


OPERATING INSTRUCTIONS, PARTS LIST



model
CN 2230 R

CONSOLIDATED SEWING MACHINE CORP.

SPECIFICATIONS

-CONSEW Model **CN223CR** is designed for lockstitch sewing of light, medium and medium heavy-weight materials at speeds up to 5000 driven and automatically lubricated by means of a pressure pump located at the underside of the machine bed.

-Maximum stitch length 6 stitches per inch (4mm)

-Maximum presser foot lift 1/4" (6mm)

-Needle style 16 x 257 - sizes 11 to 18

IMPORTANT NOTE

Do not operate machine for any reason whatsoever unless oil pan has been filled and machine has been oiled according to instructions on page 2 .

HOW TO SET UP

For purpose of shipment the machine head and its oil pan are separated. Unpack the machine with great care to protect against the loss of any assembly part. Protect machine head and oil pan against entry of foreign matter. Place the resilient rubber cushions (1) at the four corners of the oil pan (2) and insert the oil pan into the cut-out of the table top. Place the oil pan gasket (6) into the groove at the periphery of the oil pan, insert the knee lifter plunger (7) into its hole in the oil pan and the filter magnet (8) into the square-shaped recess. (Fig. 1) Insert the hinges (9) into the holes at the rear of

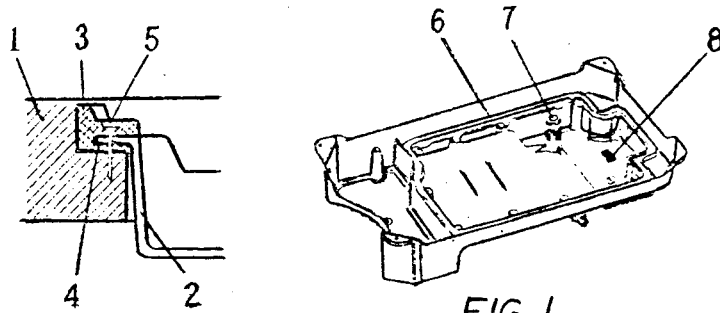


FIG.1

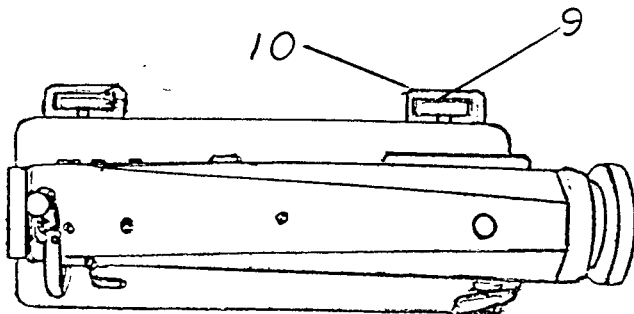
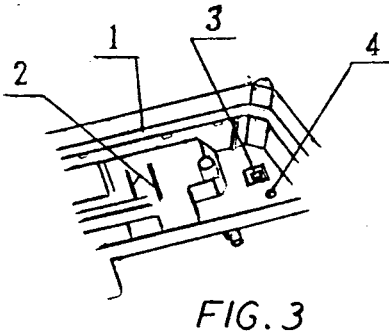


FIG.2

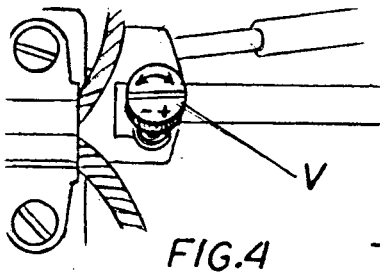
the machine bed and place the rubber hinge cushions (10) into the two recesses along the rear edge of the table cut-out. Finally drop the machine into its place so that the hinges rest within the rubber hinge cushions. (Fig.2) Attach the knee lifter pad to the longer portion of the knee lifter rod and fasten its shorter end to the lifter rod bracket. Adjust the stop of the knee lifter mechanism so that there is only minimal play before it starts to lift the presser foot and that it can be raised all the way without any strain on the lifter parts and without tendency to lift the entire machine head.

LUBRICATION

Oiling of the operating parts of CONSEW Model CN 223OR is entirely automatic. Oil is contained in the oil pan and is circulated to all parts which require lubrication and cooling. The oil pan is to be filled with a good quality sewing machine oil of a grade similar to SAE 10 to a level between marks (2) on the surface of oil pan (1). See Fig. 3. Oil level should be checked daily and should not be



permitted to fall below the right hand mark lest the machine be damaged seriously. Total capacity of the oil pan is approximately 1 1/2 pints (24 oz.). The oil supply for the rotating hook can be controlled through adjustment of the needle value "V" at the underside of the machine bed (Fig. 4). While this value is adjusted at the factory to feed the correct amount of lubricant, conditions may require either an increase or a decrease in the oil flow to the hook. To determine the amount of oil supplied to the hook, hold a piece of tissue or similar paper under the hook and operate machine. After a very brief period of operation a slight trace of oil should become visible on the paper. If not, check flow and adjustment of needle value. Also, remove from oil screen at bottom of oil pump any accumulation of lint or other foreign matter, at the same time lift the magnet from the bottom of the oil pan, wipe it clean and replace it.



THREADING THE MACHINE

Turn handwheel toward you until needle (13) reaches its highest point and take-up lever (9) is near the end of its upward travel, as shown on Fig. 5. Lead thread from hole of spool pin (1) through three holes in thread guide (3), then downward and between and around tension discs (5) from right to left. Upward into thread take-up spring (6) and down under slack thread regulator (7), up and through guard (8) into eye of take-up lever (9) from right to left, down through thread guides (10 and 11) into thread guide (12) and from left to right through the eye of the needle (13). Pull two to three inches of thread through the eye of the needle.

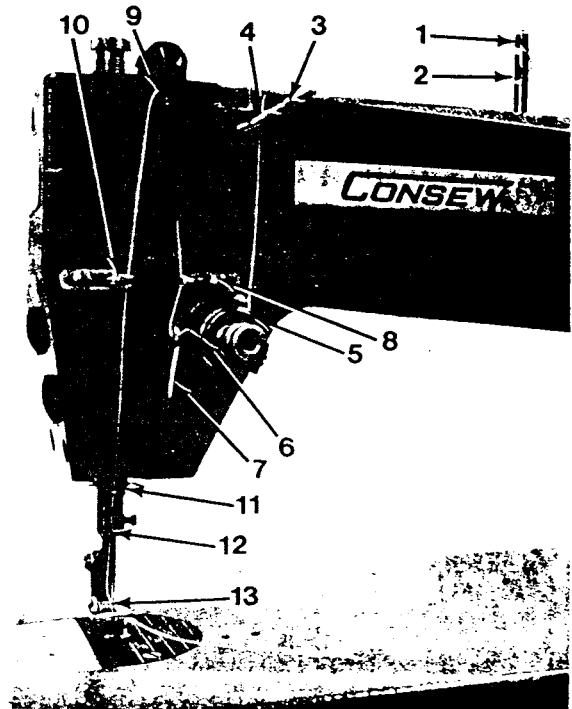
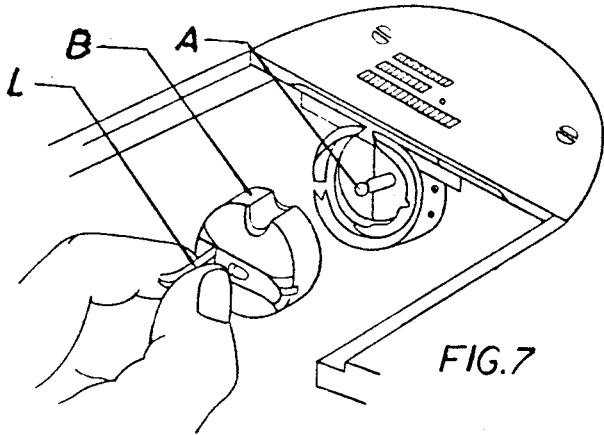


FIG. 5

REMOVAL OF BOBBIN CASE

Turn handwheel toward you until needle reaches its highest point. Open slide plate by pulling it to the left. Pass left hand under table into opening on oil pan. With thumb and index finger open the hinged latch (L) (Fig. 7) at the front of the bobbin case. Grasp latch and pull

bobbin case and bobbin from rotary hook. While the latch is held open, the bobbin will be retained in the bobbin case. Release of the latch and turning of the open side of the bobbin case downward will cause the bobbin to drop out.



THREADING AND INSERTING THE BOBBIN CASE

Hold the bobbin between the thumb and forefinger of your right hand and pull out a length of two or three inches of thread. Holding the bobbin case in your left hand, turn the open side up and place the threaded bobbin into it. (Fig. 6A-C) With the right hand guide the thread into the slot in the edge of the bobbin case. Then pull the thread to the left, under the tension spring and into the delivery eye. In order to keep the bobbin from dropping out of the case when it is turned with the open side down, always keep the hinged latch at the front of the bobbin case open. Take the threaded bobbin case (B) by the latch (L) and place it on the center stud (A) (Fig. 7) of the bobbin case holder. Release latch and press bobbin case onto center stud until the latch catches the undercut thereon with a click that can be heard. Permit two or three inches of bobbin thread to hang down freely. Be sure to push slide plate to the right before starting to sew.

Hold the bobbin between the thumb and forefinger of your right hand and pull out a length of two or three inches of thread. Holding the bobbin case in your left hand, turn the open side up and place the

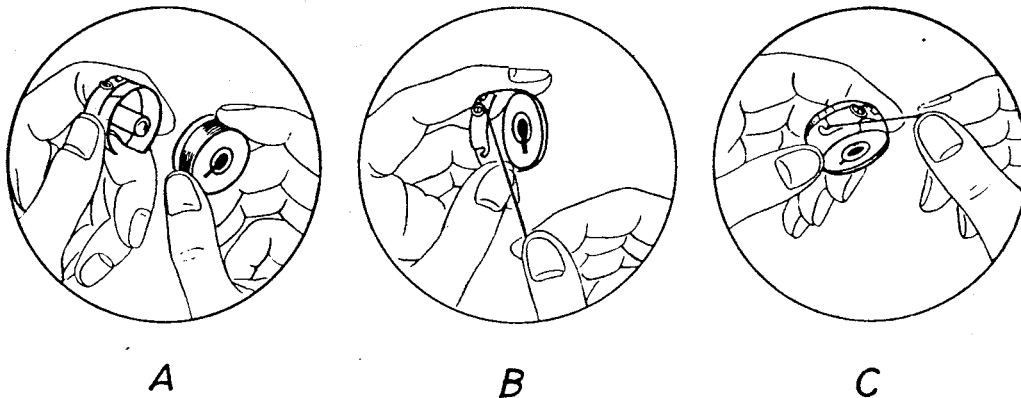


FIG. 6

INSERTING A NEW NEEDLE

Turn handwheel of machine toward you until needle bar reaches its highest point. Loosen set screw in needle clamp at bottom end of needle bar and push needle up into bar as far as it will go. Long groove in needle must face toward the left and the eye must be in line with the arm of the machine. Tighten needle set screw securely.

TO COMMENCE SEWING

Turn the balance wheel toward you with the right hand until the needle moves down and up again to its highest point, thus catching the lower (bobbin) thread. Now pull the end of the upper thread you are holding and the bobbin thread will be brought up with it through the needle hole in the needle plate, as shown in (Fig. 8). Place both ends of thread back under the presser foot, lower the foot upon it and then start the machine.

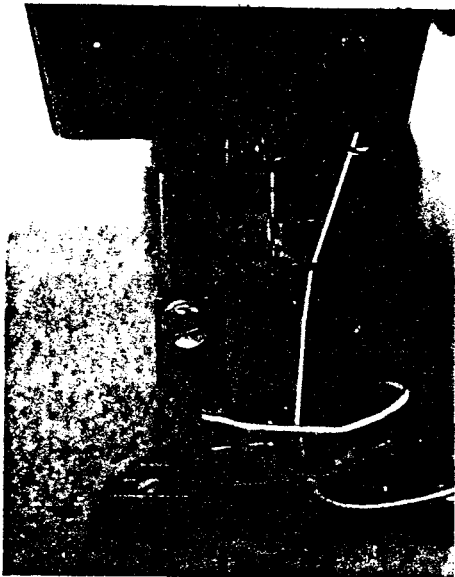


FIG.8

TO REMOVE THE WORK

Raise the needle bar to its highest point, lift the presser foot and draw the fabric back and to the left. Cut the ends of the threads a few inches from the needle.

TO REGULATE THE TENSIONS

For ordinary stitching, the tension on the upper and lower threads should be equal so as to lock both threads in the center of the fabric,



If the tension on either thread is stronger than on the other, imperfect stitching will be the result. If the tension on the upper thread is greater than that on the lower thread, it will lie straight along the upper surface of the fabric,



If the tension on the lower thread is greater than on the upper thread, the lower thread will lie straight along the underside of the fabric,

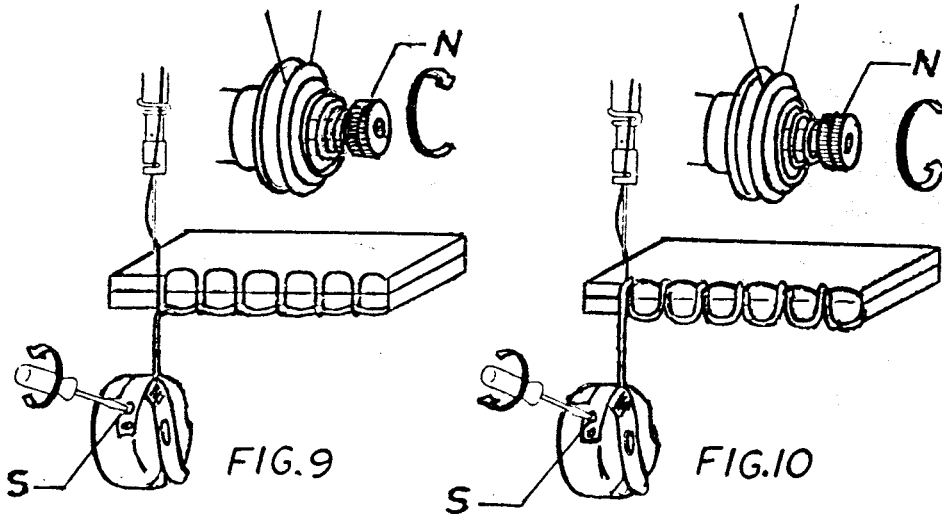


A. TENSION OF THE UPPER (NEEDLE) THREAD

Before adjusting the tension of the upper thread, be certain that the presser foot is let down and not in lifted position. Turn serrated nut "N" on tension device to the right to increase tension and to the left, if you desire to decrease it. (Fig. 9)

B. TENSION OF THE LOWER (BOBBIN) THREAD

The tension of the lower thread is regulated by the screw "S" on the bobbin case tension spring (see Fig. 10). Use the small driver to tighten the screw slightly to increase the tension, or loosen it to slacken the tension.



HOW TO ADJUST THE LENGTH OF STITCH AND TO DO TACKING

The stitch length is regulated by turning dial (D) at the front of the machine (Fig. 11). When number "0" on dial appears uppermost, the

machine does not feed. Turning dial counter-clockwise will gradually increase the stitch length until the maximum is reached when number "5" is on top. As the stitch length is increased, it can be noticed that tacking lever (T) slowly moves in upward direction.

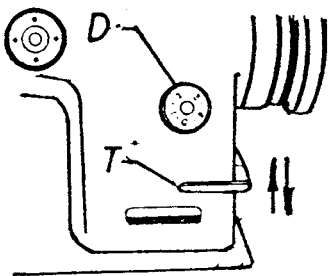


FIG. 11

When shortening the stitch length, it will be found of advantage to depress lever (T) slightly as dial (D) is being turned clockwise. To do tacking for the purpose of locking the ends of seams, rapidly depress and release lever (T) as the needle approaches the edge of the material.

TO REGULATE THE PRESSURE OF THE PRESSER FOOT

The pressure of the presser foot on the material is regulated by the Regulator Screw (R) (Fig. 12) on the of the machine. Turn this regulator to the left decrease it. Do not employ more foot pressure than is required to feed the material properly.

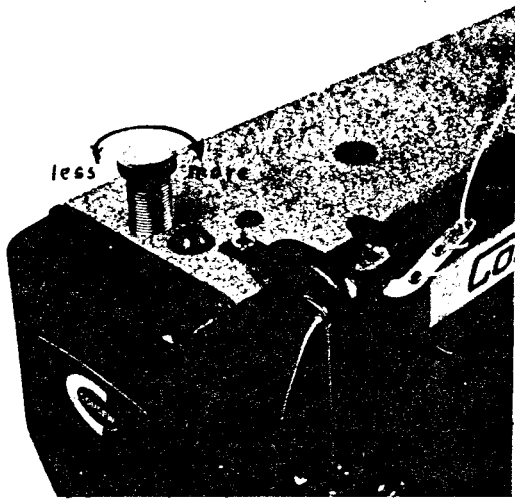


FIG.12

ADJUSTMENT OF THE OIL SUPPLY TO THE ROTATING HOOK

The supply of oil to the rotating hook can be adjusted by means of the regulating screw "V" (Fig.4) located at the underside of the machine bed to the right of the rotating hook. Turning this screw in the direction "+" will increase the flow of oil, while turning in the direction "-" will decrease it.

REGULATING THE OIL FLOW TO THE THREAD TAKE-UP LEVER

The oil supply to the thread take-up lever for its lubrication can be adjusted by turning the oil regulating value (1) shown on (Fig. 13). When turning this value clockwise the flow of oil decreases, while turning it counter clockwise the flow of oil is increased. Please note that the flow of oil is already adjusted by the factory at the time the machine is assembled.

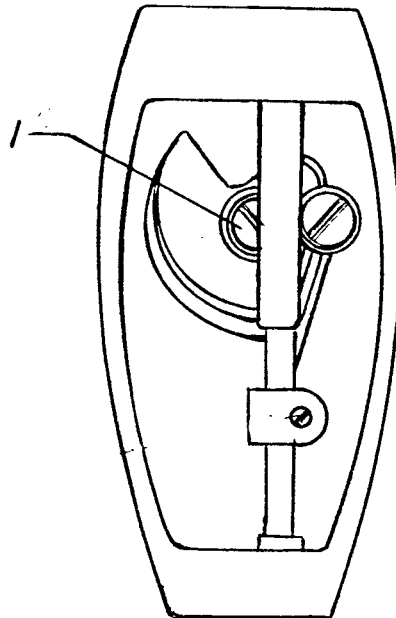
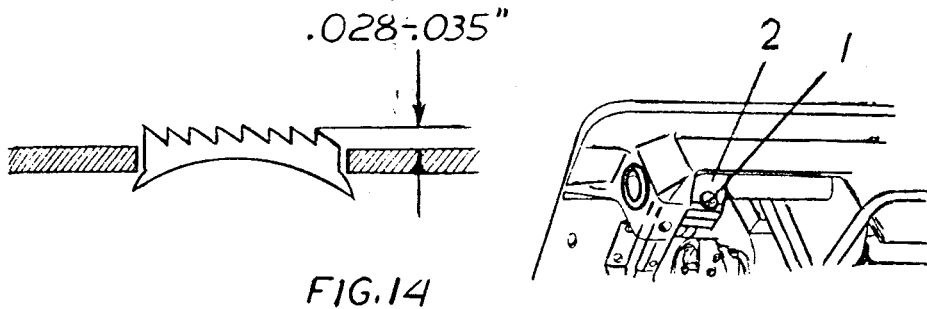


FIG.13

REGULATING THE RISE OF THE FEED DOG TEETH

The rise of the feed dog teeth above the surface of the needle plate should be adjusted to suit the type of material being sewn. For thin light-weight fabrics this rise should be between .015" and .025" (0.4 to 0.6mm). For medium weight material a rise of from .028" to .035" (0.7 to 0.9 mm) is recommended, while it should be from .035" to .045" (0.9 to 1.1mm) for thick fabrics. The method for this adjustment is to

loosen the feed bar crank clamp screw (1) (Fig. 14) and move crank (2) to obtain the desired rise of the feed dog. Be sure to tighten clamp screw (1) after the adjustment has been completed.



ADJUSTMENT OF THE PLANE OF THE FEED DOG TEETH

The plane of the surface of the feed dog teeth as they rise from the surface of the needle plate must be parallel with the latter. To make this adjustment tilt machine head rearward and loosen two set screw (1)

(Fig. 15) of the eccentric feed bar spindle. Enter a screw driver through hole "H" and turn the eccentric feed bar spindle slowly until the correct levelling has been reached. Tighten set screw upon completion of the adjustment.

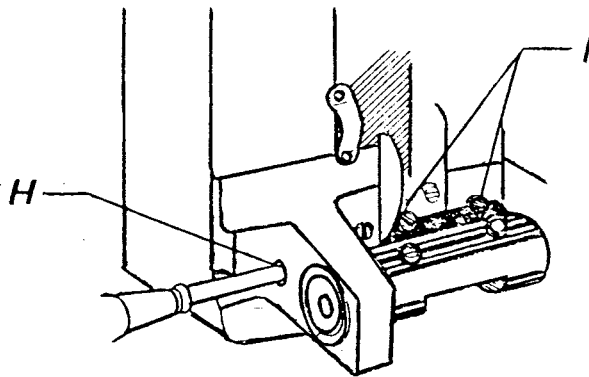


FIG. 15

TIMING THE FEED MOTION

The relative positions of the feed cam and the main shaft affect the quality of the stitching. While this timing adjustment has been made carefully at the time the machine was assembled at the factory, readjustments may be required at some later date. It should be made as follows:

1. Loosen feed cam set screw (1) and feed lifting rear set screw (2).
2. Raise the needle bar to its highest position turning the handwheel toward you. When in this position rotate the feed lifting cam (3) to lift the feed dog to its highest position. Tighten feed lifting cam screw (2).
3. Similarly, to time the feed cam (4) raise needle bar to its highest position. As the needle bar begins to move downward, the feed dog must begin its forward travel. When so positioned tighten set screw (1). Refer to fig. 16 to indentify the various parts.

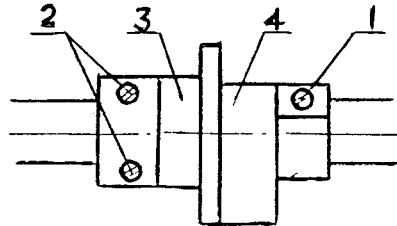
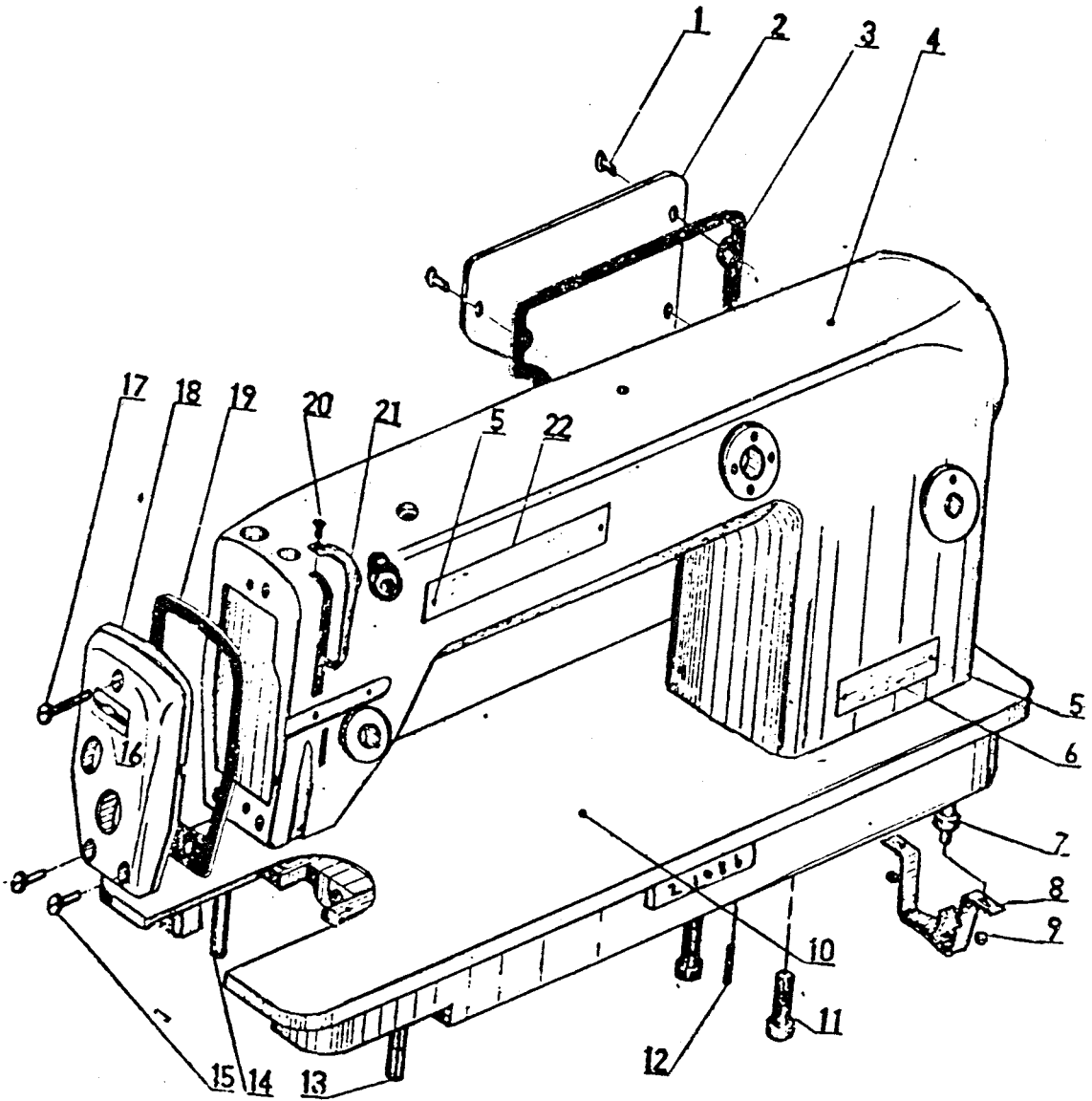


FIG.16

MACHINE HEAD



IMPORTANT NOTE:

WHEN ORDERING PARTS DO NOT USE ILLUSTRATION NUMBER.
USE ONLY PART NUMBER WITH 2230/ AS PREFIX.

FOR EXAMPLE WHEN ORDERING A RUBBER GASKET FOR
FACE PLATE SPECIFY AS:

2230/1-11

THIS IS THE ONLY WAY YOU WILL BE ASSURED OF
GETTING THE CORRECT PART.

MACHINE HEAD

ILLUSTRATION NO.	PART NO.	PART DESCRIPTION
1	1 - 15	Screw
2	1 - 13	Rear Cover Plate
3	1 - 14	Rubber Gasket for Rear Cover Plate
4	1-01-1	Arm
5	1 - 19	Rivet-round Head
6	1 - 21	Model Plate on Machine Body
7	1 - 3	M10 Clamp Screw (long) for Bed
8	1 - 8	Supporting Bracket
9	1 - 9	M6 Nut for Supporting Bracket
10	1-01-2	Bed
11	1 - 4	M12x35 Clamp Screw (short) for Bed
12	1 - 5	Dowel Pin for Bed
13	1 - 6	Long Support for Bed
14	1 - 7	Short Support for Bed
15	5 - 25	Screw -round Head
16	1 - 20	Name Plate on Face Plate
17	1 - 12	Face Plate Screw-long
18	1 - 10	Face Plate
19	1 - 11	Rubber Gasket for Face Plate
20	1 - 17	Screw-round Head
21	1 - 16	Guard for Take-up Lever
22	1 - 18	Name Plate

IMPORTANT NOTE:

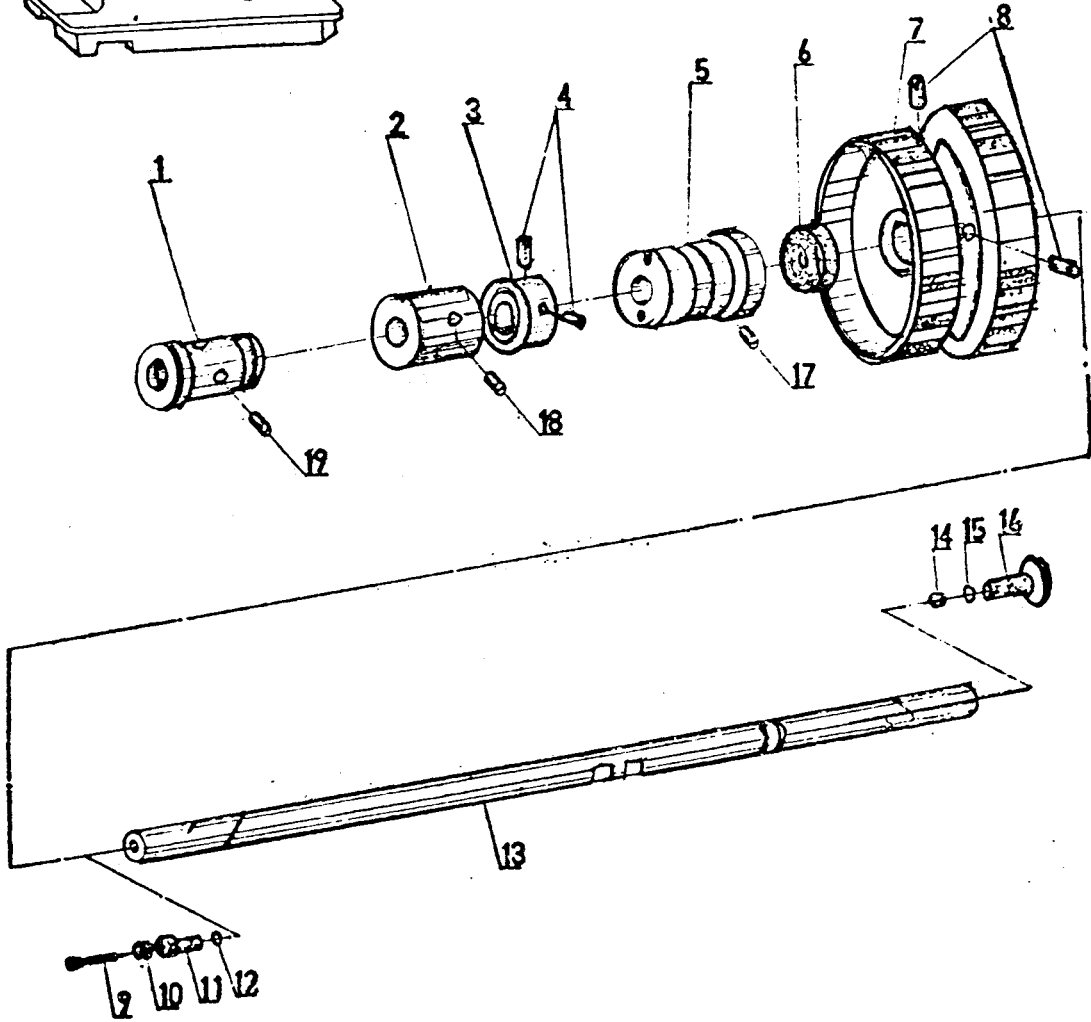
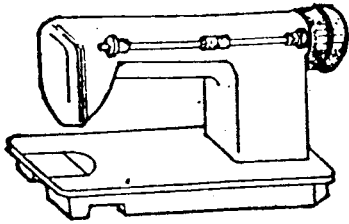
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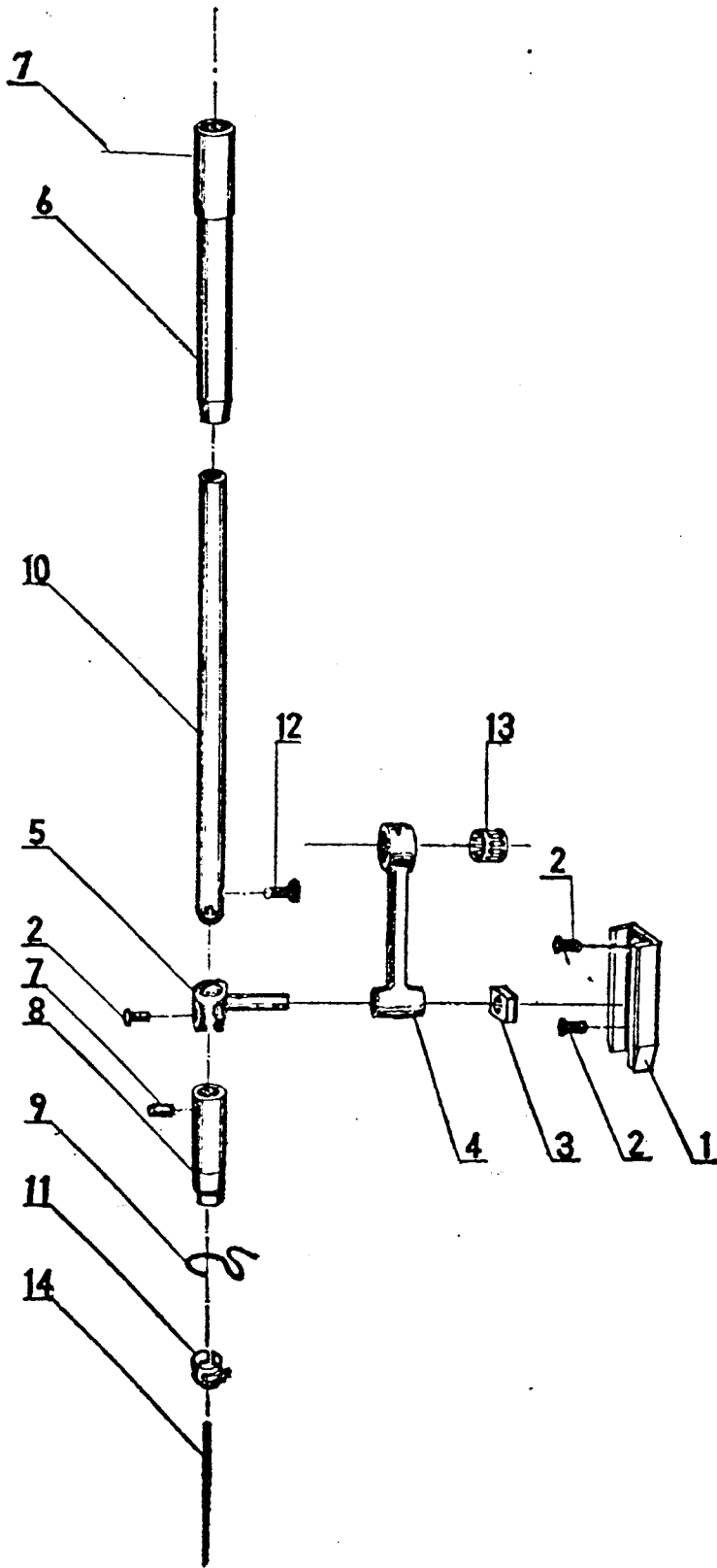
MAIN SHAFT AND COMPONENTS



MAIN SHAFT AND COMPONENTS

ILLUSTRATION NO.	PART NO.	PART DESCRIPTION
1	2 - 1	Main Shaft Front Bushing
2	2 - 3	Main Shaft Center Bushing
3	2 - 10	Main Shaft Collar
4	5 - 4	Set Screw
5	2 - 4	Main Shaft Rear Bushing
6	2 - 02	Oil Seal for Main Shaft Rear Bushing
7	2 - 15	Hand Wheel
8	2 - 16	Set Screw for Hand Wheel
9	2 - 12	Oil Adjusting Valve Pin for Main Shaft
10	2 - 13	Rubber Ring for Oil Adjusting Valve
11	2 - 11	Oil Adjusting Valve for Main Shaft
12	2 - 14	Rubber Ring for Regulating Valve
13	2 - 9	Main Shaft
14	2 - 19	Oil Plug for Main Shaft Hand Wheel End
15	2 - 18	Rubber Ring for Hand Wheel Cap Screw
16	2 - 16	Cap Screw for Hand Wheel
17	2 - 2	Set Screw
18	2 - 2	Set Screw
19	2 - 2	Set Screw

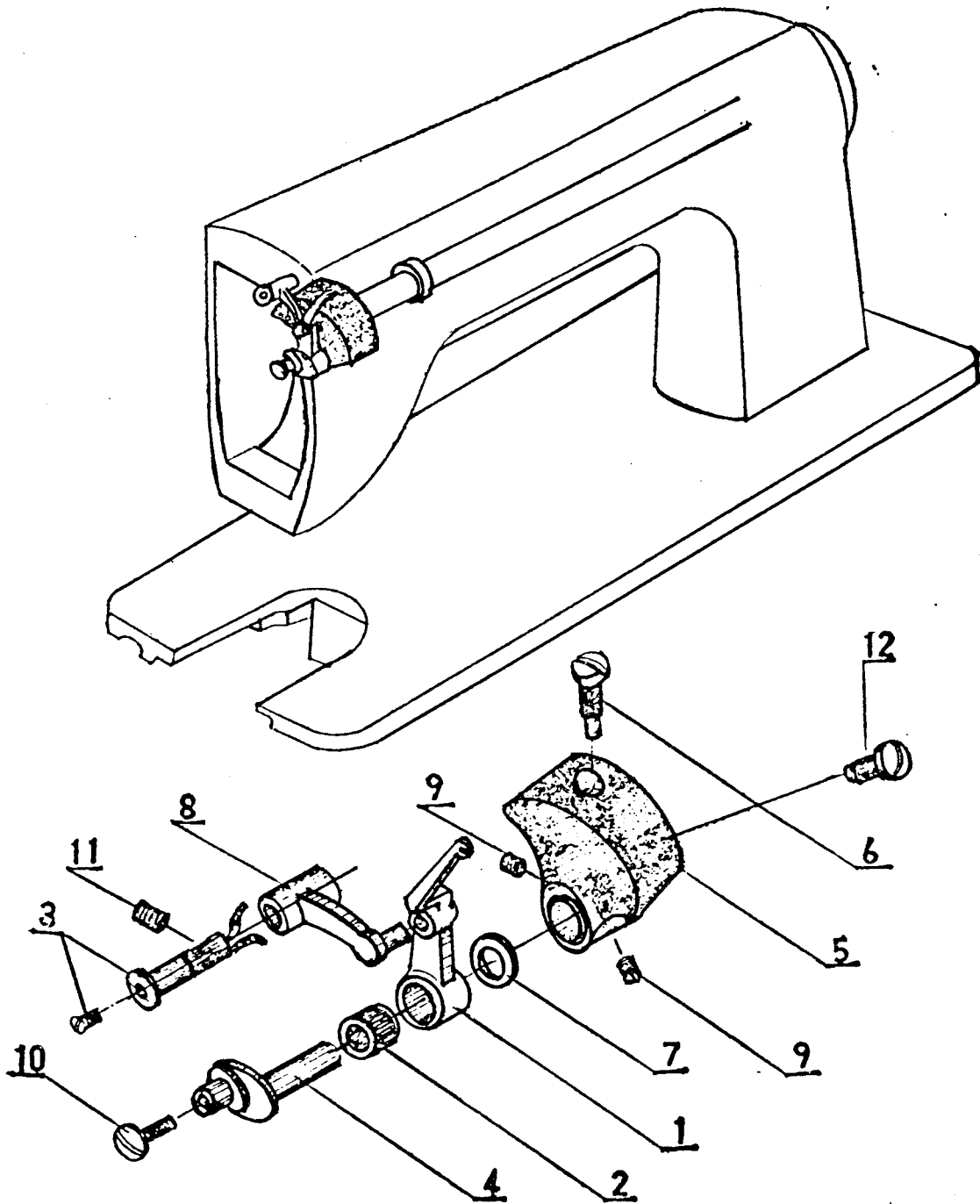
NEEDLE BAR



NEEDLE BAR

ILLUSTRATION NO.	PART NO.	PART DESCRIPTION
1	4 - 1	Slide Block Guide for Needle Bar Connecting Link
2	4 - 2	Screw for 4 - 1
3	4 - 3	Slide Block for Needle Bar Connecting Link
4	4 - 4	Needle Bar Connecting Link
5	4 - 5	Needle Bar Connection
6	4 - 6	Needle Bar Upper Bushing
7	4 - 7	Set Screw
8	4 - 8	Needle Bar Lower Bushing
9	4 - 9	Thread Guide
10	4 - 10	Needle Bar
11	4 - 11	Thread Guard
12	4 - 12	Clamp Screw for Needle
13	3 - 02	Needle Bar Connecting Link Bearing
14		Needle

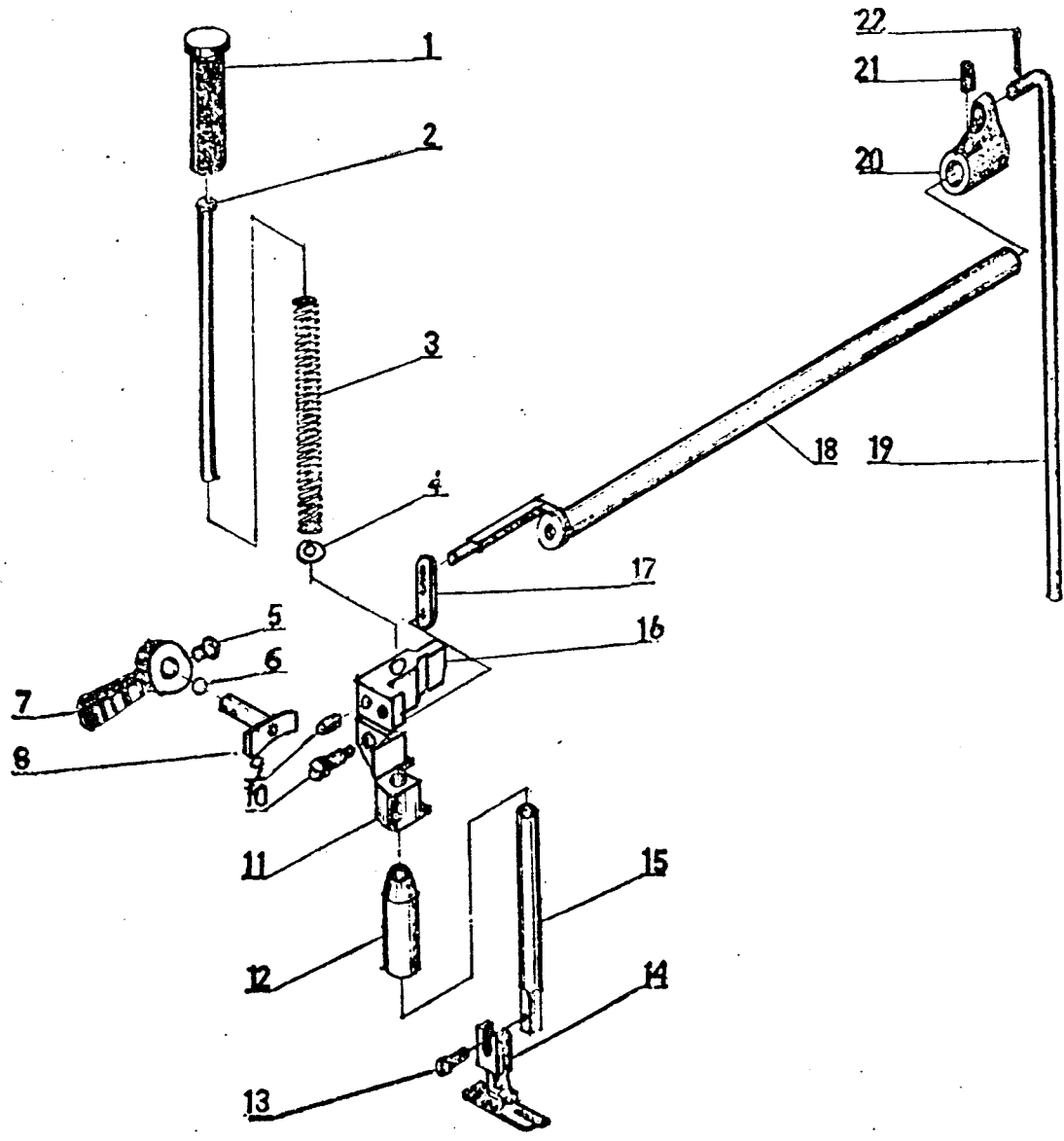
TAKE - UP MECHANISM



TAKE-UP MECHANISM

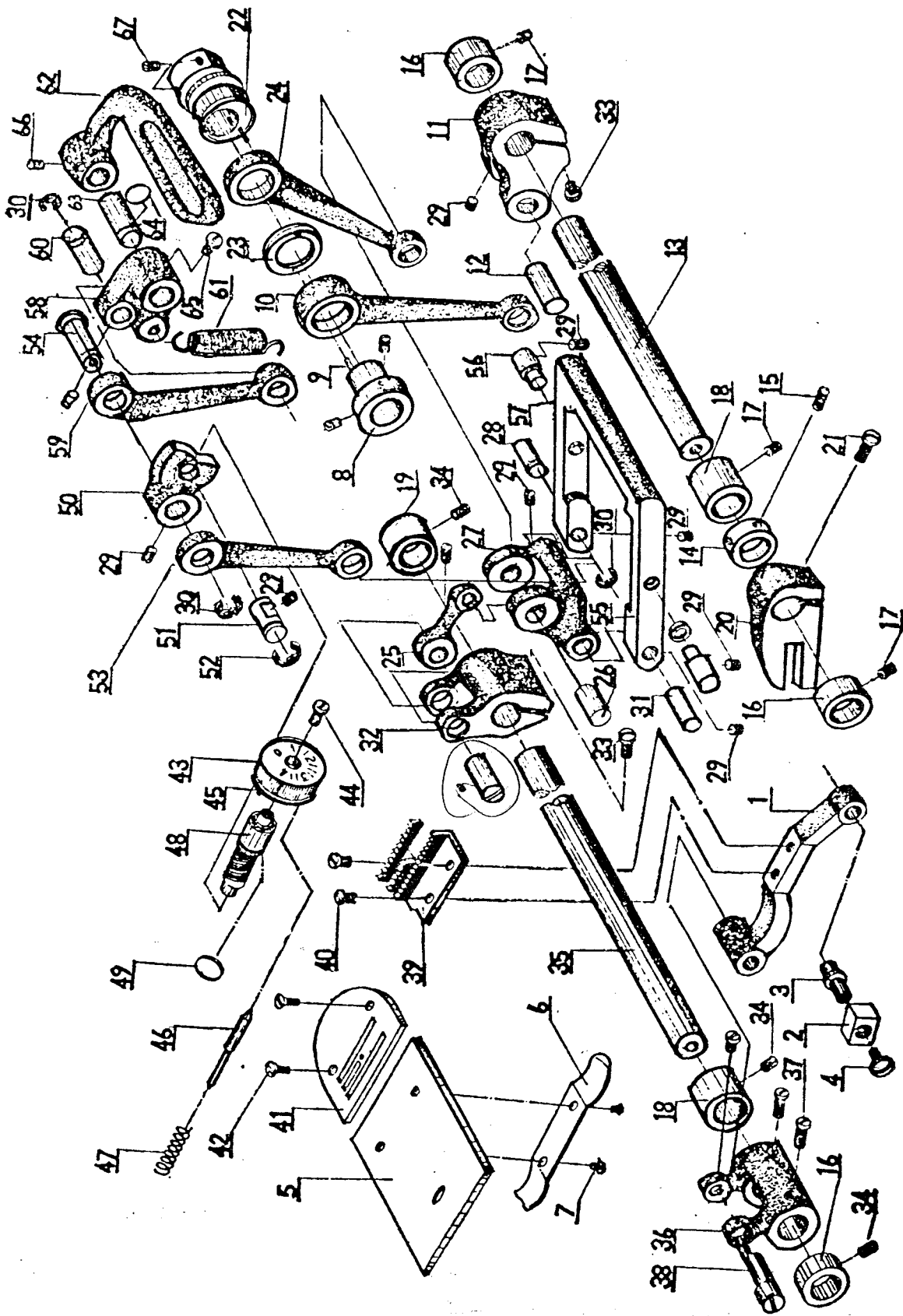
ILLUSTRATION NO.	PART NO.	PART DESCRIPTION
1	3 - 3	Take-up Lever
2	3 - 02	Take-up Lever Bearing
3	3 - 03	Oil Wick Complete for Take-up Link
4	3 - 12	Needle Bar Crank
5	3 - 1	Take-up Cam
6	3 - 2	Set Screw for Take-up Cam
7	3 - 4	Washer for Take-up Lever
8	3 - 8	Take-up Lever Link
9	3 - 13	1/4" - 40x7 Set Screw
10	3 - 14	L.H. Screw for Needle Bar Crank
11	2 - 2	Set Screw
12	3 - 16	Set Screw

PRESSER BAR MECHANISM



PRESSER BAR MECHANISM

ILLUSTRATION NO.	PART NO.	PART DESCRIPTION
1	5 - 19	Pressure Regulating Screw
2	5 - 20	Pressure Regulating Bar
3	5 - 21	Pressure Regulating Spring
4	5 - 22	Washer for Pressure Regulating Spring
5	5 - 7	Presser Bar Lifter Screw
6	5 - 9	Rubber Ring
7	5 - 6	Presser Bar Lifting Lever
8	5 - 01	Presser Bar Lifting Rocker
9	5 - 4	Set Screw
10	5 - 12	Screw for Lifting Connection Plate
11	5 - 5	Presser Bar Lifting & Release Bracket
12	5 - 1	Presser Bar Lower Bushing
13	5 - 28	Presser Foot Screw
14	5 - 03	Presser Foot
15	5 - 2	Presser Bar
16	5 - 3	Guide Bracket for Presser Bar
17	5 - 11	Connection Link for Lifting Bar
18	5 - 02	Lifting Connection Shaft
19	5 - 17	Lifting Rod
20	5 - 16	Lifting Crank
21	7 - 5	Set Screw
22	5 - 18	Cotter Pin



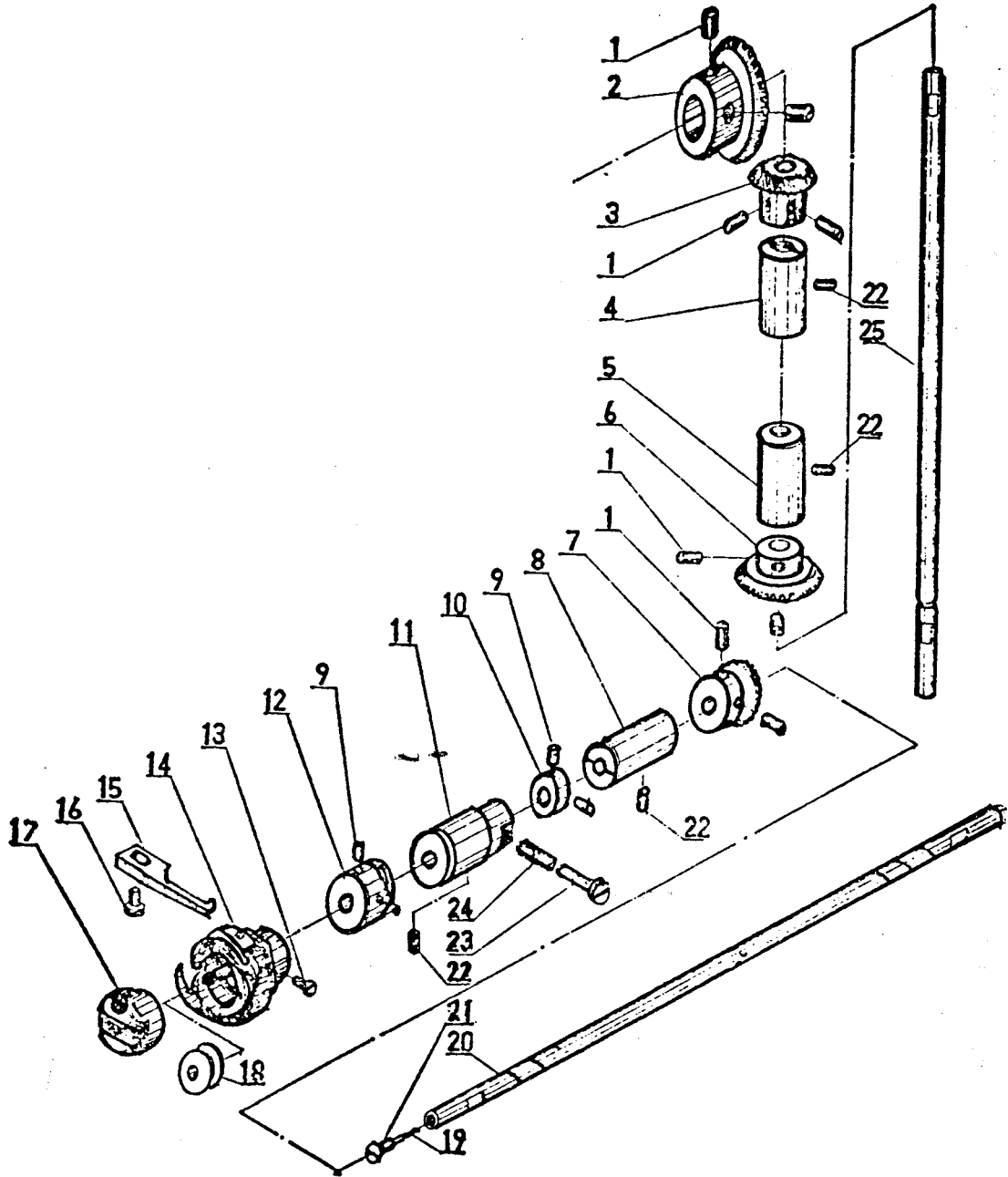
FEEDING MECHANISM

FEEDING MECHANISM

FEEDING MECHANISM - (Cont.)

ILLUSTRATION NO.	PART NO.	PART DESCRIPTION	ILLUSTRATION NO.	PART NO.	PART DESCRIPTION
1	6 - 33	Feed Bar	35	6 - 28	Feed Rock Shaft
2	6 - 34	Feed Bar Block	36	6 - 29	Feed Bar Driving Shaft Bushing
3	6 - 35	Feed Bar Block Stud	37	6 - 30	Screw
4	6 - 36	Screw for Feed Bar Block Stud	38	6 - 31	Eccentric Shaft for Feed Bar
5	6 - 42	Slide Plate	39	6 - 37	Feed Dog
6	6 - 43	Spring for Slide Plate	40	6 - 38	Screw for Feed Dog
7	6 - 44	Screw for Spring	44	6 - 39	Needle Plate
8	6 - 1	Feed Lifting Eccentric	42	6 - 40	Screw for Needle Plate
9	6 - 2	Dowel Pin	43	6 - 45	Stitch Dial
10	6 - 3	Feed Lifting Link	44	6 - 46	Screw for Stitch-Dial
11	6 - 4	Bell Crank for Feed Lifting Link	45	6 - 47	Stop Pin for Stitch-Dial
12	6 - 5	Crank Pin	46	6 - 48	Position Pin For Stitch-Dial
13	6 - 6	Feed Lifting Shaft	47	6 - 49	Spring for Stitch-Dial Position Pin
14	6 - 7	Collar for Feed Lifting Shaft	48	6 - 50	Stitch Regulator Screw
15	6 - 8	Set Screw	49	6 - 51	Rubber Sealing Ring
16	6 - 9	Front Bushing	50	6 - 52	Stitch Support
17	6 - 10	Set Screw	51	6 - 53	Pin
18	6 - 11	Center Bushing	52	6 - 54	Pin
19	6 - 12	Rear Bushing	53	6 - 55	Stitch Link
20	6 - 13	Feed Lifting Crank	54	6 - 56	Stitch-Link Pin
21	6 - 14	Screw for Feed Lifting Crank	55	6 - 57	Stitch Bracket
22	6 - 15	Feed Cam	56	6 - 58	Fulcrum Pin for 6 - 59
23	6 - 16	Spacer for Feed Cam	57	6 - 59	Stitch Reversing Rocker
24	6 - 17	Feed Link (long)	58	6 - 60	Stitch Reversing Bell Crank
25	6 - 18	Feed Link (short)	59	6 - 61	Stitch Regulator Link
26	6 - 19	Feed Link Pin	60	6 - 62	Stitch Regulator Link Pin
27	6 - 20	Feed Bracket	61	6 - 63	Stitch Regulator Spring
28	6 - 21	Feed Bracket Pin (large)	62	6 - 64	Stitch Regulator Lever
29	6 - 22	Set Screw	63	6 - 65	Stitch Regulator Shaft
30	6 - 23	"E" Ring	64	6 - 66	Rubber Sealing Ring
31	6 - 24	Feed Bracket Pin	65	6 - 67	Set Screw For 6 - 60
32	6 - 25	Feed Lifting Crank	66	2 - 2	Set Screw For 6 - 64
33	6 - 14	Screw for Feed Lifting Crank 6 - 25	67	3 - 13	Set Screw For 6 - 15
34	6 - 27	Set Screw for 6 - 9			

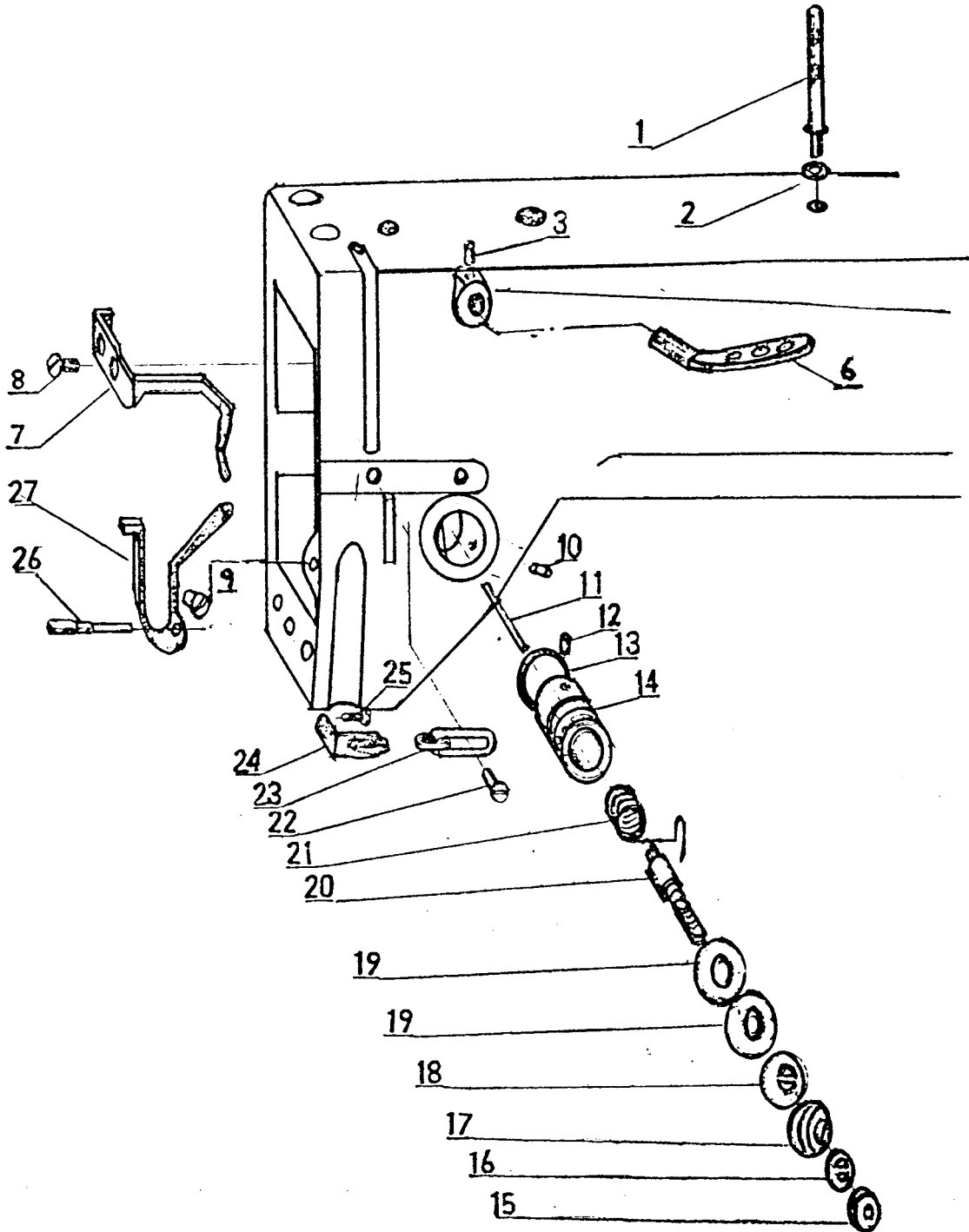
ROTATING HOOK AND ITS DRIVE



ROTATING HOOK AND ITS DRIVE

ILLUSTRATION NO.	PART NO.	PART DESCRIPTION
1	7 - 5	Set Screw for 7-4,7-6, 7-7 and 7-8
2	7 - 4	Spiral Bevel Gear for Main Shaft
3	7 - 6	Spiral Bevel Gear (upper) for Vertical Shaft
4	7 - 1	Upper Bushing for Vertical Shaft
5	7 - 2	Lower Bushing for Vertical Shaft
6	7 - 7	Spiral Bevel Gear (lower) for Vertical Shaft
7	7 - 8	Spiral Bevel Gear for Hook Shaft
8	7 - 10	Rear Bushing for Hook Shaft
9	6 - 22	Set Screw for 7-13
10	7 - 13	Collar for Hook Shaft
11	7 - 9	Front Bushing for Hook Shaft
12	7 - 12	Oil Deflector Ring for Hook Shaft
13	7 - 23	Hook Set Screw
14	7 - 19	Rotary Hook
15	7 - 17	Hook Position Bracket
16	7 - 18	Screw for 7-17
17	7 - 20	Bobbin Case
18	7 - 21	Bobbin
19	7 - 22	Oil Wick for Hook Shaft
20	7 - 11	Hook Shaft
21	7 - 14	Oil Stop Screw for Hook Shaft
22	2 - 2	Set Screw for 7-1,7-2,7-9 and 7-10
23	7 - 15	Oil Adjusting Screw for Hook Shaft
24	7 - 16	Oil Adjusting Spring for Hook Shaft
25	7 - 3	Vertical Shaft

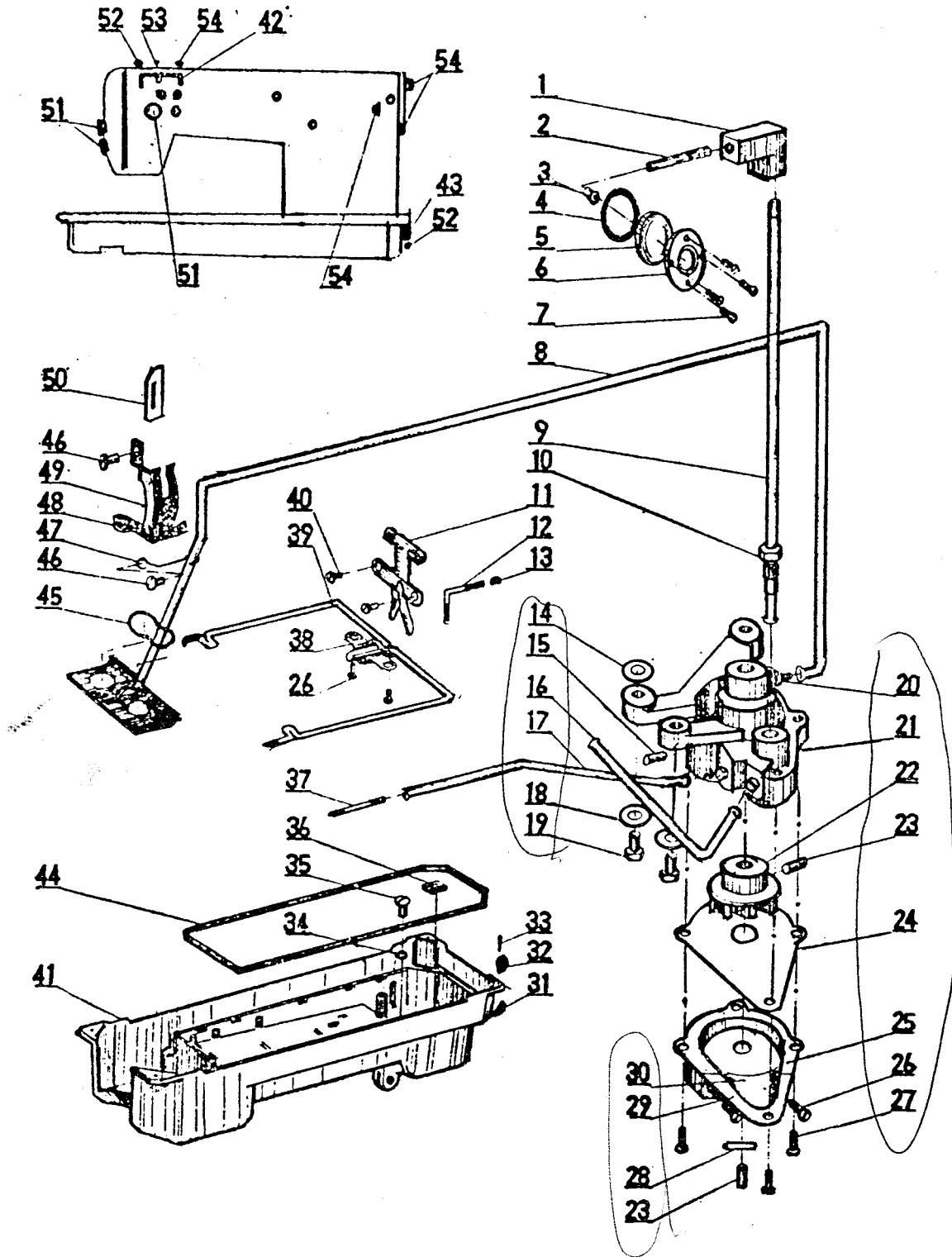
UPPER THREAD TENSION SYSTEM



UPPER THREAD TENSION SYSTEM

ILLUSTRATION NO.	PART NO.	PART DESCRIPTION
1	01-8-2	2-Hole Thread Guide Pin
2	2-14	Rubber Washer
3	01-8-4	Set Screw for Upper Thread Tension
4	01-8-9	Tension Disc for Upper Thread Tension
5	01-8-5	Spring Washer for Upper Tension Thread
6	1W/10-01 -8-2	Thread Retainer (Three Holes)
7	01-8-12	Slack Thread Regulator
8	01-8-13	Screw for 01-8-12
9	01-8-27	Spring for Tension Release
10	01-8-15	Set Screw for Tension Device
11	01-8-24	Tension Release Pin
12	01-8-18	Set Screw for Tension Stud
13	01-8-16	Rubber Sealing Ring for Tension Barrel
14	01-8-14	Tension Barrel
15	01-8-19	Tension Nut
16	01-8-20	Tension Thread Protection Washer
17	01-8-22	Tension Spring
18	01-8-23	Tension Release Washer
19	01-8-21	Tension Disc
20	01-8-17	Tension Stud
21	01-8-28	Thread Take-up Spring
22	01-8-11	Screw for Thread Guide 01-8-10
23	01-8-10	Thread Guide
24	01-8-29	Face Plate Thread Guide
25	01-9-22	Screw for 01-8-29
26	01-8-26	Screw for Tension Release
27	01-8-25	Tension Release

LUBRICATION SYSTEM

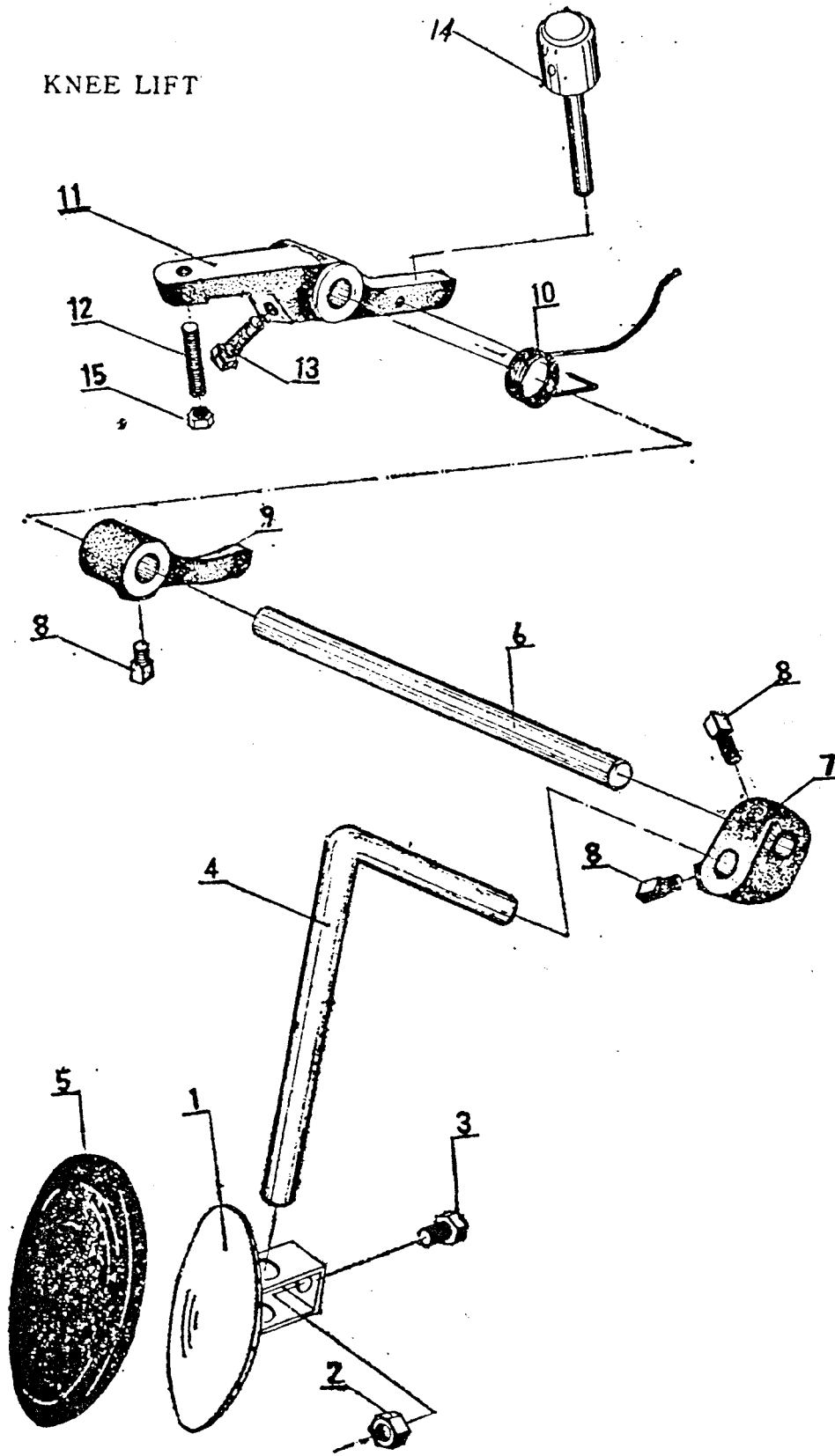


LUBRICATION SYSTEM

(Cont.)

ILLUSTRATION NO.	PART NO.	PART DESCRIPTION	ILLUSTRATION NO.	PART NO.	PART DESCRIPTION
1	9 - 15	Oil Pipe Fitting	29	9 - 8	Oil Filter Scéen Tensioner
2	9 - 14	Oil Out-let Pipe for Oil Gauge Window	30	9 - 7	Oil Filter Screen
3	9 - 18	Oil Return Cup for Oil Gauge Window	31	9 - 49	Rubber Pad
4	9 - 20	Rubber Gasket for Oil Window	32	9 - 50	Machine Bed Isolator
5	9 - 19	Oil Gauge Window	33	9 - 56	Screw for Oil Pan
6	9 - 21	Collar for Oil Gauge Window	34	9 - 51	Seal Ring for 9 - 52
7	9 - 22	Screw for 9 - 21	35	9 - 52	Plug for Oil Drain
8	9 - 02	Felt Wick for Oil Return Pipe	36	9 - 55	Oil Pan Magnet
9	9 - 16	Oil Pump Out-let Pipe	37	9 - 9	Copper Tube for Hook-shaft front bushing
10	9 - 17	Oil Pipe Fitting	38	9 - 30	Clamp Plate for Hook-shaft Oil Wick
11	9 - 03	Clamp Plate for Feed-bar Oil Wick	39	9 - 34	Oil Wick for Feed Rock shaft & Feed Lifting Shaft
12	9 - 35	Oil Wick for Hook-shaft Rear Bearing	40	9 - 18	Screw for 9 - 30
13	9 - 36	Oil Plug for Feed Rock Shaft	41	9 - 47	Oil Pan
14	9 - 57	Adjusting Washer	42	9 - 37	Oil Wick for Needle Bar
15	2 - 2	Set Screw	43	9 - 45	Rubber Plug for Bed
16	9 - 11	Oil Pipe for Hook-shaft rear bearing	44	9 - 48	Gasket for Oil Pan
17	9 - 10	Oil Pipe for Hook-shaft front bearing	45	9 - 29	Spring for Oil Return tube
18	9 - 3	Washer for Oil Pump body	46	9 - 26	Screw for 9 - 40
19	9 - 2	Screw (hexagon head) for Oil Pump body	47	9 - 25	Oil Tube Clamping Spring
20	9 - 12	Oil Hose Fitting	48	9 - 41	Oil Wick for Oil Return Cover
21	9 - 1	Oil Pump body	49	9 - 40	Oil Return Cover
22	9 - 4	Oil Pump Impeller	50	9 - 38	Oil Felt for Needle Bar
23	6 - 22	Set Screw for 9 - 23	51	9 - 44	Rubber Plug for Face Plate 11/16" dia.
24	9 - 5	Oil Pump Separator Plate	52	9 - 42	Rubber Plug for Arm 11/32" dia.
25	9 - 6	Oil Pump Cover	53	9 - 46	Rubber Plug for Arm 7/32" dia.
26	1 - 17	Screw for 9 - 6	54	9 - 43	Rubber Plug for Arm 13/32" dia.
27	1 - 15	Screw for 9 - 6			
28	9 - 23	Oil Return Venturi Tube			

KNEE LIFT



KNEE LIFT

ILLUSTRATION NO.	PART NO.	PART DESCRIPTION
1	11 - 01	Knee Lifter Pad
2	11 - 13	Nut
3	11 - 12	Screw for Knee-Lifter Pad
4	11 - 5	Knee-Lifter Pad Rod
5	11 - 14	Knee Rubber Pad
6	11 - 7	Knee-lifter Shaft
7	11 - 8	Knee-lifter Shaft Joint
8	11 - 6	Set Screw
9	11 - 15	Knee Lifter Finger
10	11 - 16	Spring for Knee-lifter
11	11 - 17	Knee Lifter Bell Crank
12	11 - 19	Adjustment Screw for Knee Lifter
13	11 - 18	Set Screw
14	11 - 02	Knee Lifter Plunger
15	11 - 9	Nut for 11 - 19

