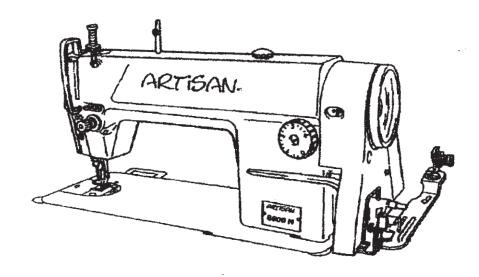
# ARTISAN.

# 8500 N



High Speed Single Needle Lockstitch Sewing Machine

OPERATORS MANUAL

AND

SPARE PARTS LIST

### IMPORTANT SAFETY INSTRUCTIONS

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

- 1. Observe the basic safety measures, including, but not limited to the following ones, whenever you use the machine.
- 2. Read all the instructions, including, but not limited to this instruction Manual before you use the machine. In addition, keep this Instruction Manual so that you may read it at anytime when necessary.
- 3. Use the machine after it has been ascertained that it conforms with safety rules/standards valid in your country.
- 4. All safety devices must be in position when the machine is ready for work or in operation. The operation without the specified safety devices is not allowed.
- 5. This machine shall be operated by appropriately-trained operators.
- 6. For your personal protection, we recommend that you wear safety glasses.
- 7. For the following, turn off the power switch or disconnect the power plug of the machine from the receptacle.
  - 7-1 For threading needle(s), looper, spreader etc. and replacing bobbin.
  - 7-2 For replacing part(s) of needle, presser foot, throat plate, looper, spreader, feed dog, needle guard, folder, cloth guide etc.
  - 7-3 For repair work.
  - 7-4 When leaving the working place or when the working place is unattended.
  - 7-5 When using clutch motors without applying brake, it has to be waited until the motor stopped totally.
- 8. If you should allow oil, grease, etc. use 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.
- Tampering with the live parts and devices, regardless of whether the machine is powered, is prohibited.
- 10. Repair, remodeling and adjustment works must only be done by appropriately trained technicians or specially skilled personnel. Only spare parts designated by JUKI can be used for repairs.
- 11. General maintenance and inspection works have to be done by appropriately trained personnel.
- 12. Repair and maintenance works of electrical components shall be conducted by qualified electric technicians or under the audit and guidance of specially skilled personnel.
  - Whenever you find a failure of any of electrical components, immediately stop the machine.
- 13. Before making repair and maintenance works on the machine equipped with pneumatic parts such as an air cylinder, the air compressor has to be detached from the machine and the compressed air supply has to be cut off. Existing residual air pressure after disconnecting the air compressor from the machine has to be expelled. Exceptions to this are only adjustments and performance checks done by appropriately trained technicians or specially skilled personnel.
- 14. Periodically clean the machine throughout the period of use.
- 15. Grounding the machine is always necessary for the normal operation of the machine. The machine has to be operated in an environment that is free from strong noise sources such as high-frequency welder.
- 16. An appropriate power plug has to be attached to the machine by electric technicians. Power plug has to be connected to a grounded receptacle.
- 17. The machine is only allowed to be used for the purpose intended. Other used are not allowed.
- 18. Remodel or modify the machine in accordance with the safety rules/standards while taking all the effective safety assumes no responsibility for damage caused by remodeling or modification of the machine. measures.
- 19. Warning hints are marked with the two shown symbols.



Danger of injury to operator or service staff



Items requiring special attention

### CONTENTS

BEFORE OPERATION
1. SPECIFICATIONS
2. INSTALLATION
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4. ADJUSTING THE HEIGHT OF THE KNEE LIFTER
5. INSTALLING THE THREAD STAND
6. LUBRICATION
7. ATTACHING THE NEEDLE
8. SETTING THE BOBBIN INTO THE BOBBIN CASE
9. ADJUSTING THE STITCH LENGTH
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11. THREADING THE MACHINE HEAD
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13. THREAD TAKE-UP SPRING
14. ADJUSTING THE THREAD TAKE-UP STROKE
15. NEEDLE-TO-HOOK RELATIONSHIP
16. HIGHT OF THE FEED DOG

### FOR SAFE OPERATION -



- 1. Don't put your hand under the cloth cutting knife and the needle when you turn "on" the power switch or operate the machine.
- 2. Don't put your hand into the thread take-up cover while the machine is running.
- 3. Turn OFF the power switch before tilting the machine head or removing the belt cover and the V belt.
- 4. Never bring your fingers, hair or clothing close to, or place anything on the handwheel, V-belt, bobbin winder wheel or motor during operation.
- If your machine is provided with a belt cover, finger guard and safety plate, never operate your machine with any of them removed.
- When tilting the machine head, exercise care not to allow your fingers etc. to be caught under the machine head.
- When using clutch motors without applying brake, it has to be waited until the motor stopped totally.

### **BEFORE OPERATION**



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

- Before you put the machine into operation for the first time after the set-up, clean it thoroughly.
   Remove all dust gathering during transportation and oil it well.
- Confirm that the voltage has been correctly set. Confirm that the power plug has been properly connected to the power supply.
- · Never use the machine in the state where the voltage type is different from the designated one.
- Confirm that the direction of rotation of the motor pulley is correct.
- · Operate your machine at the normal sewing speed or less for the first month after the set-up.

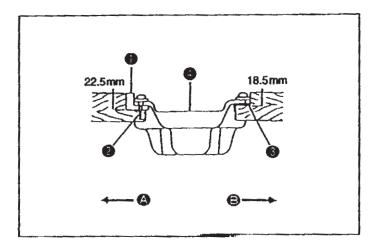
# 1. SPECIFICATIONS

	DDL-8500	DDL-8500A	DDL-8500H	
Application	For medium-weight materials	For light-weight materials	For heavy-weight materials	
Sewing speed	Max. 5,500 s.p.m.	Max. 4,000 s.p.m.	Max. 4,000 s.p.m.	
Stitch length	Max. 5 mm	Max. 4 mm	Max. 5 mm	
Presser foot lift (by knee lifter)	Standard 10 mm Max. 13 mm	Standard 10 mm Max. 13 mm	Standard 10 mm Max. 13 mm	
Needle	Schmetz 134 #65 -110 (DBx1 #9 -18)	Schmetz 134 #65 -75 (DAx1 #9 -11)	Schmetz 134 #125 -160 (DBx1 #20 - 23)	
Lubricating oil				

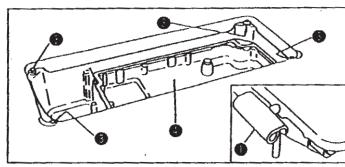
### 2. INSTALLATION

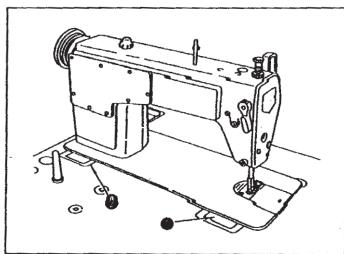
- The oil pan should be installed in such a way that it is securely held in position by the four corners of the machine table groove.
- 2) Fix two rubber seats on side (operator's side) using nails as illustrated above. Fix two cushion seats on side (hinged side) using a rubber-based adhesive.

Then place oil pan on the fixed seats.



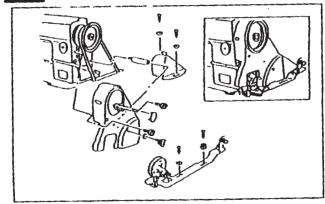
3) Fit hinge into the opening in the machine bed, and fit the machine head to table rubber hinge before placing the machine head on cushions on the four corners.



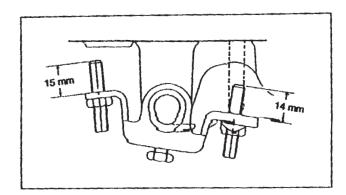




Carry out the following steps of procedure after the power switch has been turned OFF.

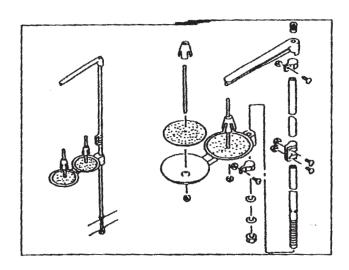


3. INSTALLING THE BELT COVER AND THE BOBBIN WINDER





4. ADJUSTING THE HEIGHT OF THE KNEE LIFTER



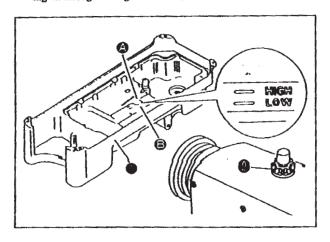


5. INSTALLING THE THREAD STAND

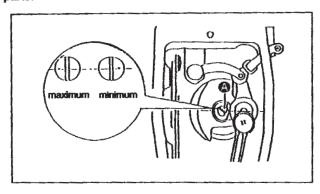


### 6. LUBRICATION

- 1. Information on lubrication
- 1) Fill oil pan will Oil No. I up to HIGH mark •.
- When the oil level lowers below LOW mark , refill the oil pan with the specified oil.
- When you operate the machine after lubrication, you will see splashing oil through oil slight window if the lubrication is adequate.



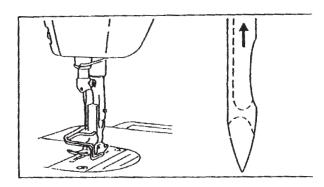
# Adjusting the amount of oil supplied to the face plate parts.



### Adjusting the amount of oil in the hook

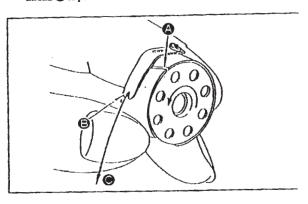


### 7. ATTACHING THE NEEDLE

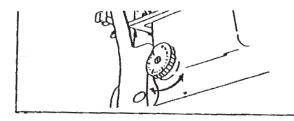


# 8. SETTING THE BOBBIN INTO THE BOBBIN CASE

- Install the bobbin in the bobbin case so that the thread would direction is counterclockwise.
- 2) Pass the thread through thread slit and pull the thread in directi
   By so doing, the thread will pass under the tension spring t come out from notch
- Check that the bobbin rotates in the direction of the arrow wh thread is pulled.

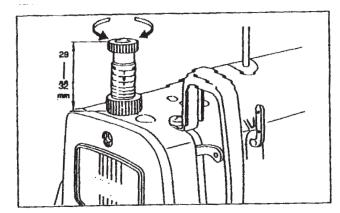


### 9. ADJUSTING THE STITCH LENGTH





Carry out the following steps of procedure after the power switch has been turned OFF.

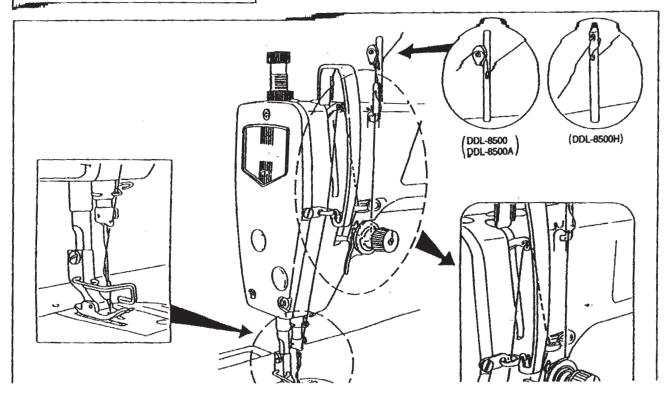


### 10. PRESSER FOOT PRESSURE



Carry out the following steps of procedure after the power switch has been turned OFF.

### 11. THREADING THE MACHINE HEAD



### 12. THREAD TENSION

### 1. Adjusting the needle thread tension

 Adjust the needle thread tension using tension adjust nut according to the sewing specifications.

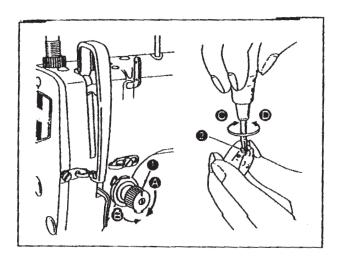
 As you turn nut clockwise (in direction ), the needle thread tension will increase.

 As you turn put counterclockwise (in direction ), the tension will decrease.

### 2. Adjusting the bobbin thread tension

 As you turn tension adjust screw clockwise (in direction ), the bobbin thread tension will increase.

As you turn screw counterclockwise (in direction
 ), the bobbin thread tension will decrease.



### 13. THREAD TAKE-UP SPRING

### 1. Changing the stroke of thread take-up spring

1) Loosen setscrew 🖲 .

As you turn tension post clockwise (in direction ), the stroke of the thread take-up spring will be increased.

As you turn the knob counterclockwise (in direction
 ), the stroke will be decreased.

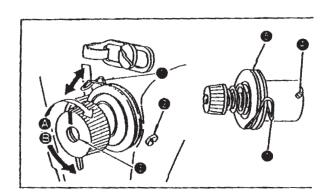
### 2. Changing the pressure of thread take-up spring 1

1) Loosen setscrew ( , and remove thread tension (asm.) ( ).

2) Loosen setscrew 🖰 .

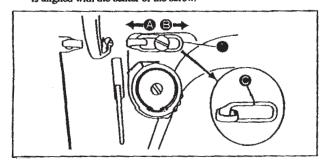
As you turn tension post clockwise (in direction
 ), the pressure will be increased.

4) As you turn the post counterclockwise (in direction ), the pressure will be decreased.



### 14. ADJUSTING THE THREAD TAKE-UP STROKE

- When sewing heavy-weight materials, move thread guide to the left (in direction ) to increase the length of thread pulled out by the thread take-up.
- When sewing light-weight materials, move thread guide to the right (in direction ) to decrease the length of thread pulled out by the thread take-up.
- Normally, thread guide sis positioned in a way that marker line sis aligned with the center of the screw.



### 15. NEEDLE-TO-HOOK RELATIONSHIP

1. Adjust the timing between the needle and the hook as follows:

1) Turn the handwheel to bright the needle bar down to the lowest point of its stroke, and loosen setscrew

(Adjusting the needle bar height)

2) (For a DB needle) Align marker line ② on needle bar with the bottom end of needle bar lower bushing 6, then tighten setscrew

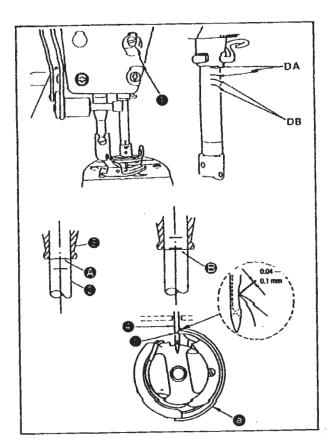
(For a DA needle) Align marker line DA on needle bar with the bottom end of needle bar lower bushing , then tighten setscrew 🌑 .

(Adjusting position of the hook 2)

3) (For a DB needle) Loosen the three hook setscrews, turn the handwheel, and align marker line (3) on ascending needle bar (a) with the bottom end of needle bar lower bushing 3 .

(For a DA needle) Loosen the three hook setscrews, turn the handwheel, and align marker line DA on ascending needle bar 🕙 with the bottom end of needle bar lower bushing (3).

4) After making the adjustments mentioned in the above steps, align hook blade point 6 with the center of needle 6 . Provide a clearance of 0.04 mm to 0.1 mm (reference value) between the needle and the hook, then securely tighten setscrews in the hook.



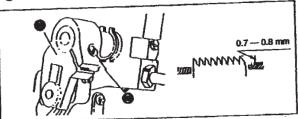
### 16. HEIGHT OF THE FEED DOG

To adjust the height of the feed dog:

Loosen screw of crank Move the feed bar up or down to make adjustment.

Securely tighten screw 

.



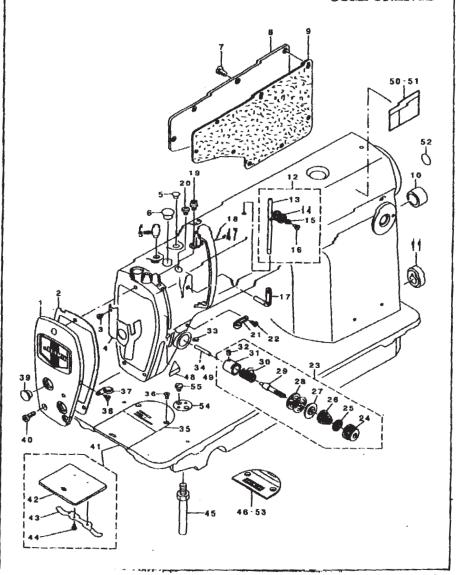
High Speed 1-Needle Lockstitch Industrial Sewing Machine

# DDL-8500 Series

# **PARTS LIST**

## 1. MACHINE FRAME & MISCELLANEOUS COVER

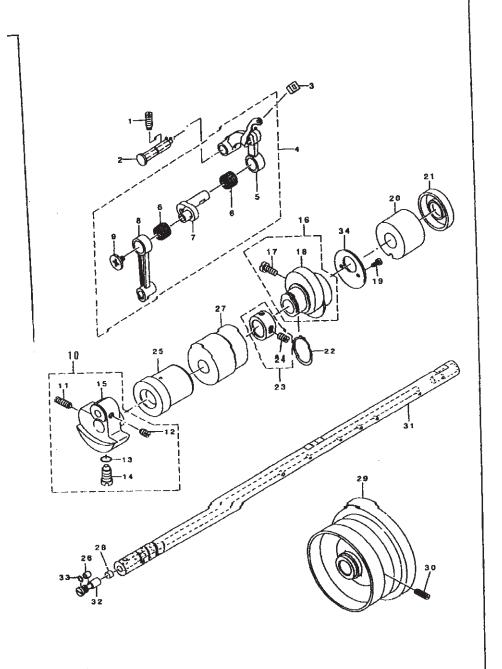
COMPONENTS



REF.NO	NOTE	PART NO.	DESCRIPTION	Qty
		229-02159	FACE PLATE ASM. FACE PLATE GASKET SCREW 1/8-44 L=4 ARM GIL SHIFLD ASM. RUBBER PLUG RUBBER PLUG	1
1 2 3 4		229-02209	FACE PLATE GASKET	1
3		SS-6080410-SP	SCREW 1/8-44 L=4	1
4		229-00757	ARM OIL SHIFLD ASH.	1
5		TA-0850604-R0	RUBBER PLUG	2
6		TA-1250705-R0	RUBBER PLUG SCREW 3/16-28 L=9 SIDE PLATE	1
7		SS-4120915-SP	SCREW 3/16-28 L=9	8
δ		229-00401	SIDE PLATE	1
9		118-88819	GASKET	1
_10		TA-2000502-R0	GASKET RUBBER PLUG	1_
11		TA-2101002-R0	RUBBER PLUG	ì
12		229-32552	THREAD GUIDE ROD ASH.	1
13		229-32503	THREAD GUIDE ROD	(1)
14		229-32602	TENSION DISK	(2)
_15		229-32701	TENSION_SPRING	
16		SD-0380552-SL	RUBBER PLUG THREAD GUIDE ROD ASM. THREAD GUIDE ROD TENSION DISK TENSION SPRING HINGE SCREW D=3.8 H=5.5 TWO-HOLE THREAD EYELET THREAD TAKE-UP LEVER COVER SCREW 3/16-28 L=6 ARM THREAD GUIDE A	(1)
17		229-20706	TWO-HOLE THREAD EYELET	1
18		229-00809	THREAD TAKE-UP LEVEK CUVEK	1
19		SS-4120615-SP	SUKEN 3/10-20 1-0	1
20		220-20508	ADU TUPEAN CUINE A	1
21		223 ZVJVU	III)	
22		110-01500	2CKEN	ì
23		229-45356	THREAD TENSION ASH.	(1)
24		229-21300	POSTARTUR RUL	(1)
25		229-21407	SCREW THREAD TENSION ASH. TENSION NUT ROTATING STOPPER	(1)
26 27		229-21704	TUDEAN TENCION NICK DOCCCED	(1)
28		229-21603	THEFAN TENSION DISK INCOSES	(2)
29		229-21209	TENSION POST	(1)
29 30		229-21605	TAKE-UP SPRING	(1)
31		229-45307	TENSION POST SOCKET	(1)
32		SS-8090670-SP	SCREW 9/64-40 L= 5.5	(1)
33		SS-8150710-SP	SCREN 15/64-28 L=7	1
34		B3118-552-E00	TENSION RELEASING	1
35		110-28008	THROAT PLATE	i
36		SS-2110920-TP	SCREW 11/64-40 L=8.5	2
37		229-20607	ARN THREAD GUIDE B	1
38		\$\$-6110610-TP	SCREW 11/64-40 L=6	1
39		TA-1250406-RO	RUBBER PLUG D=12.5 1.=4	?
40		SS-4120915-SP	ROTATING STOPPER TENSION SPRING A THREAD TENSION DISK PRESSER THREAD TENSION DISK TENSION POST TAKE-UP SPRING TENSION POST SOCKET SCREW 9/64-40 L= 5.5 SCREW 15/64-28 L=7 TENSION RELEASING THROAT PLATE SCREW 11/64-40 L=8.5 ARM THREAD GUIDE B SCREW 11/64-40 L=6 RUBBER PLUG D=12.5 L=4 SCREW 3/16-28 L=9 BED SLIDE ASM.	3
41		229-01250	SCREW 3/16-28 L=9 BED SLIDE ASM. SLIDE PLATE BED SLIDE SPRING SCREW 3/32-56 L= 1.9 BED SCREW STUD THROAT PLATE (1)	1
42		229-01201	SLIDE PLATE	(1)
43		229-01300	BED SLIDE SPRING	(1)
44		SS-6060210-SP	SCREW 3/32-56 L= 1.9	(2)
45		229-01003	BED SCREW STUD	4
46	#01	R1109-012-108	THROAT PLATE (1)	
47	#02	180-77503	THREAD TAKE-UP LEVER COVER	1
48 49	#02 #03	CH-3002000-01	ATTENTION SEAL	1
	#03	CH-3002000-B1	LABEL (16)	1
50 51	#03	CH-3002001-01	SAFETY LABEL, 1(SMALL).	
52	#U4	CH-3002001-A1 100-04109	SAFETY LABEL., 3 (SHALL).	1
53	#05	B1109-552-000	GROUND HARK THROAT PLATE	1
54	-43	229-02605	SULER STOPPER	1
55		SS-7110540-SP	SCREW 11/64-40 L=5	1 2
			THE THE THE COLUMN	۷.

Jo.

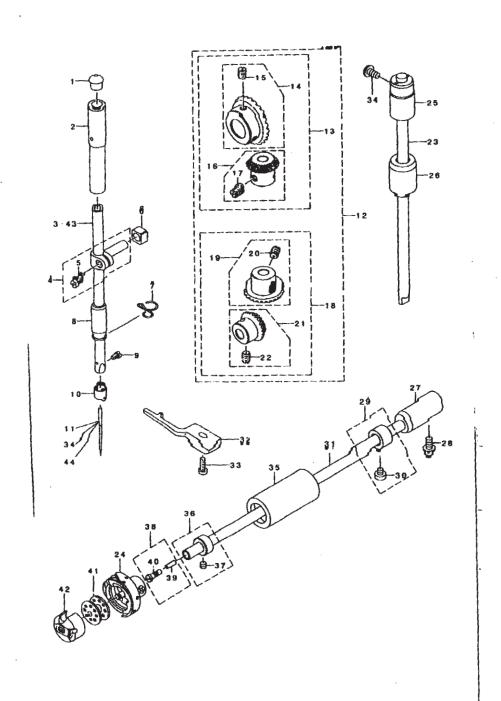
# 2. MAIN SHAFT & THREAD TAKE-UP LEVER COMPONENTS



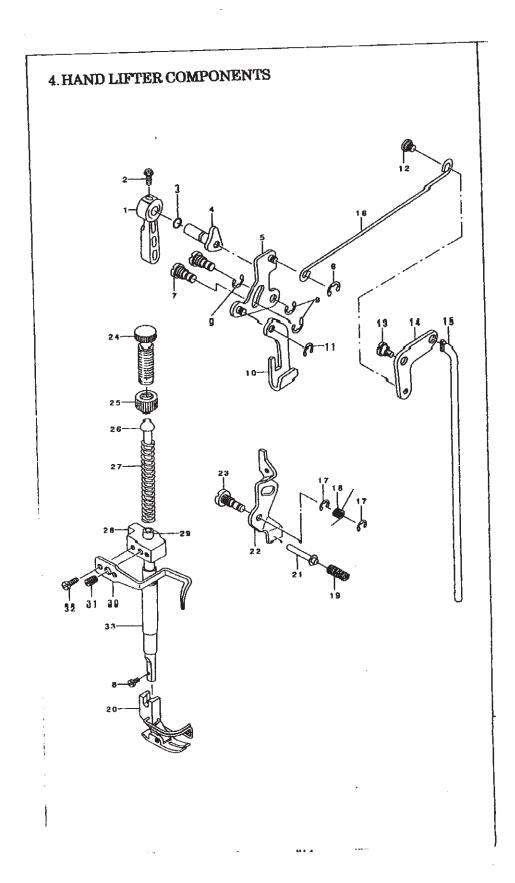
REF, NO	HOTE	PART NO.	DESCRIPTION	0 ts
1		SS-8151150-SP	SCREW 15/64-28 L=10.5	1
5		229-19559	THREAD TAKE-UP CRANK SHAFT ASM	1
2 3		229-19203	RUBBER	1
4		110-39070	THREAD TAKE-UP LEVER ASM.	1
5		110-39062	THREAD TAKE-UP LEVER ASM.  THREAD TAKE-UP LEVER ASM.	(1)
6	#01	B1905-541 <b>-</b> B00	NEEDLE BEARING	(2)
7	٠.	110-05204	NEEDLE BAR CRANK	(1)
8		81408-552-000		(1)
9		B1903-552-000		(1)
_10		229-03157	COUNTER VEIGHT ASM.	
11		\$\$-\$681650-TP	SCREW 9/32-28 L=16	(1)
12		\$\$-8660610 <b>-</b> TP	SCREW 1/4-40 L=6	(2)
13		RO-0442401-00	RUBBER RING	(1)
14		\$\$-7681650-TP	SCREW 9/32-28 L=16	(1)
15		229-03108	COUNTER VEIGHT	(1)
16		229-10053	FEED DRIVE ECCENTRIC CAN ASM.	1
17		SS-6661110-SP	SCREW 1/4-40 L=11	(2)
18		229-10004	FEED DRIVE ECCENTRIC CAM	(1)
19		SS-6090650-SP	screv 9/64-40 l=6	2
20		229-03405	MAIN SHAFT BUSHING, REAR	1
21		229-03504	ofL SEAL	l
22		RC-1850001-KP	SHAP RING 18.5	1
23		229-64155	THRUST COLLAR ASH,	1
24		SS-8660610-TP		(2)
25		229-03207	MAIN SHAFT FRONT BUSHING	
26		229-04007	OIL ADJUSTING COLLAR	1
27		229-03306	BUSHING. INTERHEDIATE	1
28		229-03702	ROLLER FELT	1
29		229-27206	HAND WHEEL	1
_30		SS-8151550-SP	SCREV 15/64-28 L=15	
31		229-03009	UPPER SHAFT	1
37		229-03900	OIL ANOUNT ADJUSTING PIH	1
33		RO-0291801-00		-
34		229-10103	THRUST COLLAR	1

Note #01....SELECTING PART

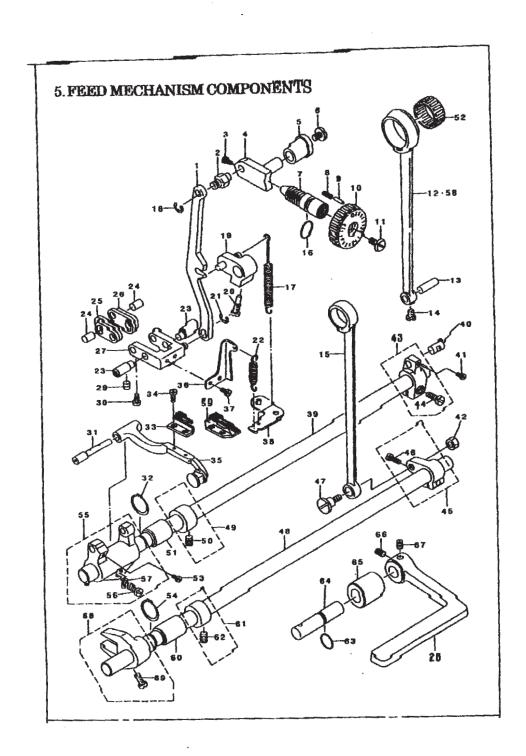
# 3. NEEDLE BAR, UPRIGHT SHAFT & HOOK DRIVING SHAFT COMPONENTS



REF.NO	HOTE	PART NO.	DESCRIPTION	0 ty
1		229-01409	CAP	1
2		229-06101	NEEDLE BAR BUSHING , UPPER	1
3		229-06002	NEEDLE BAR	1
. 4		229-06457	MEEDLE ROD HOLDER ASH.	1
5		SS-6090670-TP		(1)
б		229-06507	CLIBE BLOCK	]
ž		229-20805	NEFDIE RAP THREAD GUIDE	1
8		229-20805 229-06200	NEEDLE BAR THREAD GUIDE NEEDLE BAR BUSHING, LOVER	ĩ
9		SS-7080510-TP	SCREW 1/8-44 L=4.5	1
10		229-06309	NEEDLE BAR BUSHING, LOWER SCREW 1/8-44 L=4.5 NEEDLE BAR THREAD GUIDE	1_
11		NDB-100B1400	NEEDLE DBX1 #14	1
12		B1306-155-0C0	GEAR & PINION ASH.	.1
13 14		B1306-155-0B0		
		B1305-012-0A0	GEAR ASM.	(1)
15		SS-8660810-TP	SCREW 1/4-40 L=8	
16		81306-155-040	PINION ASM.	(1)
17		SS-8660810-TP	SCREW 1/4-40 L=8	(2)
18		B1307-155-0B0	GEAR & PINION ASH., LOYER	
19		81307-155-0AQ	GEAR ASN. LARGE	(1)
20		SS-8660810-TP	SCREW 1/4-40 L=8	(2)
21		B1308-155-0A0	PINION ASM.	(1)
22.		<b>55-8660810-T</b> P	SCREW 1/4-40 L=8	(2)
23		229-05004	UPRIGHT SHAFT	1
24		B1830-127-0A0	HOOK ASH.	t
_25		229-05103	UPRIGHT SHAFT BUSHING LOVER	1_
26		229-05202 229-16308	UPRIGHT SHAFT BUSHING , LOVER	1
27		229-16308	BUSHING , REAR	1
28		SS-4120915-SP 229-17157	SCREW 3/16-28 L=9	1
29		229-17157	THRUST COLLAR ASH.	ī
30		SS-6110420-TP_		(2)
31		229-16001	LOVER SHAFT	1
32		229-16407	BOBBIN CASE HOLDER	1
33		SS-4110915-SP	SCREW 11/64-40 L=9	1
34		SS-4120915-SP	SCREW 3/16-28 L=9	1
35		229-16100	LOVER SHAFT FRONT NETAL	3
36		229-17058	THRUST COLLAR ASM.	1
37		SS-8110410-TP		(2)
38		229-16555	NUMBER COOK ACK	(2)
39		229-16605	OIL SEAL SCREW ASM.	1
40		229-16506	OIL SEAL SCREW ASH. OIL WICK OIL SEAL SCREW	(1)
41		229-32909	RORRIN	(1)
42		B1837-012-040	BOBBIN CASE ASM.	1
43		111-41108	NEEDLE BAR	1
44		MC-2005009-00	NEEDLE DAK	1
• •		no 200008-00	UCCAFE 174 AA	1

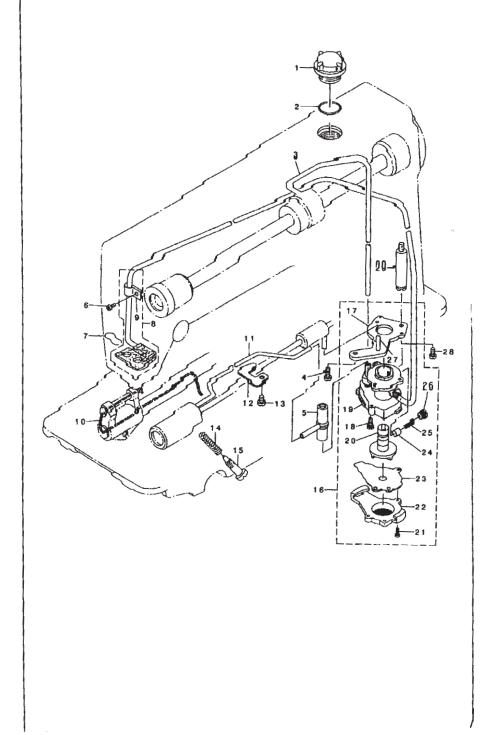


	REF.NO	HOTE	PART NO.	DESCRIPTION	0 ty
	KELINO	11011			
	1		229-07802	HAND LIFTER	1
,			B1521-555-000	SCREW	1
ŧ	2		RO-0371801-00	RUBBER RING	1
į	4		229-08552	HAND LIFTER CAN ASM.	1
Ì	5		229-08156	HAND LIFTER LINK	
ļ	6		RE-0500000-K0	E-RING	1
ł	7		110-06509	LINK SHAFT	1
ŀ	Ô		SS-7091110-SP	SCREW 9/64-40 L=10.5	1
Į			AA IIA	E-RING	3
ŧ	9		RE-0500000-K0		4
	10		229-08008	LIFTING LEVER	1
h	11		RE-0500000-K0 229-08909	E-RING Hinge Screw	i
	12 13		SD-0720331-SP	HINGE SCREW D= 7.24 H= 3.3	i
ľ	14		229-08800	LIFTING LEVER LINK	î
ŀ	15		229-09006	CONNECTING ROD VERTICAL	1
	16		229-08305	LIFTING LEVER CONNECTING ROD	1
	17		RE-0500000-KO	E-RING	2
	18		229-20201	TENSION RELEASE RETURN SPRING	1
	19		229-20409	TENSION RELEASE PIN SPRING	1
	20		B1524-012-0BA	PRESSER FOOT ASM.	1
	21		110-18306	TENSION RELEASE SUPPORTING PIN	1
	22		229-20003	TENSION RELEASE PLATE	1
i	23		110-18108	TENSION RELEASE SHAFT	1
į	24		229-07505	PRESSER ADJUSTING SCREW	I
ļ	25		229-07604	PRESSER ADJUSTING SCREW NUT	1
	26		229-07703	PRESSER GUIDE BAR	1
	27		229-07406	PRESSER ADJUSTING SPRING	1
	28		229-07208	PRESSER BAR GUIDE BRACKET	1
	29		229-07200	PRESSER BAR	1
	30		229-07307	PRESSER BAR THREAD GUIDE	1_
	31		SS-8660810-TP	SCREW 1/4-40 L=8	1
	32		SS-6090910-SP	SCREW 9/64-40 L=9	2
	33		229-07109	PRESSER BAR BUSHING, LOWER	1



	229-11408	FEED ADJUST ROD	1
	229-11507	PEED REGULATOR PIN	1
	SS-6090670-TP	SCREW 9/64-40 L=6	2
	229-11606	FEED REGULATOR	1
	SS-7120770-SH	SCREW 3/16-28 L=7	
	229-11804	FEED REGULATOR SCREY	i
	229-12109	SPRING	1
	229-12000	PIN	1
	229-11903	FEED DIAL	
	55-6121860-SP	SUREN 3/16-28 L=18	1
	229-10202	WALKING FOOT PIN C	i
	SS-6090620-SP	SCREW 9/64-40 L=6	ī
	229-15003	CONNECTING ROP	
	RO-0922702-00	RUBBER RING	1
	229-12406	FEED REVERSE SPRING	1
	RE-0500000-KO	E-RING_	1
	229-12257	FEED REVERSE ARM ASM.	1
	110-10410	FEED REVERSE ARM SCREW	<u>_</u>
	KE-U300000-KO	FUNDATING 1 THE CODING	1
	229-10808 279-11208	ADJUSTING LINK PHICENN SHAFT A	2
	229-10905	WALKING FOOT PIN A	2
	110-08703	VALKING FOOT LINK	2
	110-08604	CONNECTING LINK A	. 2
	229-10459	FEED ADJUST LINK ASM.	I
	ZZ9~1Z703 CC_81EA71ACD	KEVEKAE PEEN LURIKUL LEVEK	1
	22_0130110_2L	SCREW 9/84-40 L=6	2
	220-13268	FEED RAR SHAFT	1
	₽C-0150001-#P	RETAINING RING 19 R	î
	81613-012-A00	PEED DOG A	1
	SS-4080620-TP	SCREW 1/8-44 L=6	2
	229-13354	FEED BASE ASM.	
	229-41306	ADJUSTING LINK SPRING GUIDE	1 2
	229-13701	FEED SPRING HOOK	1
	229-12901	FEED ROCKER SHAFT	î
	229-11002	WALKING FOOT PIN B	i
	22-2030250-2b	SUREY 9/64-40 L=6	1
	#5-0080410-SP 229-10250	NUT 8/32-28	1
	SS-7121410-TP	SCREY 3/16-28 1.=14	(1
	229-15151	FEED ARM COMPL.	
	AA 1151010 01	DOKE# 37 10 20 E-15.5	(1
	HZ-1080001-02	HINGE SCREY D=10 H=8	1
	229-15291	FEED DRIVING SHAFT	1
	229-04155	THRUST COLLAR ASH.	1
	SS-8660610-TP	SCREY 1/4-40 L=6	(2
#02			1
	SS-7110740-TP		1
	RC-0150001-KP	RETAINING RING 13.8	î
	229-13156	FEED BAR CRANK ASH.	1
			(1
#01			1
<b>#03</b>	B1613-012-100	FEED DOG I	i
	229-13008	FEED ROCKER SHAFT BUSHING	
			1
			(1)
	229-12604		1
	229-12802	FEED LEVER METAL	i
	SN-8061050-TP	SCREY	1
	sh-8061010-TP	SCREV	1
	229-15300	RIVING SHAFT CRANK	1
	55-7111120-SP	SCREW 11/64-40 L=10.5	(1)
	No. a AA1 FOR	IC IA	
	NOTS BUIFUK	4E,48	
	±∆2 F∩⊅	JE, JA & SELECTIVE PART(A ~ D)	
	*02	229-11408 229-11507 SS-6090670-TP 229-11606 229-11705 SS-7120770-SH 229-11804 229-12109 229-12000 229-11903 SS-6121860-SP 229-10202 229-11101 SS-6090620-SP 229-12603 R0-0922702-00 229-1257 110-10410 RE-0500000-K0 229-1257 110-10410 RE-0500000-K0 229-11309 229-10806 229-10905 110-08703 110-08604 229-10905 110-08703 SS-8150710-SP SS-6090620-SP 229-13703 SS-8150710-SP SS-6090620-SP 229-13704 229-12703 SS-8150710-SP SS-6090620-SP 229-13704 229-12703 SS-7110510-SP 229-13704 229-1354 229-1354 229-1354 229-13606 SS-7110510-SP 229-13701 229-12901 229-13701 229-12901 229-13701 229-12901 229-13701 229-12901 229-1356 SS-7121410-TP 229-13156 SS-7121410-TP 229-13156 SS-7121410-TP 229-13008 #02 B1636-S81-C00 SS-7110740-TP RC-0150001-KP 229-13008 #02 B1636-S81-C00 SS-7110740-TP RC-0150001-KP 229-13008 #02 B1636-S81-C00 SS-7121410-TP UP-0480856-SP #01 229-13800 #03 B1613-012-100 229-13008 229-04155 SS-8660610-TP RC-0150001-KP 229-13008	229-11408

# 6. OIL LUBRICATION COMPONENTS

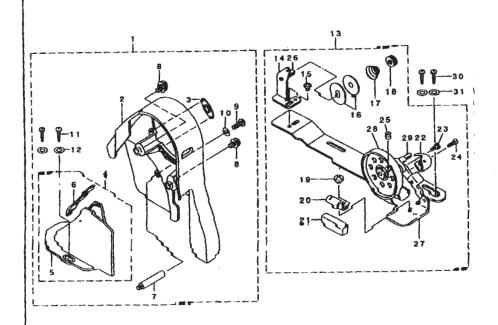


REF.NO	NOTE	PART NO.	DESCRIPTION	0 to
1		229-24708	OIL SIGHT WINDOW	1
2		RO-1952401-00	RUBBER RING	1
2 3		229-24401	MAIN SHAFT OIL TUBE	: 1
4		SS-4150915-SP	SCREW 15/64-28 L=9	I
5		229-24609	MAIN SHAFT OIL TUBE	
		SS-4120615-SP	SCREW 3/16-28 L=6	1
6 7 8		229-25101	OIL FELT PRESSER	1
8		229-24153	OIL RETURN TUBE ASM.	in l
9		229-24302	HOLDER	0.21
10		CA-2520000-00	OIL WICK	
11		229-24500	OIL TUBE	1
12		229-24807	TUBE HOLDER LOVER	1 1
13		SS-4150915-SP	SCREW 15/64-28 L=9	!
14		229-24906	SPRING	1
.15		229-25002	OIL ADJUSTING SCREW	
16		229-23056	LUBRICATING OIL PUMP ASM.	(1)
17		229-23304	OIL PUMP INSTALLING BASE	(3)
18		SL-4030851-SF	SCREW M3 L=8	
19		229-23007	OIL PUMP	(1)
20 _		229-23700	DIL PUMP IMPELLER	(1)
21		SE-4301041-SR	SCREW D=3 L=10	(3)
22		229-23205	LUBRICATING OIL PUMP COVER	(1)
23		229-23809	OIL PUMP IMPELLER COYER	(1)
23 24		229-23403	PLUNGER	(1)
25		229-23601	PLUNGER SCREV	(1)
26		229-23502	PLUNGER SCREW	(1)
27		229-23908	HOOK DRIVING SHAFT OIL TUBE	(1)
28		SS-6111010-TP		1
29		229-24005	OIL PUMP SUPPORT	1

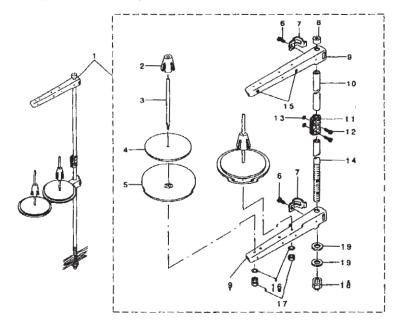
# 7. OIL RESERVOIR COMPONENTS

REF.NO NO	TE PART NO.	DESCRIPTION	0 ty
			1
1	110-47057	OIL RESERVOIR ASM.	1
1	110-23017	OIL RESERVOIR	(1)
2	110-24700	GASKET	(1)
3	110-47107	RUBBER CUSHION	(4)
4 5	SS-6700710-SH		(1)
	RO-1082401-00		(1)
6 7 8	110-24015	CONNECTING ROT, VERTICAL	(1)
1	110-24106	SPRING	(1)
		E-RING 10	(1)
9	RE-1000000-KO		(1)
_10	110-24510	BRACKET SCREW MG L=20	(2)
11	SN-9062053-SR		(2)
12	NH-6060001-SE		(2)
13	SM-8063012-TR	SCREW MG L=30	(1)
14	SM-9061853-SR	SCREW MG L=17.5	(1)
_15	110-24205	KNEE PRESS ROD	1
16	229-34251	KNEE PRESS PLATE ASM.	(1)
17	229-34509	KNEE PRESS PLATE COVER	(1)
18	229-34608	KNEE PRESS PLATE ROD	(1)
19	229-34400	KNEE PRESS PLATE RUBBER	ŭ).
_20	229-34202	KNEE PRESS PLATE	(1)
21	229-34301	KNEE PRESS PLATE HOLDER	(1)
22	SM-9061203-SE	SCREW MG L=12	1
23	229-31703	KNEE PRESS LIFTER ROD	l

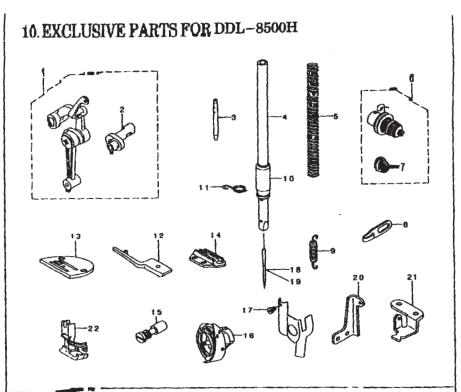
### 8. BELT COVER & BOBBIN WINDER COMPONENTS



### 9. THREAD STAND COMPONENTS



229-30358 229-31109 229-31000	THREAD STAND ASM. SPOOL RETAINER	1
229-31000		
		(2)
	SPOOL PIN	(2)
229-30903	SPOOL REST CUSHION	(2)
229-30804	SPOOL REST	(2)
SM-6061610-SC	SCREW MG L=16	(2)
229-30705	THREAD GUIDE ARM JOINT	(2)
229-31406	SPOOL REST ROD RUBBER CAP	(1)
229-30507	SPOOL REST ARM	(2)
229-30408	SPOOL REST ROD, UPPER	
229-31307		(1)
SH-4051405-SE		(2)
NM-6050001-SE	NUT M5	(2)
229-30309	SPOOL REST ROD, LOWER	(1)
229-31208		(2)
VS-0510002-KN		(2)
		(2)
		(1)
		NH-6050001-SE NUT M5 NM-6160511-SE NUT M16X1.5 WP-1702600-SO WASHER 17X30X2.6



REF. NO	NOTE	PART NO.	DESCRIPTION	Q ts
1 2		110-91659 110-91600	LINK THREAD TAKE-UP LEVER ASN. NEEDLE BAR CRANK H	1
2 3		B1114-012-000	THREAD GUIDE PIN	1
4		110-91303	NEEDLE BAR	1
_5		B1505-552-000-A	PRESSER SPRING	1_
6		110-73558	THREAD TENSION ASM.	1
		B3114-232-000	THREAD TENSION SPRING	(1)
7 8		110-91006	ARN THREAD GUIDE (HA)	1
9		110-91204	ADJUST LINK SPRING	1
_10		B1403-553-000		
11		B1419-553-000	NEEDLE BAR THREAD GUIDE	1
12		110-91709		1
13			THROAT PLATE (H)	1
14		81613-555-HOO		1
_15			OIL ADJUSTING PIN	<del></del>
16		110-92459	LUBRICATING BOBBIN ASH.	1
17		SS-6080320-SP	SCREW 1/8-44 L= 2.5	1
18	#01	MG-2005013-00	NEEDLE 134 NH130	1
19		MDB-100B2100	NEEDLE BBX1 #21	ī
20		110-92301	ADJUSTING LINK SPRING GUIDE	i_
21		110-91907	FEED SPRING HOOK	1
22		B1511-543-BBA	HINGED PRESSER FOOT ASM.	1

Note #01....FOR JE