

Instruction Manual and Parts List

High Speed Straight
Lockstitch Sewing Machine

191D 20 / 20C
30 / 30C
70 / 70C



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1.1

Important Safety Instructions

Important

When using the machine, basic safety procedures must be followed. Read with attention all instructions before using the machine.

When using it, understand that all basic safety instructions are not limited to the following items. Read all instructions, take care of this manual, and use it as reference when necessary.

- Before running the machine, make sure all relevant safety specifications are adequate to specifications and technical standards in your country.
- The machine should not be run without its safety devices.
- The machine should only be operated by properly trained personnel.
- For your safety, goggles must be used while running the machine.
- Turn off or unplug the machine when the following situations arise:
 - Passing the thread by the needle or replacing the bobbin or looper.
 - Replacing the needle, presser foot, throat plate, feed dog and sliding plate.
 - When the machine is in maintenance.
 - When the operator is not running the machine.
- In case of lubricant oil contact with the eyes or skin, washed the surface with plenty of icy water with a generous amount of cold water. In case of ingestion, seek medical help immediately.
- Repair, fitting or maintenance should only be performed by properly trained personnel.
- Maintenance and repair on electric equipment should only be made by qualified personnel. If any electric device is damaged, the machine should be immediately stopped.
- Before starting the machine in full running, a test must be conducted to assure that machine and operator are able to perform the task.
- The machine should not be placed next to a sound source as an ultrasonic welding machine and other equipment.
- The machine should only be run with the proper electric cable and connectors, and also the adequate grounding.
- The machine should only be used to sew materials as indicated in its instructions manual, and indications of use should be followed.

Singer will not be held responsible for any damage caused by unauthorized changes in the product.

1.2

Safe Operation

- ⚠ • *To avoid the risk of electric shock, do not open the motor wiring box and do not touch the components assembled inside the wiring box.*
- *To avoid injuries do not run the machine without the belt cover or in case any other safety device is removed.*
- *To avoid possible injuries keep fingers, head and clothes far from wheel, belt and motor when the machine is running. Nothing should be placed near those parts.*
- *To avoid injuries never put your fingers next to the rotating hook and the thread take-up lever cover when the machine is running.*
- *To avoid possible injuries be careful when putting down or lifting the machine head.*
- *To avoid accident in case of a sudden start of the machine always turn it off when laying it down, or remove the belt cover and the belt.*
- *If you machine is equipped with a servomotor, it does not make noises while being driven. To avoid a possible accident caused by an unexpected start, be sure the machine is turned off.*
- *To avoid electrical shock, do not run the machine without proper grounding.*
- ⚠ • *To minimize the risk of accidents or damage in electric components caused by electric discharge turn the machine off before unplugging it.*
- *Clean the machine periodically.*

2

Product Description and Machine Specification

2.1

Product Description

High Speed Straight Lockstitch Sewing Machine



2.2

Machine Specification

Table 1 – Machine Specification

Singer Model	Application	Maximum Speed [spm]	Stitch Length [mm]	Height of Presser Foot by hand / by knee [mm]	Needle Bar Stroke [mm]	Hook Type	Hook Origin	Needle Cat.	Lubrication	Lubrication Oil
191D-20	Light to medium	5,000	5.0	5.5/13.0	30.7	Regular	Standard	1955-01 #14	Fully Automatic Lubrication	Singer "C" type oil
191D-20C							Koban/Hirose			
191D-30	Medium to heavy	4,500	5.0	5.5/13.0	35.0		Standard	1955-01 #18		
191D-30C							Koban/Hirose			
191D-70	Heavy	3,000	7.0	5.5/13.0	35.0	Large	Standard	1955-01 #21		
191D-70C							Koban/Hirose			

2.3

Motor, Motor Pulley and V-Belt Specifications

- 1/2 HP (400W) 2-pole (high speed) clutch motor
- M type v-belt

Table 2 – Machine Speed vs. Motor Pulley Diameter

Machine Speed [spm]			Motor Pulley Diameter [mm]	
191C-20 / 20C	191C-30 / 30C	191C-70 / 70C	50 Hz	60 Hz
5,000	-	-	125	105
4,500	4,500	-	115	95
-	4,000	-	100	85
-	3,500	-	90	75
-	-	3,000	75	65
-	-	2,500	65	55

3

Setup and Adjustment Instructions

3.1

Table Cut-Out Drawing

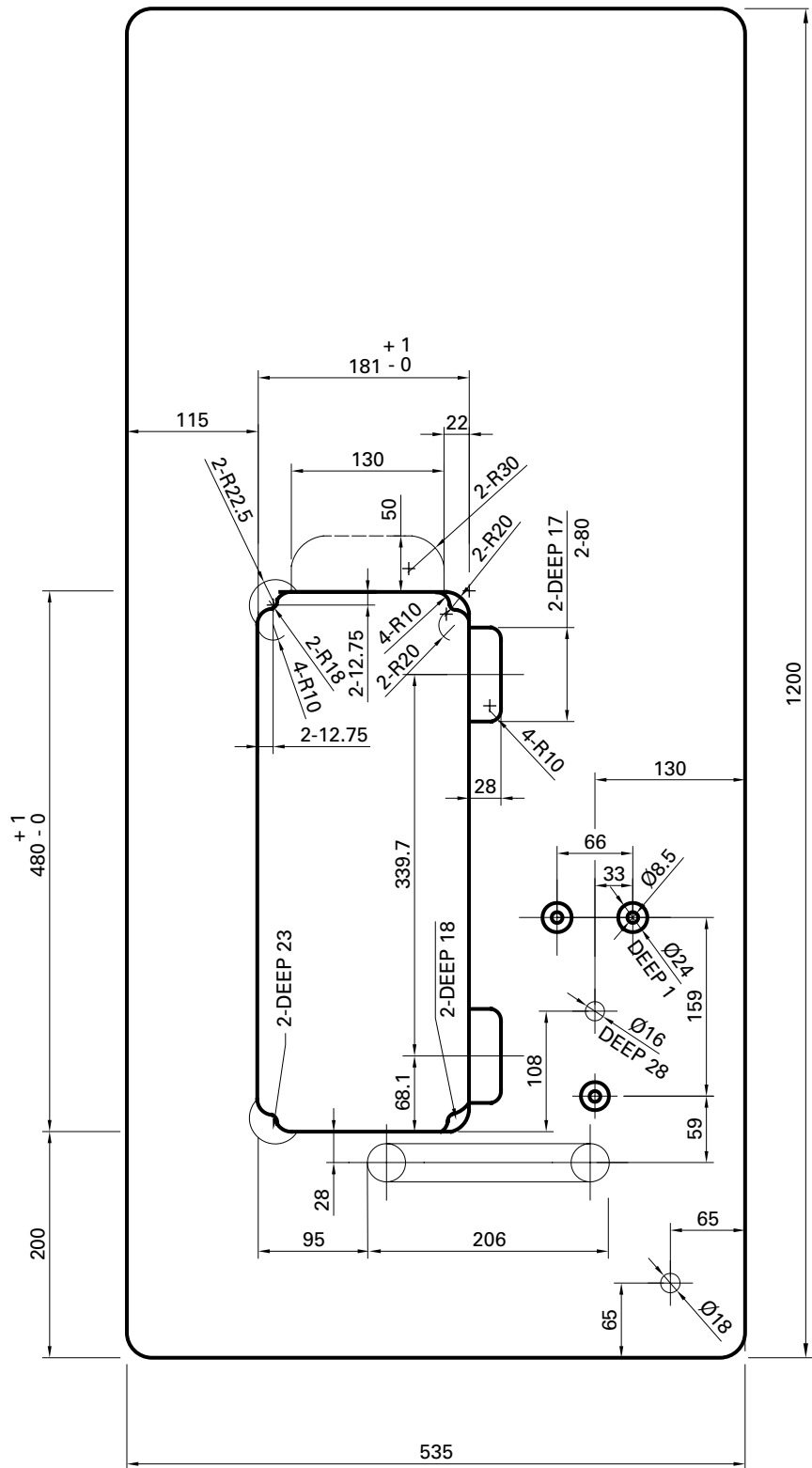


Figure 1

3.2

Oil Reservoir Installation

The oil reservoir should rest on the four corners of the machine table groove.

Two rubber seats '1' for supporting the head portion on the operator side 'A' are fixed on the extended

portion of the table by using nail '2', and the other two rubber cushion '3' on the hinge side 'B' are attached by nail too. Then, the oil reservoir '4' is placed (Figures 2 and 3).

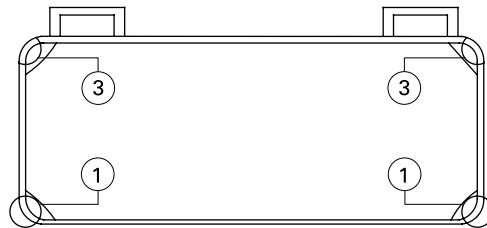


Figure 2

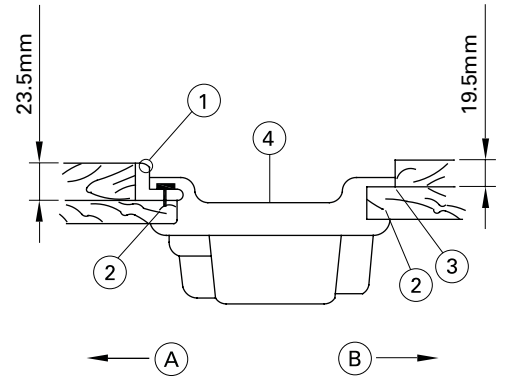


Figure 3

Two hinges '1' fit into the hole in the machine bed, and the machine head fitted the table hinge's rubber '2', before the machine head is placed

to the cushions '3' on the four corners of the table (Figures 4 and 5).

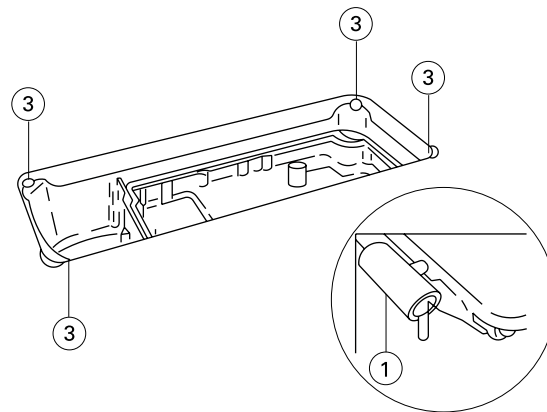


Figure 4

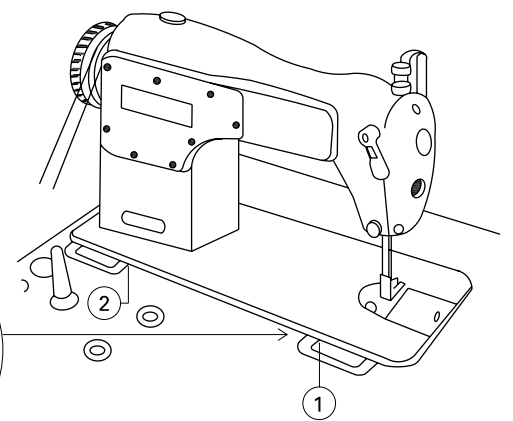


Figure 5

3.3

Belt Cover and Bobbin Winder Installation

Caution

For safety, the belt cover should be installed. The left and right parts of the bobbin winder should be parallel to the plate belt slot on the machine table.

Drill four holes 'A', 'B', 'C' and 'D', in the machine table for screws (Figure 6).

Insert support '1' in the threaded hole in the housing.

Install the front belt cover '3' and get the hand wheel in the middle of the cover hole.

Install the back belt cover '2' at holes 'C', 'D'.

Fix the front belt cover '3' on the support with screws '4', '5' and

washers '6'. The tightening torque for the screw '4' is about 30 kgf×cm, and for the screw '5' is about 25 kgf×cm.

Move the back belt cover '2' backward, until its rubber touches the front belt cover '3', move it again for 0.5~1.0 mm and fix it with screws and washers.

Fix bobbin winder '7' at hole A', 'B' with screws and washers.

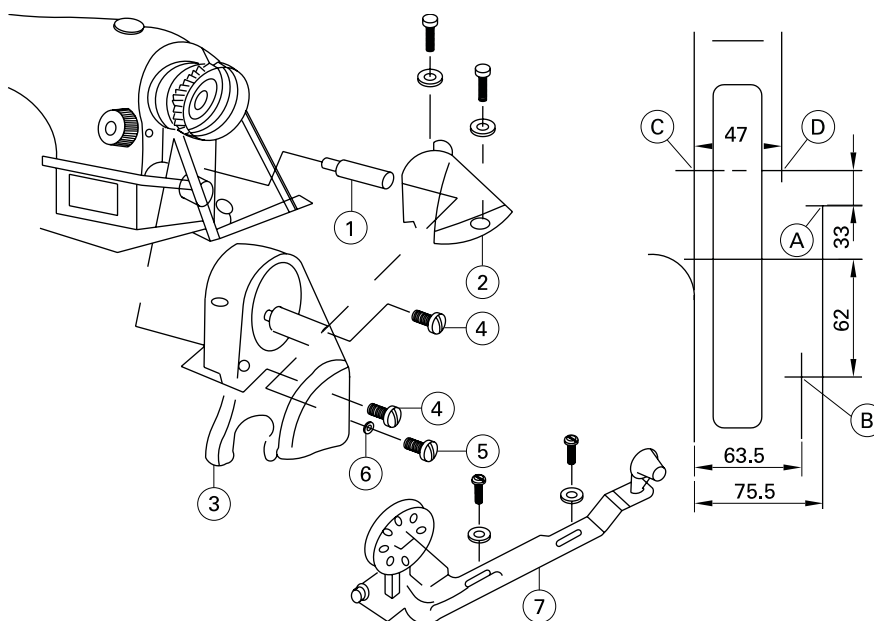


Figure 6

3.4

Lubrication

Precaution

When you first operate your machine after set up or after an extended period of disuse, run your machine at 2,000 to 2,500 spm for about 10 minutes for the purpose of break-in.

Before turning the machine on, fill oil reservoir '1' with sewing machine oil up to 'MAX' mark 'A' (Figure 7).

When the oil level lowers below 'MIN' mark 'B', refill the oil reservoir with the specified oil.

When you operate the machine after lubrication, you will see splashing oil through oil sight window '2' if the lubrication is adequate.

Note that the amount of the splashing oil is unrelated to the amount of the lubricating oil.

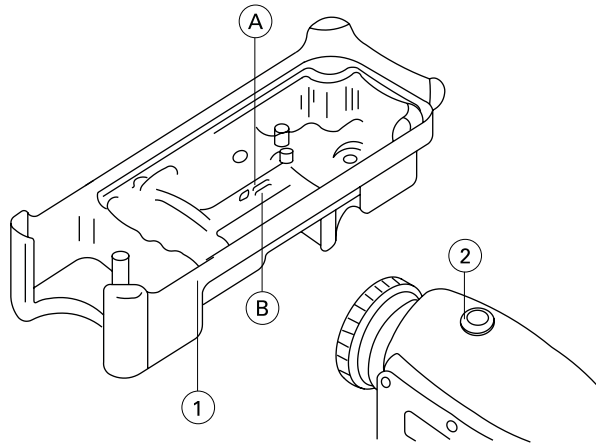


Figure 7

3.5

Thread Take-up Lever Oil Supply Adjustment

Adjust the amount of oil supplied to the thread take-up and needle bar crank '2' by turning adjusting pin '1' (Figure 8).

The minimum amount of oil is reached when marker dot 'A' is brought close to needle bar crank '2' by turning the adjusting pin '1' in direction 'B'.

The maximum amount of oil is reached when marker dot 'A' is brought to the position just opposite from the needle bar crank '2' by turning the adjusting pin '1' in direction 'C'.

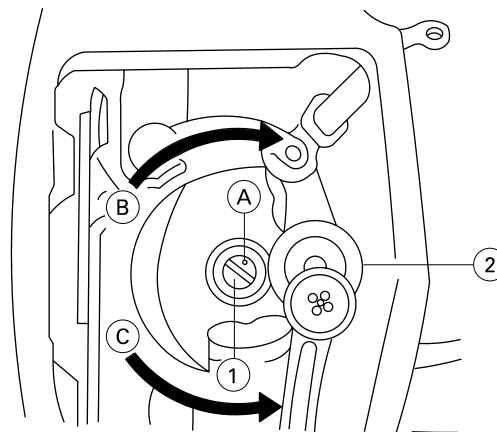


Figure 8

3.6

Rotating Hook Oil Supply Adjustment

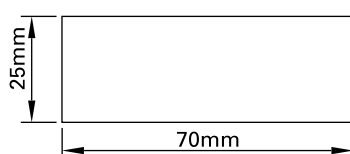
Unused machine should run idle for 3 minutes (Moderate intermittent operation).

The amount of oil confirmation paper must be inserted in the state when the machine is running (Figure 9).

Make sure the oil in the oil reservoir is within 'MAX' and 'MIN'.

The confirming time of the oil amount is 5 seconds (check the period of time with a watch).

① The amount of oil confirmation paper



② Place of oil amount confirming

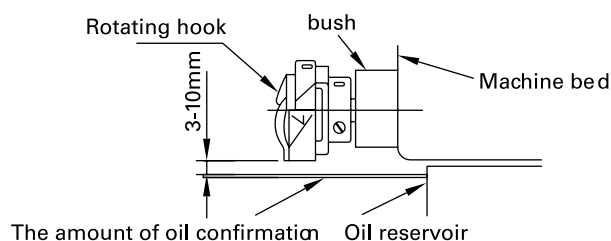


Figure 9

Sample showing the appropriate amount of oil (Figure 10)

The amount of oil can be adjusted according to the different sewing process but it must be a suitable amount. Otherwise the hook will

generate heat or the sewing material will be contaminated.

Use the amount of oil confirmation paper for three times to observe the amount of oil. Adjust the screw until the mark on the paper unchanged.

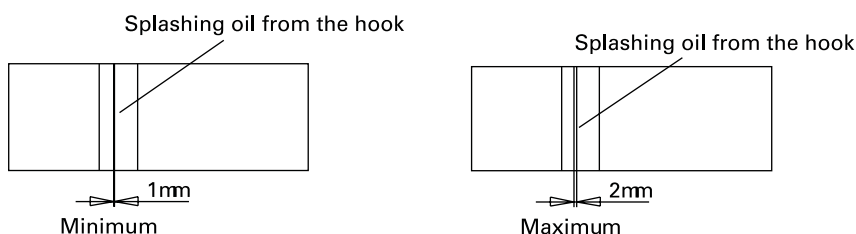


Figure 10

Adjusting the amount of oil supplied to the hook (Figure 11)

Turning the oil adjusting screw of the hook shaft bushing on bed toward '+' in direction 'A', the oil amount will be increased, and toward '-' in direction 'B', the oil amount will be decreased.

After adjustment the machine must be idling for thirty seconds. It can be confirmed the state of oil supplied.

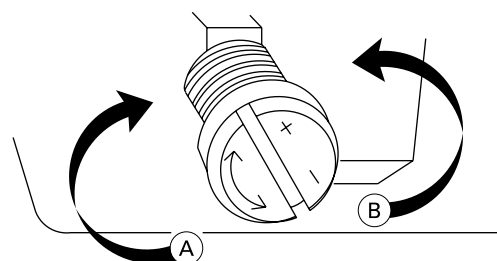


Figure 11

3.7

Needle Attachment

Caution

Choose a proper needle size according to the count of thread and the type of sewing material used. The power supply should be cut off before attaching the needle.

Turn the hand wheel until the needle bar reaches the highest point of its stroke (Figure 12).

Loosen screw '2' and hold needle '1' with its indented part 'A' facing exactly to the right in direction 'B'.

Insert the needle in the direction

of the arrow until it will go no further.

Tighten the screw '2'.

Make sure the long groove 'C' of the needle is facing exactly to the left in direction 'D'.

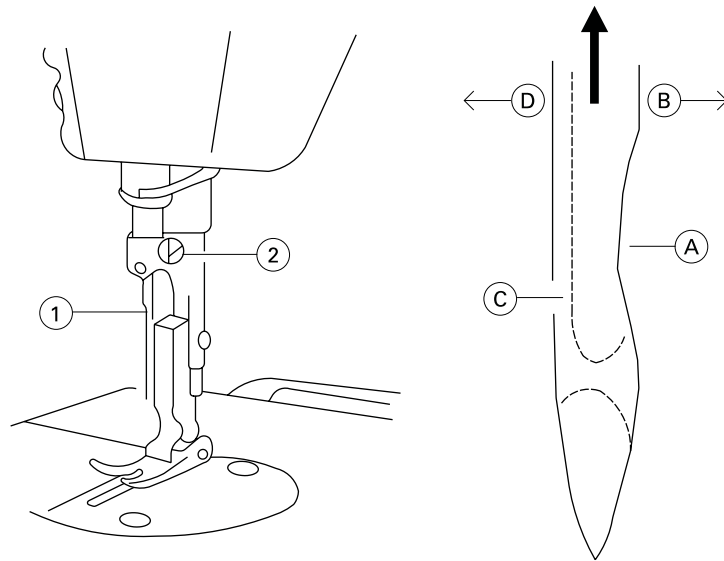


Figure 12

3.8

Bobbin Case Attachment

Fix the bobbin into bobbin case with that the thread open end is directed to the left as observed from you.

Pass the thread through thread slit 'A', and pulls it in direction 'C'. By doing so, the thread will pass un-

der the tension spring and come out from notch 'B' (Figure 13).

When pulling the thread 'C', the bobbin should rotate in the direction of the arrow.

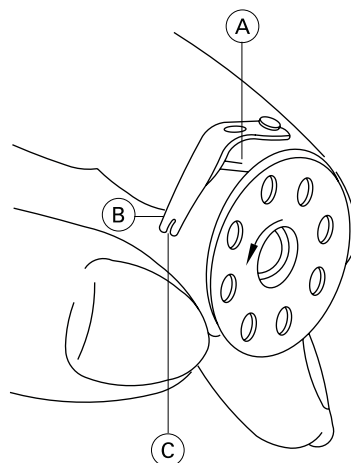


Figure 13

3.9

Machine Threading

When threading the machine head, the needle bar should be at the highest point of its stroke.

Thread the machine in the order shown below. Leave thread approximately 4 cm long in the needle (Figure 14).

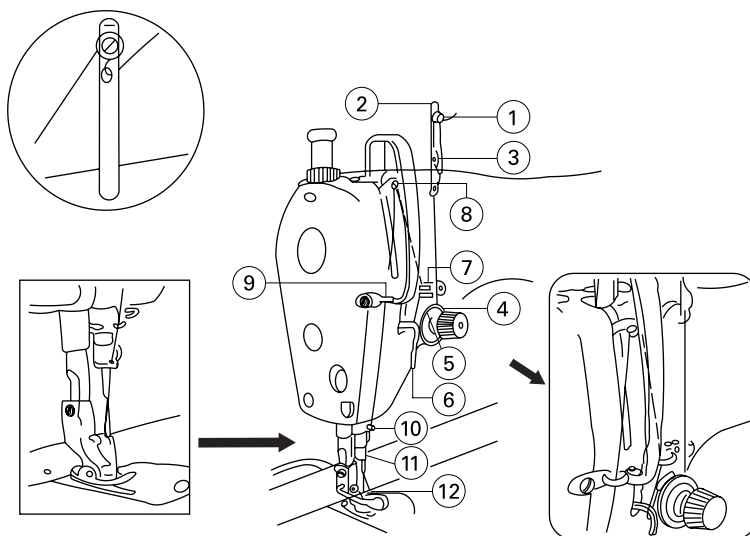


Figure 14

3.10

Stitch Length Adjustment

Turn stitch length dial '1' in the direction of the arrow, and align the desired number to marker dot 'A' on the machine arm (Figure 15).

The indication of the dial is in millimeters.

When you want to decrease the stitch length, turn stitch length dial '1' while pressing feed reverse lever '2' in the direction of the arrow.

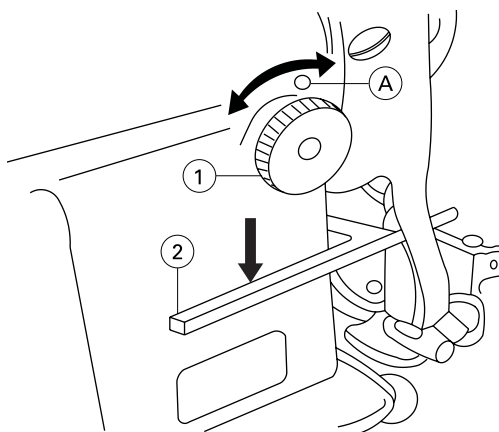


Figure 15

3.11

Thread Tension Adjustment

Adjusting needle thread tension (Figure 16)

Adjust the tension of needle thread using tension adjusting nut '1' according to different sewing conditions.

Turn the nut '1' clockwise (in direction 'A'), the tension will increase.

Turn the nut '1' counterclockwise (in direction 'B'), the tension will decrease.

Adjusting the bobbin thread tension (Figure 17)

Turn the tension adjusting screw '2' clockwise (in direction 'C'), the bobbin thread tension will increase.

Turn the screw '2' counterclockwise (in direction 'D'), the bobbin thread tension will decrease.

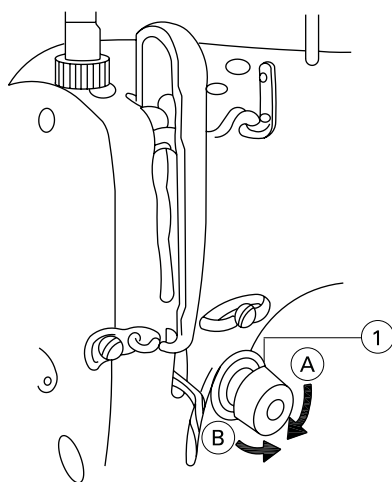


Figure 16

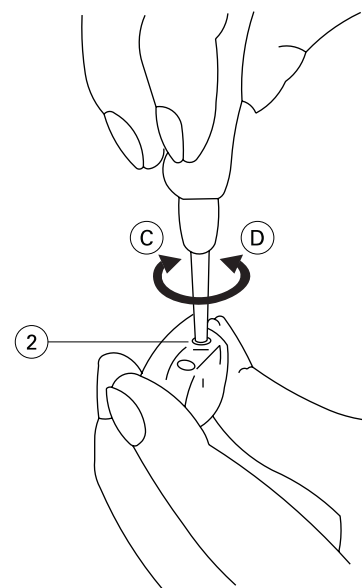


Figure 17

3.12

Thread Take-Up Spring Adjustment

The adjustment of the stroke of the thread take-up spring (Figure 18)

Loosen setting screw '2'.

Turn the thread tension post '3' clockwise (in direction 'A'), the stroke of the thread take-up spring will be increased.

Turn the thread tension post '3' counter-clockwise (in direction 'B'), the stroke of the thread take-up spring will be decreased.

Adjusting the pressure of the thread take-up spring '1' (Figure 19)

Loosen setting screw '2' and take out thread tension assembly '5'.

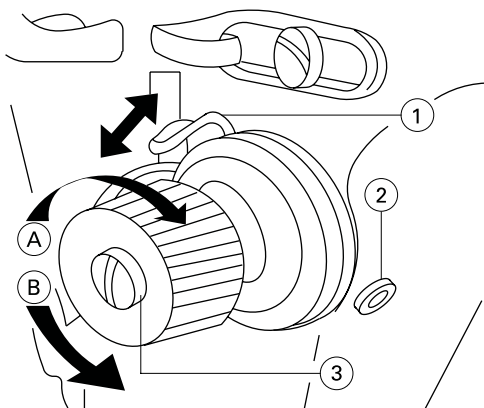


Figure 18

Loosen setting screw '4' and turn the tension post '3'.

Turn the tension post '3' clockwise (in direction 'A'), the pressure of the spring will be increased.

Turn the tension post '3' counter clockwise (in direction 'B'), the pressure will be decreased.

- Usually, the thread take-up spring '1' has been properly adjusted before leaving the factory.

- Only when sewing special clothes or using special thread is readjustment necessary.

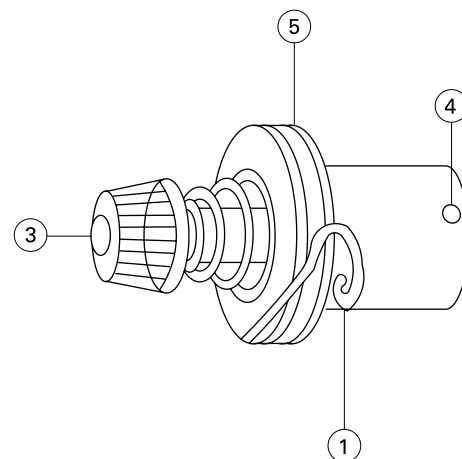


Figure 19

3.13

Knee Lifter Height Adjustment

When using the knee lifter, the standard height of presser foot is 10 mm.

You can adjust the presser foot lift up to 13 mm by turning the knee lifter adjusting screw '1' (Figure 20).

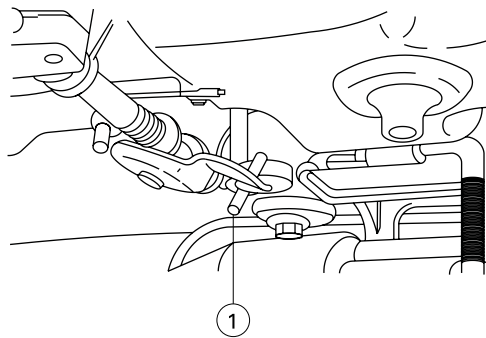


Figure 20

When the presser foot lifts to over 10 mm, be sure that the bottom end of the needle bar '2' in its lowest position does not hit the presser foot '3' (Figure 21).

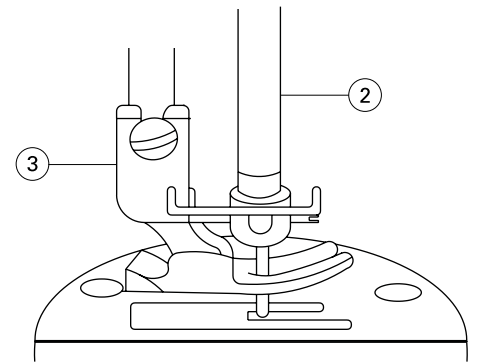


Figure 21

3.14

Presser Foot Lifter Adjustment

Turn the presser foot lifter '1' in direction 'A' to lift the presser foot (Figure 22).

The presser foot will go up about 5.5 mm and stop.

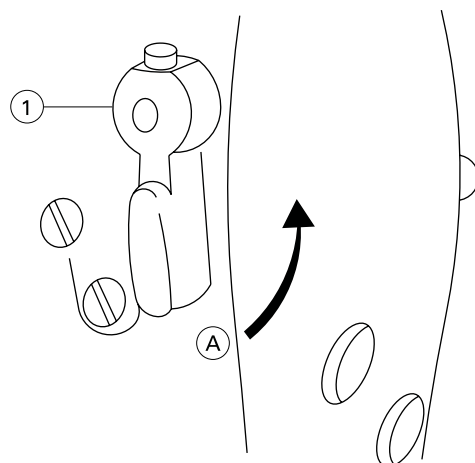


Figure 22

The presser foot will go back to its original position when the lifter is turned down in direction 'B' (Figure 23).

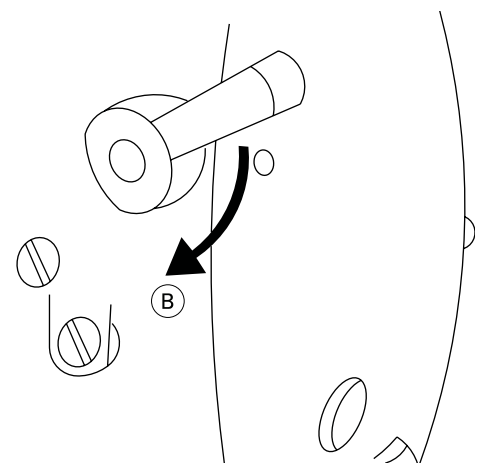


Figure 23

3.15

Presser Foot Pressure Adjustment

Loosen the nut '2', and turn the presser spring regulator '1' clockwise (in direction 'A'), the pressure of the presser foot will be increased (Figure 24).

Turn the regulator '1' counter clockwise (in direction 'B'), the pressure of the presser foot will be decreased.

Tighten nut '2'.

For general sewing of the fabrics, the standard height of the presser spring regulator '1' will be around 33~36 mm (5 kg).

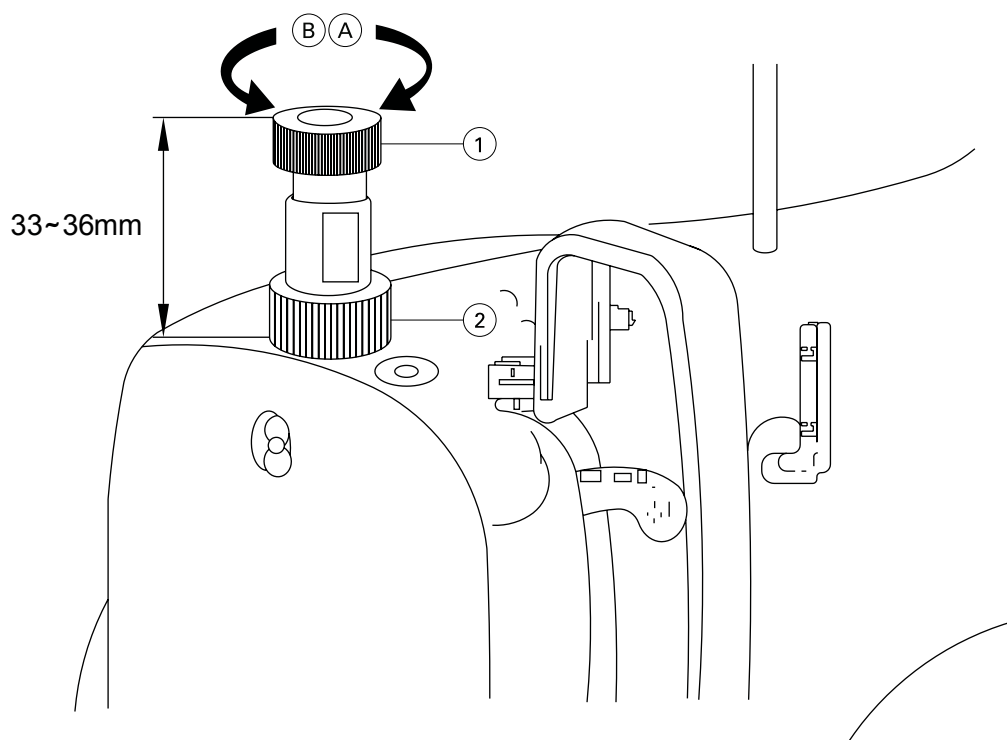


Figure 24

3.16

Feed Timing Adjustment

Caution

If the feed eccentric cam is moved too far, the needle will be broken.

Loosen screws '2' and '3' in feed eccentric cam '1', move the feed eccentric cam '1' in the direction of the arrow or opposite direction of the arrow, and firmly tighten the screws '2' and '3' (Figure 25).

For the standard adjustment, adjust so that the top surface of feed dog and the top end of needle eyelet are flush with top surface of throat

plate when the feed dog descends below the throat plate.

To advance the feed timing in order to prevent uneven material feed, move the feed eccentric cam in the direction of the arrow.

To delay the feed timing in order to increase stitch tightness, move the feed eccentric cam in the direction from the arrow.

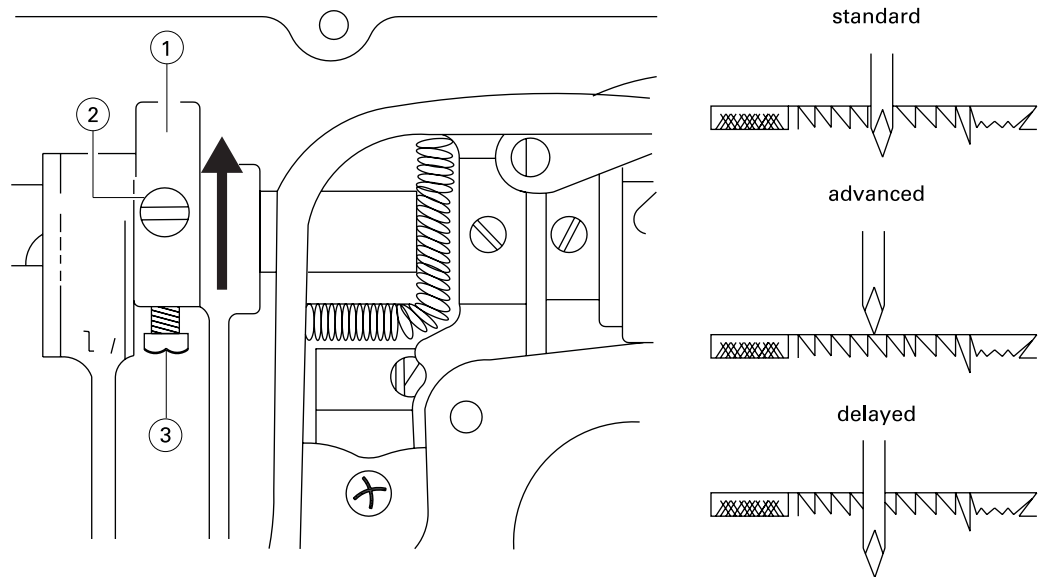


Figure 25

3.17

Feed Dog Height Adjustment

Caution

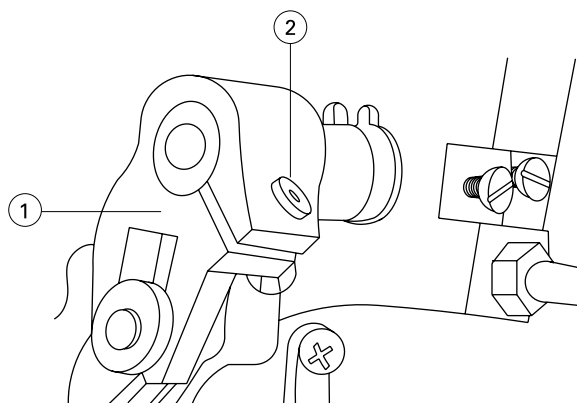
If the screw '2' is tightening too much, the crank '1' will be worn out.

When the feed dog 'A' is at its highest position, the teeth should be above the top surface of the throat plate 'B' as the below height for each machine variety (Figure 26).

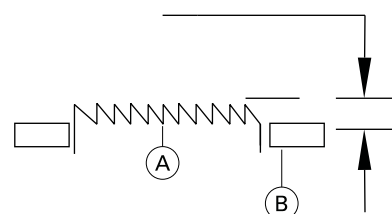
Loosen screw '2' of crank '1'.

Move the feed bar up or down to make a correct height.

Securely tighten screw '2'.



See description below for height



191D-20 / 20C	0.70 ~ 0.80 mm
191D-30 / 30C	0.80 ~ 0.90 mm
191D-70 / 70C	1.15 ~ 1.25 mm

Figure 26

3.18

Needle to Rotating Hook Relation Adjustment

Precaution

If the clearance is too small, the rotating hook points will wear out, and too big, it will cause the skip stitch. When replacing the rotating hook, it should be using the original one.

Adjusting the height of the needle bar (Figure 27)

Turn the handwheel until the needle bar has been at the lowest point, loosen the setscrew '1'.

The line 'A' on the needle bar '2' align with the bottom end of needle bar lower bushing '3', then securely tighten the setscrew '1'.

Adjusting the position of the rotating hook

Loosen two rotating hook set-screws and turn the handwheel until the line 'B' on needle bar align with the bottom end of needle bar lower bushing '3'.

After the above adjustments steps, the rotating hook point '5' aligns with the center of needle '4', and make sure the clearance between the needle and the rotating hook '5' is 0.04~0.1 mm.

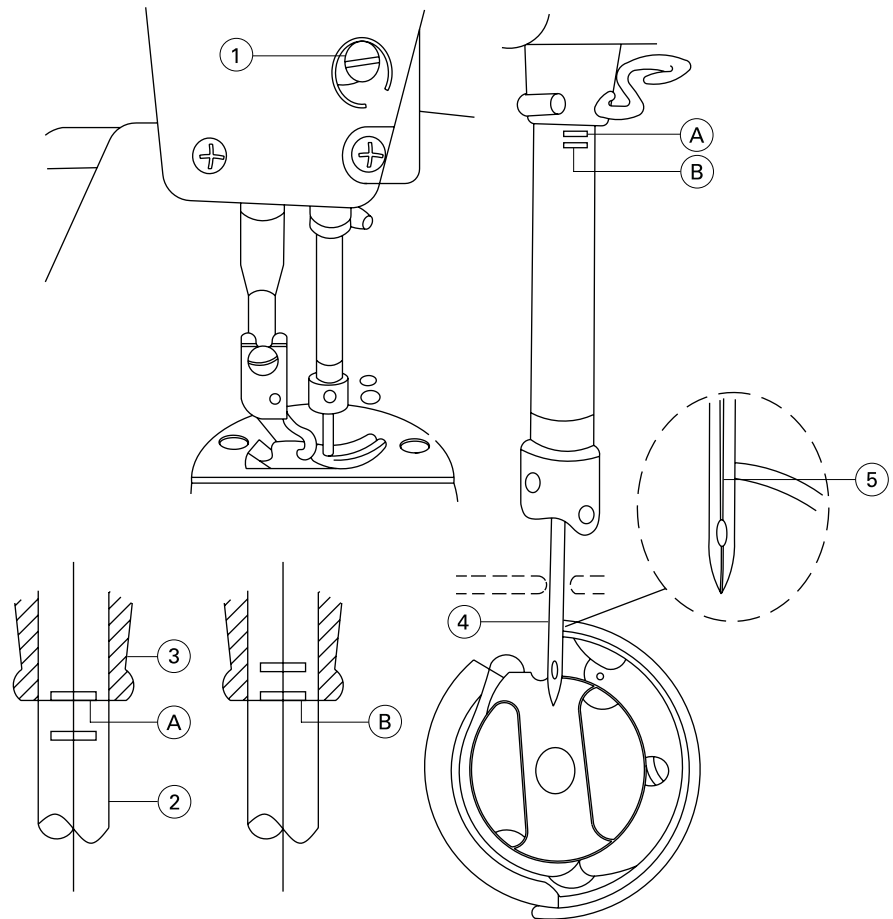


Figure 27

3.19

Presser Bar Height Adjustment

Loosen setscrew '1' (Figure 28) and adjust the height of the presser bar. When the presser foot rises to the highest, the distance between the

throat plate and the presser foot is 5.5 mm (Figure 29).

Tighten the setscrew '1' after adjustment.

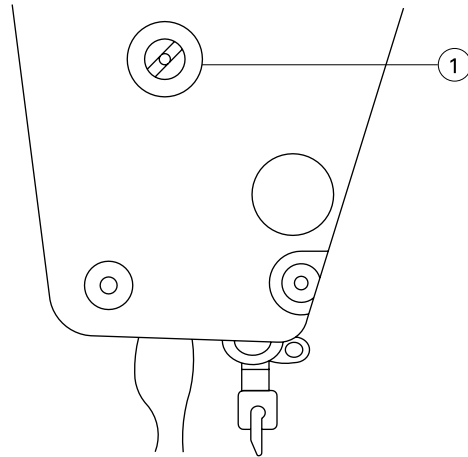


Figure 28

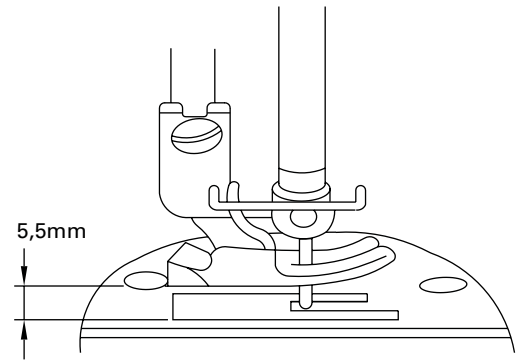


Figure 29

3.20

Thread Take-Up Stroke Adjustment

When sewing for heavy weight material, the thread guides '1' move to the left (in direction 'A') to increase the length of thread pulled out by the thread take-up.

When sewing light weight material, the thread guides '1' move to the

right (in direction 'B') to decrease the length of thread pulled out by the thread take-up.

When marker line 'C' on the thread guide '1' is aligned with the center of the screw that is standard (Figure 30).

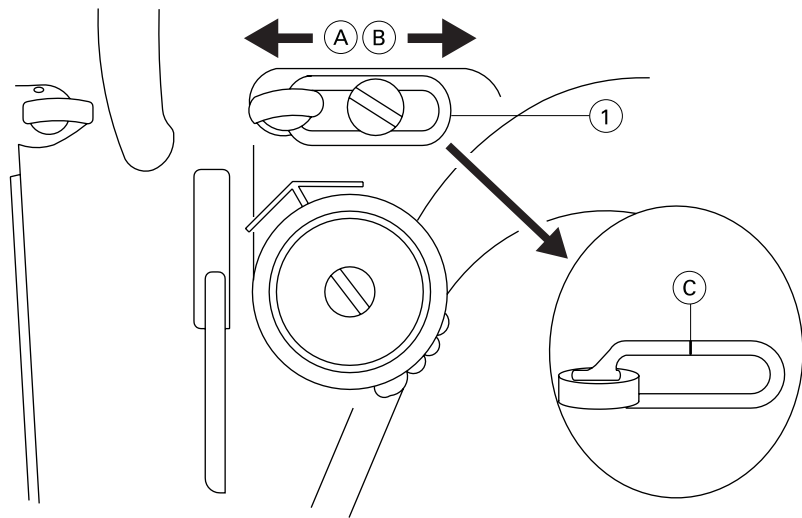


Figure 30

4

Maintenance

4.1

Machine Head Cleaning

Clean the machine periodically with a soft and dry cloth to remove the excess of dust on the machine head. Do not use any kind of lacquer thinner to wipe the surface.

4.2

Lubrication

If the machine was idle for a long time, lubricate the machine according to the instructions of topics 3.4 to 3.6.

4.3

Safety Inspection

Check periodically if all safety devices are properly installed and adjusted.

Check if all fixing and supporting screws of the machine head are adequately tighten.

Check if the v-belt is not excessively worn and if it has the right tension.

Check if there is no overheating in the electrical motor and check if the power cord and plug are not damaged.

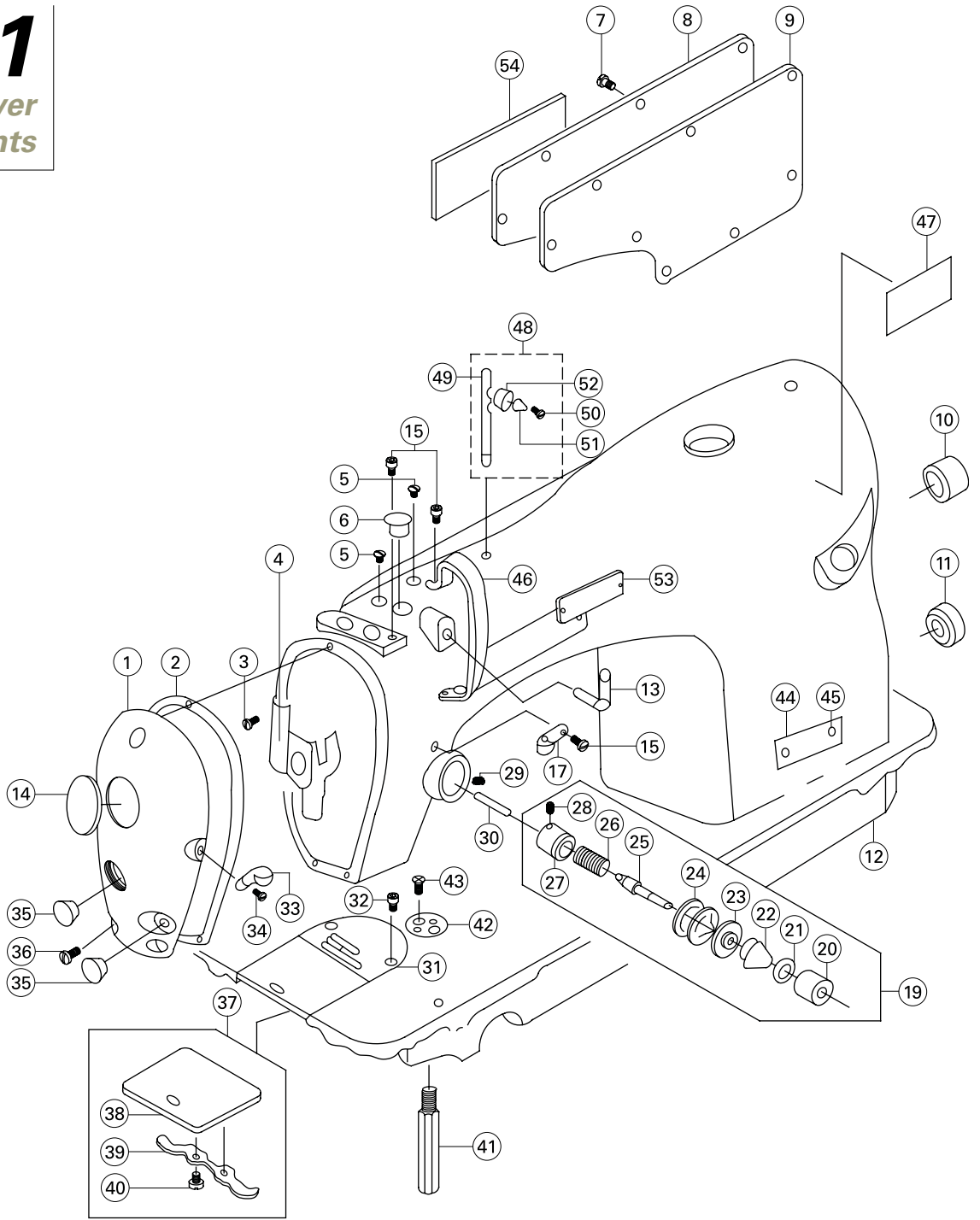
Problems	Possible Causes	Possible Solutions
Needle break	1. Needle is installed wrong	1. Install needle correctly
	2. Wrong needle type or size	2. Use proper needle for fabric and thread
	3. Needle is bended	3. Replace needle
	4. Wrong relation with rotary hook	4. Readjust the rotary hook
	5. Needle doesn't center the needle hole of throat plate or presser foot	5. Readjust the needle plate and presser foot
Thread break	1. Low quality thread	1. Change the thread
	2. Thread is thicker than needle hole	2. Use proper needle for fabric and thread
	3. Wrong threading	3. Rethreaded the machine correctly
	4. Thread tension is too strong	4. Readjust the thread tension nut
	5. Needle is installed wrong	5. Install needle correctly
	6. Thread stand installed wrong	6. Install thread stand correctly
	7. Thread tension disc, thread guide, needle, hook point and needle plate are burred	7. Grind off, polish or replace by a new parts
	8. Wrong relation with rotary hook	8. Readjust needle and hook point relation
Skip stitches	1. Wrong relation of needle and hook point	1. Readjust needle and hook point
	2. Wrong threading	2. Rethread the machine correctly
	3. Needle is installed wrong	3. Installed needle correctly
	4. Inadequate thread tension	4. Readjust the thread tension nut
	5. Hook point is damaged	5. Replace by a new part
	6. Needle is bended	6. Replace needle
Loosen stitches	1. Wrong threading	1. Rethread the machine correctly
	2. Thread is thicker than needle hole	2. Use proper needle for fabric and thread
	3. Inadequate thread tension	3. Readjust the thread tension nut
	4. Wrong setting of needle and hook point	4. Readjust needle and hook point
Wrinkled stitches	1. Thread tension is too strong	1. Readjust the thread tension nut
	2. Take-up spring is too strong	2. Readjust the take-up spring
	3. Inadequate pressure of presser foot	3. Readjust the presser foot pressure
	4. Inadequate height of feed dog	4. Readjust the feed dog
	5. Needle is too thick	5. Use proper needle for fabric and thread

6

Parts List

6.1

Frame and Cover Components



No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
1	10101034	Face plate	1	1	1	1	1	1
2	10122096	Face plate gasket	1	1	1	1	1	1
3	101S11010	Screw SM1/8x44 L=4	1	1	1	1	1	1
4	10112024	Arm oil shield assembly	1	1	1	1	1	1
5	10122005	Rubber plug	2	2	2	2	2	2

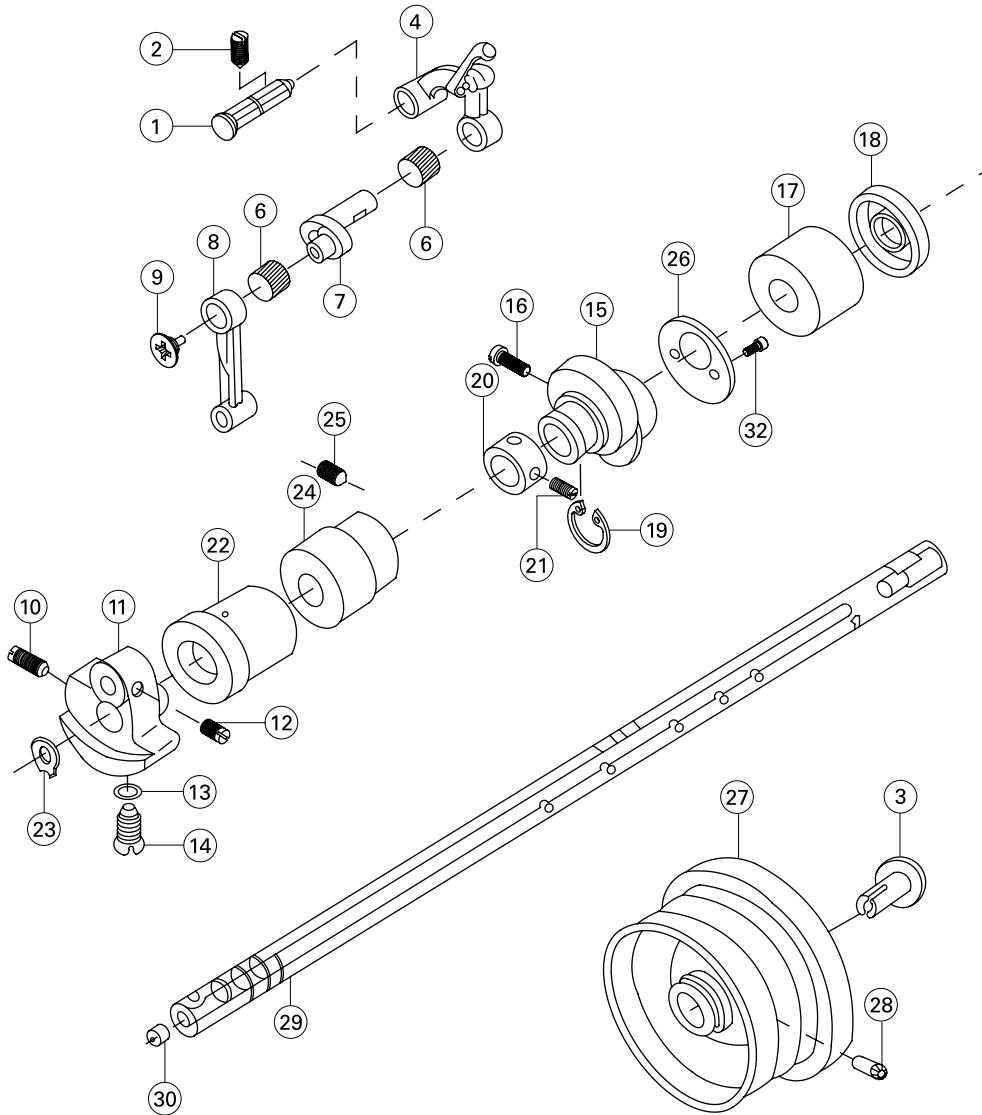
6.1

Frame and Cover Components

No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
6	10122003	Rubber plug	1	1	1	1	1	1
7	101S11001	Screw SM3/16x28 L=9	8	8	8	8	8	8
8	10112063	Side plate	1	1	1	1	1	1
9	10122097	Side plate gasket	1	1	1	1	1	1
10	10122006	Rubber plug	1	1	1	1	1	1
11	10122007	Rubber plug	1	1	1	1	1	1
12	100017	Frame	1	1	1	1	1	1
13	10113003	Two-hole thread eyelet guide	1	1	1	1	1	1
14	J900112-001	Singer "S" cameo	1	1	1	1	1	1
15	101S11004	Screw SM3/16 x 28 L=6	2	2	2	2	2	2
17	10113004	Right arm thread guide	1	1	1	1	1	1
18	101S11007	Screw SM11/64 x 40 L=6	1	1	1	1	1	1
19	1011301500	Thread tension regulator assembly	1	1	1	1	0	0
	400597	Thread tension regulator assembly	0	0	0	0	1	1
20	101S16001	Tension adjusting nut	1	1	1	1	1	1
21	10112007	Tension disk stopper	1	1	1	1	1	1
22	10127002	Tension spring	1	1	0	0	0	0
	10127017	Tension spring	0	0	1	1	1	1
23	10112006	Tension disk holder	1	1	1	1	1	1
24	10112005	Thread tension disk	2	2	2	2	2	2
25	101S30002	Tension post	1	1	1	1	1	1
26	10127001	Thread take-up spring	1	1	1	1	1	1
27	10103011	Tension post socket	1	1	1	1	1	1
28	101S15005	Screw SM9/64x40 L=5.5	1	1	1	1	1	1
29	101S15006	Screw SM15/64x28 L=7	1	1	1	1	1	1
30	10126002	Tension releasing pin	1	1	1	1	1	1
31	10115001	Throat plate	1	1	0	0	0	0
	10115005	Throat plate	0	0	1	1	0	0
	10115014	Throat plate	0	0	0	0	1	1
32	101S17002	Screw SM11/64 x 40 L=8.5	2	2	2	2	2	2
33	10113005	Left arm thread guide	1	1	1	1	1	1
34	101S11007	Screw SM11/64x40 L=6	1	1	1	1	1	1
35	10122003	Rubber plug	2	2	2	2	2	2
36	101S11001	Screw SM3/16x28 L=9	3	3	3	3	3	3
37	1011500200	Slide plate assembly	1	1	1	1	1	1
38	10115002	Slide plate	1	1	1	1	1	1
39	10127009	Slide plate spring	1	1	1	1	1	1
40	101S11019	Screw SM3/32x56 L=1.9	2	2	2	2	2	2
41	101S12001	Screw stud	4	4	4	4	4	4
42	10112002	Scale base plate	1	1	1	1	1	1
43	101S11002	Screw SM11/64 x 40 L=5	2	2	2	2	2	2
44	J900191-xxx	Model plate	1	1	1	1	1	1
45	R03001	Model plate rivet	2	2	2	2	2	2
46	10112062	Thread take-up lever cover	1	1	1	1	0	0
	10112064	Thread take-up lever cover	0	0	0	0	1	1
47	11237003	Safety label	1	1	1	1	1	1
48	1011300700	Thread guide rod assembly	1	1	1	1	1	1
49	10112008	Thread guide rod	1	1	1	1	1	1
50	10112009	Tension disk	2	2	2	2	2	2
51	10127004	Tension spring	1	1	1	1	1	1
52	101S30003	Hinge screw	1	1	1	1	1	1
53	J900112-002	Singer logo resin plate (front)	1	1	1	1	1	1
54	J900112-004	Singer logo resin plate (back)	1	1	1	1	1	1

6.2

Arm Shaft and Thread Take-Up Lever Components



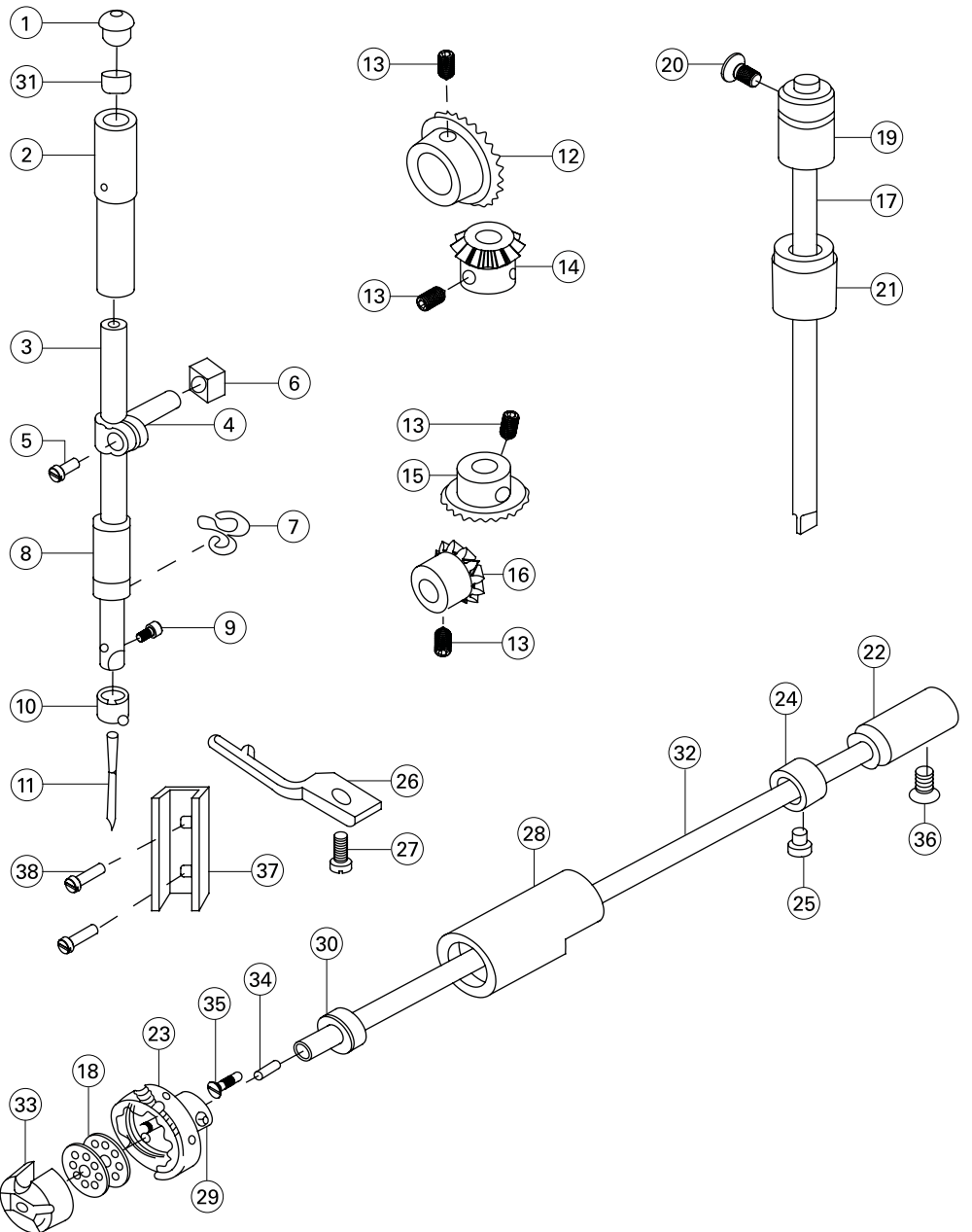
6.2

Arm Shaft and Thread Take-Up Lever Components

No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
1	10126001	Thread take-up crank shaft	1	1	1	1	1	1
2	101S15001	Screw SM15/64 x 28 L=10.5	1	1	1	1	1	1
3	101S3001	Screw	1	1	1	1	1	1
4	10105001	Thread take-up lever link	1	1	0	0	0	0
	10105006	Thread take-up lever link	0	0	1	1	0	0
	1223800300	Thread take-up lever link assembly	0	0	0	0	1	1
6	10124001	Needle bearing	2	2	2	2	2	2
7	1011000100	Needle bar crank	1	1	0	0	0	0
	1011000400	Needle bar crank	0	0	1	1	0	0
	1221000100	Needle bar crank	0	0	0	0	1	1
8	10105002	Needle bar crank rod	1	1	1	1	1	1
9	101S15007	Screw SM9/64 x 40 L=4.8	1	1	1	1	1	1
10	101S15004	Screw SM9/32 x 28 L=16	1	1	1	1	1	1
11	10104001	Counter weight	1	1	1	1	1	1
12	101S15002	Screw SM1/4 x40 L=6	2	2	2	2	2	2
13	10122010	Rubber ring	1	1	1	1	1	1
14	101S11003	Screw SM9/32 x 28 L=6	1	1	1	1	1	1
15	10110003	Feed drive eccentric cam	1	1	1	1	0	0
	400058	Feed drive eccentric cam	0	0	0	0	1	1
16	101S11013	Screw SMI/4 x 40 L=11	2	2	2	2	2	2
17	10103001	Arm shaft bushing (rear)	1	1	1	1	1	1
18	10122008	Oil seal	2	2	2	2	2	2
19	H03002	Snap ring	1	1	1	1	1	1
20	10108001	Thrust collar	1	1	1	1	1	1
21	101S15007	Screw SM1/4 x 40 L=6	2	2	2	2	2	2
22	10103004	Arm shaft bushing (front)	1	1	1	1	1	1
23	10112003	Oil adjusting collar	1	1	1	1	1	1
24	10103003	Arm shaft bushing (middle)	1	1	1	1	1	1
25	101S15006	Screw	1	1	1	1	1	1
26	10112017	Thrust collar	1	1	1	1	1	1
27	10135007	Hand wheel	1	1	1	1	1	1
28	101S15008	Screw SM15/64 x 28 L=15	2	2	2	2	2	2
29	10102001	Arm shaft	1	1	1	1	1	1
30	10122012	Roller felt	1	1	1	1	1	1
31	101S11005	Oil amount adjusting pin	1	1	1	1	1	1

6.3

Needle Bar, Upright Shaft and Rotating Hook Driving Shaft Components



No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
1	10122013	Cap	1	1	1	1	1	1
2	10103009	Needle bar bushing (upper)	1	1	1	1	1	1
3	10102002	Needle bar	1	1	0	0	0	0
	10102012	Needle bar	0	0	1	1	0	0
	10102021	Needle bar	0	0	0	0	1	1
4	10138002	Needle bar connection	1	1	1	1	1	1
5	101S11005	Screw SM9/64 x 40 L=6	1	1	1	1	1	1
6	10109001	Slide block	1	1	1	1	1	1
7	10113001	Needle bar thread guide	1	1	0	0	0	0
	10113009	Needle bar thread guide	0	0	1	1	1	1
8	10103010	Needle bar bushing (lower)	1	1	0	0	0	0
	10103023	Needle bar bushing (lower)	0	0	1	1	1	1

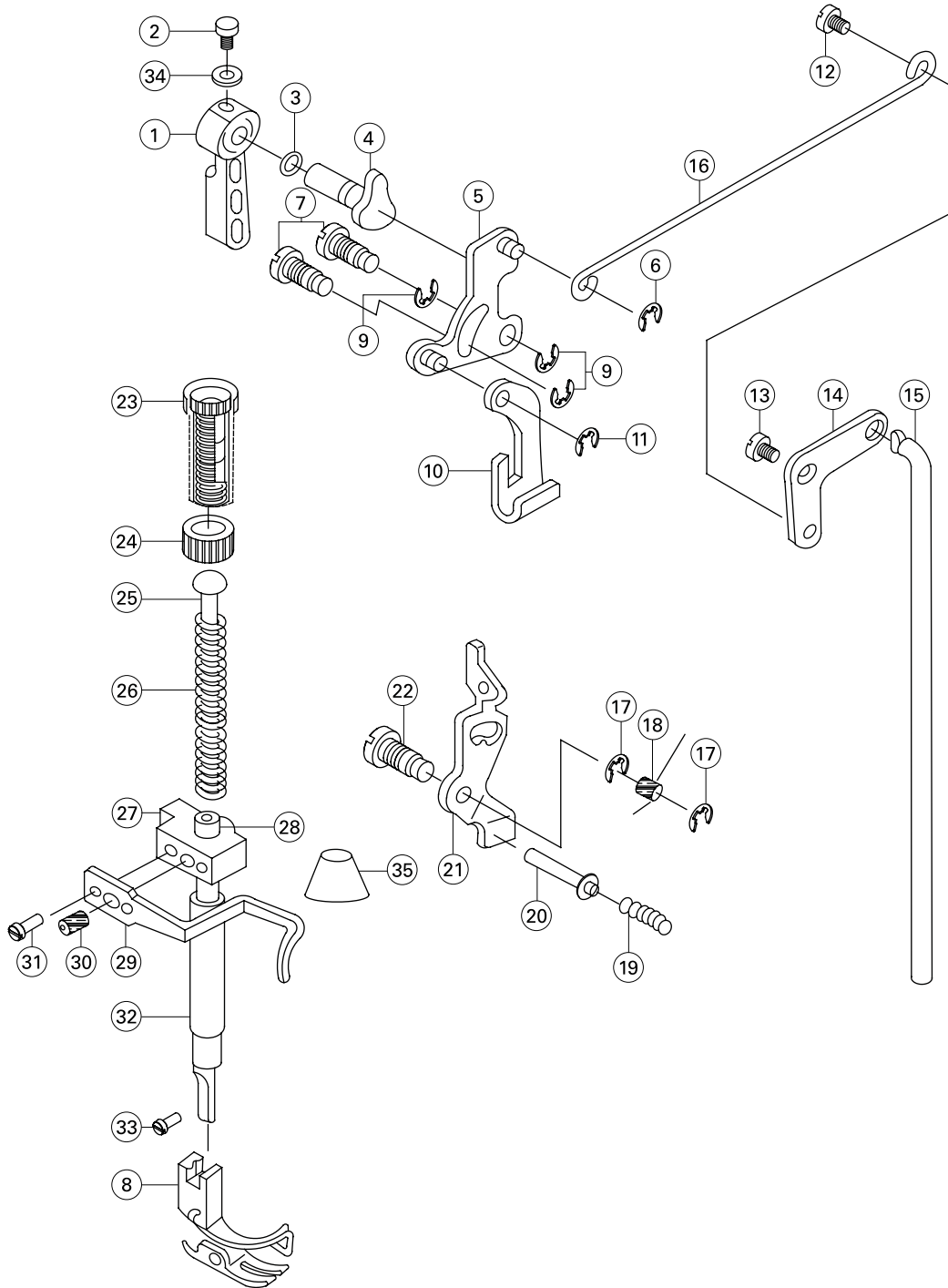
6.3

Needle Bar, Upright Shaft and Rotating Hook Driving Shaft Components

No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
9	101S11006	Screw SM 1/8 x 44 L=4.5	1	1	1	1	1	1
10	10113002	Needle bar thread guide	1	1	1	1	1	1
11	1955-01	Needle #14	1	1	0	0	0	0
	1955-01	Needle #18	0	0	1	1	0	0
	1955-01	Needle #21	0	0	0	0	1	1
12	10125004	Gear	1	1	1	1	1	1
13	101S15009	Screw SMI/4 x 40 L=8	8	8	8	8	8	8
14	10125003	Pinion (upper)	1	1	1	1	1	1
15	10125002	Gear large	1	1	1	1	1	1
16	10125001	Pinion (lower)	1	1	1	1	1	1
17	10102007	Upright shaft	1	1	1	1	1	1
18	10118003	Bobbin	1	1	1	1	0	0
	10818501	Bobbin	0	0	0	0	1	1
19	10103017	Upright shaft bushing (upper)	1	1	1	1	1	1
20	101S15006	Screw SM3/16 x28 L=9	1	1	1	1	1	1
21	10103016	Upright shaft bushing (lower)	1	1	1	1	1	1
22	10103015	Hook shaft bushing (rear)	1	1	1	1	1	1
23	10118504	Rotating hook	1	0	0	0	0	0
	10118001	Rotating hook	0	1	0	0	0	0
	10118505	Rotating hook	0	0	1	0	0	0
	10118509	Rotating hook	0	0	0	1	0	0
	11018001	Rotating hook	0	0	0	0	1	0
	10818001	Rotating hook	0	0	0	0	0	1
24	10108002	Thrust collar	1	1	1	1	1	1
25	101S11012	Screw SM I 1/64x 40 L=4 .8	2	2	2	2	2	1
26	10112016	Position finger	1	1	0	0	0	2
	10112032	Position finger	0	0	1	1	0	0
27	101S11011	Screw SM11/64 x 40 L=9.5	1	1	1	1	1	1
28	1010000000	Hook shaft bushing (front)	1	1	1	1	1	1
29	101S15008	Screw	1	1	1	1	1	1
30	10122015	Thrust collar	1	1	1	1	1	1
31	10123002	Screw SM 11/64 x40 L=3.5	2	2	2	2	2	2
32	10102006	Hook shaft	1	1	1	1	0	0
	12202003	Hook shaft	0	0	0	0	1	1
33	10118501	Bobbin case	1	1	1	1	0	0
	10118517	Bobbin case	0	0	0	0	1	0
	10818502	Bobbin case	0	0	0	0	0	1
34	10123003	Oil wick	1	1	1	1	1	1
35	101S30005	Oil seal screw	1	1	1	1	1	1
36	101S15006	Screw SM3/16 x 28 L=12	1	1	1	1	1	1
37	10109002	Needle bar slid block guide	1	1	1	1	1	1
38	101S11008	Screw SM11/64x40 L=8	2	2	2	2	2	2

6.4

Presser Foot Components



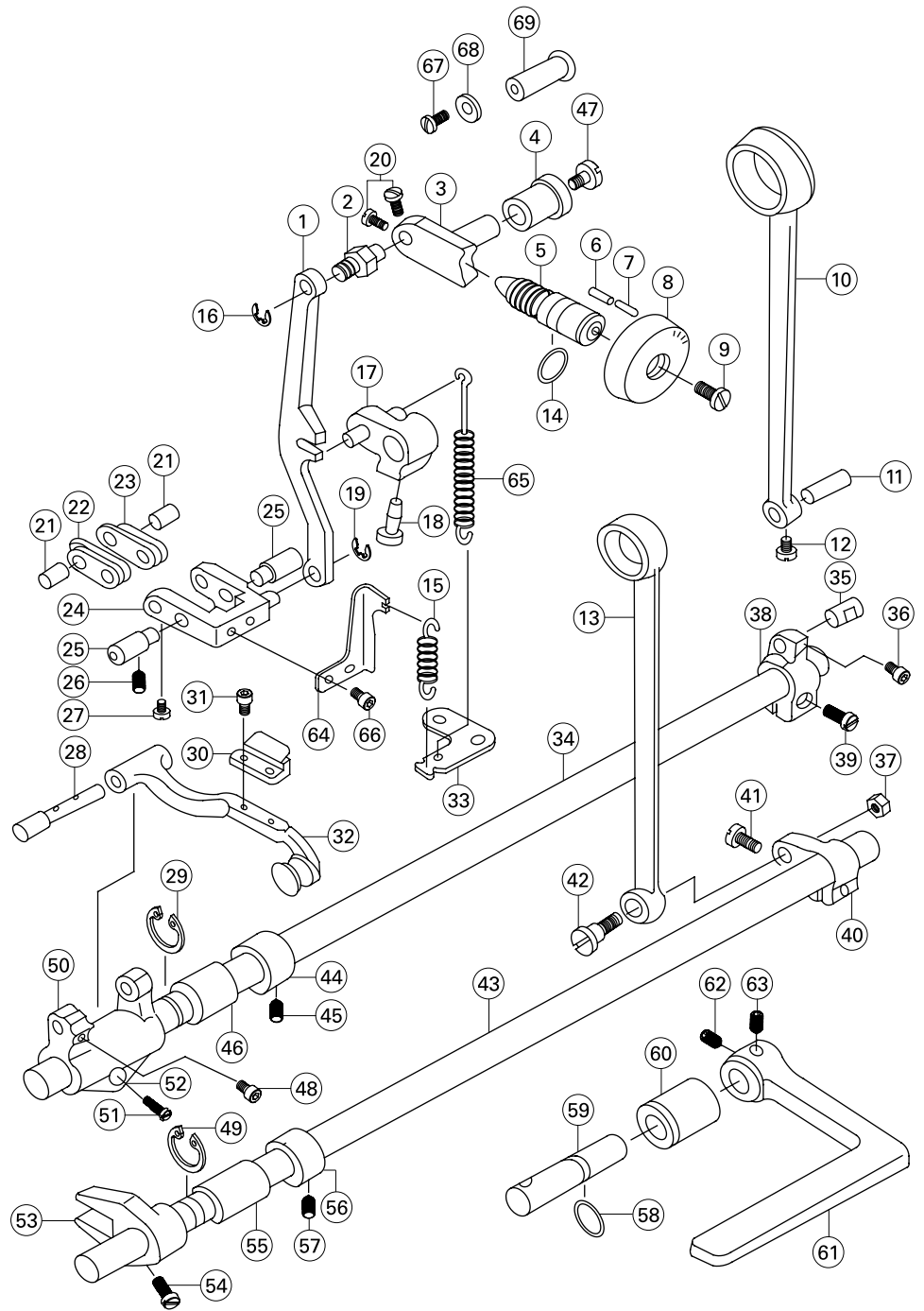
6.4

Presser Foot Components

No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
1	10111001	Hand lifter	1	1	1	1	1	1
2	101S11010	Screw SM9/64 x 40 L=9.5	1	1	1	1	1	1
3	O01004	Rubber ring	1	1	1	1	1	1
4	1011000200	Hand lifter cam assembly	1	1	1	1	1	1
5	1011201100	Hand lifter link assembly	1	1	1	1	1	1
6	H05009	Snap ring	1	1	1	1	1	1
7	101S20001	Link screw stud	2	2	2	2	2	2
8	1011600100	Presser foot assembly	1	1	0	0	0	0
	1011600400	Presser foot assembly	0	0	1	1	0	0
	1011600800	Presser foot assembly	0	0	0	0	1	1
9	H05009	Snap ring	3	3	3	3	3	3
10	10112010	Lifting lever	1	1	1	1	1	1
11	H05009	Snap ring	1	1	1	1	1	1
12	101S20004	Screw	1	1	1	1	1	1
13	101S20003	Screw	1	1	1	1	1	1
14	10112014	Lifting lever link	1	1	1	1	1	1
15	10126003	Connecting rod vertical	1	1	1	1	1	1
16	10112013	Lifting lever connection rod	1	1	1	1	1	1
17	H05009	Snap ring	2	2	2	2	2	2
18	10127008	Tension release return spring	1	1	1	1	1	1
19	10127003	Tension release pin spring	1	1	1	1	1	1
20	10126003	Tension release supporting pin	1	1	1	1	1	1
21	10112012	Tension release plate	1	1	1	1	1	1
22	101S20002	Tension release screw stud	1	1	1	1	1	1
23	101S30004	Presser spring regulator	1	1	1	1	1	1
24	101S16002	Presser spring regulator nut	1	1	1	1	1	1
25	10102003	Presser guide bar	1	1	1	1	1	1
26	10127005	Presser spring	1	1	0	0	0	0
	10127018	Presser spring	0	0	1	1	1	1
27	10109003	Presser bar guide bracket	1	1	1	1	1	1
28	10102004	Presser bar	1	1	1	1	1	1
29	10113008	Presser bar thread guide	1	1	1	1	1	1
30	101S15007	Screw SM 1/4 x 40 L=8	1	1	1	1	1	1
31	101S11005	Screw SM 9/64 x 40 L=8.5	2	2	2	2	2	2
32	10103012	Presser bar bushing (lower)	1	1	1	1	1	1
33	101S11009	Screw SM9/64 x 40 L=10.5	1	1	1	1	1	1
34	10128002	Washer	1	1	1	1	1	1
35	10122034	Presser bar oil protection bushing	1	1	1	1	1	1

6.5

Feed Mechanism Components



No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
1	10105005	Feed regulator connecting rod	1	1	1	1	0	0
	12212003	Feed regulator connecting rod	0	0	0	0	1	1
2	10126016	Feed regulator pin	1	1	1	1	1	1
3	10101004	Feed regulator	1	1	1	1	1	1
4	10103020	Feed regulator bushing	1	1	1	1	1	1
5	10126014	Feed regulator screw	1	1	1	1	1	1
6	10127010	Spring	1	1	1	1	1	1
7	10126015	Pin	1	1	1	1	1	1
8	10111052	Feed dial	1	1	1	1	0	0
	12211001	Feed dial	0	0	0	0	1	1
	101S11022	Screw SM3/16X28 L=18	1	1	1	1	1	1
10	10105003	Feed rock shaft crank connecting rod	1	1	1	1	0	0
	400083	Feed rock shaft crank connecting rod	0	0	0	0	1	1
11	10126006	Pin	1	1	1	1	1	0

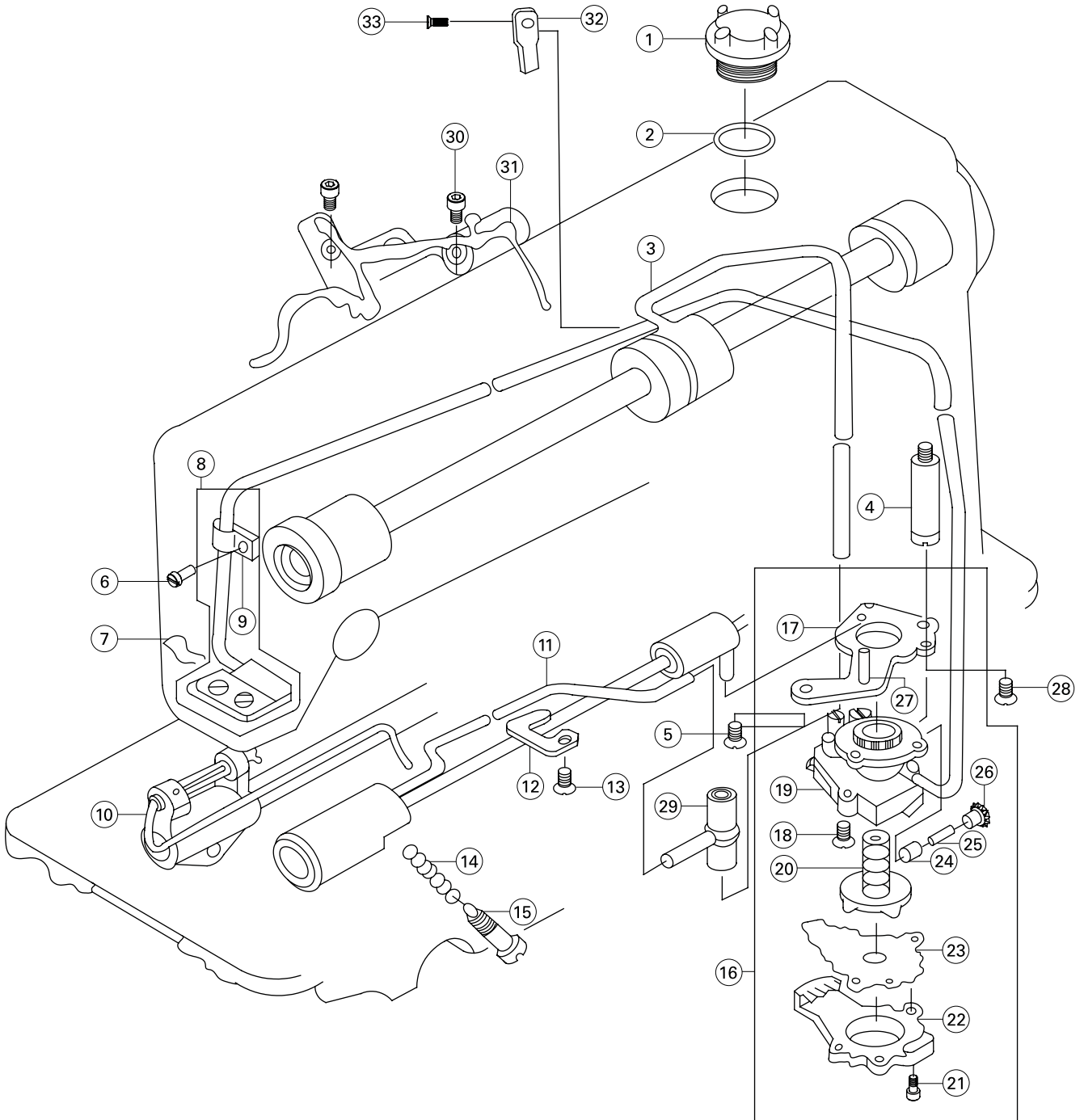
6.5

Feed Mechanism Components

No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
12	101S11005	Screw SM9/64x 40 L=6	1	1	1	1	1	1
13	10105004	Feed lifting rock shaft crank connecting rod	1	1	1	1	1	1
14	10122016	Rubber ring	1	1	1	1	1	1
15	10127012	Spring	1	1	1	1	0	0
	12227001	Spring	0	0	0	0	1	1
16	H05009	Snap ring	1	1	1	1	1	1
17	1010400500	Feed reverse arm assembly	1	1	1	1	1	1
18	101S17003	Screw	1	1	1	1	1	1
19	H05009	Snap ring	1	1	1	1	1	1
20	101S11005	Screw SM9/64x 40 L=6	2	2	2	2	2	2
21	1012007	Pin	2	2	2	2	2	2
22	10109005	Link	2	2	2	2	2	2
23	10109004	Link	2	2	2	2	2	2
24	1010100200	Feed adjust link assembly	1	1	1	1	1	1
25	10126009	Feed adjust link shaft	2	2	2	2	2	2
26	101S15010	Screw SM15/64x28 L=7	2	2	2	2	2	2
27	101S11005	Screw SM9/64x40 L=6	2	2	2	2	2	2
28	10126013	Feed bar shaft	1	1	1	1	1	1
29	H03001	Retaining ring	1	1	1	1	1	1
30	10114001	Feed dog	1	1	0	0	0	0
	10114004	Feed dog	0	0	1	1	0	0
	10114012	Feed dog	0	0	0	0	1	1
31	101S11018	Screw SM1/8X44 L=6	2	2	2	2	2	2
32	1010700100	Feed bar assembly	1	1	1	1	1	1
33	10112018	Feed spring hook plate	1	1	1	1	1	1
34	10102008	Feed rock shaft	1	1	1	1	1	1
35	10126011	Pin	1	1	1	1	1	1
36	101S11005	Screw SM9/64x 40 L=6	1	1	1	1	1	1
37	101S16003	Nut SM9/32X 28	1	1	1	1	1	1
38	10104002	Feed rock shaft crank	1	1	1	1	0	0
	12204003	Feed rock shaft crank	0	0	0	0	1	1
39	101S11016	Screw SM3/16 X 28 L=15.5	1	1	1	1	1	1
40	10104004	Feed lifting rock shaft crank (back)	1	1	1	1	1	1
41	101S11021	Screw SM3/16 x 28 L=15.5	1	1	1	1	1	1
42	101S20005	Screw	1	1	1	1	1	1
43	10102009	Feed driving shaft	1	1	1	1	1	1
44	10108003	Thrust collar	1	1	1	1	1	1
45	101S15002	Screw SM1/4 x 40 L=6	2	2	2	2	2	2
46	10103018	Feed rock shaft bushing	1	1	1	1	1	1
47	101S11023	Screw SM3/16 x 28 L=7	1	1	1	1	1	1
48	101S11025	Screw SM11/64 x 40 L=7	1	1	1	1	1	1
49	H03001	Retaining ring	1	1	1	1	1	1
50	10101003	Feed bar driving crank	1	1	1	1	1	1
51	101S11016	Screw SM3/16 x 28 L=14	1	1	1	1	1	1
52	10128003	Washer	1	1	1	1	1	1
53	10104003	Lifting fork	1	1	1	1	1	1
54	101S11020	Screw SM11/64 x 40 L=10.5	1	1	1	1	1	1
55	10103018	Feed driving shaft bushing	1	1	1	1	1	1
56	10108003	Thrust collar	1	1	1	1	1	1
57	101S15002	Screw SM1/4 x 40 L=6	2	2	2	2	2	2
58	10122017	Rubber ring	1	1	1	1	1	1
59	10102010	Feed reverse shaft	1	1	1	1	1	1
60	10103021	Feed reverse shaft bushing	1	1	1	1	1	1
61	10101005	Reverse feed control lever	1	1	1	1	1	1
62	101S15007	Screw SM1/4 x 40 L=8	1	1	1	1	1	1
63	101S15011	Screw SM1/4 x 40 L=10	1	1	1	1	1	1
64	10112019	Adjusting link spring guide	1	1	1	1	1	1
65	10127011	Reverse feed spring	1	1	1	1	0	0
	12227002	Reverse feed spring	0	0	0	0	1	1
66	101S11025	Screw SMI 1/64 X 40 L=5	2	2	2	2	2	2
67	10126010	Screw	0	0	0	0	1	1
68	GT0569	Washer	0	0	0	0	1	1
69	GT0570	Feed adjusting shaft	0	0	0	0	1	1

6.6

Lubrication
Components



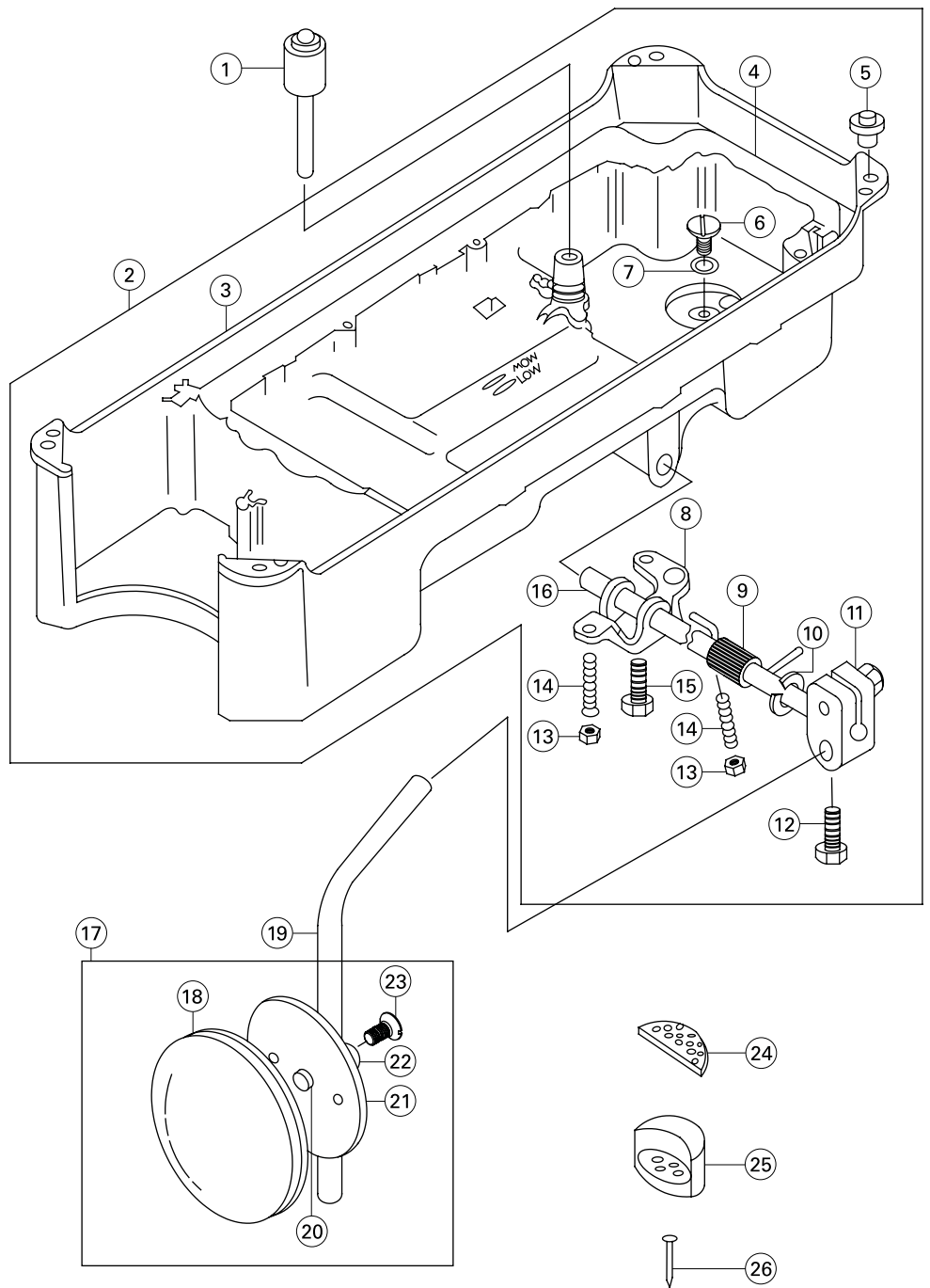
6.6

Lubrication Components

No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
1	10111004	Oil sight window	1	1	1	1	1	1
2	10122019	Rubber ring	1	1	1	1	1	1
3	10121002	Arm shaft oil tube	1	1	1	1	1	1
4	101S30008	Oil pump support	1	1	1	1	1	1
5	101S11026	Screw SM15/64 x 28 L=9	1	1	1	1	1	1
6	101S11004	Screw SM3/16 x 28 L=6	1	1	1	1	1	1
7	10127015	Oil felt clip	1	1	1	1	1	1
8	1012701500	Oil return tube assembly	1	1	1	1	1	1
9	10112023	Oil return tube holder	1	1	1	1	1	1
10	10123001	Oil wick	1	1	1	1	1	1
11	10121003	Oil tube	1	1	1	1	1	1
12	10112022	Oil tube holder (lower)	1	1	1	1	1	1
13	101S11026	Screw SM15/64 x 28 L=9	1	1	1	1	1	1
14	10127014	Spring	1	1	1	1	1	1
15	101S30009	Oil adjusting screw	1	1	1	1	1	1
16	1012000100	Oil pump assembly	1	1	1	1	1	1
17	10112020	Oil pump installing base	1	1	1	1	1	1
18	101S11011	Screw x 8	3	3	3	3	3	3
19	10120001	Oil pump	1	1	1	1	1	1
20	10111003	Oil pump impeller	1	1	1	1	1	1
21	101S30006	Screw	3	3	3	3	3	3
22	10111007	Oil pump cover	1	1	1	1	1	1
23	10112021	Oil pump impeller cover	1	1	1	1	1	1
24	10122018	Plunger	1	1	1	1	1	1
25	10127013	Plunger spring	1	1	1	1	1	1
26	101S30007	Plunger screw	1	1	1	1	1	1
27	10121001	Hook driving shaft oil tube	1	1	1	1	1	1
28	101S11011	Screw SM11/64 x 40 L=9.5	1	1	1	1	1	1
29	10136001	Oil tube joint	1	1	1	1	1	1
30	101S11010	Oil wick set plate screw	2	2	2	2	2	2
31	10112025	Oil wick set plate assembly	1	1	1	1	1	1
32	10112026	Presser plate	1	1	1	1	1	1
33	101S11033	Screw	1	1	1	1	1	1

6.7

Oil Reservoir Components



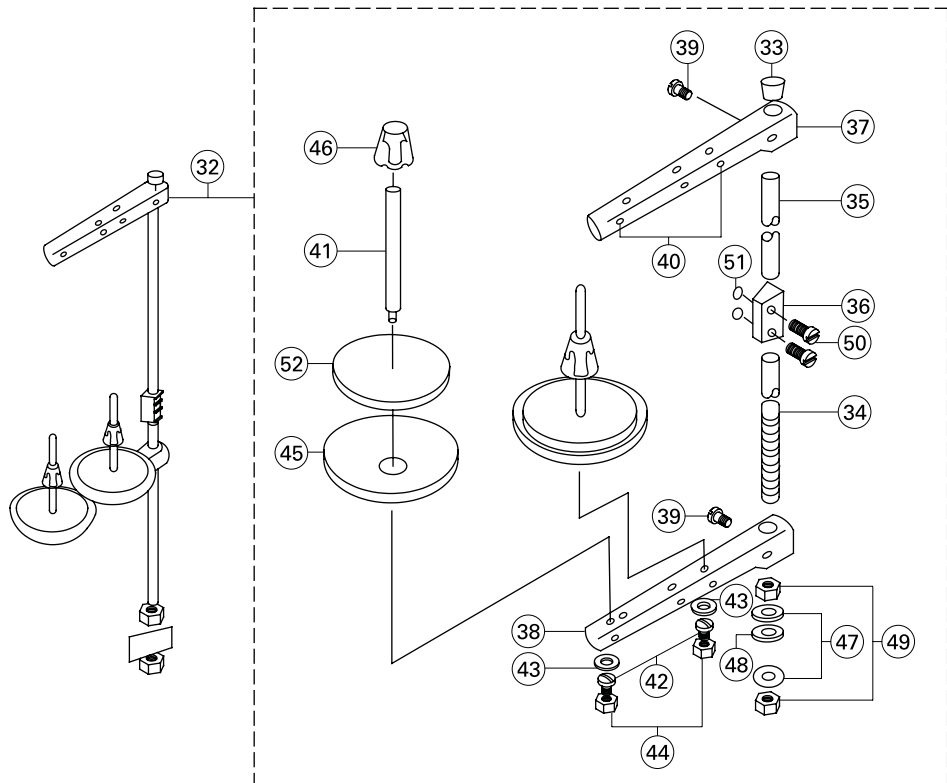
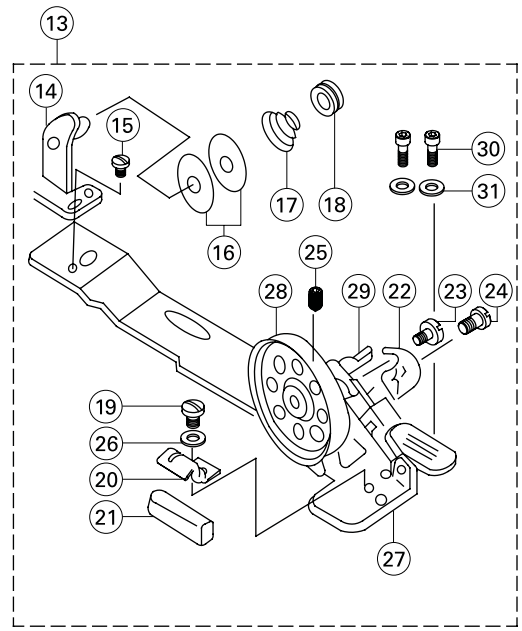
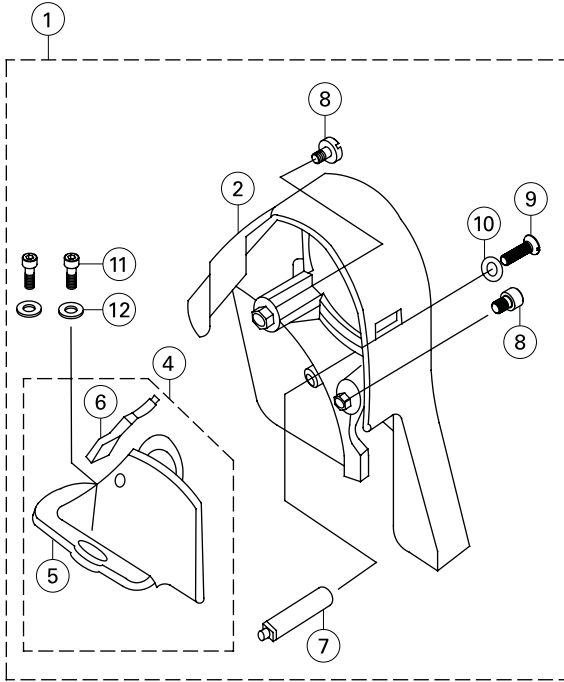
6.7

Oil Reservoir Components

No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
1	10111005	Knee presser lift rod	1	1	1	1	1	1
2	1010100600	Oil reservoir assembly	1	1	1	1	1	1
3	10101006	Oil reservoir	1	1	1	1	1	1
4	10122020	Gasket	1	1	1	1	1	1
5	10122031	Rubber cushion	1	1	1	1	1	1
6	101S11028	Screw	4	4	4	4	4	4
7	10122021	Rubber ring	1	1	1	1	1	1
8	101112027	Knee lifter connecting rod	1	1	1	1	1	1
9	10127016	Spring	1	1	1	1	1	1
10	H05010	Snap ring	1	1	1	1	1	1
11	10101008	Bracket	1	1	1	1	1	1
12	101S12003	Screw SM9/32x 20 L=20	1	1	1	1	1	1
13	101S16004	Nut SM15/64 x 28	2	2	2	2	2	2
14	101S15012	Screw SM15/64 x 20 L=30	2	2	2	2	2	2
15	101S12002	Screw	2	2	2	2	2	2
16	10102011	Knee lifter shaft	1	1	1	1	1	1
17	1011202800	Knee lifter plate assembly	1	1	1	1	1	1
18	10122024	Knee lifter plate cover	1	1	1	1	1	1
19	10112028	Knee lifter plate rod	1	1	1	1	1	1
20	10122025	Knee lifter plate rubber	1	1	1	1	1	1
21	10112029	Knee lifter plate	1	1	1	1	1	1
22	10112030	Knee lifter plate holder	1	1	1	1	1	1
23	101S12004	Screw SM15/64 x 28 L=15	1	1	1	1	1	1
24	10122022	Oil reservoir felt cushion	2	2	2	2	2	2
25	10122023	Oil reservoir rubber cushion	2	2	2	2	2	2
26	101S30010	Nail	4	4	4	4	4	4

6.8

Belt Cover, Bobbin Winder and Thread Stand Components



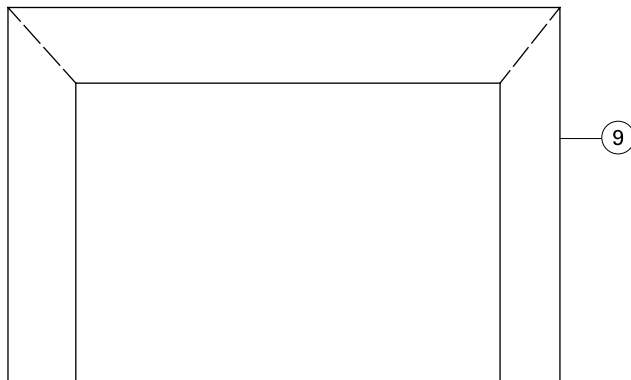
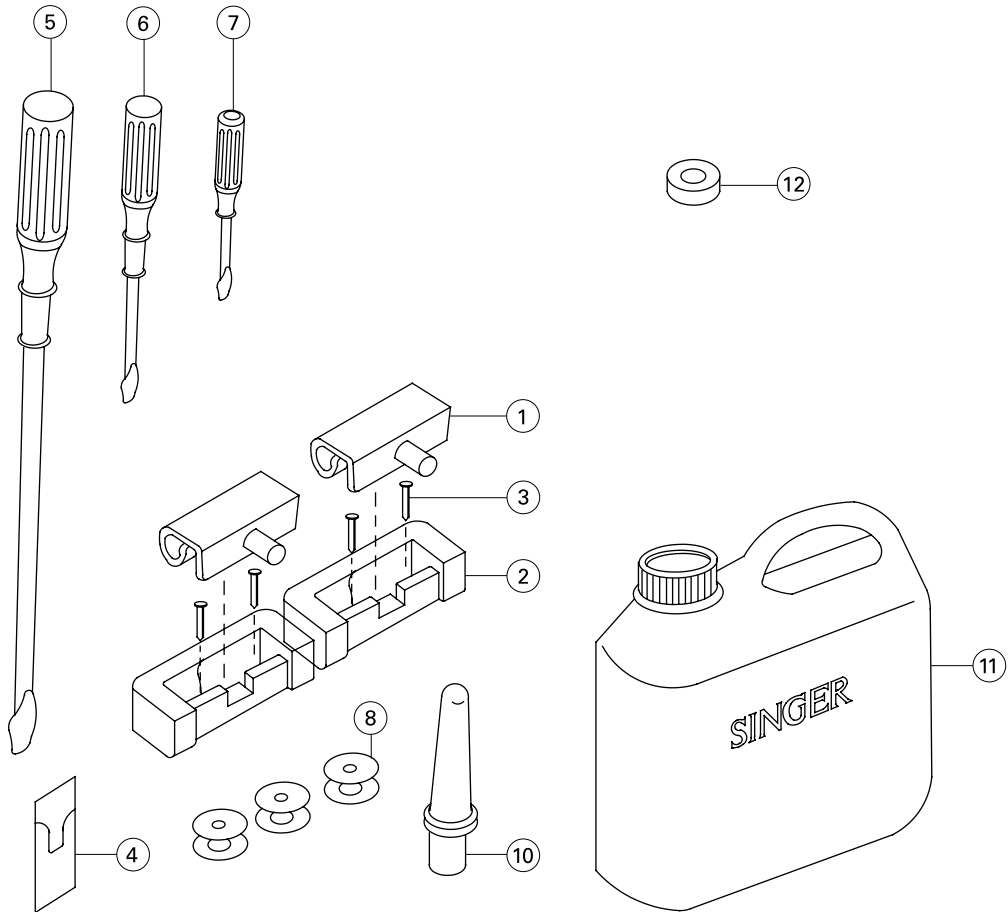
6.8

Belt Cover, Bobbin Winder and Thread Stand Components

No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
1	1011100600	Belt cover assembly	1	1	1	1	1	1
2	10111006	Belt cover	1	1	1	1	1	1
4	1011100900	Belt cover back assembly	1	1	1	1	1	1
5	10111009	Belt cover back	1	1	1	1	1	1
6	1011101000	Belt cover back latch	1	1	1	1	1	1
7	101S30012	Belt cover support	1	1	1	1	1	1
8	101S11029	Belt cover screw	2	2	2	2	2	2
9	101S11030	Screw	1	1	1	1	1	1
10	10128007	Washer	1	1	1	1	1	1
11	101S30011	Screw	2	2	2	2	2	2
12	10128006	Washer	2	2	2	2	2	2
13	1011203200	Bobbin winder assembly	1	1	1	1	1	1
14	10112037	Thread tension bracket	1	1	1	1	1	1
15	S04006	Screw SMI 1/64 x 40 L=7	1	1	1	1	1	1
16	10112038	Tension disk	2	2	2	2	2	2
17	10127018	Tension spring	1	1	1	1	1	1
18	101S16005	Tension nut	1	1	1	1	1	1
19	S04006	Screw SMI 1/64' x 40 L=5	1	1	1	1	1	1
20	10112035	Rubber brake bracket	1	1	1	1	1	1
21	10122027	Rubber brake	1	1	1	1	1	1
22	10112036	Bobbin winder spring	1	1	1	1	1	1
23	10120006	Hinge screw SMI/Sx44 L=12.5	1	1	1	1	1	1
24	S04017	Screw	1	1	1	1	1	1
25	S04006	Screw	1	1	1	1	1	1
26	10128001	Washer	1	1	1	1	1	1
27	10112032	Bobbin winder base	1	1	1	1	1	1
28	10101010	Bobbin winder pulley	1	1	1	1	1	1
29	10102012	Bobbin winder post	1	1	1	1	1	1
30	101S30014	Screw	2	2	2	2	2	2
31	10128008	Washer	2	2	2	2	2	2
32	1013100900	Thread stand assembly	1	1	1	1	1	1
33	10122028	Rubber cap	1	1	1	1	1	1
34	10131008	Spool post (lower)	1	1	1	1	1	1
35	10131009	Spool post (upper)	1	1	1	1	1	1
36	10112039	Spool post joint	1	1	1	1	1	1
37	10112040	Spool arm (upper)	1	1	1	1	1	1
38	10112041	Spool arm (lower)	1	1	1	1	1	1
39	S04013	Screw	2	2	2	2	2	2
40	10113010	Thread guide	2	2	2	2	2	2
41	10131010	Spool pin	2	2	2	2	2	2
42	10128009	Spring washer	2	2	2	2	2	2
43	10128002	Washer	2	2	2	2	2	2
44	101S16006	Nut	2	2	2	2	2	2
45	10111013	Spool rest	2	2	2	2	2	2
46	10111014	Spool retainer	2	2	2	2	2	2
47	10128010	Washer	2	2	2	2	2	2
48	10128006	Spring washer	1	1	1	1	1	1
49	N02003	Nut	1	1	1	1	1	1
50	10104003	Screw	2	2	2	2	2	2
51	101S11020	Nut	2	2	2	2	2	2
52	10102009	Spool rest cushion	2	2	2	2	2	2

6.9

Machine
Accessories



6.9

Machine Accessories

No.	Part No.	Description	Qty.					
			20	20C	30	30C	70	70C
1	1011203100	Machine hinge plate	2	2	2	2	2	2
2	10122026	Machine hinge rubber cushion	2	2	2	2	2	2
3	101S30010	Nail Set	4	4	4	4	4	4
4	1955-01	Needle #14	3	3	0	0	0	0
	1955-01	Needle #18	0	0	3	3	0	0
	1955-01	Needle #21	0	0	0	0	3	3
5	10131002	Screw driver (large)	1	1	1	1	1	1
6	10131003	Screw driver (medium)	1	1	1	1	1	1
7	10131004	Screw driver (small)	1	1	1	1	1	1
8	10118003	Bobbin	3	3	3	3	0	0
	10818501	Bobbin	0	0	0	0	3	3
9	IP07042-001	Dust cover	1	1	1	1	1	1
10	10111011	Machine rest pin	1	1	1	1	1	1
11	1011105500	Oil container	1	1	1	1	1	1
12	10131001	Oil reservoir magnet	1	1	1	1	1	1



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