	1
52	GB894.1-86		SNAP RING	1
53	D8.04-2		WIPER INSTALLING PLATE	1
54	FJ65		SCREW 11/64-40 L=8	1
55	D8.04-19		HINGE SCREW	1
56	D8.04-1.1		WIPER ASM	1

05. SHUTTLE DRIVER SHAFT COMPONENTS



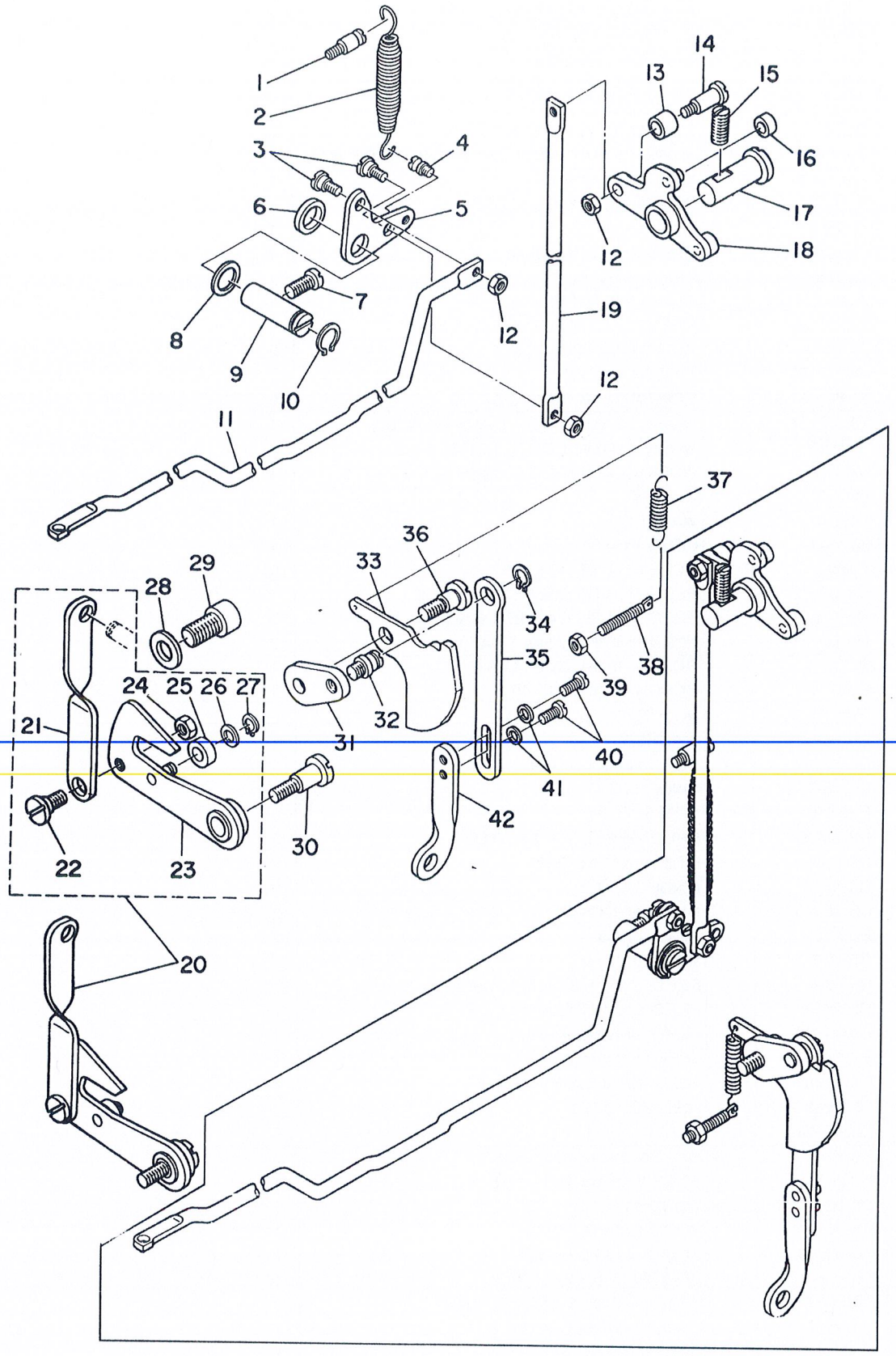
			Description	
1	D8.26-3		SHUTTLE RACE RING ASM.	1
	Y01.08-24			2
2	GB4523-84		BOBBIN CASE ASM.	1
3	GB4522-84		BOBBIN	1
4	D1818-282-NOO		SHUTTLE	1
5	D8.14-3		SHUTTLE DRIVER ASM.	1
6	GB70		SCREW M5×12	1
7	D8.14-4		BUSHING	1
8	GB5846-86		BEARING B	3
9	D8.14-5		WASHER	1
10	D8.14-6		SHUTTLE RACE	1
11	D8.14-16		SHUTTLE RACE SPRING	1
12	FJ65		SCREW 3/32-56 L=3.5	2
13	FJ65		SCREW 15/64-28 L=11.5	1
14	D8.14-15		SHUTTLE RACE ADJUSTING SHAFT	1
15	FJ65		SCREW 11/64-40 L=5	1
16	D8.14-8		THRUST COLLAR A	1
17	FJ74		SCREW 11/64-40 L=4.5	2
18	D8.14-9		BUSHING REAR	1
19	D280516		THRUST WASHER	1
20	D8.14-7;20		SHUTTLE DRIVER SHAFT ASM.	1
	GB117			
	FJ74		SCREW 11/64-40 L=3.3	
21	D8.14-13/14		CRANK ROD ASM.	1
22	FJ65		SCREW 11/64-40 L=10.5	2
23	D8.14-12		HINGE SCREW	1
24	D8.14-11		OSCILLATING ROCK SHAFT	1
25	FJ6170		NUT 1/4-40	1
26	D8.14-10		THRUST COLLAR ASM.	1
27	FJ74		SCREW 11/64-40 L=4.5	2
28	D8.14-21		THRUST COLLAR ASM.	1
29	FJ74		SCREW 11/64-40 L=4.5	1
30	D8.14-22		OSCILLATING ROCK SHAFT PIN	1
31	FJ74		SCREW 15/64-28 L=8	1
32	D8.14-24		SHUTTLE RACE LATCH, LEFT.	1
33	D8.14-23		SHUTTLE RACE LATCH(RIGHT)	1
34	Y01.08-27		SPRING, FOR SHUTTLE RACE	2
35	GB879-86		SPRING PIN 2.5×16	2
36	D8.14-1.1		CYLINDER ARM CAP ASM.	1
37	D8.14-17		CYLINDER ARM CAP SPRING A	1
38	D8.14-18		CYLINDER ARM CAP SPRING B	1
39	FJ65		SCREW 11/64-40 L=11	1
40	GB119-86		PIN B2×10	1
41	FJ65		SCREW 1/4-40 L=11	1
42	D8.06-1		SCREW	1
43	D8.06-2.1		WORM WHEEL ASM.	1
44	D8.06-3		WORM WHEEL SHAFT BUSHING	1
45	FJ65		SCREW 15/64-28 L=17.0	1
46	D8.06-4		THRUST COLLAR ASM.	1
47	SJ08.4-11		SCREW	2
48	FJ6170		NUT 1/4-40	1
49	D8.06-5		WORM WHEEL SHAFT ASM.	1
	D8.06-6			1
	GB117			1
50	D8.06-9		CAM GUIDE PIN	1
51	D8.06-8		NUT	1
52	D8.06-7		FEED CAM	1

06. FEED MECHANISM COMPONENTS



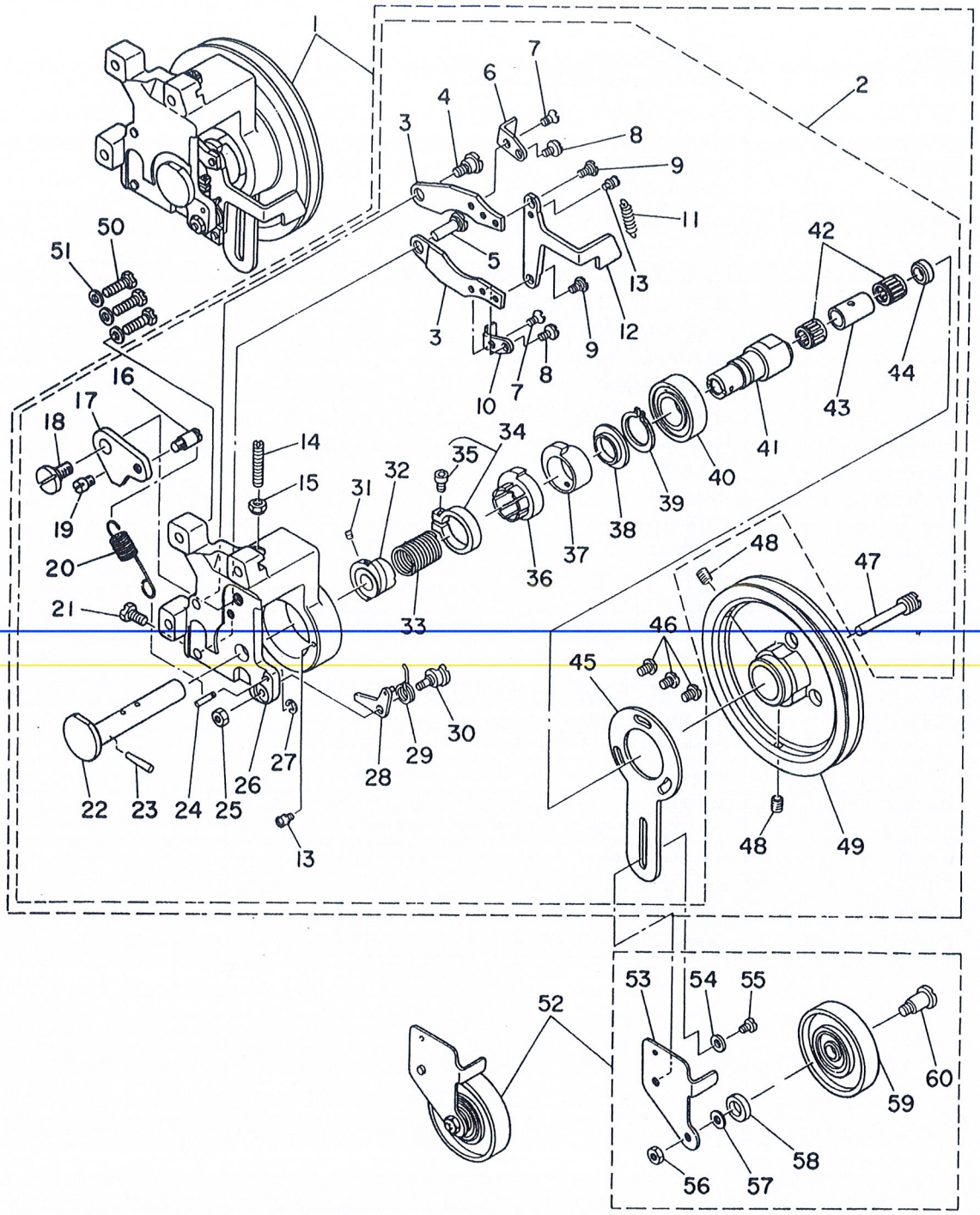
			Description	
1	FJ67		SCREW 11/64-40 L=6.5	4
2	GB896		SNAP RING 6	2
3	D8.07-21		WASHER	2
4	D8.07-22.1		LEVER DRIVING PLATE ASM.	2
5	D281101		TENSION SPRING	2
6	D8.07-19		LIFTING LEVER LEFT	1
7	D8.07-20		LIFTING LEVER SHAFT	1
8	D8.07-3		SUPPORT PLATE	1
9	FJ69		SCREW 11/64-40 L=8.5	2
10	GB308		WORK CLAMP FOOT MOUNTING BASE BALL	7
11	D8.07-2		BALL RETAINER	1
12	FJ70		SCREW 15/64-28 L=22.0	1
13	GB96		WASHER 6	1
14	D8.07-23G		SPRING SUSPENSION	1
15	D281105		FEED BRACKET	1
16	FJ74		SCREW 15/64-28 L=4.7	1
17	D8.07-18		LIFTING LEVER, RIGHT	1
18	FJ74		SCREW 1/8-44 L=2.8	2
19	D8.07-16		FINGER GUARDE	1
20	FJ69		SCREW 11/64-40 L=7.5	5
21	D8.07-17		WORK CLAMP FOOT FACE PLATE	1
22	D281116		WORK CLAMP FOOT, LEFT	1
23	D281115		WORK CLAMP FOOT, RIGHT	1
24	D8.07-7		SCREW	1
25	GB848		WASHER 6	1
26	D8.26-2		FEED PLATE	1
27	FJ65		SCREW 11/64-40 L=5	6
28	D8.07-12		FEED PLATE PRESSER PLATE	1
29	D8.07-11		FEED PLATE CARRIER BAR	1
30	D8.08-11		FEED DRIVING ARM SHAFT	2
31	FJ65		SCREW 15/64-28 L=11.5	1
32	FJ67		SCREW 5/16-24 L=10	1
33	FJ6170		NUT 15/64-28	2
34	D8.08-2		WASHER	1
35	D8.08-17		FEED REGULATOR	1
36	D8.08-15		HINGE STUD	1
37	FJ6170		NUT 5/16-24	1
38	D8.08-3		FEED REGUL ATOR STUD	2
39	D8.08-1		INDICATOR LEVER	2
40	D8.08-4		HINGE SCREW	2
41	D8.08-10		SLIDE BLOCK B	2
42	FJ6170		NUT 1/4-40	2
43	GB97.1		WASHER 6	2
44	D8.08-6		FEED CAM ROLLER SHAFT	2
45	D8.08-5		FEED CAM ROLLER	2
46	D8.08-16		FEED DRIVING ARM	1
47	FJ29.1		SCREW 15/64-28 L=14	1
48	D8.08-8		FEED REGULATOR SHAFT	2
49	D8.08-9		RUBBER PLUG	2
50	D8.07-24		PLATE	1
51	FJ68		SCREW 11/64-40 L=8.3	2
52	FJ65		SCREW 15/64-28 L=11.5	1
53	D8.08-2		WASHER	1
54	D8.08-14		SLIDE BLOCK STUD	1
55	D8.08-13		CRANK SLIDE BLOCK	1
56	FJ70		SCREW 15/64-28 L=10.5	1
57	D8.08-12		FEED ACROSS DRIVING ARM	1
58	D8.08-7		FEED ACROSS REGULATOR	1
59	FJ65		SCREW 15/64-28 L=11.5	1

07. THREAD TRIMMING COMPONENTS



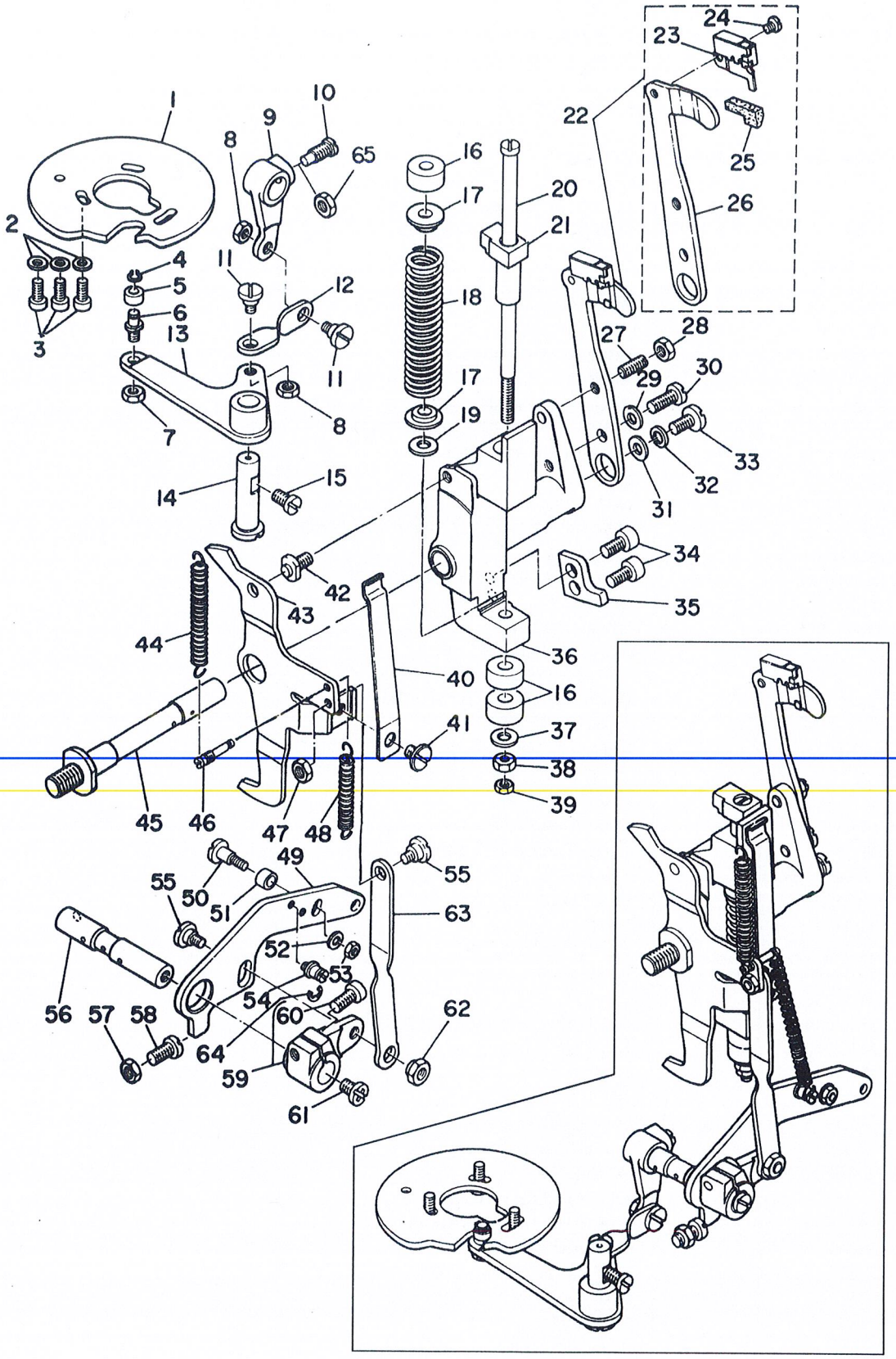
			Description	
1	D8.09-13		SUSPENSION SCREW B	1
2	D8.09-14.2		TENSION SPRING	1
3	D8.09-2		HINGE SCREW	2
4	D8.09-10		HOOK SPRING SUSPENSION	1
5	D8.09-15		CONNECTION LINK	1
6	D8.09-8		CONNECTION RING	1
7	FJ65		SCREW 15/64-28 L=14	1
8	D8.09-3		WASHER	1
9	D8.09-9		STUD	1
10	GB894.1-86		RETAINING RING 11	1
11	D8.09-1		KNIFE DRIVING BAR, LARGE	1
12	FJ6170		NUT 3/16-28	3
13	D8.09-5		ROLLER A	1
14	D8.09-4		HINGE SCREW	1
15	FJ75		SCREW 9/32-28 L=19	1
16	D8.09-11		CAM ROLLER	1
17	D8.09-7		CAM STUD	1
18	D8.09-6.1		KNIFE DRIVING ROD TRIPPING ASM.	1
19	D8.09-12		KNIFE DRIVING BAR, SMALL	1
20			LOWERING LINK ASM:	1
21	D8.04-13		LOWERING LINK	1
22	D8.04-23		HINGE SCREW	1
23	D8.04-24.4		LOWERING LEVER ASM.	1
24	FJ6170		NUT 15/64-28	1
25	D8.04-21		ROLLER	1
26	D8.04-22		WASHER	1
27	GB894.1-86		STOP RING	1
28	D8.04-25		WASHER	1
29	FJ70		SCREW 3/8-28 L=14.5	1
30	D8.04-20		HINGE SCREW	1
31	D8.10-7		AUXILIARY LEVER	1
32	D8.10-4		SHAFT	1
33	D8.10-3		THREAD TRIMMING AUXILIARY CAM.	1
34	GB894.1-86		RETAINING RING 8	1
35	D8.10-2		CONNECTING PLATE B	1
36	D8.10-5		HINGE SCREW	1
37	D8.10-6		SPRING	1
38	D8.10-8		TENSION SPRING ADJUSTING SCREW	1
39	FJ6170		NUT 11/64-40	1
40	FJ67		SCREW 11/64-40 L=8.5	2
41	GB848-85		WASHER 5	2
42	D8.10-1		CONNECTING PLATE A	1

08. PEDAL PRESSURE DECREASING UNIT COMPONENTS



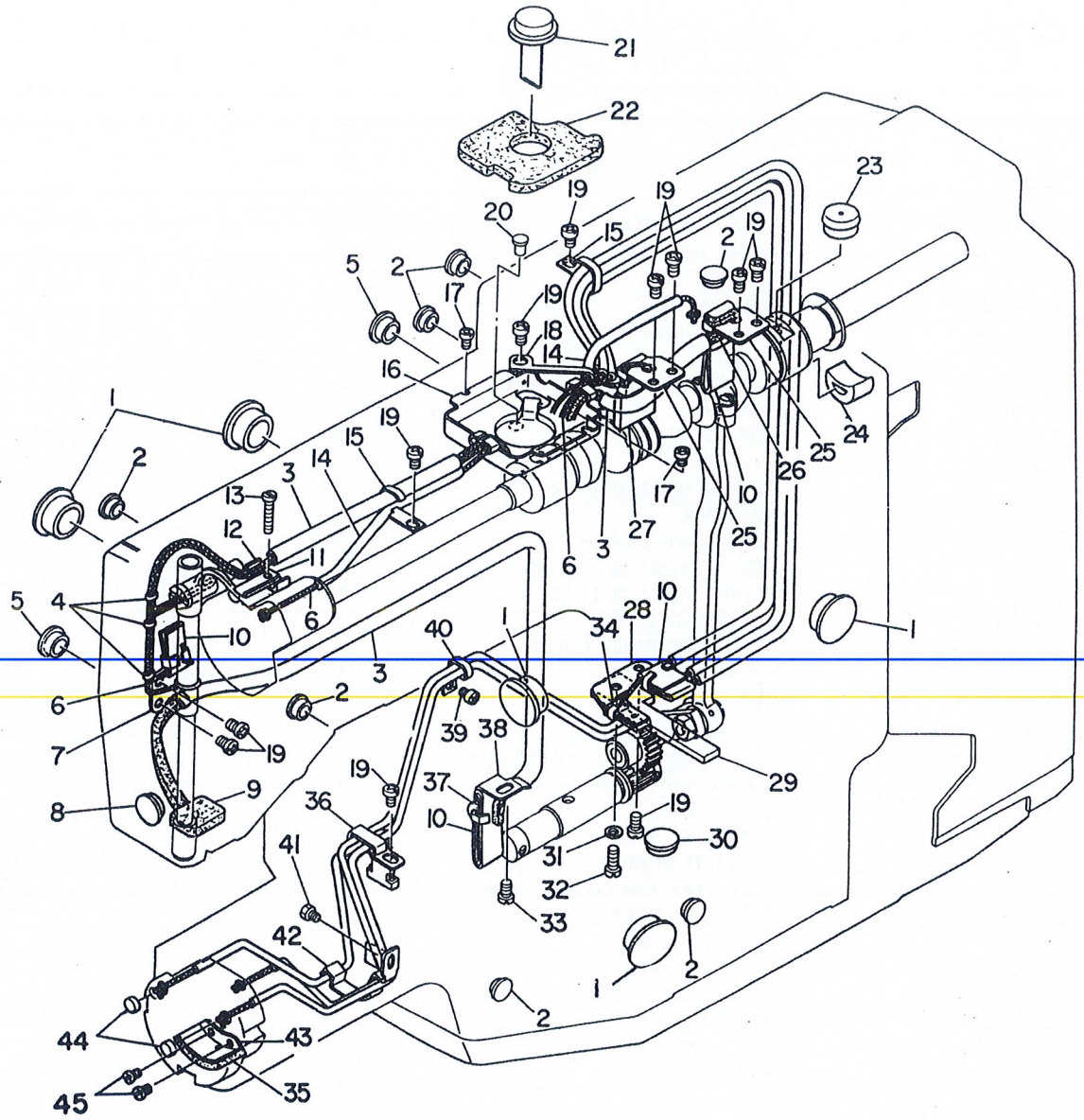
			Description	
1	D8.11		PRESSURE DECREASING DEVICE	1
2	D8.11		PRESSURE DECREASING DEVICE	1
3	D8.11-3		PRESSURE DECREASING LEVER	2
4	D8.11-4		HINGE SCREW	1
5	D8.11-4		STUD	1
6	D8.11-2		LEVER LATCH A	1
7	FJ69		SCREW 11/64-40 L=8.5	2
8	FJ67		SCREW 11/64-40 L=6.5	2
9	D8.11-34		HINGE SCREW	2
10	D8.11-35		LEVER LATCH B	1
11	D8.11-33		SPRING	1
12	D8.11-1		PRESSURE DECREASING LEVER LINK	1
13	D8.11-32		HOOK SPRING SUSPENSION	2
14	FJ73		SCREW 15/64-28 L=30	1
15	D8.11-14		NUT	1
16	D8.11-18		SUSPENSION PIN	1
17	D8.11-17		AUXILIARY CAM	1
18	D8.11-6		HINGE SCREW	1
19	FJ65		SCREW 11/64-40 L=7	1
20	D8.11-31		SPRING	1
21	FJ29.1		SCREW 15/64-28 L=10.5	2
22	D8.11-5		PRESSURE DECREASING SHAFT	1
23	GB117-86		TAPERED PIN 4×22	1
24	D8.11-29		PIN	1
25	FJ6170		NUT 11/64-40	1
26	D8.11-13		PRESSURE DECREASING UNIT FRAME	1
27	GB896-86		E-RING	1
28	D8.11-26		ROTATION PREVENTING LATCH ASM.	1
29	D8.11-28		SPRING	1
30	D8.11-27		HINGE SCREW	1
31	FJ74		SCREW 11/64-40 L=5	1
32	D8.11-30		DECREASING CLUTCH ASM.	1
	GB119		DECREASING CLUTCH ASM.	1
33	D8.11-36		CLUTCH SPRING	1
34	D8.11-24		THRUST COLLAR ASM.	1
35	FJ70		SCREW 3/16-28 L=12.0	1
36	D8.11-25		INNER SLEEVE	1
37	D8.11-7.1		OUTER SLEEVE	1
38	D8.11-8		OUTER SLEEVE GUIDE	1
39	GB894.1-86		SNAP RING 20	1
40	GB278-89		BEARING D=20×42	1
41	D8.11-10		SHAFT	1
42	GB5846-86		BEARING D=12×15	2
43	D8.11-9		COLLAR A	1
44	D8.11-16		COLLAR B	1
45	D8.11-19		IDLER PULLEY INSTALLING PLATE	1
46	D8.11-15		SCREW	3
47	D8.11-11		SCREW	1
48	FJ74		SCREW 15/64-28 L=8	2
49	D8.11-12		DRIVING PULLEY	1
50	FJ29.1		SCREW 15/64-28 L=20.5	3
51	GB848-85		WASHER 6	3
52			IDLER PULLEY ASM.	1
53	D8.11-20		IDLER PULLEY BRACKET	1
54	GB848-85		WASHER 6	1
55	FJ65		SCREW 15/64-28 L=6.5	1
56	FJ6170		NUT 15/64-28	1
57	GB96-85		WASHER 6	1
58	D8.11-22		TENSION RING	1
59	D8.11-23		IDLER PULLEY ASM.	1
	GB278-89		BEARING D=12×32	1
60	D8.11-21		HINGE SCREW	1

09. STOP-MOTION MECHANISM COMPONENTS



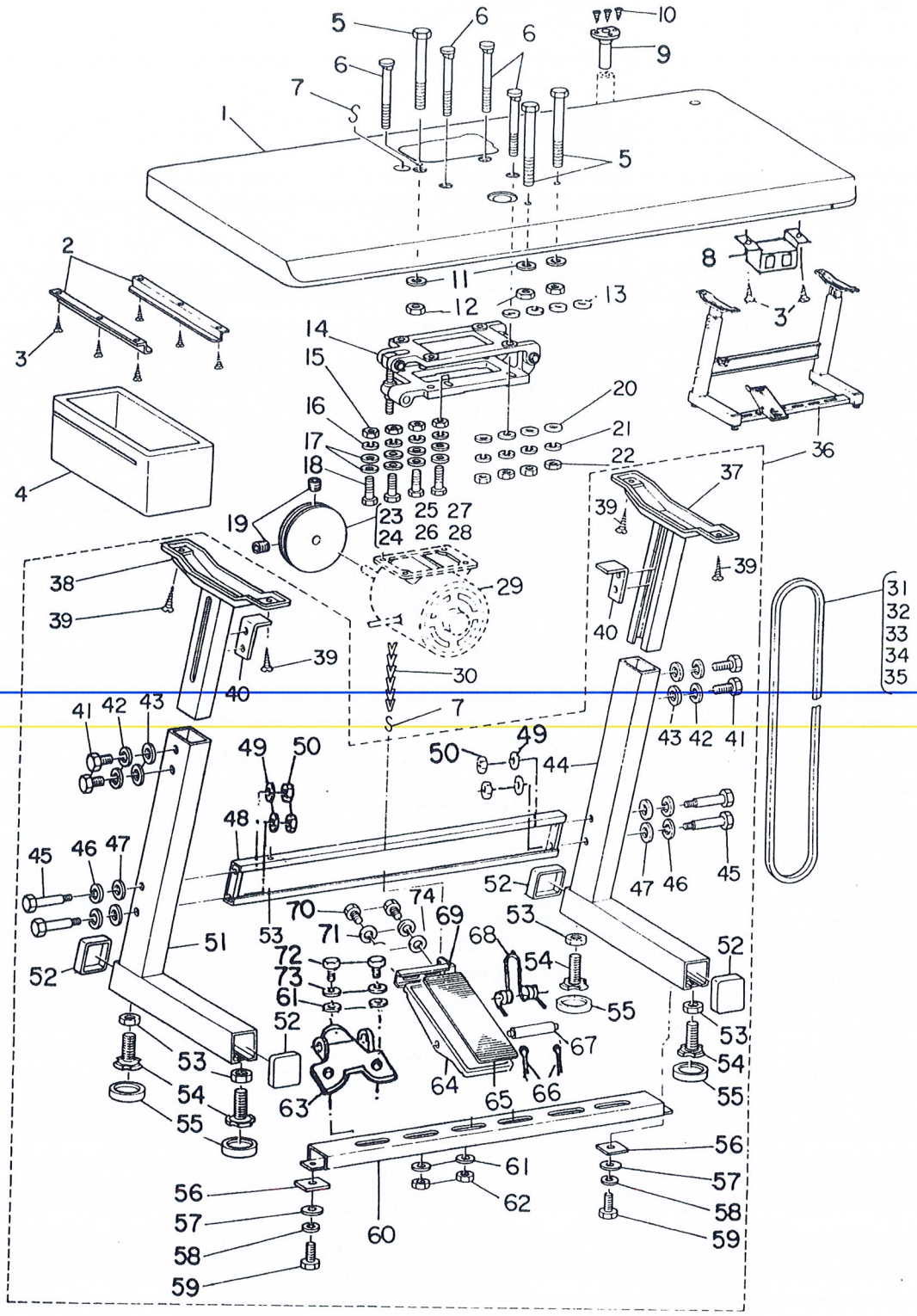
			Description	
1	D8.26-1		STOP-MOTION REGULATING CAM	1
2	GB97.1-85		WASHER 5	3
3	FJ70		SCREW 3/16-28 L=12.0	3
4	GB894.1-86		RETAINING RING 5	1
5	D8.12-31		ROLLER	1
6	D8.12-30		ROLLER SHAFT	1
7	FJ6170		NUT 15/64-28	1
8	FJ6170		NUT 15/64-28	2
9	D8.12-6		STOP-MOTION ARM B	1
10	D8.12-7		SCREW 9/32-28 L=16.5	1
11	D8.12-3		HINGE SCREW	2
12	D8.12-4		STOP-MOTION LINK	1
13	D8.12-2		REGULATING LEVER ASM.	1
14	D8.12-29		REGULATING LEVER STUD	1
15	FJ65		SCREW 15/64-28 L=11	1
16	D8.12-19		RUBBER CUSHION	3
17	D8.12-20		WASHER	2
18	D8.12-21		PRESSURE SPRING	1
19	GB97.1-85		WASHER 8	1
20	D8.12-18		STOP LINK ROD	1
21	D8.12-17		STOP-MOTION HOOK	1
22			GREASE BOX ASM.	1
23	D8.12-13		GREASE BOX	1
24	FJ65		SCREW 11/64-40 L=5	1
25	D8.12-14		FELT	1
26	D8.12-15		PULLEY PRESSING PLATE	1
27	D8.12-12		SCREW	1
28	FJ6170		NUT 15/64-28	1
29	GB97.1-85		WASHER 6	1
30	FJ65		SCREW 15/64-28 L=14	1
31	Y01.12-10		WASHER6	1
32	GB93-87		SPRING WASHER 6	1
33	FJ947		SCREW 15/64-28 L=13.0	1
34	FJ70		SCREW 15/64-28 L=14	2
35	D8.12-34		SAFETY PLATE	1
36	D8.12-11		STOP- MOTION LEVER	1
37	GB96-85		WASHER 6	1
38	D8.12-23		NUT	1
39	FJ6170		NUT 15/64-28	1
40	D8.12-10		STOP-MOTION LEVER PLATE SPRING	1
41	FJ947		SCREW 9/32-28 L=6	1
42	D8.12-8		GUIDE PIN	1
43	D8.12-16		DRIVING PLATE	1
44	D8.12-9		TENSION SPRING	1
45	D8.12-35		STOP-MOTION LEVER SHAFT	1
46	D8.12-36		SPRING SUSPENSION	1
47	FJ6170		NUT 15/64-28	1
48	D8.12-33		TENSION SPRING	1
49	D8.12-27		STARTING LEVER	1
50	D8.12-24		HINGE SCREW	1
51	D8.12-25		SLIDE ROLLER	1
52	GB97.1-85		WASHER 5	1
53	FJ6170		NUT 11/64-40	1
54	D8.12-32		SUSPENSION SCREW	1
55	D8.12-3		HINGE SCREW D=8 H=4	2
56	D8.12-5		STOP-MOTION ARM SHAFT	1
57	FJ6170		NUT 15/64-28	1
58	FJ65		SCREW 15/64-28 L=14	1
59	D8.12-28		STOP-MOTION ARM A ASM.	1
60	FJ70		SCREW 15/64-28 L=16.5	1
61	FJ65		SCREW 15/64-28 L=9	1
62	D8.12-26		NUT	1
63	D8.12-22		STOP-MOTION CONNECTING LEVER	1
64	GB896-86		SNAP RING 4	1
65	FJ6170		NUT 9/32-28	1

10. LUBRICATION MECHANISM COMPONENTS



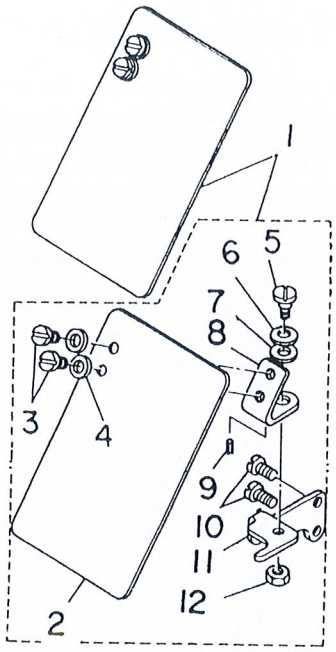
			Description	
1	D8.13-15		RUBBER PLUG	5
2	D8.13-12		RUBBER PLUG	7
3	HG2-775-74		VINYL TUBE, WHITE D=6	0.7m
4	D8.13-5		OIL WICK HOLDER	3
5	D8.13-1		RUBBER PLUG	2
6	FZ340-76		OIL WICK	4.7m
7	Y01.13-3		OIL WICK HOLDER	1
8	D8.13-1		RUBBER PLUG	1
9	D8.13-2		OIL FELT	1
10	D8.13-4		OIL SPONGE	4
11	D8.13-6		OIL SPONGE	1
12	D8.13-7		LUBRICATING PLATE	1
13	FJ65		SCREW 9/64-40 L=21	1
14	HG2-775-74		VINYL TUBE, WHITE D=3	2.5m
15	D8.13-8		OIL WICK HOLDER	2
16	D8.13-21		OIL TANK	1
17	FJ65		SCREW 9/64-40 L=5	2
18	D8.13-22		OIL WICK HOLDER	1
19	FJ65		SCREW 11/64-40 L=7	11
20	D8.13-29		RUBBER PLUG	1
21	D8.13-10		OIL GAUGE	1
22	D8.13-9		OIL TANK FELT	1
23	D8.13-13		GREASE CAP	1
24	D8.13-14		BUSHING	1
25	Y01.13-11		OIL FELT INSTALLING PLATE	2
26	D8.13-20		OIL FELT	1
27	D8.13-11		OIL FELT	1
28	D8.13-28		OIL FELT SUPPORTING PLATE	1
29	D8.13-27		OIL WICK SUPPORTING FELT	1
30	D8.13-18		RUBBER PLUG	1
31	GB96-85		WASHER 5	1
32	FJ65		SCREW 11/64-40 L=11	1
33	FJ65		SCREW 11/64-40 L=5	1
34	D8.13-26		OIL TANK FELT	1
35	D8.13-19		OIL FELT, FOR SHUTTLE RACE	1
36	D8.13-16		OIL TUBE HOLDER A	1
37	D8.13-3		OIL FELT	1
38	D8.13-17		OIL FELT HOLDER	1
39	FJ65		SCREW 11/64-40 L=5	1
40	D8.13-8		OIL TUBE HOLDER	1
41	FJ5783		SCREW 11/64-40 L=5.3	1
42	D8.13-25		OIL TUBE HOLDER B	1
43	Y01.08-9		PRESSER PLATE	1
44	D8.13-24		SHUTTLE RACE CAP	2
45	FJ65		SCREW 9/64-40 L=4.0	2

11. TABLE COMPONENTS



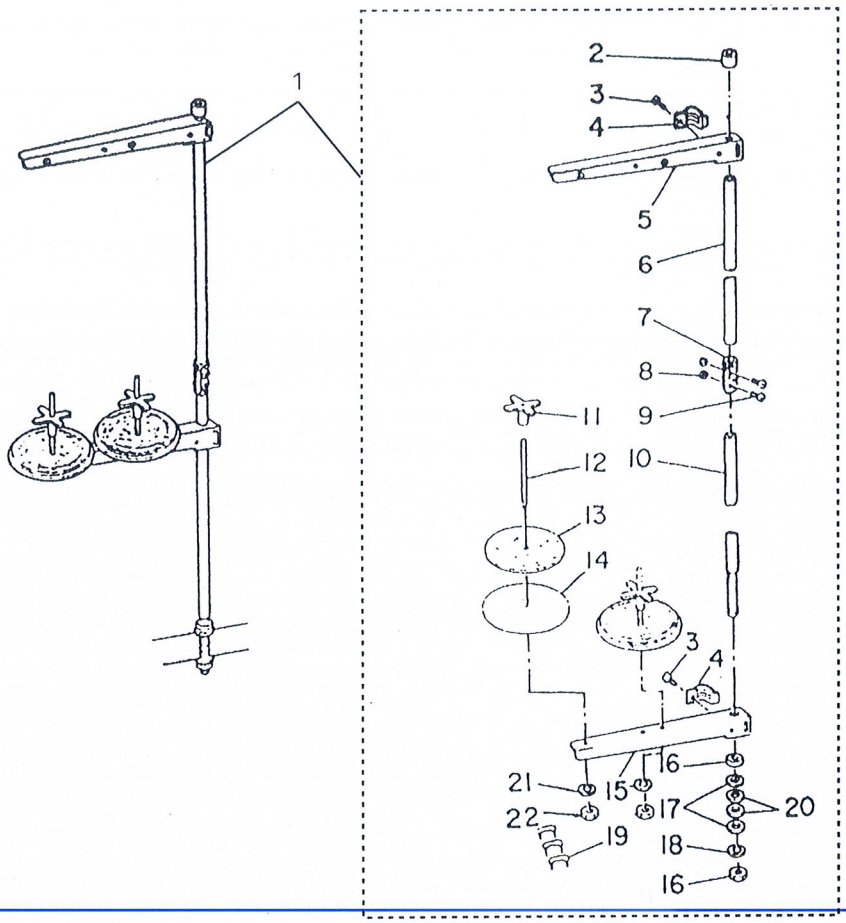
			Description	
1	D8.17-1		TABLE	1
2			DRAWER SUPPORT	2
3	GB99-86		WOOD SCREW D=4 L=20	8
4			DRAWER	1
5	GB29.1		SCREW M6 L=70	3
6	GB14		SCREW M8 L=70	4
7	DSY01.02F-1		S SHAPED HOOK	2
8	LC2-5		MOTOR SWITCH	1
9	SJ08.2-4		OIL DRAIN PIPE	1
10	GB99		WOOD SCREW D=4 L=12	2
11	GB96		WASHER 6	3
12	GB6170		NUT M6	3
13	D8.17-2		RUBBER CUSHION	4
14			MOTOR BASE ASM.	1
15	GB6170		NUT M6	4
16	GB93		SPRING WASHER 6	4
17	GB96		WASHER 6	8
18	GB5783		SCREW M6 L=30	4
19	GB80		SCREW M6 L=8	2
20	GB97.1-85		WASHER 8	4
21	GB93-87		SPRING WASHER 8	4
22	GB6170		NUT M8	4
23	D8.18-1		MOTOR PULLEY 50HZ 1800SPM	1
24	D8.18-4		MOTOR PULLEY 50HZ 2000SPM	1
25	D8.18-5		MOTOR PULLEY 50HZ 2300SPM	1
26	D8.18-6		MOTOR PULLEY 60HZ 1800SPM	1
27	D8.18-7		MOTOR PULLEY 60HZ 2000SPM	1
28	D8.18-8		MOTOR PULLEY 60HZ 2300SPM	1
29			MOTOR 370W	1
30			CHAIN	1
31	D8.18-2		V-BELT ,46 INCH	1
32	D8.18-3		V-BELT ,48 INCH	1
33	D8.18-9		V-BELT ,47INCH	1
34	D8.18-10		V-BELT ,49 INCH	1
35	D8.18-11		V-BELT ,50 INCH	1
36	DSY01.02F		TABLE STAND ASM.	1
37	DSY01.02F-11		HEIGHT ADJUSTING STAND ASM., R.	1
38	DSY01.02F-12		HEIGHT ADJUSTING STAND ASM., L.	1
39	GB100		WOOD SCREW D=5,L=38	4
40	DSY01.02F-13		TABLE SUPPORT	2
41	GB5783		SCREW M8,L=16	4
42	GB859		SPRING WASHER 8	4
43	GB96		WASHER 8	4
44	DSY01.02F-10		STAND (RIGHT) ASM.	1
45	DSY01.02F-15		HINGE SCREW	4
46	GB859		SPRING WASHER 12	4
47	GB96		WASHER12	4
48	DSY01.02F-8		STAND SIDE SUPPORT ASM.	1
49	GB96		SCREW M8	4
50	GB6170		NUT M8	4
51	DSY01.02F-14		STAND ASM.	1
52	DSY01.02F-5		RUBBER CAP	4
53	GB6170		NUT M12	4
54	DSY01.02F-4		ADJUSTING SCREW ASM.	4
55	DSY01.02F-6		LEG SUPPORT CAP	4
56	DSY01.02F-3		LEG BOTTOM SUPPORT BRACKET	2
57	GB96		WASHER 8	2
58	GB859		SPRING WASHER 8	2
59	GB5783		SCREW M8 L=16	2
60	DSY01.02F-7		LEG BOTTOM SUPPORT	1
61	GB96		WASHER 8	4
62	GB6170		NUT M8	2
63	DSY01.02F-2-3		PEDAL SHAFT BRACKET	1
64	DSY01.02F-2-2		PEDAL	1
65	DSY01.02F-2-5		PEDAL MAT	1
66	GB91		SPLIT PIN 1.8×16	2
67	DSY01.02F-2-4		PEDAL CONNECTING ROD	1
68	DSY01.02F-2-6		SPRING	1
69	DSY01.02F-2-1		PEDAL ADJUSTING PLATE	1
70	GB5783		SCREW M6 L=10	2
71	GB859		SPRING WASHER 6	2
72	GB5783		SCREW M8 L=16	2
73	GB859		SPRING WASHER 8	2
74	GB96		WASHER 6	2

12. SAFETY PLATE COMPONENTS



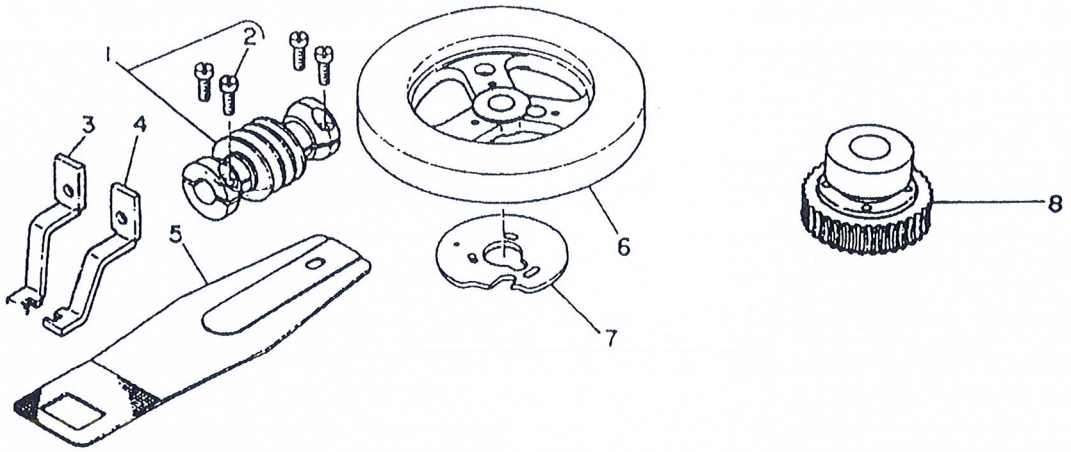
			Description	
1			SAFETY PLATE ASM.	1
2	D8.19-1		SAFETY PLATE	1
3	FJ67		SCREW 11/64-40 L=7	2
4	GB97.1		WASHER 5	2
5	D8.19-5		HINGE SCREW	1
6	D8.19-4		DISC SPRING	1
7	D8.19-3		WASHER	1
8	D8.19-6		SAFETY PLATE INSTALLING PLATE	1
9	GB879		STOPPER PIN	1
10	FJ67		SCREW 11/64-40 L=7	2
11	D8.19-2		SAFETY PLATE MOUNTING BASE	1
12	FJ6170		NUT 3/16-32	1

13. THREAD STAND COMPONENTS



			Description	
1			THREAD STAND ASM.	1
2	D8.20-1		SPOOL REST ROD RUBBER CAP	1
3	GB67		NUT M6 L=16	2
4	D8.20-3		THREAD GUIDE ARM JOINT	2
5	D8.20-4		THREAD GUIDE ASM.B	1
6	D8.20-2		SPOOL REST ROD UPPER	1
7	D8.20-6		SPOOL REST ROD JOINT	1
8	GB6170		NUT M5	2
9	GB67		SCREW M5 L=14	2
10	D8.20-7		SPOOL REST ROD LOWER	1
11	D8.20-12		SPOOL RETAINER	2
12	D8.20-13		SPOOL PIN	2
13	D8.20-8		SPOOL REST CUSHION	2
14	D8.20-11		SPOOL REST	2
15	D8.20-4		SPOOL REST ASM. B	1
16	D8.20-9		NUT	2
17	GB95		WASHER 16	2
18	GB859		SPRING WASHER 16	1
19			STAPLE	3
20	D8.20-10		RUBBER WASHER	2
21	GB859		SPRING WASHER	2
22	GB6170		NUT M5	2

BT 1850-28 PARTS



			Description	
1	D8.02–30		WORM ASM	1
2	FJ67		SCREW 11/64–40 L=14	4
3	D8.07–26		WORK CLAMP FOOT LEFT	1
4	D8.07–27		WORK CLAMP FOOT RIGHT	1
5	D8.07–25		FEED PLATE	1
6	D8.06–10		FEED CAM	1
7	D8.12–37		STOP–MOTION REGULATION CAM	1
8	D8.06–11.2		FEED CAM DRIVING WHEEL ASM	1