

GLOBAL

MEMBER OF THE IMCA-GROUP

DN 9220 & DN 9220 LH

**DOUBLE NEEDLE, NEEDLE FEED, SPLIT
NEEDLE BAR, LOCKSTITCH SEWING MACHINE**

**PARTSLIST
&
INSTRUCTION MANUAL**

PRECAUTIONS BEFORE STARTING TO OPERATE

(1) Safety precautions

1. Keep your hands and fingers away from the area around the needle and the area around the pulley when turning the power on
2. Power must be turned off when the machine is not in use, or when the operator leaves his/her seat.
3. Power must be turned off before tilting the machine head, installing or removing the "V" belt, adjusting the machine, or replacing its parts.
4. Avoid placing fingers, hair, bars etc., near the pulley, "V" belt, bobbin winder, or motor when the machine is operating.
5. Do not insert fingers into the thread take-up cover, under/around the needle, or pulley when the machine is operating.
6. If a belt cover, finger guard, and/or eye guard are installed, do not operate the machine without these safety devices.

(2) Precautions before Starting Operation

1. If the machine's oil pan has an oil sump, never operate the machine before filling it.
2. If the machine is lubricated by a drop oiler, never operate the machine before lubricating.
3. When a new sewing machine is first turned on, verify the rotational direction of the pulley with the power on.
(The pulley should rotate counterclockwise when viewed from the pulley.)
4. Verify the voltage and (single or three) phase with those given on the motor nameplate.

(3) Precautions for Operating Condition

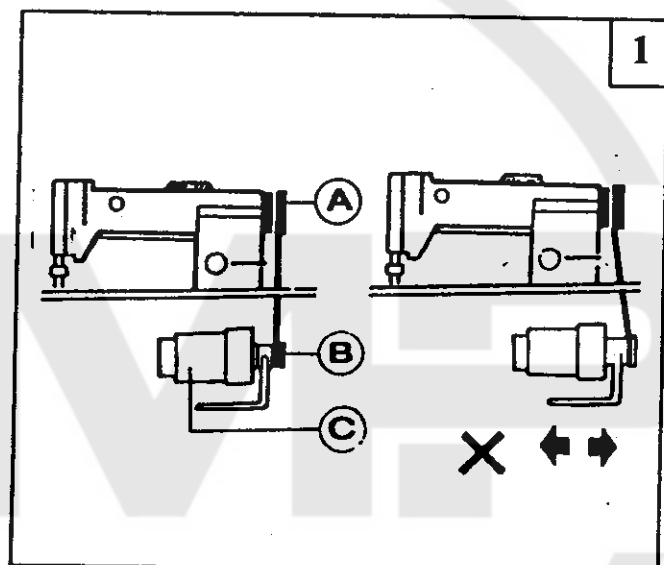
1. Avoid using the machine at abnormally high temperatures (35° C or higher) or low temperatures (5° C or lower). Otherwise, machine failure may result.
2. Avoid using the machine in dusty conditions.

1. MAIN SPECIFICATION

Model:	DN 9220	DN 9220 LH
Application:	Light-Medium	Medium-Heavy
Max. speed:	3500s.p.m.	3000s.p.m.
Stitch length:	0-5mm	0-7mm
Needle bar stroke:	33.4mm	
Presser foot lift:	Manual 8mm	Knee: 15mm
Needle:	DP×5 14 [#]	DP×5 18 [#]
Rotating hook:	Horizontal hook (standard)	Horizontal hook (Large)
Needle gauge:	Standard 6.4mm	
	Special 3.2, 4.8, 8, 9.5, 12.7mm	

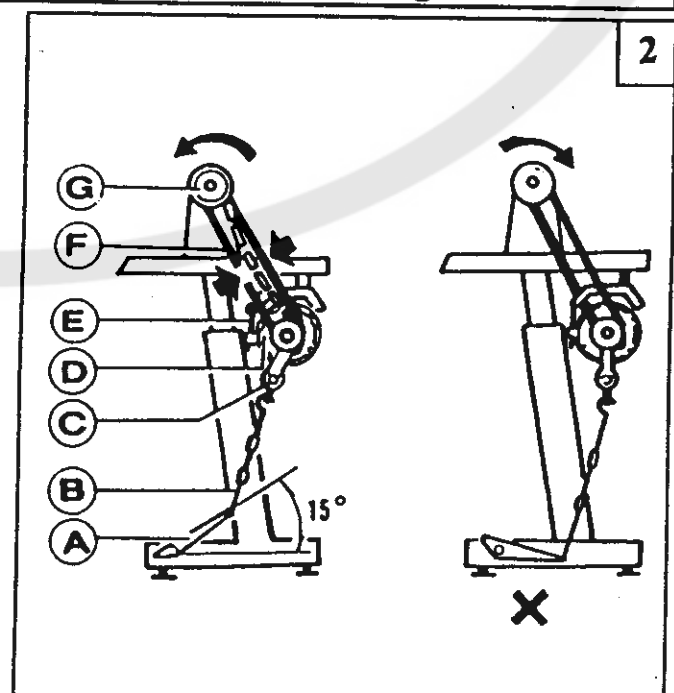
2. INSTALL THE MOTOR (Fig.1)

Align Motor Pulley Groove (B) and Balance Wheel Groove (A) by moving the Motor(C) leftward or rightward.



3. CONNECT THE CLUTCH LEVER WITH THE PEDAL (Fig.2)

1. The optimum tilt angle of Pedal (A) is approximately 15 degree.
2. Adjust Clutch Cover (D) so that Clutch Lever (C) and Draw Bar (B) run in line.
3. The balance wheel should rotate counter-clockwise when viewed from the outside of Balance Wheel (G). The direction of the motor pulley rotation can be reversed by reversing (turning over 180 degree) the power plug of the motor.
4. Adjust the tension of V-belt (F) by turning Motor Vertical Position Screw (E). The proper tension of the V-belt is a slack of 10-20mm when the belt is depressed at the center of the belt by finger.



4. PREPARATION AND LUBRICATION (Fig.3)

1. Cleaning the machine

Before leaving the factory, the machine parts are coated with rust-preventive grease, which may be hardened and contaminated by dust during storage and shipment. This grease must be removed with gasoline.

2. Examination

Although each machine is confirmed strictly and test before leaving the factory, the machine parts may be loose or deformed after long distance transportation with jolt. A thorough examination must be performed after cleaning the machine. Turn the balance wheel to see if there is running obstruction, parts collision, uneven resistance or abnormal noise. If these exist, adjustment must be made accordingly before run in operation.

3. Oiling

1) Required amount of oil

Line (A) on the oil reservoir: Max. oil level

Line (B) on the oil reservoir: Min. oil level

If oil level goes down under Line (B), oil cannot be distributed to each part of the machine, thus causing the parts a seizure.

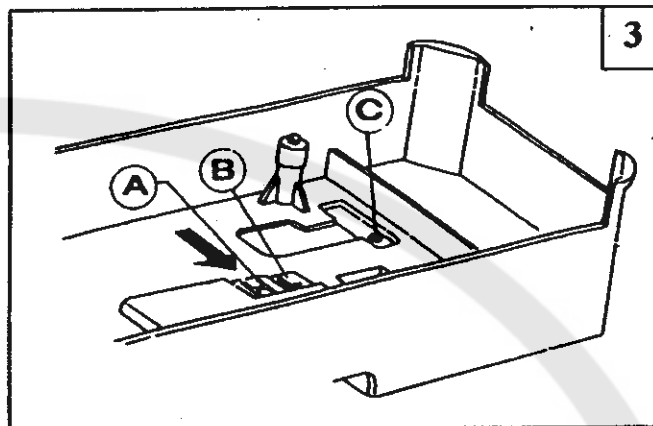
2) Replenishing

Always use only No.18 special machine oil for high speed sewing. Be sure to replenish oil to Line (A) before starting operation.

3) Replacing oil

① To replace oil, remove Screw (C) to drain oil.

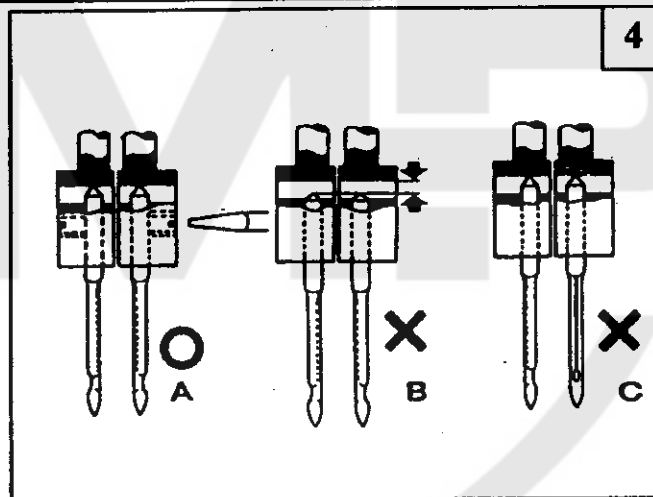
After completely draining off oil, clean the oil reservoir and securely tighten Screw (C), then fill the reservoir with fresh oil



5. REPLACE NEEDLE (Fig.4)

Turn the balance wheel to lift needle bar to the upper end of its stroke. Loosen Needle Clamp Screw while keeping the long groove of the needle face to face, fully insert the needle shank up to the bottom of the needle socket. Then tighten Needle Clamp Screw. Fig.4A

Note: Improper Needle setting shown in Fig.4B and Fig.4C. Fig.4B Insufficient insertion. Fig.4C Needle distorted.



6. RUN IN OPERATION (Fig.5)

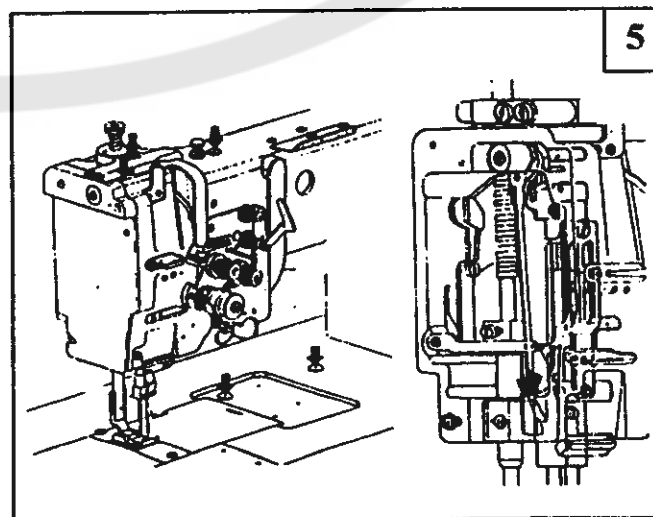
Run-in operation is required for a new sewing machine, or a sewing machine left out of operation for a considerable length of time.

1) Remove Rubber Plugs on the top of the arm and replenish sufficient amount of oil.

2) Lift Presser Foot.

3) Run the machine at a low speed (1000-1500s.p.m.) to check oil distributing condition through Oil Check Window.

4) Perform run-in operation at 1000-1500spm for 30 minutes. After a lapse of one month of service during which the working speed is increased gradually and the machine runs sufficiently well, the high speed can be adopted according to the nature of the work.

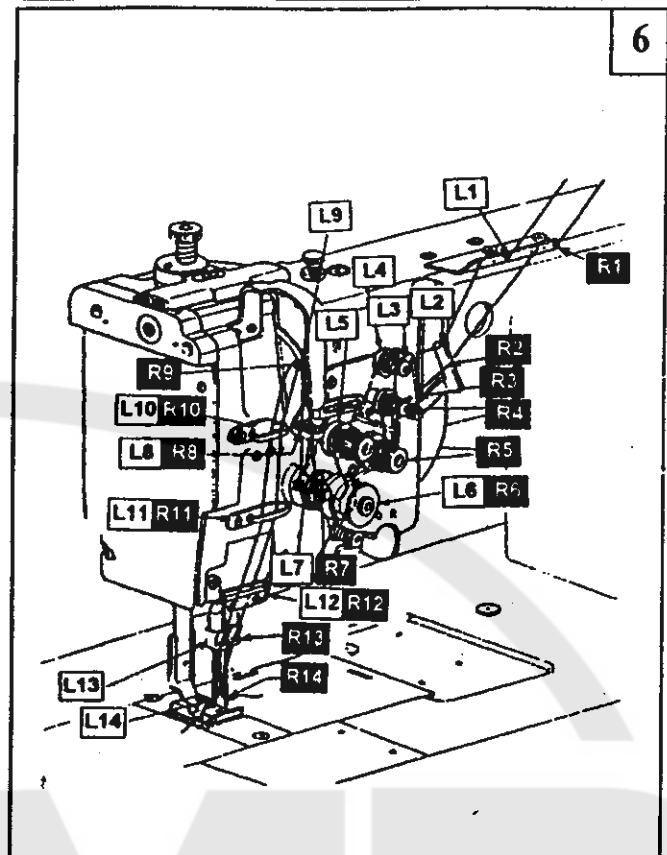


7. THREADING (Fig.6)

Raise needle bar to the highest position of its stroke, lead the thread from spool and perform threading in sequence

Note: "L" shows the left needle threading

" R" shows the right needle position.



8. WINDING ADJUSTMENT (Fig.7)

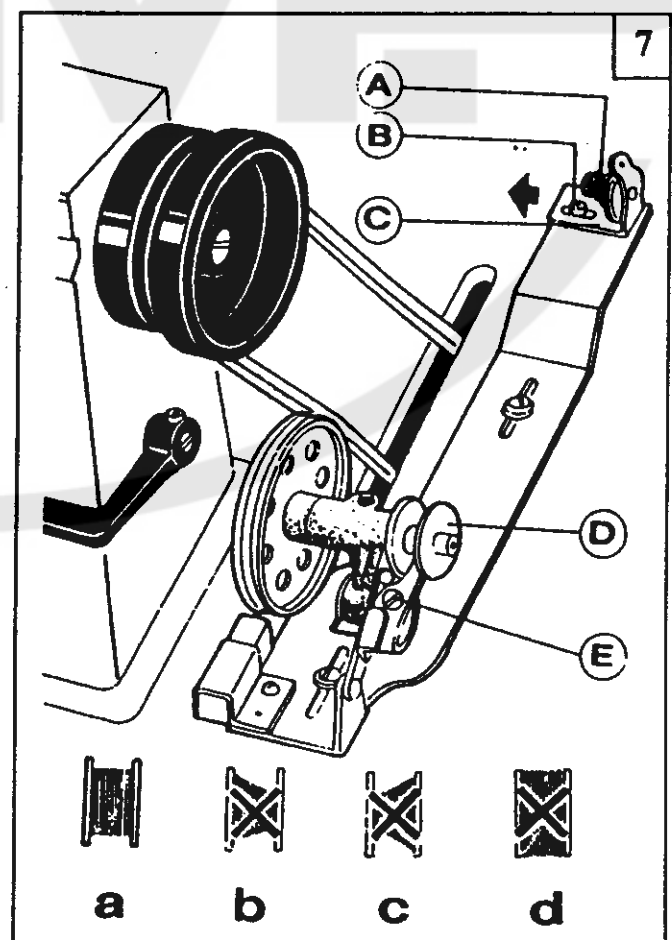
1) The wound bobbin thread should be neat and tight, if not, adjust the winding tension by turning Tension Stud Nut(A) of bobbin winder tension bracket.

Note: nylon or polyester thread should be wound with little tension, otherwise, Bobbin(D) might break or deform.

2) When the wound thread layer does not present a cylindrical shape as shown in Fig.7(a), loosen Set Screw(B) of bobbin winder tension bracket and slide Bracket(C) leftward or rightward. If thread is wound as shown in Fig.7(b) move the bracket rightward, but if thread is wound as shown in Fig.7(c), move the bracket leftward.

After adequately positioning the bracket, tighten Set Screw(B).

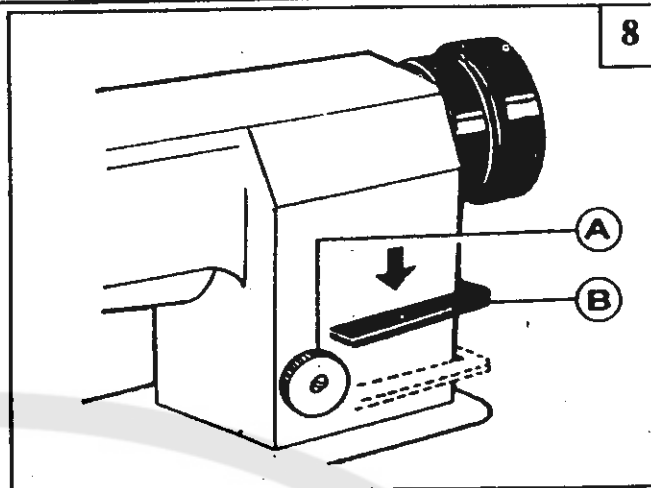
3) Do not overfill the bobbin. The optimum length of thread will fill about 80% of bobbin capacity. This can be adjusted by Adjusting Screw (E) of bobbin winder stop latch.



9. SET STITCH LENGTH AND REVERSE FEEDING (Fig.8)

1) Stitch length can be set by turning Dial (A), and the figures on face of dial show stitch length in mm.

2) Reverse feeding starts when Reverse Feed Lever (B) is depressed, and the machine will feed forward again if Reverse Feed Lever (B) is released.



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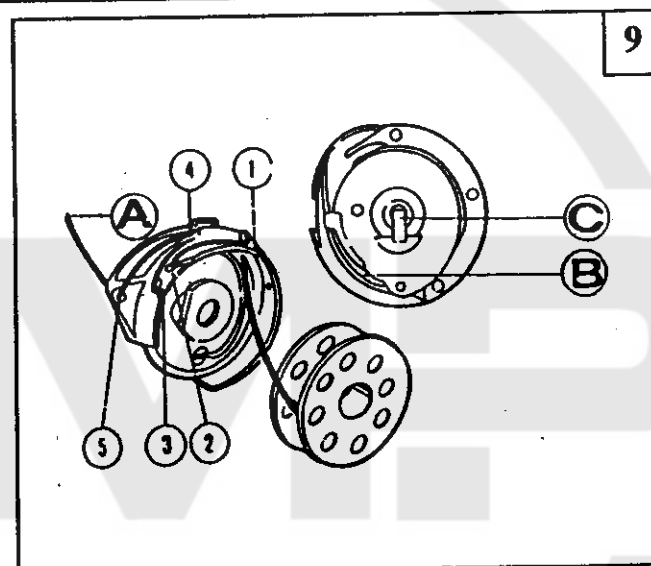
10. REPLACE THE BOBBIN CASE AND BOBBIN THREADING (Fig.9)

1. Pull the bobbin thread out from the left side of the bobbin. Put the bobbin into the bobbin case.

2. Pass the bobbin thread through the bobbin case in the order of ①-⑤.

3. Replace the bobbin case: Aligning the dent (B) of bobbin case and the convexity of rotating hook, and put the bobbin case in.

4. Press the Latch (C) down

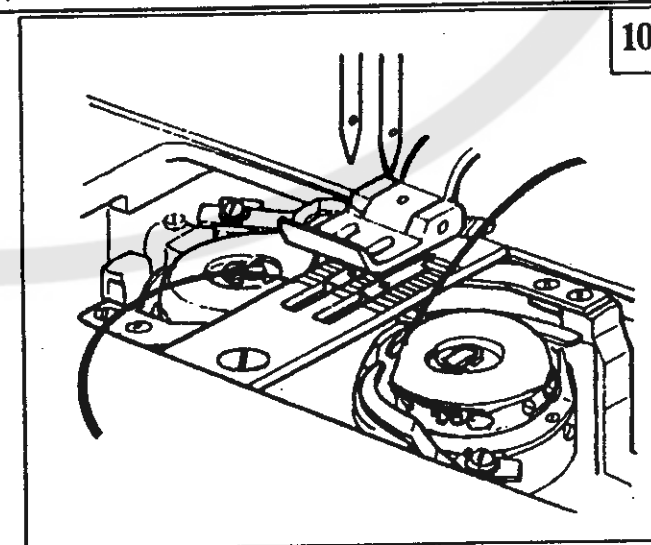


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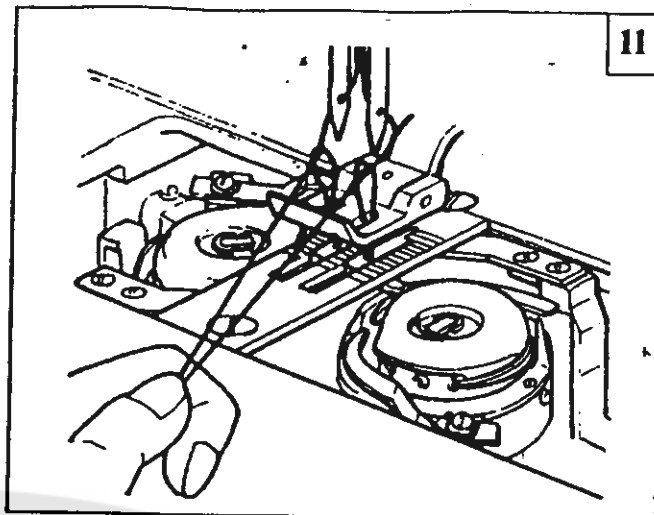
11. BOBBIN THREADING (Fig.10, 11)

1. Pull the bobbin thread out. (shown in Fig.10)

2. Holding the end of the needle threads by left hand and turn the balance wheel slowly. Pull out the bobbin thread, and keep them away from the underneath of the presser foot. (shown in Fig.11)



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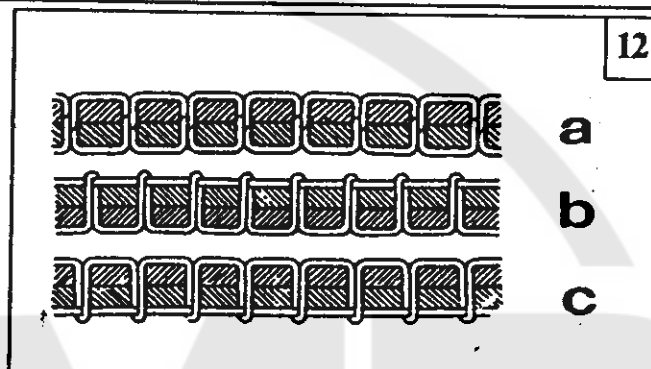
12. ADJUST THREAD TENSION (Fig.12,13,14,15,16)

In principle, thread tension is to be adjusted in accordance with materials, thread and other factors.

In principle, thread tension is adjusted according to the stitches obtained. Fig.12(a) shows the normal stitches.

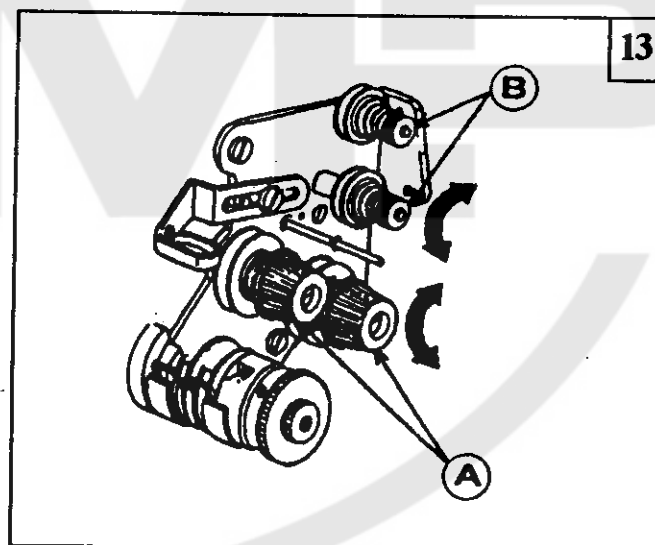
If Needle thread is too strong and Bobbin thread is too weak, the stitches are as shown in (b).

If Needle thread is too weak and Bobbin thread is too strong, the stitches are as shown in (c).



1. Adjust the tension of needle thread (Fig.13)

Turn Nut (A) and Nut (B) clockwise to increase the tension of needle thread and counterclockwise to decrease it.

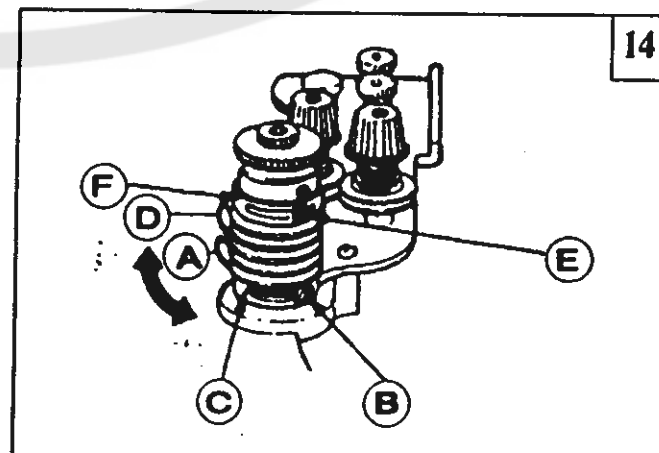


2. Adjust thread take-up spring

1) Adjustment of the thread take-up spring stroke (Fig.14)

-1. Thread take-up spring (A) of left needle thread: Adjust the Take-up Spring Adjusting Plate (C) after loosening the Set Screw (B).

-2. Thread take-up spring (D) of right needle thread: Adjust the Take-up Spring Adjusting Plate (F) after loosening the Set Screw (E).



2) Adjust the tension of the thread take-up spring (Fig.15)

-1. Adjustment of the left needle thread.

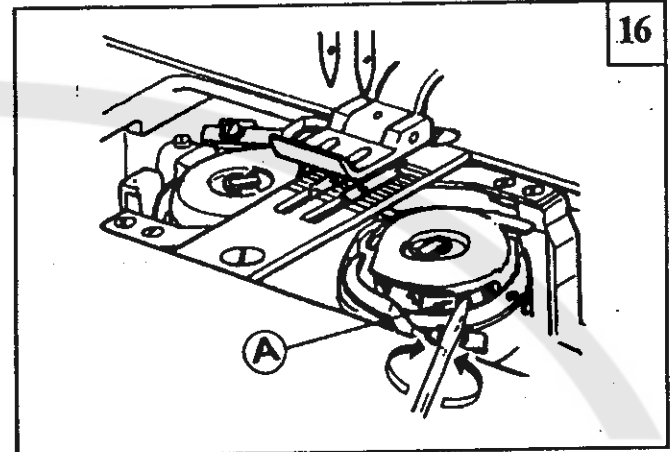
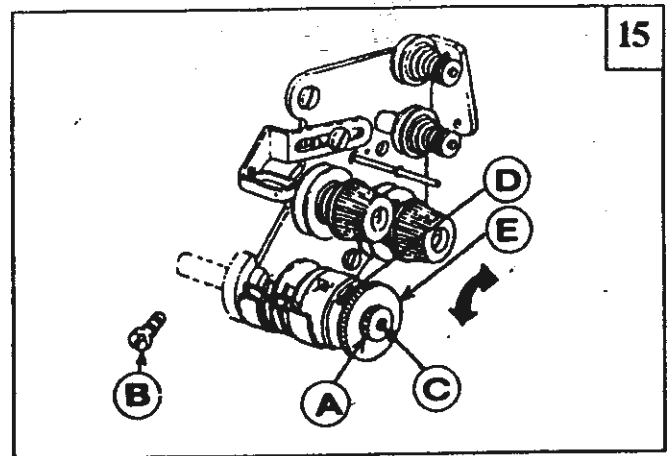
Loosen the Nut (A) and screw (B) in the machine head. Turn the Stud (C) clockwise to decrease the tension of thread take-up spring and turn the Stud (C) counterclockwise to increase the tension of thread take-up spring. Tighten the Nut (A) and Screw (B) after the adjustment.

-2. Adjustment of the right needle thread.

Loosen the Set Screw (D). Turn the Take-up Spring Guide (E) clockwise to decrease the tension of the thread take-up spring and turn the Take-up Spring Guide (E) counterclockwise to increase the tension of the thread take-up spring. Tighten the Set Screw (D) after the adjustment.

3. Adjust the tension of the bobbin thread (Fig.16)

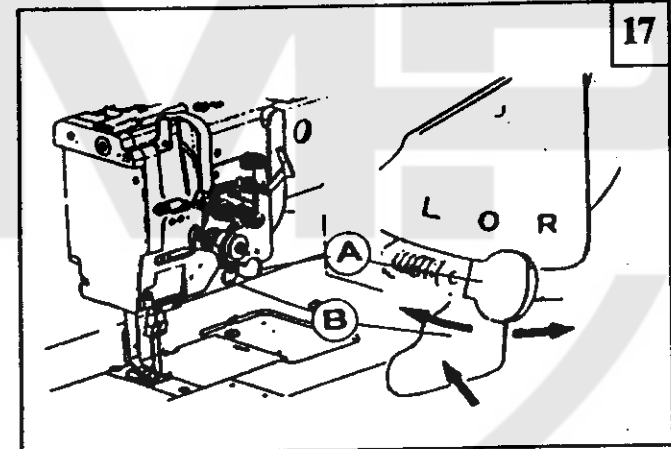
Turn the Screw (A) of the bobbin case clockwise to increase the tension of the bobbin thread and counterclockwise to decrease it.



13. DISENGAGEMENT OF RIGHT OR LEFT NEEDLE (Fig.17)

Turn the control lever (A) leftward or rightward to halt the right or left needle:

1. Turn the control lever (A) to the "L" position, the left Needle Bar disengaged.
2. Turn the control lever (A) to the "R" position, the right Needle Bar disengaged.
3. Press the reset board (B) the control lever (A) returns to "O", the two needles will work Simultaneously.

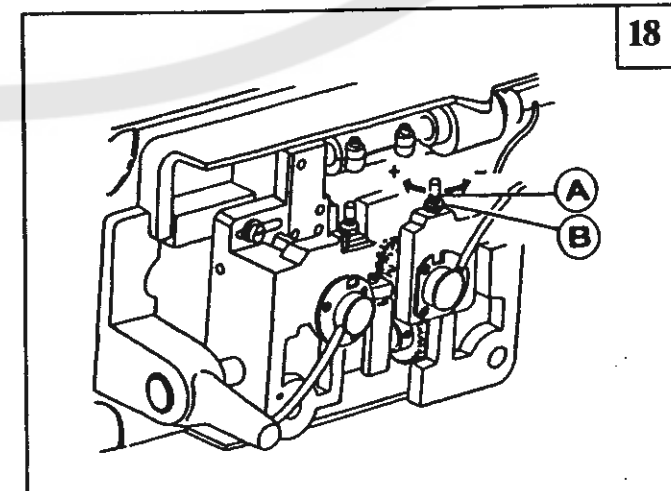


14. LUBRICATION OF ROTATING HOOK (Fig.18)

Adjust the lubrication of the rotation hook by Oil Adjusting Screw (A) as follow:

Loosen Nut (B), turn Oil Adjusting Screw (A) clockwise to increase oil amount and turn Oil Adjusting Screw (A) counterclockwise to decrease oil amount.

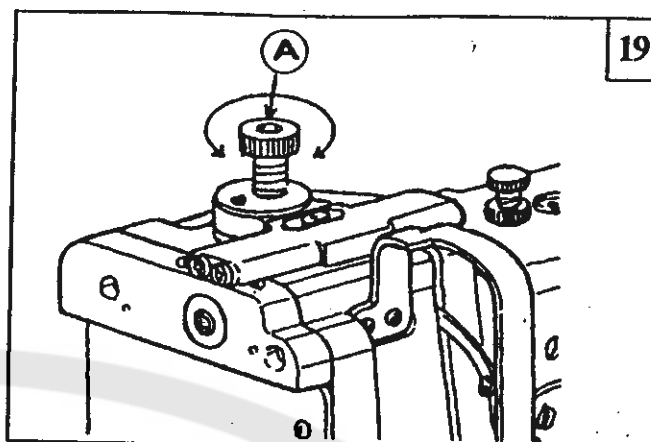
Tighten the Nut (B) after the adjustment



15. ADJUST THE PRESSURE OF PRESSER FOOT (Fig.19)

Pressure of presser foot is to be adjusted in accordance with thickness to be sewn.

For heavy materials, turn the Pressure Regulating Thumb Screw (A) clockwise to increase the pressure of presser foot. For light materials, turn the Pressure Regulating Screw (A) counterclockwise to decrease the pressure of presser foot.



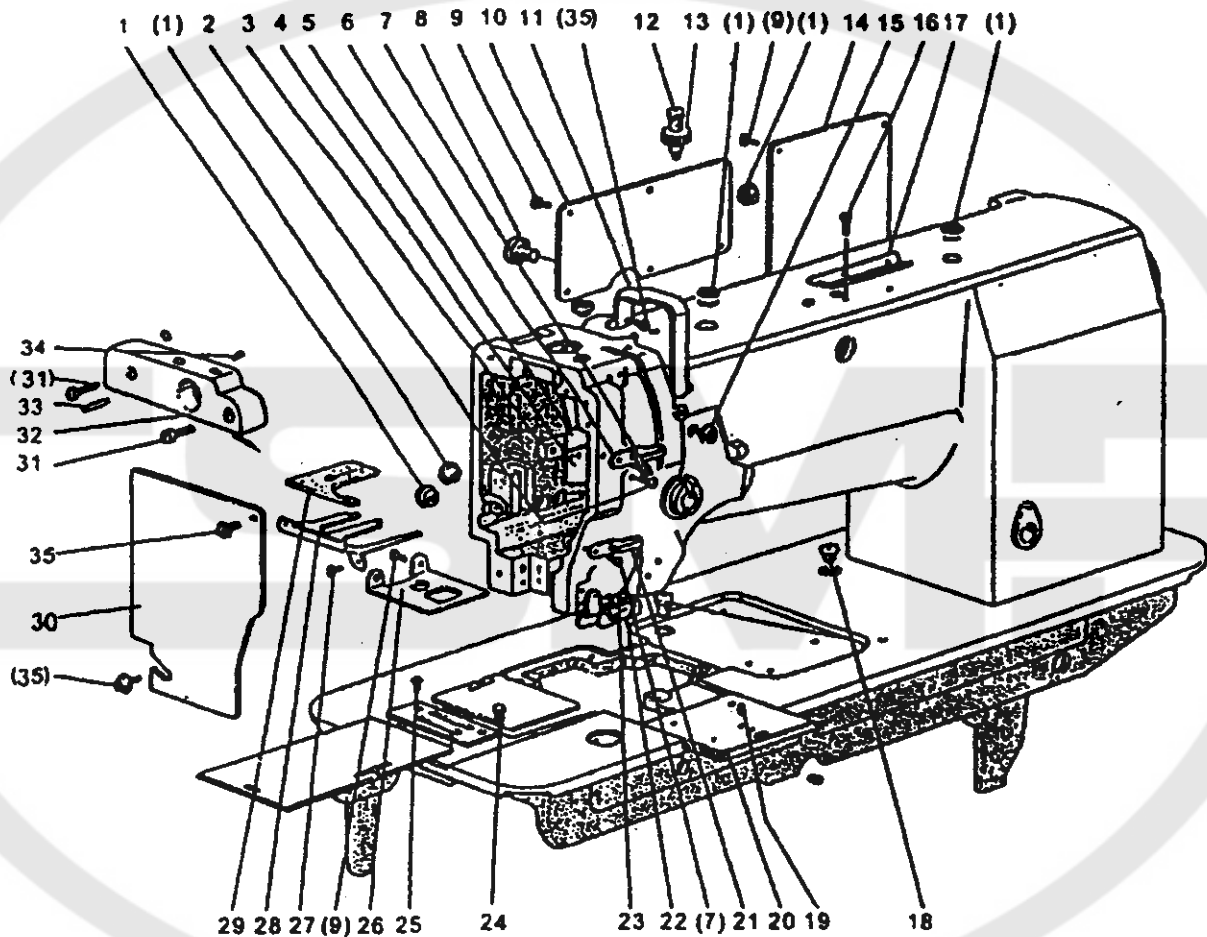
PROBLEMS ANALYSIS AND FAULT CLEARING

Fault	Reasons	Fault clearing
Skipped stitches	<ol style="list-style-type: none"> Arise from problems of the needles <ul style="list-style-type: none"> -1, Needle bent -2, Needle specification doesn't conform to the thread Mounting trouble of the needles <ul style="list-style-type: none"> -1, insufficient insertion of the needle -2, Defective installation of needles 	<p>Replace the needles Equip with needle according to the thread thickness</p> <p>Fully insert the needle Align the needle eyes while keeping the long grooves of the two needles face to face</p>
Floating	<ol style="list-style-type: none"> Needle thread is too weak The tension of the thread take-up spring is too weak The bobbin thread is too weak 	<p>Tighten the needle thread by turning the thread regulating nut clockwise Properly increase the tension of thread take-up spring Properly tighten the screw on the bobbin case</p>
Thread breaking	<ol style="list-style-type: none"> Bad quality of thread Arise from the problems of the needle <ul style="list-style-type: none"> • Needle bent • Needle wrongly installed • Compared with the thread, the needle is too thin Needle thread tension is too strong <ul style="list-style-type: none"> • Dust and dirt between the thread tension disc • Bobbin thread is wrongly wound or overfilled • Dust and dirt exist in the bobbin case • Tension spring of the bobbin case is defective or bent • Bobbin wrongly installed 	<p>Always use good quality thread, never use uneven thread</p> <p>Replace the needle Install the needle rightly Use needle which specification conforms to the thread Loosen the thread regulating nut properly Remove the thread tension disc, then clear off the dust Rewind the bobbin</p> <p>Clear off the dust in the bobbin case Straighten the tension spring or replace it Reinstall the bobbin rightly</p>
puckering	<ol style="list-style-type: none"> Needle or thread is too thick Both of needle thread and bobbin thread tension are too strong The pressure of presser foot is too strong 	<p>Replace the needle or thread, which is suitable for the materials to be sewn Decrease the tension of bobbin thread or needle thread. Properly reduce the pressure of the presser foot</p>

Partslist



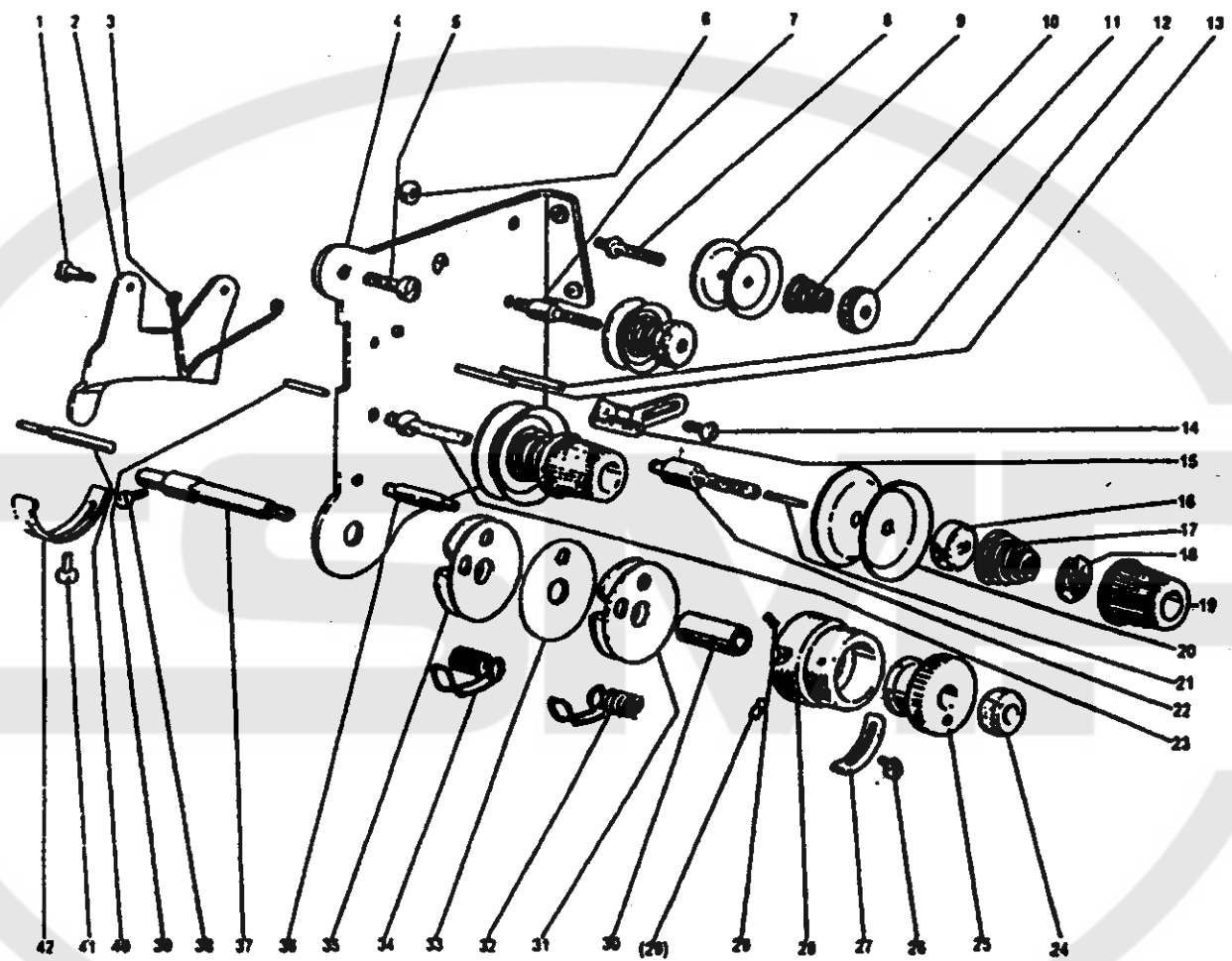
1. ARM BED AND ITS ACCESSORIES



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No.	Ref. No.	Descriptions	9220	9220 LH
1	BM18-01-038	Rubber Plug	5	5
2	BM18-01-022	Screw	2	2
3	BM18-01-021	Oil splasher pad	1	1
4	BM18-01-019	Oil seal plate	1	1
5	BM18-01-020	Oil splasher	1	1
6	BM18-01-023	Thread guide (upper)	1	1
7	BM18-01-025	Screw	2	2
8	GB818-85	Screw M8	1	1
9	72T1-017	Screw	12	12
10	BM18-01-014	Arm side cover (Left)	1	1
11	BM18-01-016	Thread take-up lever cover	1	1
12	BM18-09-020	Screw M10×33	1	1
13	BM18-09-021	Regulating nut	1	1
14	BM18-01-015	Arm side cover (right)	1	1
15	BM18-01-039	Rubber Plug	1	1
16	BM18-01-018	Screw	2	2
17	BM18-01-017	Thread guide	1	1
18	BM18-01-040	Oil cup.	2	2
19	BM18-01-034	Set screw	1	1
20	BM18-01-033	Slide plate (front)	1	1
21	BM18-01-024	Thread guide (middle)	1	1
22	BM18-01-026G	Thread guide complete (lower)	1	1
23	BM18-01-027	Screw	1	1
24	72T1-019	Screw	1	1
25	BM18-01-029	Screw	1	1
26	BM20-10-001	Cover plate	1	1
27	BM18-01-037	Screw	2	2
28	BM20-10-002A1	Oil plate	1	1
29	BM20-10-002A2	Felted wool	1	1
30	BM20-01-005	Face plate	1	1
31	BM08-03-004D5a2	Screw	2	2
32	BM20-03-011	Needle bar frame shaft base	1	1
33	GB117-86	Taper pin	2	2
34	22T1-011	Screw	2	2
35	72T2-003	Screw	3	3

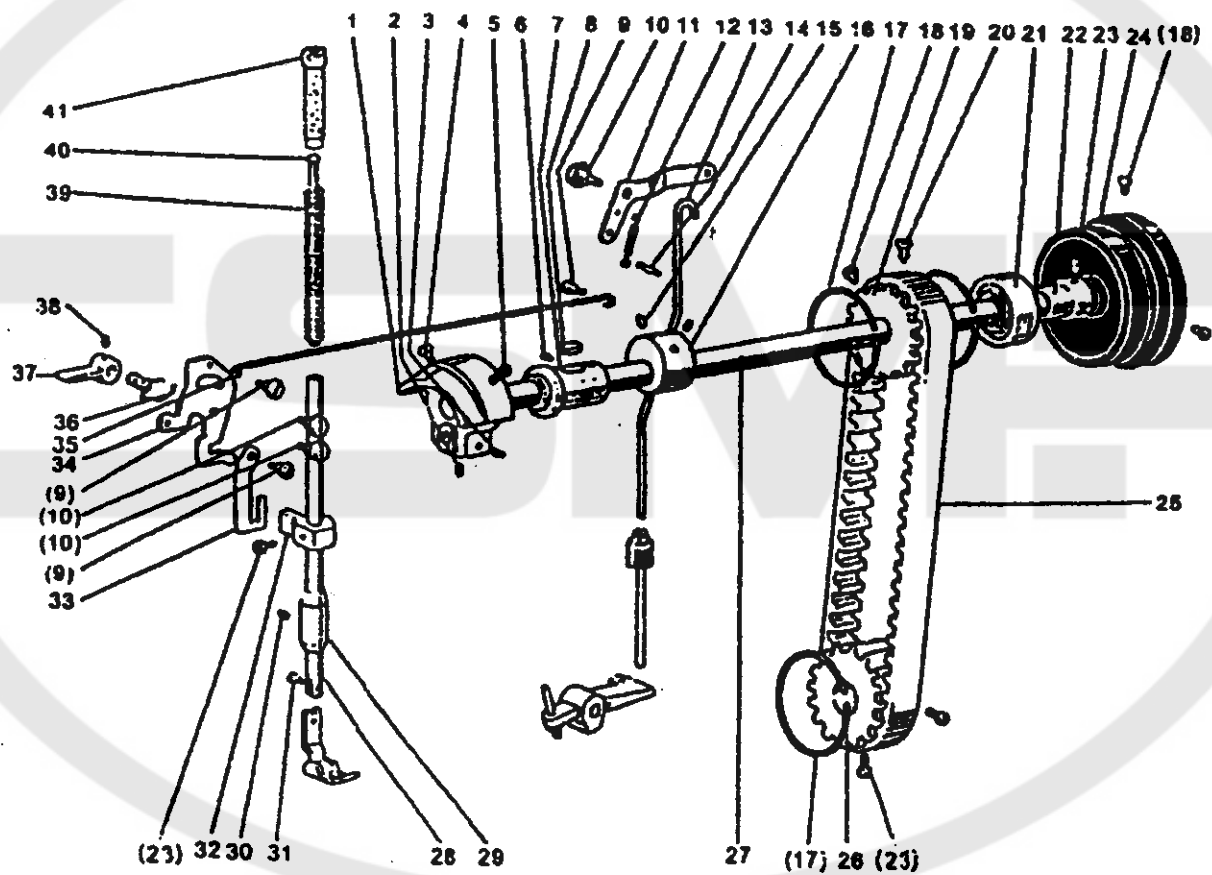
2. THREAD REGULATOR MECHANISM



2. THREAD REGULATOR MECHANISM

No.	Ref. No.	Descriptions	9220	9220 LH
1	BM18-01-035I19	Screw	2	2
2	BM18-01-035I18	Tension release lever	1	1
3	BM18-01-035I17	Spring	1	1
4	BM18-01-035I11	Thread tension base plate	1	1
5	72T2-003	Set screw	2	2
6	BM18-01-035I11	Hex nut	2	2
7	BM18-01-035I7	Regulating stud (upper)	1	1
8	BM18-01-035I5	Regulating stud (lower)	1	1
9	22T1-009E3	Disc for pretension	4	4
10	BM18-01-035I6	Spring for pretension	2	2
11	BM18-01-035I8	Thumb nut	2	2
12	BM18-01-035I4	Thread pin	2	2
13	BM18-01-035I3	Pin	1	1
14	22T1-003C6	Set screw	1	1
15	BM18-01-035I13	Thread guide	1	
	BM19-01-003B2	Thread guide		1
16	72T1-007F2	Thread tension release disc	2	2
17	22T1-012F3	Thread tension spring	2	
	BM19-01-003B1	Thread tension spring		2
18	22T1-012F10	Stop disc	2	2
19	72T1-007F1	Thread regulating nut	2	2
20	72T1-007F2	Thread tension disc	4	4
21	BM18-01-035I15	Thread tension release pin (right)	1	1
22	BM18-01-035I10	Regulating screw (right)	1	1
23	BM18-01-035I9	Regulating screw (left)	1	1
24	BM18-01-035I12a12	Nut	1	1
25	BM18-01-035I12a11	Take-up spring guide	1	1
26	BM18-01-035I12a14	Set screw	1	1
27	BM18-01-035I12a13	Take-up spring adjusting plate	1	1
28	BM18-01-035I12a9	Thread tension post	1	1
29	BM18-01-035I12a10	Set screw	2	2
30	BM18-01-035I12a8	Presser collar	1	1
31	BM18-01-035I12a4	Thread guide plate complete	1	1
32	BM18-01-035I12a7	Thread take up spring	1	1
33	BM18-01-035I12a3	Thread guide plate	1	1
34	BM18-01-035I12a6	Thread take up spring	1	1
35	BM18-01-035I12a2	Thread guide plate complete	1	1
36	BM18-01-035I12a5	Take-up spring guide stud	1	1
37	BM18-01-035I12a1	Thread take-up spring stud	1	1
38	BM18-01-037	Set screw	1	1
39	BM18-01-035I14	Thread tension release pin (left)	1	1
40	BM18-01-035I16	Tension releasing bar	1	1
41	BM18-01-036	Set screw	1	1
42	BM18-01-027	Take-up spring adjusting plate	1	1

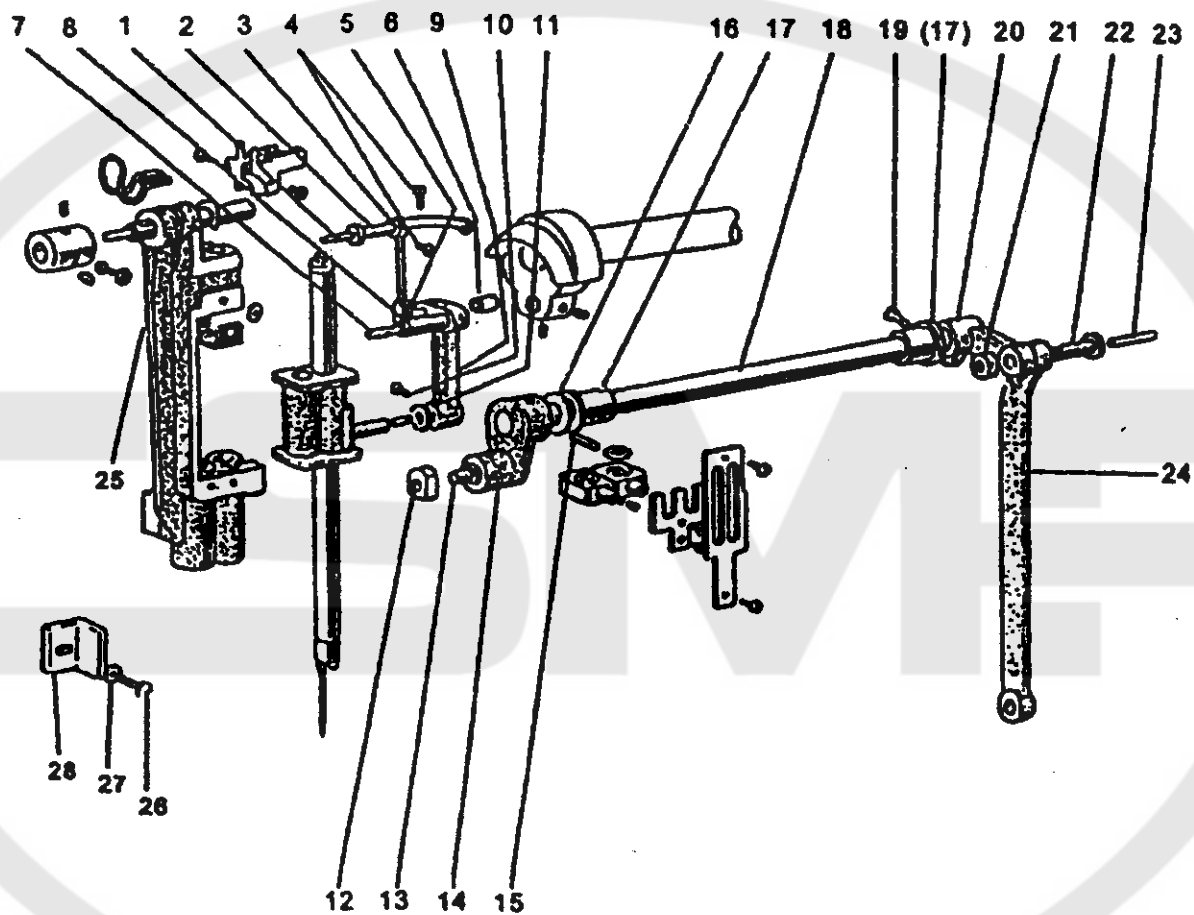
3. ARM SHAFT, PRESSER FEET MECHANISM,



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No.	Ref. No.	Descriptions	9220	9220 LH
1	BM20-02-001A1a1	Needle bar crank	1	1
2	22T3-002B2	Screw	1	1
3	72T2-004B2	Set screw	1	1
4	22T2-006	Screw	1	1
5	22T2-007	Set screw	1	1
6	BM18-01-005	Screw	1	1
7	BM18-01-004B2	Arm shaft bushing (left)	1	1
8	BM18-01-004B1	Felted wool	1	1
9	22T7-004B2	Screw	3	3
10	22T7-005	Screw	3	3
11	BM18-04-008E1	Lifter lever	1	1
12	BM18-04-008E2	Spring	1	1
13	BM18-04-008E3	Knee lifter connecting rod	1	1
14	BM18-04-009	Pin for spring	1	1
15	22T2-002	Screw	2	2
16	BM20-02-002B1	Eccentric wheel	1	1
17	BM18-02-002B1	Spring collar	3	3
18	22T3-007C2	Screw	3	3
19	BM18-02-002B2	Timing pulley (upper)	1	1
20	22T5-013	Set screw	1	1
21	BM18-02-006E2	Bearing	1	1
22	BM18-02-006E1	Bushing	1	1
23	22T5-001A4	Screw	5	5
24	BM18-02-005D1	Balance wheel	1	1
25	BM18-02-003	Timing belt	1	1
26	BM18-02-004C1	Timing pulley (lower)	1	1
27	BM18-02-001A1	Arm shaft	1	1
28	BM18-04-001	Presser bar	1	1
29	BM18-01-012	Presser bar bushing (lower)	1	1
30	22T2-002	Screw	1	1
31	BM18-04-002	Screw	1	1
32	BM18-04-004B1	Presser bar lifting bracket	1	1
33	BM18-04-007D3	Knee lifter connecting rod	1	1
34	BM18-04-007D2	Knee lifter lever (left)	1	1
35	BM18-04-007D1	Knee lifter rod	1	1
36	BM18-04-006	Presser bar lifter cam	1	1
37	BM18-04-005C1	Presser bar lifter	1	1
38	22T1-011	Screw	1	1
39	BM18-04-010	Presser bar spring	1	1
40	22T7-012	Spring guide pin	1	1
41	72T7-006D1	Presser regulating thumb screw	1	1

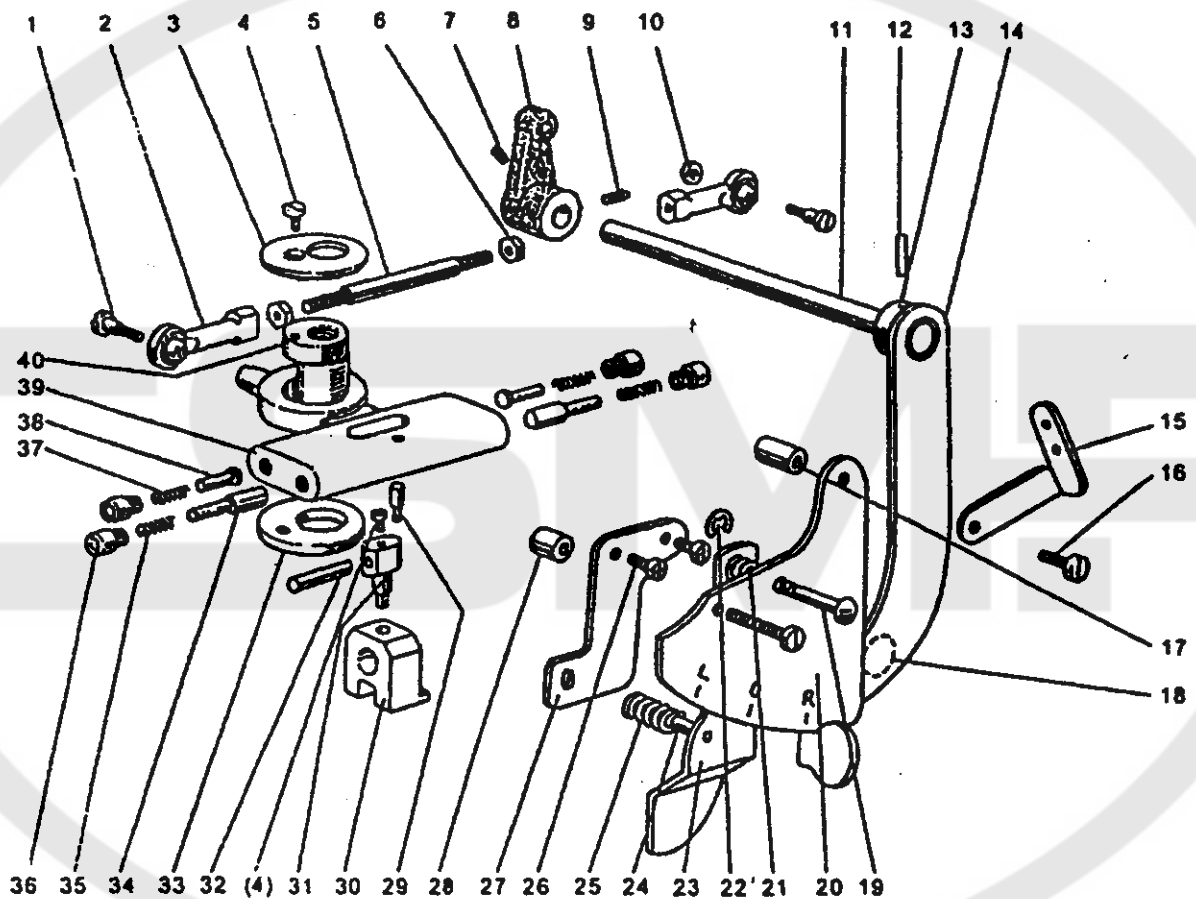
4. NEEDLE BAR AND THREAD TAKE-UP MECHANISM



4. NEEDLE BAR AND THREAD TAKE-UP MECHANISM

No.	Ref. No.	Descriptions	9220	9220 LH
1	BM18-03-001A1a3	Oil braid	1	1
2	BM18-03-001A1a2	Hinge pin	1	1
3	BM20-03-001A1	Thread take-up lever	1	
	BM21-03-001A1	Thread take-up lever		1
4	22T3-007C2	Set screw	3	3
5	BM19-03-001A2b1	Slide block	1	1
6	BM18-03-001A3b2	Plug for slide block	1	1
7	BM18-02-001A3b2	Oil braid	1	1
8	BM18-02-001A3b1	Needle bar crank pin	1	1
9	BM20-03-007D1	Needle bar connecting link	1	1
10	22T7-015	Screw	1	1
11	BM20-03-007D2	Sleeve	1	1
12	BM20-03-009	Slide block	1	1
13	BM20-03-004B1	Screw	1	1
14	BM20-03-004B2	Rock shaft crank (left)	1	1
15	GB117-86	Taper pin	1	1
16	BM20-03-005	Washer	1	1
17	BM18-01-007	Rock shaft bushing	2	2
18	BM20-03-004B3	Rock shaft	1	1
19	BM02-08-007	Set screw	1	1
20	BM20-03-006C1	Rock shaft crank (right)	1	1
21	BM18-03-004D4	Hex. Nut	1	1
22	BM18-03-004D3b1	Pin	1	1
23	BM18-03-004D3b2	Oil braid	1	1
24	BM20-03-006C2	Link lever	1	1
25	BM20-03-008E	Needle bar farne complete	1	1
26	BM20-03-003	Bolt	1	1
27	BM18-08-011A11	Washer	1	1
28	BM20-03-002	Needle bar farne guider	1	1

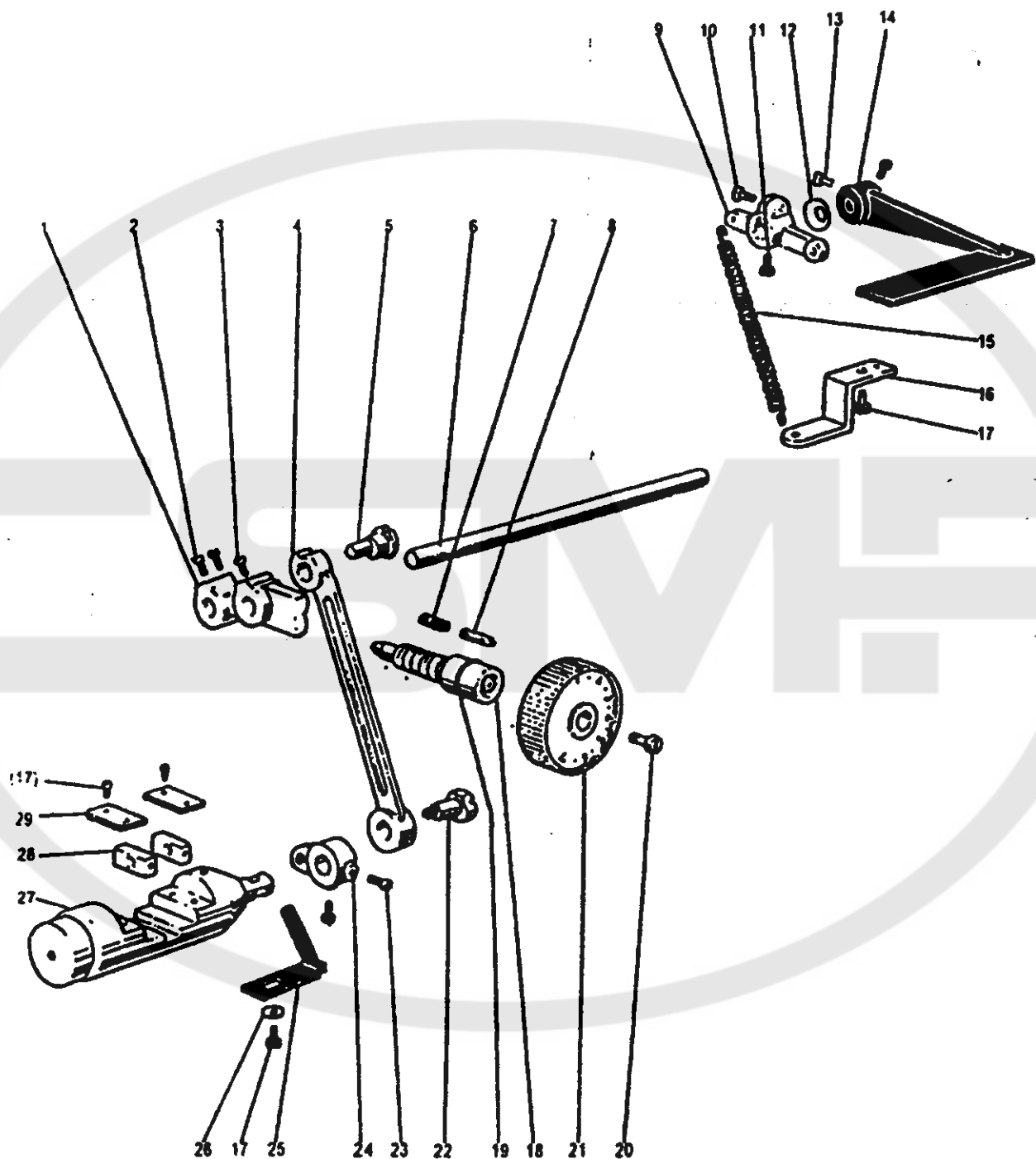
5. NEEDLE BAR TRANSFORMATION MECHANISM



5. NEEDLE BAR TRANSFORMATION MECHANISM

No.	Ref. No.	Descriptions	9220	9220 LH
1	BM20-04-005	Screw	2	2
2	GB9161-88	Ball joint	2	2
3	BM20-04-003	Cover plate	1	1
4	BM08-03-004D17	Screw	2	2
5	BM20-04-004B1	Adjusting shaft rod	1	1
6	GB41-86	Nut M5	2	2
7	22T1-011	Screw	1	1
8	BM20-04-013E1	Crank	1	1
9	BM20-04-013E2	Screw	1	1
10	BM18-01-035I11	Hex. Nut	1	1
11	BM20-04-006C4	Shaft	1	1
12	GB879-86	Spring pin	1	1
13	BM20-04-006C2	Sleeve	1	1
14	BM20-04-006C1	Control lever	1	1
15	BM20-04-012	Thread guide	1	1
16	BM08-03-004D15a2	Screw	2	2
17	BM20-04-009	Washer (long)	1	1
18	BM20-04-006C3	Stop pin	1	1
19	BM20-04-007D2	Stop shaft	1	1
20	BM20-04-007D1	Needle bar position indicator	1	1
21	BM20-04-007D3	Spring	1	1
22	GB896-86	Retaining ring	1	1
23	BM20-04-007D4	Reset lever	1	1
24	BM20-04-007D5	Pin	1	1
25	BM20-04-011	Spring	1	1
26	72T2-003	Screw	2	2
27	BM20-04-008	Mounting plate	1	1
28	BM20-04-010	Washer (short)	1	1
29	BM20-04-014	Screw	1	1
30	BM20-03-010	Driving bracket	1	1
31	BM20-04-001A2	Slide pin	1	1
32	BM20-04-001A3	Slide block stud	1	1
33	BM20-04-002	Washer	1	1
34	BM20-04-001A5	Driving guide stud	2	2
35	BM20-04-001A7	Spring	2	2
36	BM20-04-001A6	Plug screw	4	4
37	BM20-04-001A8	Spring	2	2
38	BM20-04-001A4	Guide stud	2	2
39	BM20-04-001A1	Repositioning base	1	1
40	BM20-01-004	Repositioning base shaft	1	1

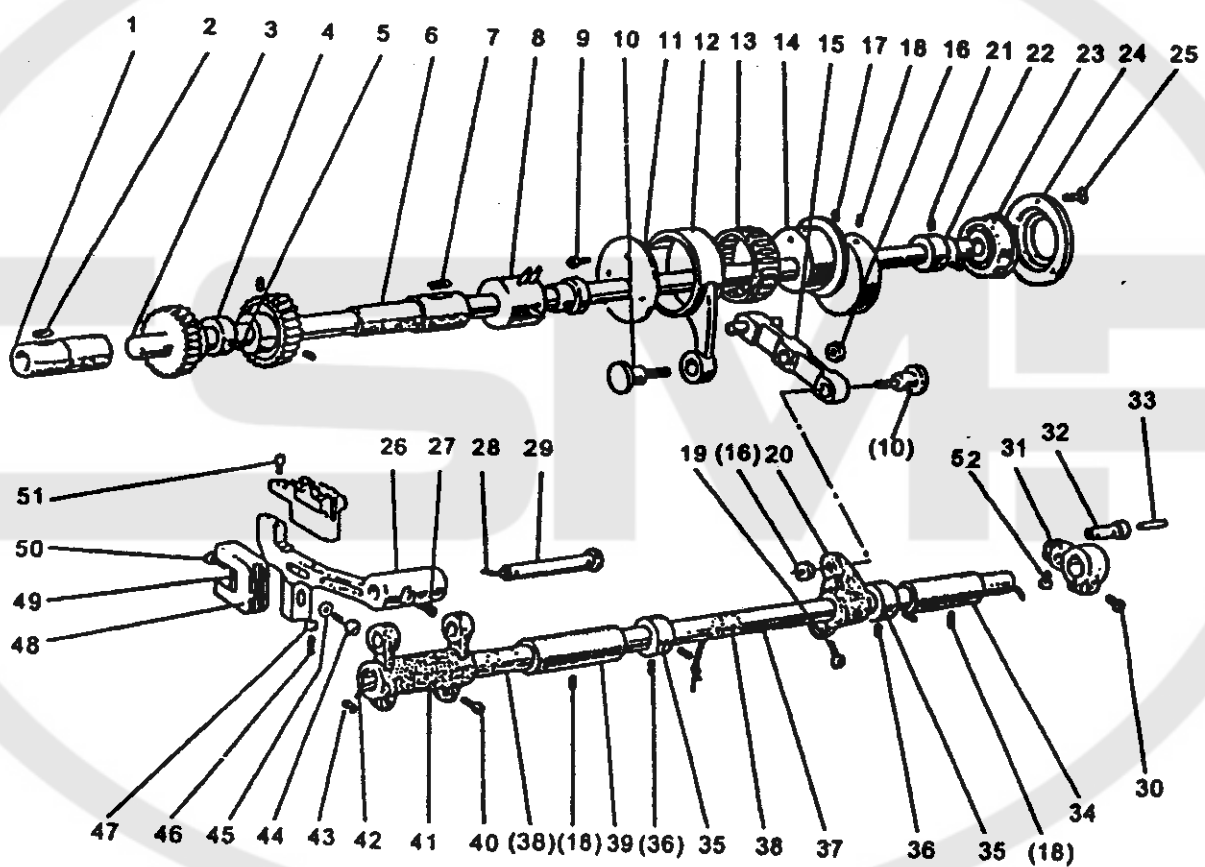
6. STITCH LENGTH REGULATING MECHANISM



6. STITCH LENGTH REGULATING MECHANISM

No.	Ref. No.	Descriptions	9220	9220 LH
1	BM18-07-001A1	Feed regulator	1	1
2	22T5-001A4	Set screw	2	2
3	BM18-07-002	Set screw	1	1
4	BM18-07-003	Food connecting link	1	1
5	22T6-007	Hinge pin	1	1
6	BM18-07-007C1	Reverse feed lever shaft	1	1
7	BM18-07-009	Spring for stopper pin	1	1
8	22T5-008	Stopper pin	1	1
9	BM18-07-004B1	Reverse feed crank	1	1
10	BM18-07-004B2	Screw	1	1
11	BM18-07-004B3	Set screw	1	1
12	22T5-011	Washer	1	1
13	22T5-001A4	Screw	2	2
14	BM18-07-007C2	Reverse feed lever	1	1
15	BM18-07-005	Spring for reverse feed crank	1	1
16	BM18-07-006	Bracket for spring	1	1
17	72T2-003	Screw	6	6
18	22T5-006C1	Feed regulator screw bar	1	1
19	22T5-006C4	O- ring	1	1
20	22T5-006C3	Screw	1	1
21	BM20-08-001A1	Dial	1	
	BM19-07-001A1	Dial		1
22	BM18-07-010	Eccentric shaft	1	1
23	GB70-85	Screw M5×14	1	1
24	BM18-07-011E1	Reverse feed crank (lower)	1	1
25	BM18-07-014	Retainer	1	1
26	BM18-07-015	Washer	1	1
27	BM18-07-012F2	Reverse feed bed	1	1
28	BM18-07-013	Slide block	2	2
29	BM18-07-012F1	Guide plate	2	2

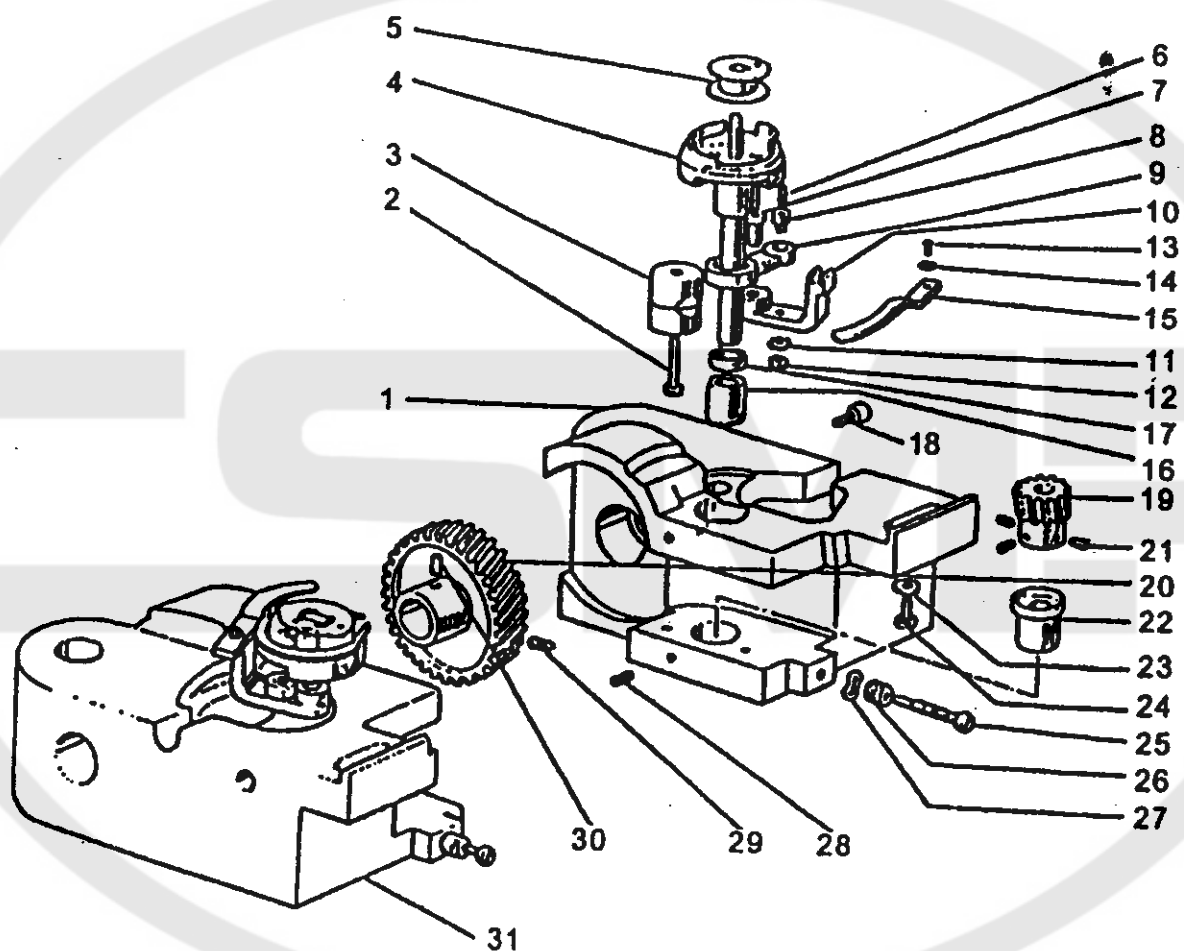
7. LOWER SHAFT, FEED LIFTING MECHANISM



7. LOWER SHAFT, FEED LIFTING MECHANISM

No.	Ref. No.	Descriptions	9220	9220 LH
1	BM18-01-008D1	Lower shaft bushing (left)	1	1
2	BM18-01-008D2	Oil braid	1	1
3	BM18-05-001	Lower shaft	1	1
4	BM18-05-002A1	Feed lifting cam	1	1
5	BM18-05-002A2	Set screw	1	1
6	BM18-01-009E1	Lower shaft bushing (right)	1	1
7	BM18-01-008D2	Oil braid	1	1
8	BM18-01-010F	Lower shaft bushing complete	1	1
9	BM18-05-004C5	Screw	3	3
10	BM18-06-005	Screw	2	2
11	BM18-05-004C4	Cover plate	1	1
12	BM18-05-004C3	Feed eccentric link	1	1
13	BM18-05-004C2	Bearing	1	1
14	BM18-05-004C1	Feed eccentric	1	
	BM19-05-001A1	Feed eccentric		1
15	BM18-06-007	Feed link lever	1	1
16	BM18-06-006	Hex. Nut	2	2
17	22T2-002	Screw	1	1
18	BM18-01-005	Screw	3	3
19	BM18-06-004C2	Screw	1	1
20	BM18-06-004C1	Feed rock shaft crank	1	1
21	22T3-002B2	Screw	2	2
22	BM18-05-005D2	Bushing	1	1
23	BM18-05-005D1	Bearing	1	1
24	BM18-05-006	Retaining plate	1	1
25	BM08-03-004D18	Screw	3	3
26	BM18-06-002B1a1-2	Feed bar	1	1
27	GB77-85	Screw M5×6	1	1
28	BM18-06-002B4b2	Oil braid	1	1
29	BM18-06-002B4b1	Feed bar crank shaft	1	1
30	BM02-08-007	Screw	1	1
31	BM20-07-001A1	Feed rock shaft crank	1	1
32	BM20-07-002B1	Hinge pin	1	1
33	BM18-03-001A3b3	Oil braid	1	1
34	BM18-01-011	Bushing for feed rock shaft	1	1
35	22T6-005B1	Collar for feed rock shaft	2	2
36	22T3-002B2	Screw	4	4
37	BM18-06-001A1	Feed rock shaft	1	1
38	BM18-06-001A2	Felted wool	2	2
39	22T6-012	Feed rock shaft bushing (left)	1	1
40	22T6-001A1b	Screw	2	2
41	BM18-06-002B5c1	Feed bar crank	1	1
42	BM18-06-001A3	Oil braid	1	1
43	BM18-06-003	Oil braid holder	1	1
44	BM18-06-002B1a5	Bolt	1	1
45	GB97.1-85	Washer	1	1
46	GB73-85	Screw M3×14	1	1
47	GB6170-86	Nut	1	1
48	BM18-06-002B1a2	Feed lifting connection	1	1
49	BM18-06-002B1a3	Felted wool	1	1
50	BM18-06-002B1a4	Screw	1	1
51	BM18-06-002B3	Screw	2	2
52	72T6-001A6	Screw	1	1

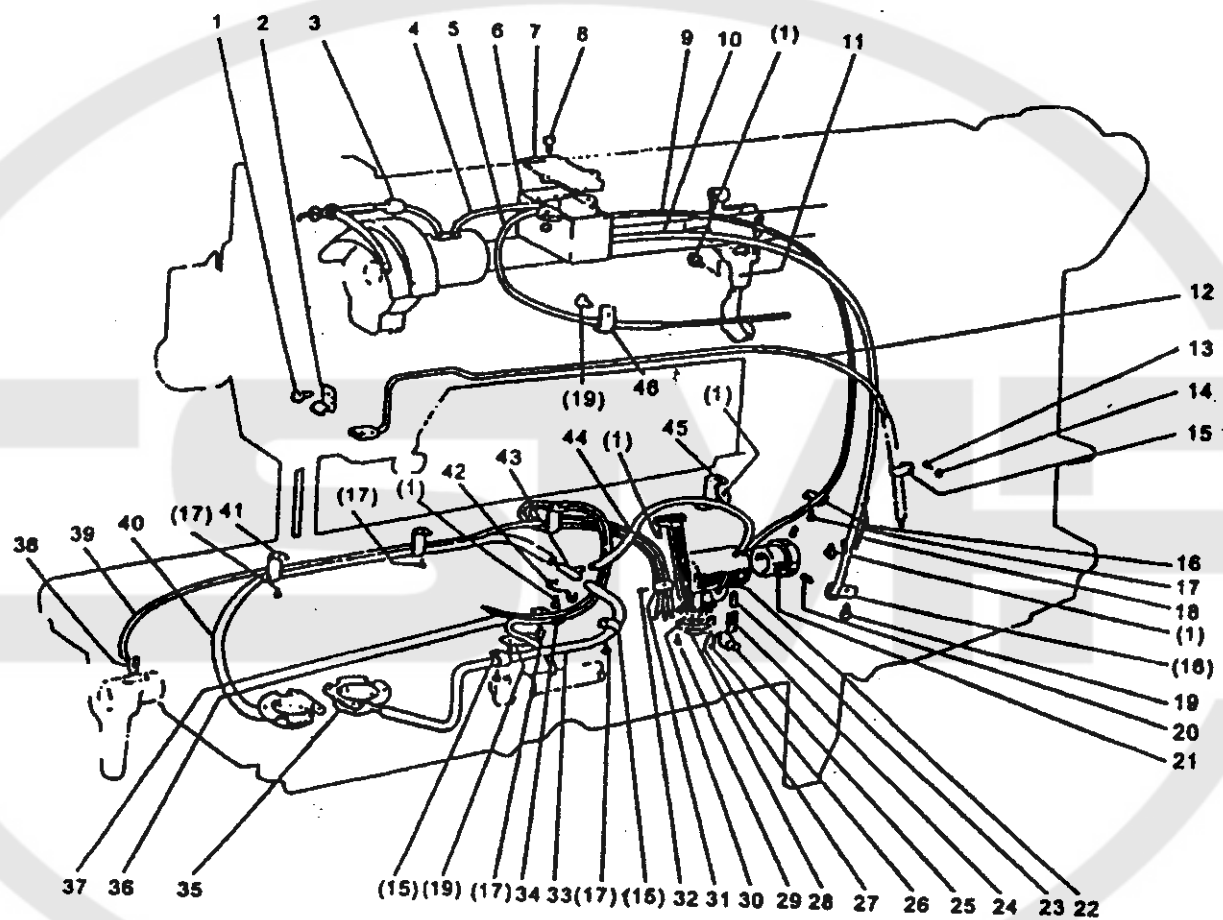
8. ROTATING HOOK SADDLE AND ACCESSORIES



8. ROTATING HOOK SADDLE AND ACCESSORIES

No.	Ref. No.	Descriptions	9220	9220 LH
1	BM18-08-001A1-2	Hook saddle (right)	1	1
	BM19-08-001A1-2	Hook saddle (right)	1	1
2	BM18-08-004C1	Locking screw	2	2
3	BM18-08-004C2	Locking bushing	2	2
4	BM20-09-001A2	Rotating hook comploto	2	
	BM21-09-001A1	Rotating hook complete		2
5	BM18-08-003	Bobbin	2	
	BM19-08-003	Bobbin		2
6	BM18-08-001A6d5	Oil braid	2	2
7	BM18-08-001A6d4	Bobbin case opener base shaft	2	2
8	BM18-08-001A6d2	Bobbin case opener base stud	2	2
9	BM18-08-001A6d3	Opener link	2	
	BM19-08-001A3b2	Opener link		2
10	BM18-08-001A6d1	Bobbin case opener base	2	
	BM19-08-001A3b1	Bobbin case opener base		2
11	GB93-87	Spring washer	2	2
12	22T6-001A8	Nut	2	2
13	BM18-01-037	Set screw	2	2
14	BM18-08-001A11	Washer	2	2
15	BM18-08-001A10	Bobbin case opener	2	
	BM19-08-001A4	Bobbin case opener		2
16	BM20-09-001A2a1	Rotating hook shaft bushing (upper)	2	
	BM19-08-001A1a1	Rotating hook shaft bushing (upper)		2
17	BM18-08-001A2a3	Washer	2	
	BM19-08-001A2a2	Washer		2
18	BM18-08-001A7	Set screw	2	2
19	BM18-08-001A5c1	Gear for hook saddle (Small)	2	2
20	BM18-08-001A4b1	Gear for hook saddle (Big)	2	2
21	22T3-002B2	Screw	6	6
22	BM18-08-001A3	Rotating hook shaft bushing (lower)	2	2
23	BM18-08-006	Washer	2	2
24	BM18-08-005	Set screw	2	2
25	BM18-08-001A8	Oil regulating screw	2	2
26	BM18-08-001A9	Lock nut	2	2
27	GB860-87	Wave washer	2	2
28	72T4-002B2	Screw	4	4
29	72T2-004B2	Set screw	2	2
30	BM18-08-001A4b2	Set screw	2	2
31	BM18-08-002B1-2	Hook saddle (left)	1	
	BM19-08-002B1-2	Hook saddle (left)		1

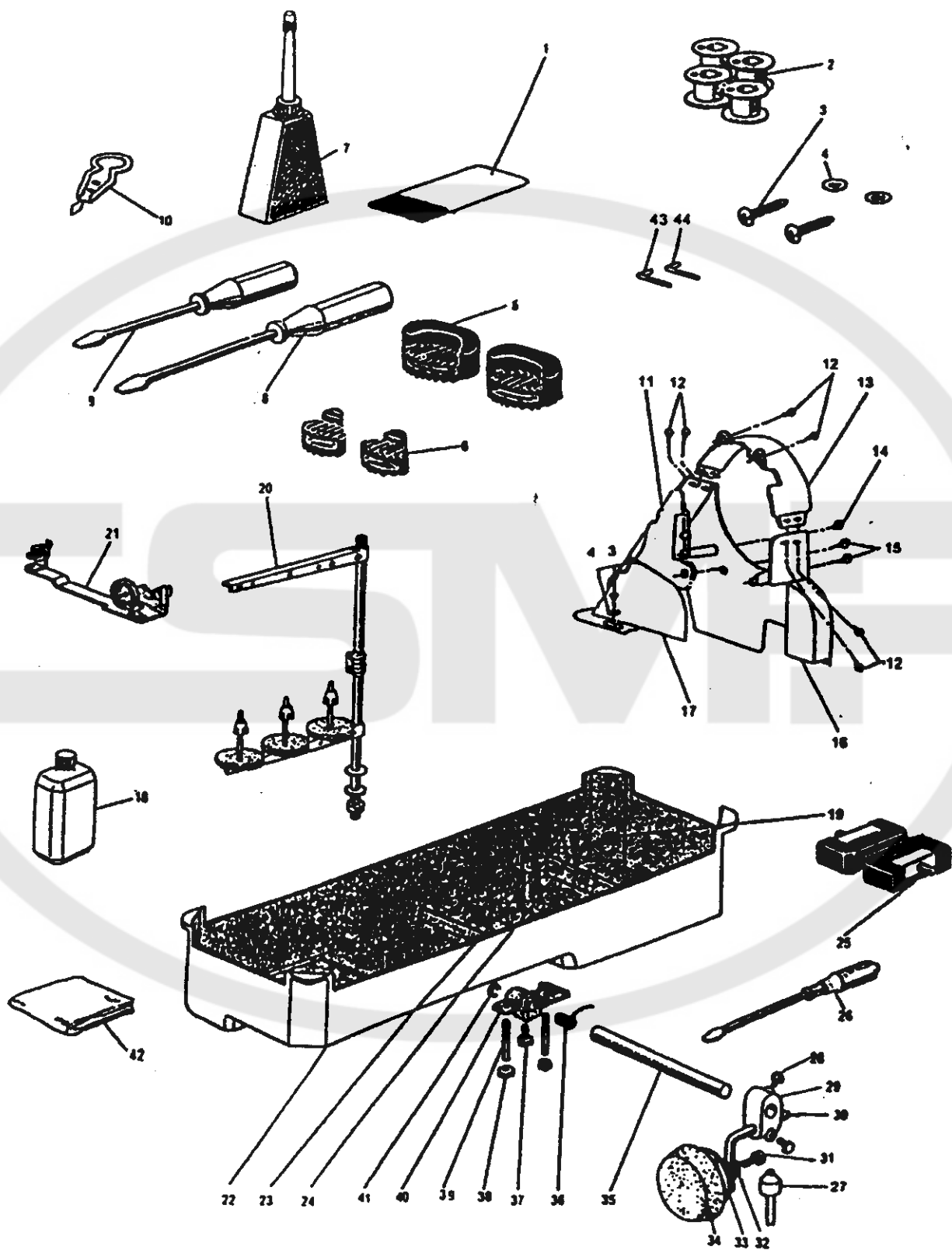
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9. LUBRICATING MECHANISM

No.	Ref. No.	Descriptions	9220	9220 LH
1	72T7-017	Screw	6	6
2	BM18-09-007	Oil pipe holder	1	1
3	BM18-03-001A1a2	Rubber pipe	1	1
4	BM18-09-001A2b	Oil pipe comp	1	1
5	BM18-09-001A4d	Oil pipe comp	1	1
6	BM18-09-001A1a	Oil tank	1	1
7	BM18-09-001A8	Gasket for oil box	1	1
8	GB819-85	Screw	2	2
9	BM18-09-001A5	Oil pipe	1	1
10	BM18-09-001A6	Oil pipe	1	1
11	BM18-09-003	Oil pipe holder	1	1
12	BM18-09-006B	Oil pipe comp	1	1
13	BM08-03-004D17	Set screw	1	1
14	22T8-005	Spring washer	1	1
15	BM18-03-004D5	Oil pipe holder	5	5
16	BM18-09-004	Oil pipe holder	2	2
17	72T1-013	Screw	8	8
18	BM18-09-005	Pinch cock	1	1
19	72T2-003	Screw	3	3
20	BM18-05-003B2	Screw	2	2
21	BM18-05-003B1	Eccentric	1	1
22	BM18-09-018H7	Oil pipe	1	1
23	BM18-09-015	Plunger	1	1
24	BM18-09-016	Plunger spring	1	1
25	BM18-09-017	Spring retaining plate	1	1
26	BM18-03-002B15	Screw	1	1
27	BM18-08-018H4	Screw	1	1
28	BM18-09-018H2	Oil filter	1	1
29	BM18-09-018H5	Screw	1	1
30	BM18-09-018H1a	Oil pipe board comp	1	1
31	BM18-09-018H6	Oil pipe holder	1	1
32	22T1-003C6	Screw	1	1
33	BM18-09-008C2	Oil pipe	1	1
34	BM18-09-013	Oil pipe holder	1	1
35	BM18-09-014G	Oil pipe cover comp.	2	2
36	BM18-09-011F	Oil pipe comp	1	1
37	BM18-09-010E	Oil pipe comp	1	1
38	BM18-09-019	Oil braid	1	1
39	BM18-09-009D	Oil pipe comp	1	1
40	BM18-09-001A5	Oil pipe	1	1
41	BM18-09-012	Oil pipe holder	2	2
42	BM18-09-008C4	Pipe holder	1	1
43	BM18-09-008C1	Pipe connection	1	1
44	BM18-09-008C3	Oil pipe	1	1
45	BM18-09-018H3	Presser board	1	1
46	BM18-09-002	Oil pipe holder	1	1

10. OIL RESERVIOR AND OTHER ACCESSORIES



10. OIL RESERVIOR AND OTHER ACCESSORIES

No.	Ref. No.	Descriptions	9220	9220 LH
1	DP×5 14#	Needle	6	
	DP×5 18#	Needle		6
2	BM18-08-003	Bobbin	4	
	BM19-08-003	Bobbin		4
3	GB99-76	Screw	4	4
4	72T9-023	Washer	4	4
5	BM18-10-010	Rubber cushion (big)	2	2
6	BM18-10-011	Rubber cushion (small)	2	2
7	22T9-011	Oiler	1	1
8	72T9-007	Screw driver (long)	1	1
9	72T9-020	Screw driver (medium)	1	1
10	BM18-10-005	thread-in device	1	1
11	20H14-005F	Belt cover plate	1	1
12	72T1-017	Screw	6	6
13	20H14-005D	Belt cover	1	1
14	72T9-025	Screw	1	1
15	72T9-028	Screw	2	2
16	20H14-005C	Belt cover (lower)	1	1
17	72T9-002B6	Belt cover bracket	1	1
18	72T9-017	Oil container	1	1
19	22T9-012	Magnet	1	1
20	BM18-10-007	Thread stand	1	1
21	RXQ-2	Bobbin winder comp.	1	
	RXQ-3	Bobbin winder comp.		1
22	BM18-10-002A1	Oil reservoir	1	1
23	22T9-001A2	Oil drain screw	1	1
24	22T9-001A3	Washer	1	1
25	72T9-004C	Table hinge comp.	2	2
26	72T9-021	Screw driver (short)	1	1
27	BM18-010-003B1a	Knee lifter lifting rod	1	1
28	72T9-018	Set screw	2	2
29	22T9-003B3	Joint for knee lifter bell crank	1	1
30	22T9-003B2	Knee lifter bell crank	1	1
31	22T9-003B7	Set screw	1	1
32	22T9-003B6	Bracket for knee plate	1	1
33	22T9-003B5	Knee lifter plate	1	1
34	22T9-003B8	Pad for knee lifter plate	1	1
35	BM18-10-002A2	Hinge pin for knee lifter	1	1
36	22T9-001A7	Retracting spring	1	1
37	72T9-018	Screw	1	1
38	22T9-001A10	Lock nut	2	2
39	22T9-001A9	Screw	2	2
40	BM18-10-002A3	Knee lifter lever crank	1	1
41	GB896-86	Retaining ring	1	1
42	22T9-018	Vinyl cover	1	1
43		Wrench 2.5mm	1	1
44		Wrench 3mm	1	1



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