Installation

1. External Installation

Hinge (No. 1 in Fig. 1) is mounted to the holes at the back of machine stand by screws (4 pieces).

Thread stand (No. 2 in Fig. 1) is mounted to the holes at the back of machine head by screws (2 pieces).

Drawer (No. 3 in Fig. 1) is mounted to the left holes on machine stand by screws (2 pieces).

Auxiliary worktable (No. 4 in Fig. 1) is mounted to the right holes on machine stand by screws (2 pieces).

Front moving wheels (No. 5 in Fig. 1) are mounted to the holes at the foot of machine stand by screws (4 pieces), while rear moving wheels (No. 6 in Fig. 1) are mounted to the cross lever at the back of machine stand by screws.

2. Electrical/Gas Source Installation

Note that power source, voltage, frequency and power are in conformity with the requirements specified on the nameplate of motor. Power source (220V~380) shall be completed by experienced electricians.

Gas source shall be (0.5Mpa) purified (water and oil filtered) gas into the machine.

Fig. 1
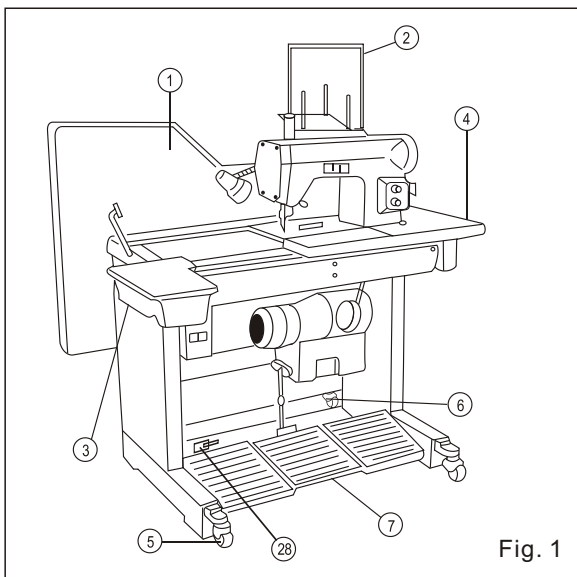
Turn on power source, check the indicator beside the switch, working light, display. For 782NP. whether gas source has been normally opened, and check the barometer (0.5Mpa). For 781NP, Press short needle (upper needle gauge) switchover key (No. 15 in Fig. 4) or pedal short needle (upper needle gauge) switchover key (No. 28 in Fig. 1), short needle (upper needle gauge) switchover lever (No. 25 in Fig. 6) on the right of machine head, moving up and down. For z782NP, press short needle (upper needle gauge) switchover key (No. 23 in Fig. 5) or pedal short needle (upper needle gauge) switchover key (No. 28 in Fig. 1), display (No. 18G in Fig. 5) on the right of machine head, whether any change in pattern.

3. Test Running

Before connected to power supply, turn the handwheel counterclockwise to see whether there is any strange sound of scratch between the components, and whether the knee-motivated presser foot is in good conditions.

The pedal (No. 7 in Fig. 1) is forwarded by one shift for low-speed operation, by two shifts for medium speed, and three shifts for high speed, to see whether it works normally. It is rearward by one shift to make the machine returned to the position, by two shifts to make the needle eyelet opened (closing needle lifted), and by three shifts to lift the presser foot (782NP) pneumatically. If there is no abnormity, the machine can enter into normal operation.

Operational Remarks

1. Selection of Thread

Use different thread under different working speeds of machine and for different cloth materials.

Under high-speed operation or for thick material, professional edging thread shall be used.

Under high-speed operation or for medium and thin cloth, sewing thread of good quality may be used.

Under normal conditions, international standard 80# and 20# thread may be used.

2. Needle Placement

(1) Put on the needle to make its notch facing the operator.

(2) Put on closing needle (No. 8 in Fig. 2), with its point at the position of 0.8-1.2mm below needle notch.
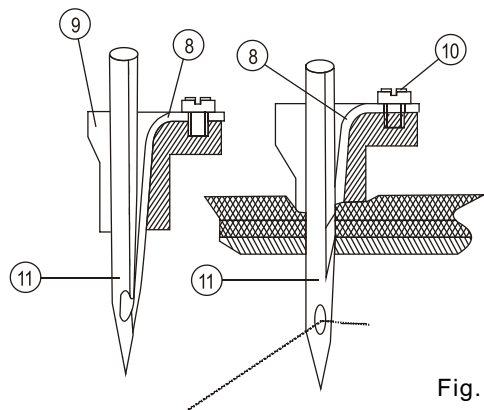
Fig. 2
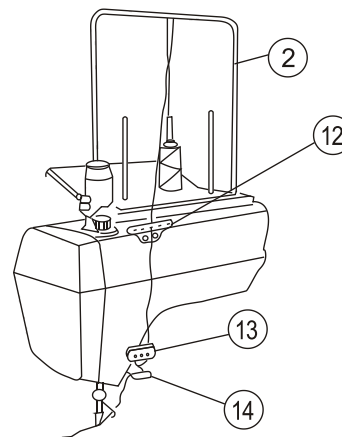
Fig. 3

3. Threading Instructions

(1) Upper threading: threading steps as indicated in Fig. 2, threaded through the hole on thread stand, through the hole on machine head (No. 12 in Fig. 3), through the thread clamp (No. 13 in Fig. 3) on machine head, hung on the blade (No. 14 in Fig. 3) below machine head, hung on the automatic trimming port (No. 14A in Fig. 3), hung on the needle eyelet (No. 11 in Fig. 2), pull straight to the left, maximum length up to 90cm, not exceeding the set length. Place the cloth below presser foot before threading.

(2) Pneumatic threading: start the motor, step on the pedal backwards into the second shift (No. 7 in Fig. 1), needle eyelet will open itself, and motor will automatically lift up the closing needle lever and thread hook to positions ideal for threading. The closing needle will rise from needle pole, and thread will be hung on needle eyelet (No. 12 in Fig. 3).

4. Definition of Upper and Lower Needle Gauge

Fig. 4

15 16 17
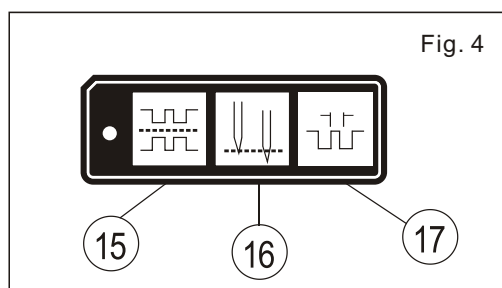
1. Visible stitches on cloth face are named upper needle gauge, while the invisible stitches on cloth back are named lower needle gauge.

缝线在布料的背面,不可见部分称为下针距(俗称针距)。

The upper and lower stitches are uniformly named a stitch.

See Fig. 4A:

Upper Needle Gauge

Lower Needle Gauge

Fig. 4A

2. (781NP) Keystroke Function Description

See Fig. 4A for signs and positions.

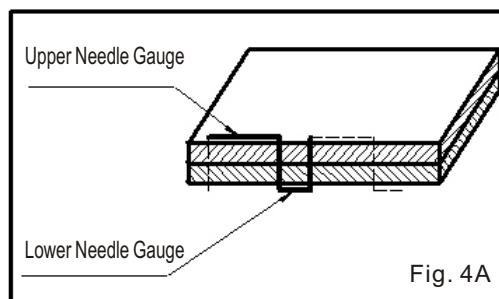1) Press key to switch over the upper and lower needle gauges of stitches, effect of switchover referred to Fig. 4A-1.

Before switchover   After switchover
Fig. 4A-1
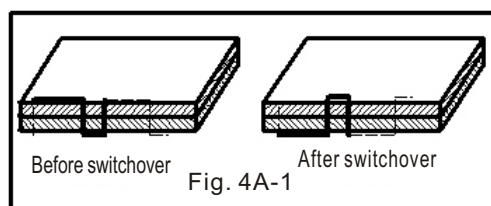
2) Press key for adjustment of half a stitch, i.e., to make the needle working half a stitch, from the lower to the upper position, or from the upper to the lower position.

Effect of adjustment referred to Fig. 4A-2.
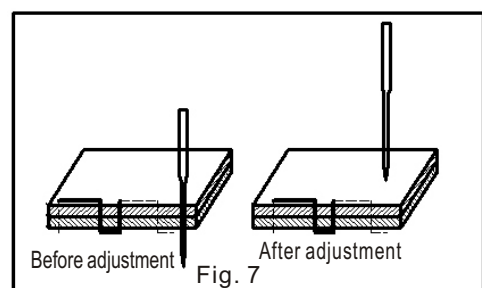
Fig. 4A-2

3) Press key for adjustment of upper and lower needle gauges, the process referred to the next chapter.

Before adjustment   After adjustment
Fig. 7

Type

| Memory | Lower Needle Gauge | 80 |
| 01 | Upper Needle Gauge | 30 |

Shengkai Technology

18B

18G

F   S

OK

23

Fig. 5

3. Adjustment of (781NP) Upper and Lower Needle Gauges

1. For adjustment of upper needle gauge, with key pressed, turn the adjusting knob of upper needle gauge. The greater the value on scale, the longer the upper needle gauge.
2. Turn the adjusting knob of lower needle gauge, the greater the value on scale, the longer the lower needle gauge. Adjusting instructions referred to Fig. 6.

4. Functional and Operational Description of (782NP) Controller and Display

Appearance of (782NP) controller, display interface and button position referred to Fig. 5
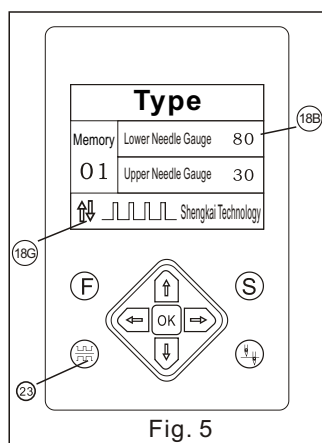
Display screen may be in Chinese or English. To switch over the interface in Chinese and in English, press OK key first and then turn on power supply. When brightened background appears, undo the OK key, and there will display two language options (1. CHINESE 2. ENGLISH). In front of the language option there is a cursor flashing. Pressorto switch over alternatively. When the cursor is flashing in front of one of them, that means this language has been selected. Here, turn off the power supply. After a while, turn on power supply, and the display will be in the language you have selected, that is, the language indicated by the cursor before power supply was turned off.

Note: (782NP) controller is provided with the function of saving (memory) upon power cut.

1) Controller may save (memorize) the combination of 15 groups of needle gauge values, so that users can save (memorize) 15 different numerical groups of upper and lower needle gauges.

2) In the process of sewing, just select different memory number to activate the numerical combination of upper and lower needle gauges under this number.

3) Controller is able to remember the state before the last stop (memory number), for instance, if the memory number before the last stop is 09, the machine will continue the numerical combination of upper and lower needle gauges under 09, thus to ensure operating continuity.

5. (782NP) Sewing Instructions (Fig. 5)

1)To select the memory number for sewing Warning:

stop the process of sewing while selecting a memory number.

(1) Press S key, there will be a cursor flashing in the dialog box of memory number. Press ↑ or ↓ key to increase or decrease the memory number within the scope of 01-15. When the value required appears, undo the ↑ or ↓ key.

(2) Press OK key to confirm the memory number, and the cursor in the dialog box of memory number will stop flashing. Here, both the motors at upper and lower needle gauges will run. When it is automatically adjusted to the preset value, the work of sewing may begin.

2) Switchover of upper and lower needle gauges: press ⊞ key to switch over the upper and lower needle gauges.

Switchover effect of needle gauges referred to Fig. 4A-1.

Before switchover   After switchover
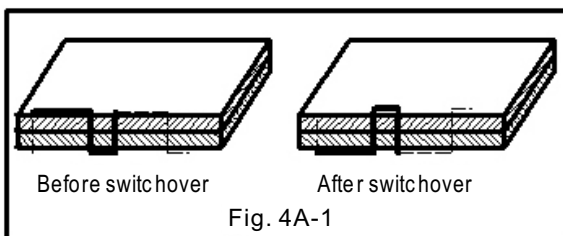
Fig. 4A-1

3) Half-a-stitch Adjustment

Press ⊞ key to make the needle working half a stitch, from the lower to upper position, or from the upper to lower position. Effect of adjustment referred to Fig. 4A-2.


Before adjustment   After adjustment

Fig. 7

Fig. 4A-2

Operating instructions to save (memorize) the numerical values of upper and lower needle gauges:

Warning: in the process of numerical value saving (memorizing), the work of sewing must be stopped.

4) To confirm memory number;

Press S key, there will be a cursor flashing in the dialog box of memory number. Press ↑ or ↓ key to increase or decrease memory number within the scope of 01-15. When the value required appears, undo the ↑ or ↓ key.
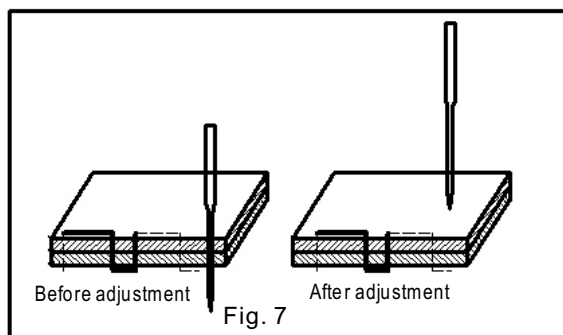
5) To set up or amend the value of lower needle gauge;

Press → key, there will be a cursor flashing in the dialog box of lower needle gauge. Here, press ↑ or ↓ key to increase or decrease the value of lower needle gauge within the scope of 05-80. When the value required appears, undo the ↑ or ↓ key.

6) To set up or amend the value of upper needle gauge;

Press → key, there will be a cursor flashing in the dialog box of upper needle gauge. Here, press ↑ or ↓ key to increase or decrease the value of upper needle gauge within the scope of 05-80. When the value required appears, undo the ↑ or ↓ key.

7) To confirm the value setting or amend saving (memorizing) process;

Press OK key to confirm the setting. Here, both the motors at upper and lower needle gauges will run, then automatically adjusted to the set value.

8) Fault notes, causes and solutions

" ！ " appeared behind the valves of upper and lower needle gauge dialog box Motor blocked To loosen it
Sensing potentiometer damaged   To replace
Connecting line disconnected   To replace
" ！ " appeared behind the values of upper and lower needle gauges   Wrong direction of motor
Wrong connection of lines of motor or sensing potentiometer, reconnect it.

9) Press OK key to display the current values of upper and lower needle gauges.

In case of the values of upper and lower needle gauges changed due to man-made factors, for instance, motors of upper and lower needle gauges having been turned by a man in mechanical adjustment. Here, if you want to know the current values of upper or lower needle gauges, just press OK key.

6. Functional and Operational Description of (783NP) Controller and Display Screen (Fig. 5A)

(783NP) controller is provided with the function of digital control to the upper and lower needle gauges of every stitch, which can be programmed by users. A sewing cycle contains at most 15 stitches, and one program number represents one sewing cycle, thus to bring out flexible needle gauges. The appearance of (783NP) controller, display interface and button position referred to Fig. 5A.
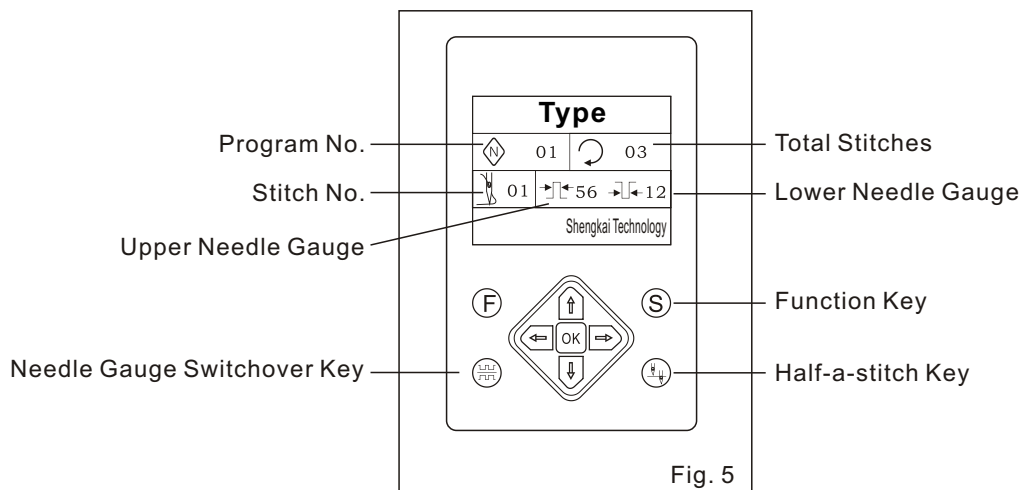
Program No. — Type
N 01 03 — Total Stitches
Stitch No. — 01 →56 →12 — Lower Needle Gauge
Upper Needle Gauge — Shengkai Technology

F S — Function Key
Needle Gauge Switchover Key — OK — Half-a-stitch Key

Fig. 5

1)Sewing Instructions

<1>To select sewing program number

Warning: In the process of selecting program number, the work of sewing must be stopped.

Press S key, there will be a cursor flashing in the dialog box of program number. Press ↑ or ↓ key to increase or decrease the program number within the scope of (00-99). When the value required appears, undo the ↑ or ↓ key.

Press OK key to confirm program number, and the cursor in the dialog box of program number will stop flashing. Here the work of sewing may be carried out.

<2> Switchover of upper and lower needle gauges:

Press ⊞ key to switch over the upper and lower needle gauges.

Switchover effect of needle gauges referred to Fig. 4A-1:

Before switchover   After switchover
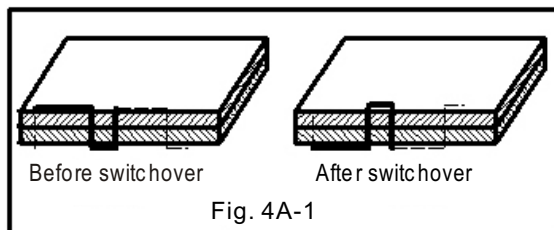
Fig. 4A-1

(3) Half-a-stitch adjustment

Press ⊕ key to make needle working half a stitch, from the lower to upper position, or from the upper to lower position. Effect of adjustment referred to Fig. 4A-2.

Before adjustment   After adjustment

Fig. 7
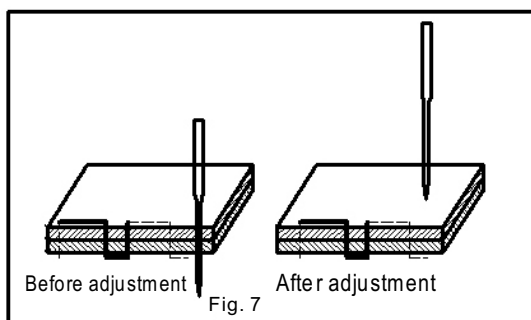
2) (783NP) Needle Gauge Programming Instructions

(1)A new conception:

The length of upper needle gauge in 783 can be digitally controlled within the scope of 05-70, a unit≈0.1mm, that is to say, the shortest upper needle gauge≈0.5mm, the longest≈7mm.

The length of lower needle gauge in 783 can be digitally controlled within the scope of 05-70, a unit≈0.1mm, that is to say, the shortest lower needle gauge≈0.5mm, the longest≈7mm.

(2) Composition of program

A program is composed of 5 double-digits.

The first part, program number: icon and dialog box position referred to Fig. 5A.

783NP has totally 100 programs available from 00 to 99. They are divided into two areas, the first area including the 8 program numbers from 00 to 07 available for free programming, and the second area including the 56 program numbers from 08 to 63 available for half programming. Press S key to enter into the dialog box for the setup of program number, and press ↑ or ↓ ↓ key to amend the value of program number.

The second part, total stitches: icon and dialog box position referred to Fig. 5A.

Each program may arrange 1-15 stitches from 01 to 15, which can be set up by users. A stitch is composed of the upper thread and lower thread. Press→or←key to enter into the dialog box of total stitches, and press ↑ or ↓ key to amend the value of total stitches.

The third part, stitch number: icon and dialog box position referred to Fig. 5A.

Used to set or change a certain stitch in the program. Press ← or → key to enter into the dialog box of stitch number, and press ↑ or ↓ key to amend the value of a certain stitch.

The fourth part, upper needle gauge: icon and dialog box position referred to Fig. 5.

Press ← or → key to enter into the dialog box of upper needle gauge, value within the scope of 05-70, and press ↑ or ↓ key to amend the value of upper needle gauge.

第五部分，下针距：其图标和对话框位置见图5。
The fifth part, lower needle gauge: icon and dialog box position referred to Fig. 5.

Press ← or → key to enter into the dialog box of lower needle gauge, value within the scope of 05-70, and press ↑ or ↓ key to amend the value of lower needle gauge.

After programmed, press OK key to finish program setup with a sound of beep.

3) Example (1) specifying the operating process of free programming:

How to edit a program for needle gauges indicated in the following diagram:
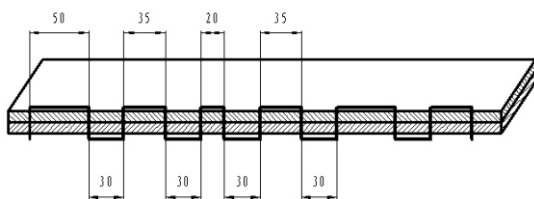
It is analyzed that a cycle is composed of four stitches, the upper needle gauge of the first stitch at 50 units, the lower at 30 units, the upper needle gauge of the second stitch at 35 units, the lower at 30 units, the upper needle gauge of the third stitch at 20 units, the lower at 30 units, and the upper needle gauge of the fourth stitch at 35 units, the lower at 30 units.

(1) To confirm program number first:

Press S key and the cursor in the dialog box of N program number on display screen will be flashing.

Press ↑ or ↓ key and the number in the dialog box will change from 00 to 07, and select the program number you need. Here we select 05, and now begin to edit the program 5.

(2) To confirm the total stitches in the program:

Press → to move the cursor into the dialog box of total stitches, referred to Fig. 5A. Here, the cursor in the dialog box of total stitches on display screen will be flashing.

Press ↑ or ↓ key and the number in the dialog box of total stitches will change from 01 to 15. Select the total stitches you need. Here, we select 4 as the total stitches in the program.

(3) To confirm the first stitch:

Press → key to move the cursor into the dialog box of stitch number. Here the cursor in the dialog box of stitch number on display screen will be flashing.

Press ↑ or ↓ key to amend the number of a certain stitch. Here, we select 1, and now we will program the upper and lower needle gauges of the first stitch.

To confirm the upper needle gauge of the first stitch:

Press → key to move the cursor into the dialog box of upper needle gauge. Here the cursor in the dialog box on display screen will be flashing.

Press ↑ or ↓ key and the value in the dialog box of upper needle gauge will change from 05 to 70. Here, we select 50.

To confirm the lower needle gauge of the first stitch:

Press →key to move the cursor into the dialog box of lower needle gauge. Here, the cursor in the dialog box on display screen will be flashing.

Press ↑ or ↓ key and the value in the dialog box of lower needle gauge will change from 05 to 70. Here, we select 30.

Hereto we've finished the editing of the first stitch in program 5.

(4) To confirm the second stitch:

Press ← key twice to move the cursor into the dialog box of stitch number. Here, the cursor in the dialog box of stitch number on display screen will be flashing.

Press ↑ or ↓ key to amend the value of a certain stitch. Here, we select 2, and now begin to edit the program for the upper and lower needle gauges of the second stitch.

To confirm the upper needle gauge of the second stitch:

Press → key to move the cursor into the dialog box of upper needle gauge. Here, the cursor in the dialog box on display screen will be flashing.

Press ↑ or ↓ key and the value in the dialog box of upper needle gauge will change from 05 to 70. Here, we select 35.

To confirm the lower needle gauge of the second stitch:

Press →key to move the cursor into the dialog box of lower needle gauge. Here, the cursor in the dialog box on display screen will be flashing.

Press ↑ or ↓ key and the value in the dialog box of lower needle gauge will change from 05 to 70. Here, we select 30. Hence, the setup for the lower needle gauge of the second stitch has finished.

(5) To confirm the third stitch:

Press ← twice to move the cursor into the dialog box of stitch number. Here, The cursor in the dialog box of stitch number on display screen will be flashing.

Press ↑ or ↓ key to amend the number of a certain stitch. Here, we select 3, and now begin to edit the program for the upper and lower needle gauges of the third stitch.

To confirm the upper needle gauge of the third stitch:

Press → key to move the cursor into the dialog box of upper needle gauge. Here, the cursor in the dialog box on display screen will be flashing.

Press ↑ or ↓ key and the value in the dialog box of upper needle gauge will change from 05 to 70. Here, we select 20.

To confirm the lower needle gauge of the third stitch:

Press → key to move the cursor into the dialog box of lower needle gauge. Here, the cursor in the dialog box on display screen will be flashing.

Press ↑ or ↓ key and the value in the dialog box of lower needle gauge will change from 05 to 70. Here, we select 30, and the setup for lower needle gauge of the third stitch has finished.

(6) To confirm the fourth stitch:

Press ← key twice to move the cursor into the dialog box of stitch number. Here, the cursor in the dialog box of stitch number on display screen will be flashing.

Press ↑ or ↓ key to amend the number of a certain stitch. Here, we select 4, and now begin to edit the program for upper and lower needle gauges of the fourth stitch.

To confirm the upper needle gauge of the fourth stitch:

Press → key to move the cursor into the dialog box of upper needle gauge. Here, the cursor in the dialog box on display screen will be flashing.

Press ↑ or ↓ key and the value in the dialog box of upper needle gauge will change from 05 to 70. Here, we select 35.

To confirm the lower needle gauge of the fourth stitch:

Press → key to move the cursor into the dialog box of lower needle gauge. Here, the cursor in the dialog box on display screen will be flashing.

Press ↑ or ↓ key and the value in the dialog box of lower needle gauge will change from 05 to 70. Here, we select 30, and the setup for the lower needle gauge of the fourth stitch has finished.

Hereto we have completed all parameter setup of program 5. Press OK key, there will be sound of beep, which means that the editing of program 5 has finished.

Effect of sewing needle gauges as the diagram below.
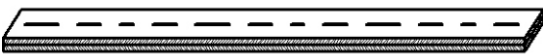
4) Example 2 specifying the operating instructions of half programming.

The different between half programming and free programming is that, its upper and lower needle gauges cannot be amended, and 56 different parameters of upper and lower needle gauges have been set before being delivered out of factory. The detailed values can be referred to the table of parameters of needle gauges. Stitch number is set from 01 to 15. Its upper and lower needle gauges cannot be amended, and its program numbers are from 08 to 63.

Firstly, check the comparison list of numerical values:

Select program number and stitches in the comparison list of numerical values, e.g.: program number 12, stitches 3.

To confirm program number:

Press S key, here, the cursor in the dialog box of <<N>> program on display screen will be flashing.

Press ↑ or ↓ key and the number in the dialog box will change from 08 to 63. Here, we select 12.

Press → key to move the cursor into the dialog box of total stitches (Fig. 5). Here, the cursor in the dialog box of the total stitches on display screen will be flashing.

Press ↑ or ↓ key and the value in the dialog box of total stitches will change from 01 to 15. Here, we select 3, and undo the ↑ or ↓ key.

"Check stitch 01 in the dialog box of stitch number, the dialog box of upper and lower needle gauges will display (upper needle gauge=46, lower needle gauge=12). For stitch 02 in the dialog box, the dialog box of upper and lower needle gauges will display (upper needle gauge=12, lower needle gauge=12). For stitch 03, the dialog box of upper and lower needle gauges will display (upper needle gauge=12, lower needle gauge=13), which are the same as that in the comparison list of numerical values. "

Hereto we have completed all parameter setup of 3 stitches in program 12. Press OK key, and there will be sound of beep, which means that the editing of program 12 has finished.

Effect of sewing stitches as the diagram

5. Length Adjustment of Short Needle

(1) To adjust (781NP) short needle. E.g.: press the switchover button of 781NP short needle (No. 17 in Fig. 4), the length of short needle (upper needle gauge) may be adjusted by the knob (No. 26 in Fig. 6). The greater the value on scale, the shorter the length of short needle (upper needle gauge), the smaller the value, the longer the length of short needle.

(2) To adjust (782NP) short needle. E.g.: press function key (No. 20 in Fig. 5), and cursor will move into the box of upper needle gauge (No. 18C in Fig. 5) on display. Press plus key (No. 21 in Fig. 5), or minus key (No. 22 in Fig. 5), to amend and confirm the values. Press OK key to finish, and the 18G in Fig. 5 will change its pattern automatically.

图6
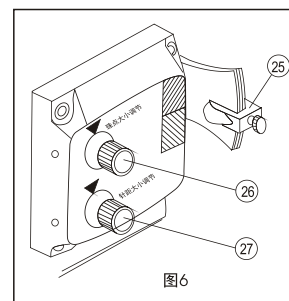
6. Length Adjustment of Long Needle (Lower Needle Gauge)

(1) The length of (781NP) long needle (lower needle gauge) may be adjusted by the knob (No. 27 in Fig. 6). The greater the value on scale, the longer, and the lower the value, the shorter.

(2) To adjust (782NP) long needle (lower needle gauge). E.g.: press function key (No. 20 in Fig. 5), and cursor will move into the box of lower needle gauge (No. 18B in Fig. 5) on display. Press plus key (No. 21 in Fig. 5), or minus key (No. 22 in Fig. 5) to amend and confirm the value. Press OK key to finish. And 18G in Fig. 5 will automatically change its pattern.

7. Switchover of Long and Short Needles

The switchover of long and short needles may be completed by activating the foot switch (No. 28 in Fig. 1) at the left lower side of machine stand, or by the manual button (No. 15 in Fig. 4) of long and short needles (781NP) or (782NP) (No.23 in Fig. 5), thus to change short needles above and below the cloth (upper needle gauge).
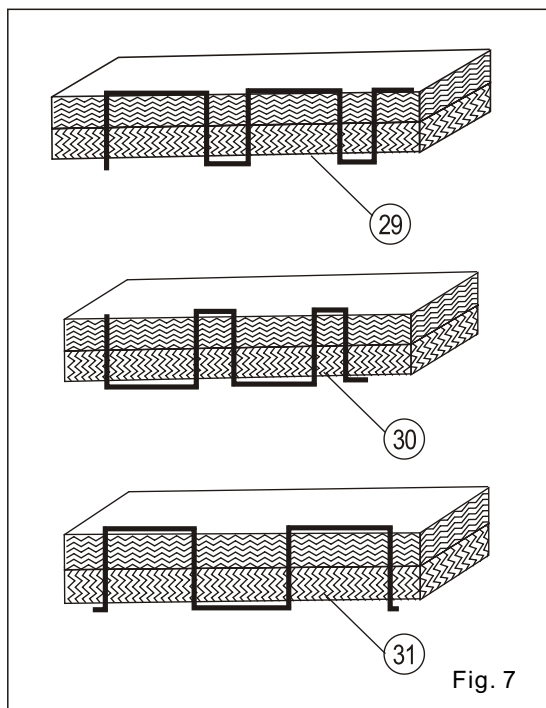
Fig. 7

E.g.: It may be seen that long needle (lower needle gauge) appears above the cloth and short needle (upper needle gauge) below the cloth, no. 29 in Fig. 7. Short needle (upper needle gauge) above the cloth, and long needle (lower needle gauge) below the cloth, no.30 in Fig. 7. In Fig. 7, the sizes of long and short needles, no. 31, are the same, which is a special sewing stitches (for leather).

8. Adjustment of Presser Foot

Appropriate pressure of presser foot may ensure even sewing on material, and no damage to the cloth material. Turn the adjustor (No. 32 in Fig. 8) clockwise to increase pressure, and counterclockwise to decrease pressure.
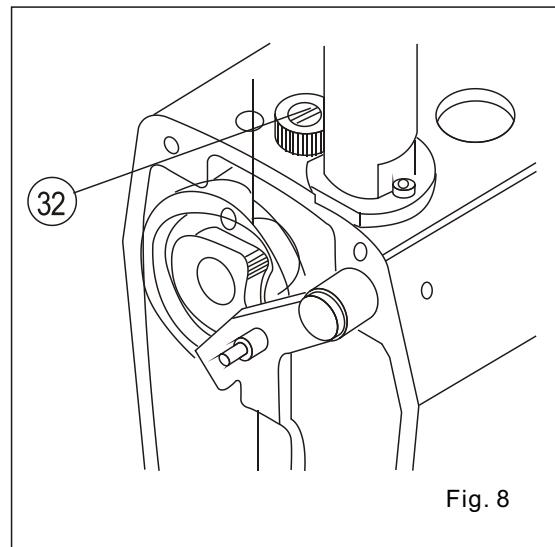
Fig. 8

Maintenance and Adjustment of Machine

(1) A complete sewing cycle is composed of two working cycles. The first working cycle: to complete the surface of cloth material sewing; the second working cycle: to complete the back sewing.

(2) The first working cycle: needle moves downwards with thread on from the upper dead center. The upper thread hook (No. 33 in Fig. 9) will lift up and the thread on the needle will be sewn in. The needle returns to the upper dead center with no thread on, the upper thread hook (No. 33A in Fig. 9) stops at the braking position behind the needle.

(3) The second working cycle: needle moves downwards with no thread on from the upper dead center, and upper thread hook (No. 33A in Fig. 9) will be at the braking position behind the needle. The needle returns to the upper dead center with thread on, while the upper thread hook is at the initiating position to hook up the thread on the needle. Here, the second working cycle finished, and it is to enter into the text cycle.

(4) To complete these two working cycles, needle shaft, upper thread hook and rotary thread hook (No. 34 in Fig. 9) shall work as following.

The First Circle

Peak Point of Needle Bar

33

34

At 0°   At 180°

Fig. 9

The Second Circle

Peak Point of Needle Bar

33A

360°

The First Circle at 360°
The Second Circle at 0°   At 180°
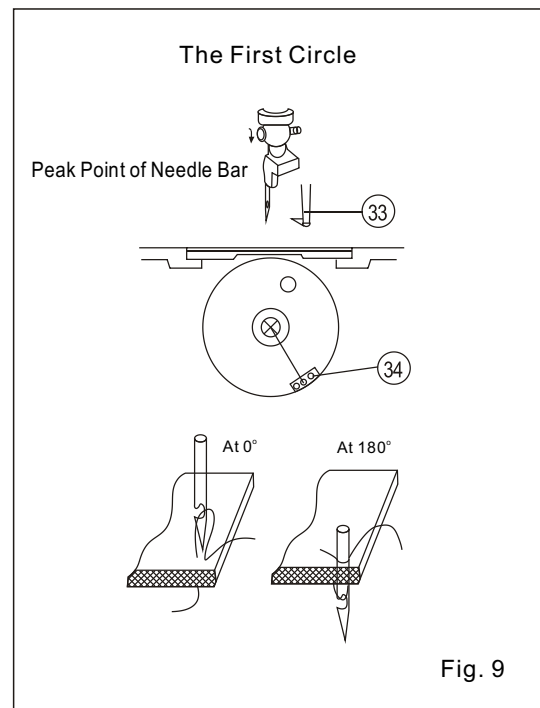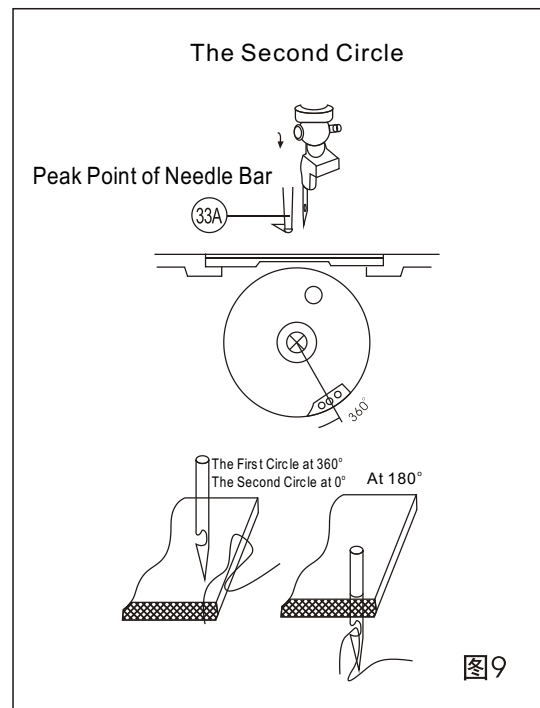
图9

A. Opened and closed twice at the front and back for closing needle.
B. Upper thread hook (No. 33 in Fig. 9) makes hooking action once at the front and back.
C. Rotary thread hook (No. 34 in Fig. 9) rotates twice by 360°.

2. Adjustment of Closing Needle

(1) Make closing needle sleeve (No. 9 in Fig. 10) separated from closing needle sleeve shaft (No. 35 in Fig. 10), and sewing needle (No. 11 in Fig. 10) separated from needle bar (No. 36 in Fig. 10).

(2) Closing needle (No. 8 in Fig. 10) shall be placed in the trough of closing needle sleeve (No. 9 in Fig. 10), and then fixed by fastening screws (No. 10 in Fig. 10), and keep the jointing force between closing needle (No. 8 in Fig. 10) point and sewing needle as low as possible, as indicated in Fig. 10.
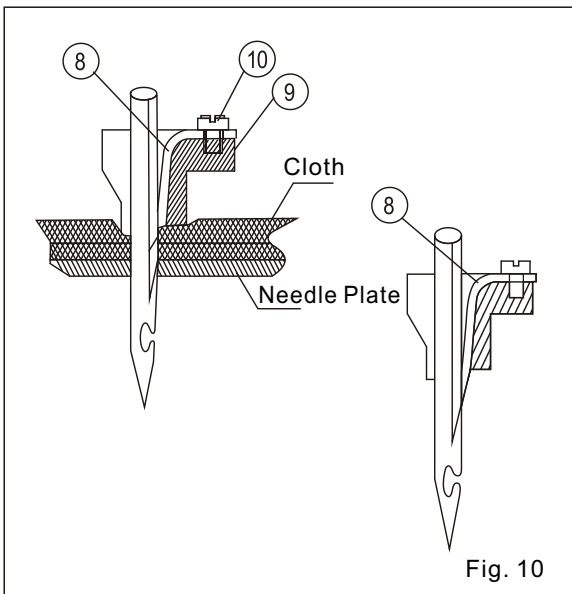
Fig. 10

(3) Use new needle (No. 11 in Fig. 11) upon installation. Insert the needle (No. 11 in Fig. 11) into the needle fixing sleeve (No. 38 in Fig. 11), and fixed by fastening screw (No. 39 in Fig. 11). Then, put the needle sleeve (with closing needle in) matched with needle into the closing needle sleeve shaft (No. 35 in Fig. 11), fixed by fastening screw (No. 40 in Fig. 11). Check whether closing needle sleeve makes linear and smooth movement along the needle.
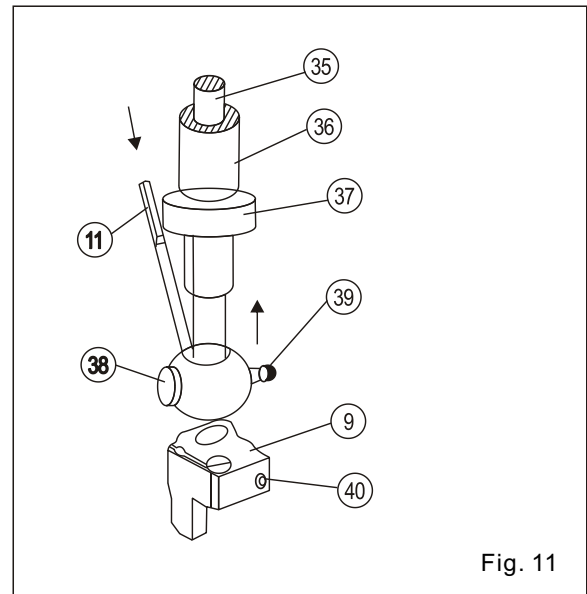
Fig. 11

3. Installation and Height Adjustment of Needle Sleeve Shaft

(1) Check whether needle sleeve shaft (No. 35 in Fig. 12) moves freely in needle tube, whether it is needed to readjust the sliding piece (No. 42 in Fig. 12), so as to avoid abrasion, as indicated in Fig. 12.
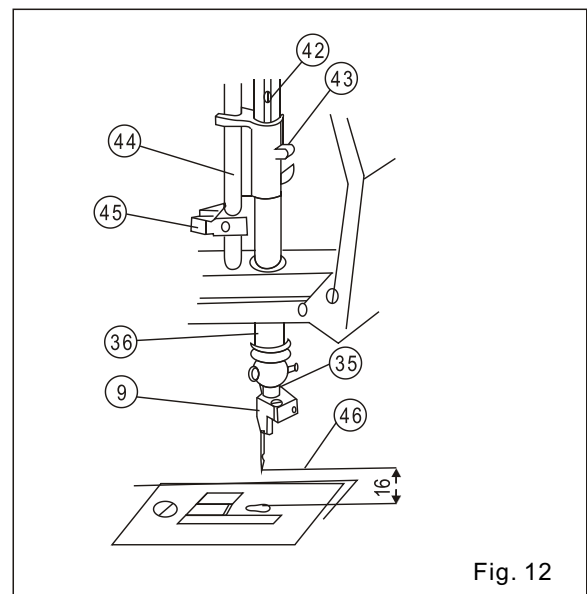
Fig. 12

(2) The screw on bar driver (No. 43 in Fig. 12). Mount fixed needle sleeve (No. 38 in Fig. 11) and closing needle sleeve (No. 9 in Fig. 11) to the respective shafts. Needle is inserted from the upper part of fixed needle sleeve. The screw (No. 39 in Fig. 11) shall be pointed right, and keep the top end of needle in contact with the ring (No. 37 in Fig. 11), as indicated in Fig. 11. Fasten the screw (No. 39 in Fig. 11). Push the closing needle sleeve shaft (No. 35 in Fig. 12) to the top and then adjust the closing needle sleeve (No. 9 in Fig. 12), so that it can be made in contact with the fixed needle sleeve (No. 38 in Fig. 11) and the shoulder of closing needle sleeve shaft (No. 35 in Fig. 12) at the same time. And then fasten the screw (No. 40 in Fig. 11). After completing these operations, lift up the closing needle sleeve shaft fully to see whether it moves freely and whether the needlepoint makes linear movement. The needlepoint shall be aligned to the center of pinhole on needle plate.

(3) Turn the handwheel to make needle driver (No. 43 in Fig. 12) up to the upper dead center. This step is to adjust the height of needle, i.e., a space of 16mm between needlepoint and needle plate (No. 46 in Fig. 12). Special care shall be paid to fastening the needle bar driver (No. 43 in Fig. 12), so that the inside part of needle bar will not deform. In case that needle bar (No. 36 in Fig. 13) reaches the lower dead center, the needle and the basic hole of thread hook disc (No. 49 in Fig. 13) will be vertically on a straight line, as indicated in Fig. 13.

Fig. 13
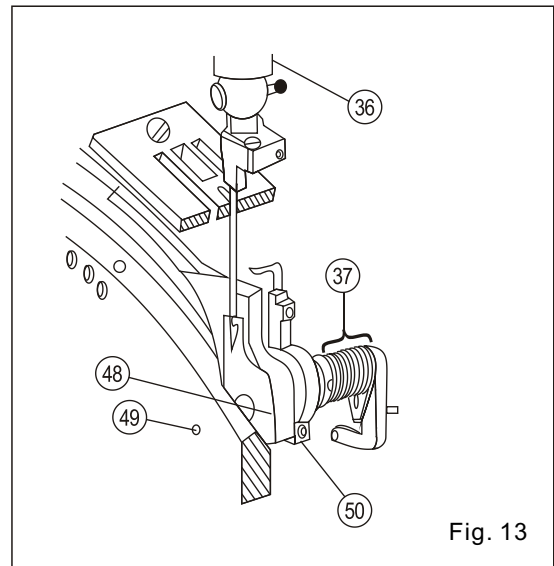
4. Height Adjustment of Closing Needle

(1)The position of closing needle (No. 8 in Fig. 14) is closely associated with the needle, and the position of needle bar. When needle bar is at the upper dead center, closing needle (No. 8 in Fig. 14) shall close the opening of needle (No. 11 in Fig. 14), and exceeding the opening by 0.8-1.2mm, as indicated in Fig. 14.
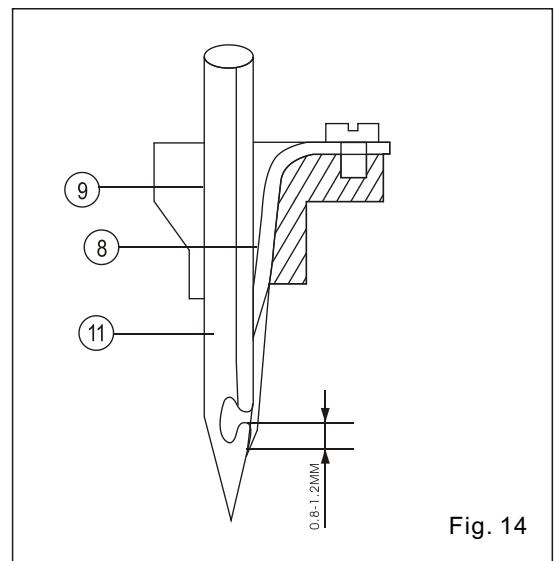
Fig. 14

(2) To loosen the screw (No. 41 in Fig. 15), turn the screw cap (No. 51 in Fig. 15) to adjust the height of closing needle (No. 8 in Fig. 14), clockwise to lift and counterclockwise to lower the closing needle. After adjustment is done, fasten the screw (No. 41 in Fig. 15), as indicated in Fig. 15.

Fig. 16

(2) Turn the handwheel to make the lower thread feeding hook (No. 53 in Fig. 17) up to the stroke top, and then adjust the height. The space between the bottom of needle plate (No. 46 in Fig. 17) and the highest point of lower thread feeding hook shall be 0.3mm, as indicated in Fig. 17.

Fig. 15

5. Adjustment of Lower Thread Feeding Hook

(1) To install the lower thread feeding hook (No. 53 in Fig. 16), keep its point 0.3mm stretched out of the shaft of lower thread feeding hook, as indicated in Fig. 16.
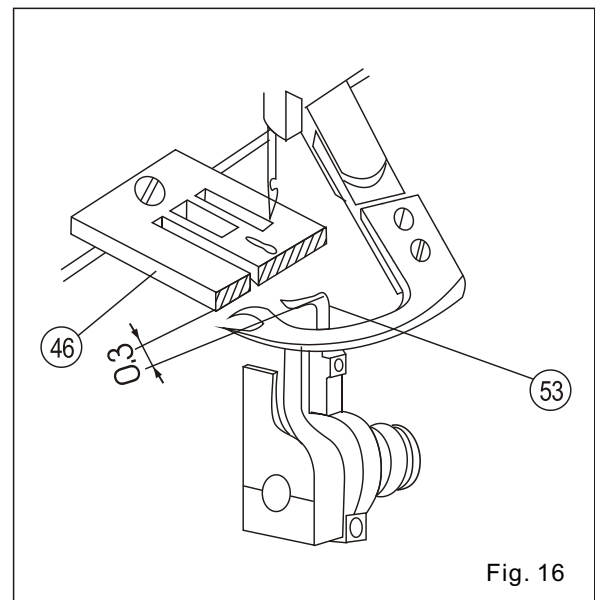
Fig. 16

(3) Move the lower thread feeding hook to the terminal of stroke behind the needle, and adjust the base of lower thread feeding hook (No. 54 in Fig. 18). The lower thread feeding hook shall be kept 2.5mm away from the needle, with the outside part of its top stretching 3mm from the left of the needle, as indicated in Fig. 18.

Fig. 18
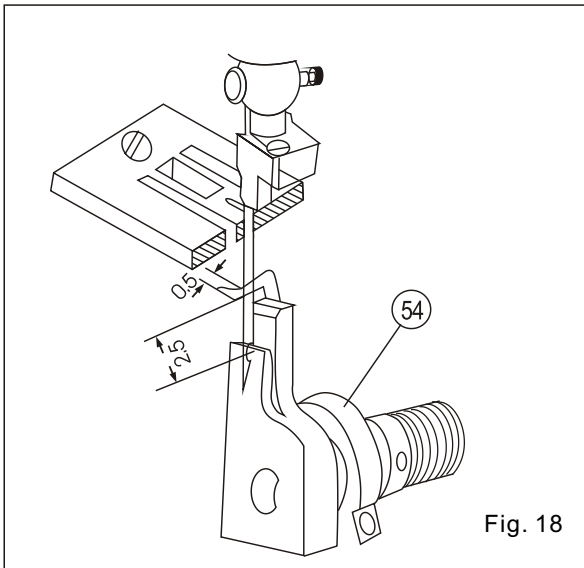
(4) If the needle moves down to the point height of the lower thread feeding hook, and the lower thread feeding hook reaches the terminal of its stroke behind the needle, that means the position is correct.

The cam (No. 55 in Fig. 19) used to control the action of lower thread feeding hook is in contact with the cam (No. 56 in Fig. 19) used to control the thread tension device, as indicated in Fig. 19.

Fig. 19
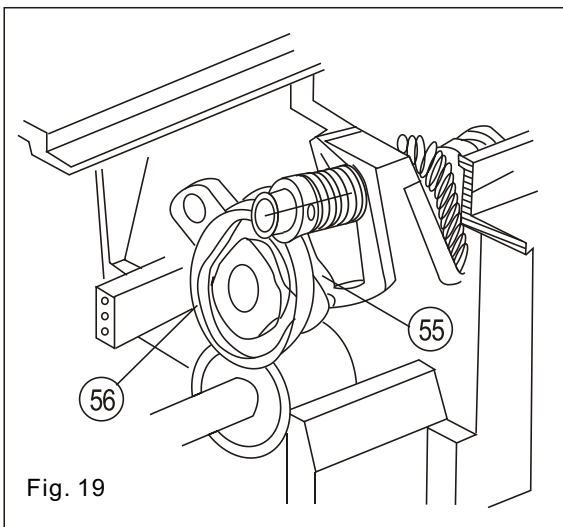
6. Adjustment of Needle Guard

(1) Check the cam rocker (No. 47 in Fig. 20) of lower thread feeding hook to see whether the space is excessive. To reduce the space, press internal bolt (No. 48 in Fig. 20) toward the direction of machine stand, and make the cam rocker (No. 47 in Fig. 20) of lower thread feeding hook rotate freely on the internal bolt, as indicated in Fig. 20.

Fig. 20
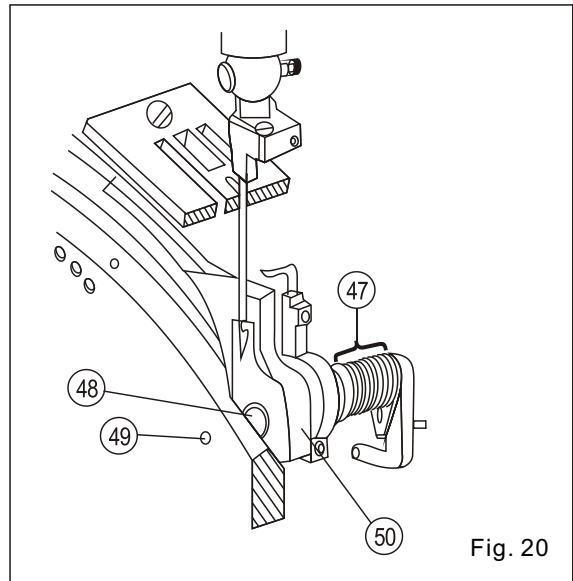
(2) Needle guard (No. 50 in Fig. 21) is used to avoid needle bended in the sewing of thick material. What to perform this function is the inner edge of the short teeth, as indicated in Fig. 21.
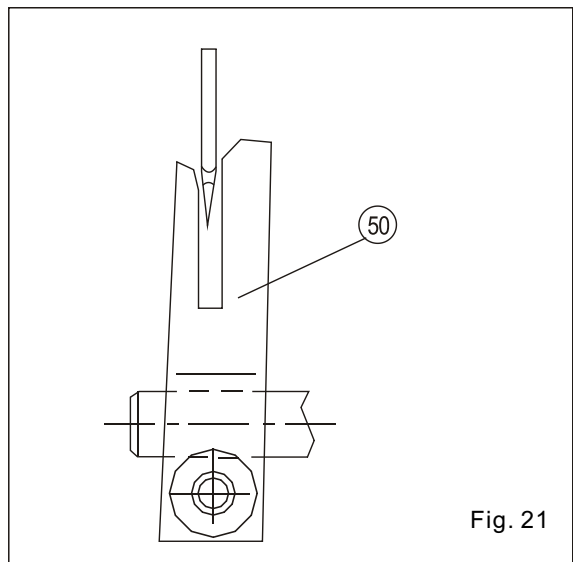
Fig. 21

3) To adjust needle guard (No. 50 in Fig. 21), make the needle rising 2mm from the lower dead center and still in contact with the internal edge of the shortest tooth of needle guard (No. 50 in Fig. 21). When needle bar rises 3mm, the needle will lose contact with the needle guard.

Clamp the needle guard to see whether it has been properly adjusted.

7. Adjustment of Upper Thread Hook

(1) Make the cam (No. 56 in Fig. 22) positioned in a place vertical to the machine. Turn the handwheel to make the second screw of thread tension cam (No. 56 in Fig. 22) moving toward the rotating direction, as indicated in Fig. 22.
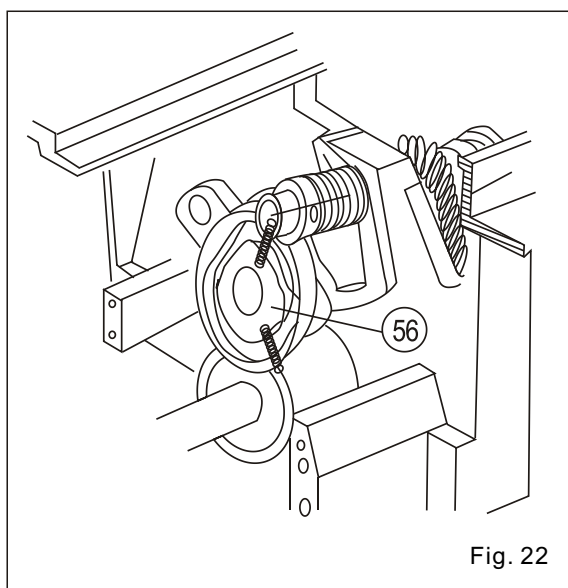
Fig. 22

(2) When the cam (No. 56 in Fig. 22) has been in this position, make the second screw to the rotating direction of the cam (No. 57 in Fig. 23) of upper thread hook in a straight line with the hole on machine casing (No. 58 in Fig. 23), as indicated in Fig. 23. The screw will stop here temporarily for preparation of synchronous adjustment.
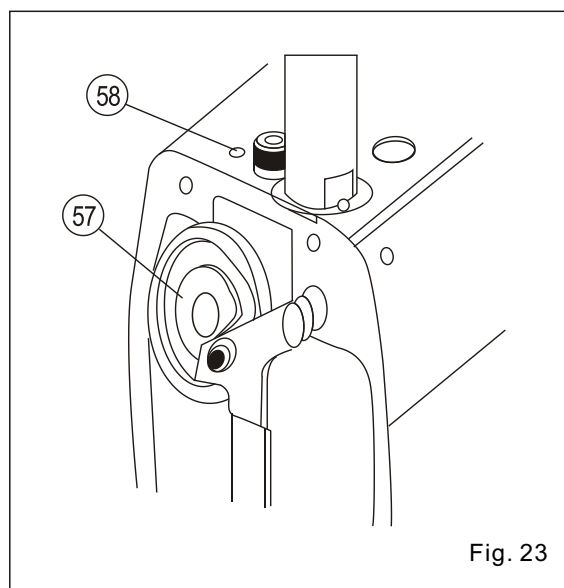
Fig. 23

(3) Upper thread hook (No. 33 in Fig. 24) forms an angle of 5o with sewing needle (No. 11 in Fig. 24), so that the sewing needle cannot be broken in return stroke, as indicated in Fig. 24
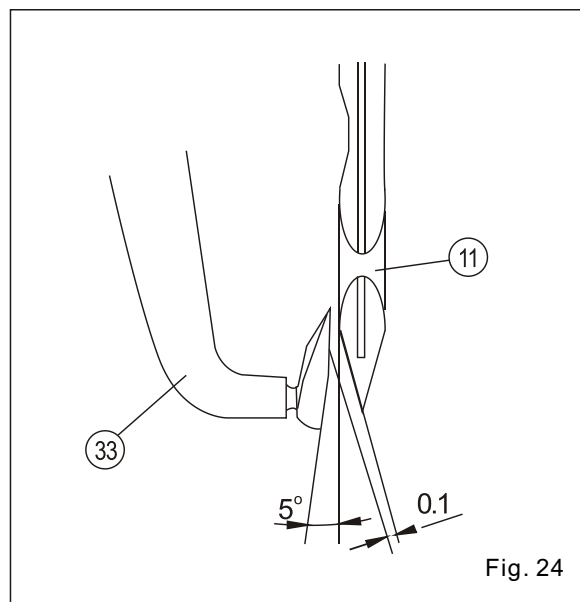
Fig. 24

(4) Adjustment may be completed by turning the base of upper thread hook (No. 59 in Fig. 25), as indicated in Fig.
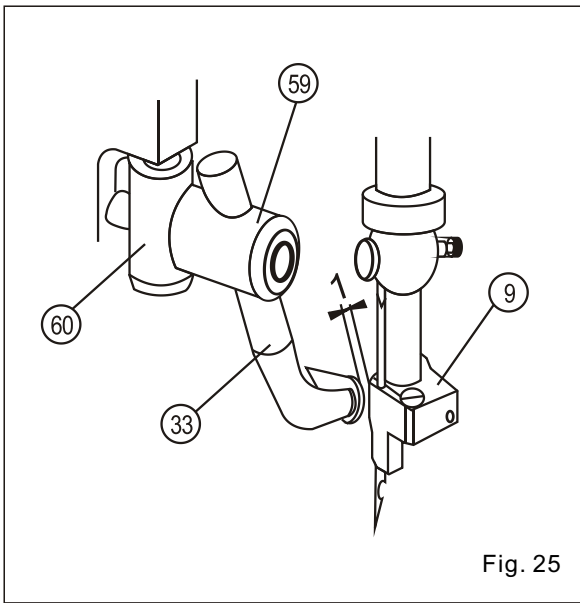
Fig. 25

(5) At the end of the second cycle, the upper thread hook returns to the starting point. From the second cycle, turn the handwheel to make the back of close needle sleeve (No.9 in Fig. 25) forming up a straight line with the upper thread hook. Adjust the horizontal position and keep 1mm space between the back of upper thread hook and the back of close needle sleeve.

This may be completed by the base of upper thread hook (No.59 in Fig. 25) in the moving stand (No.60 in Fig. 25), as indicated in Fig. 25.
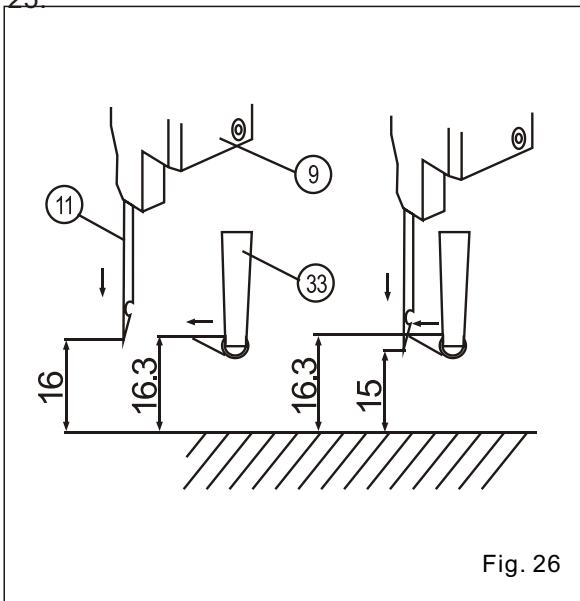
Fig. 26

(6) Keep the point of upper thread hook (No.33 in Fig. 26) 16.3mm above the needle plate, as indicated in Fig. 26.

(7) Place the needle bar in the starting position of the first cycle, and keep it 1mm away from the upper dead center. The space between needle plate and needle point shall be 15mm, as indicated in Fig. 26.

The needle bar is maintained at the abovementioned position. Keep the control cam (No.57 in Fig. 23) running along with the rotating direction of the machine to the hook point, and it shall be 1mm higher than the needle point. Insert the turnbuckle from the hole on machine casing (No.58 in Fig. 23), as indicated in Fig. 23.

Before the cam used to control the movement of hook needle is completely fastened, keep it in contact with the shaft first. And then, keep it 0.5mm separated, thus to make bearing always stopped at the bottom of the cam stroke.

8. Adjustment of the Low-speed Driving Mechanism of Lower Feed Dog

Preparation

Fig. 27 is the assembly drawing of sewing adjusting box. This drawing specifies the three cardinal areas of installation. Before adjusting the driving mechanism, check these cardinal areas first to make them back into normal status.
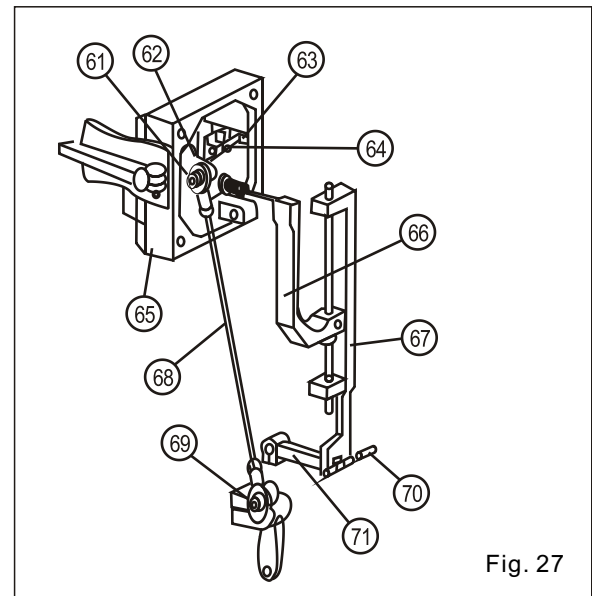
Fig. 27

Steps to disassemble the sewing adjusting box as following:

(1)Take the screw (No. 61 in Fig. 27) off from the joint bearing on driving rod (No. 62 in Fig. 27).

(2)Take the screw (No. 69 in Fig. 27) off from another joint bearing, and remove the connecting rod (No. 68 in Fig. 27).

(3)Take off the spring of outer extension member (No. 83 in Fig. 31), as indicated in Fig. 31.
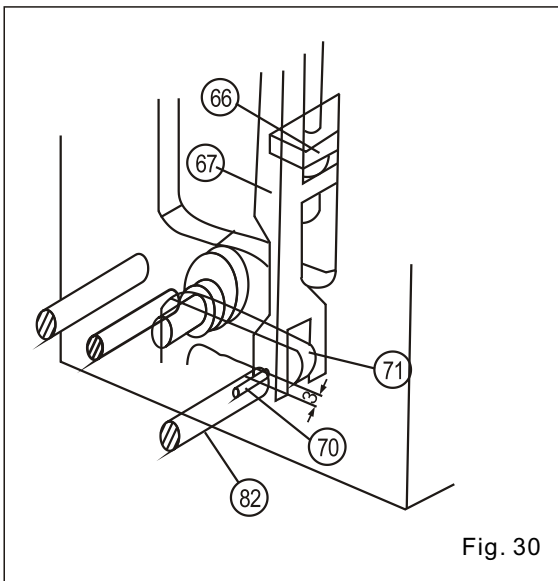
Fig. 30
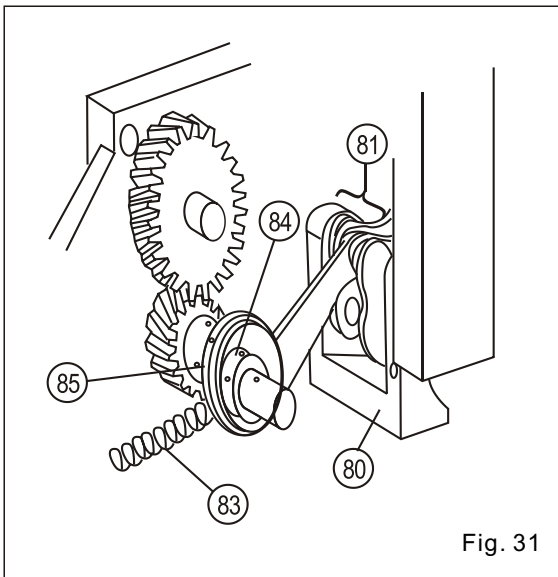
Fig. 31

(1)Take off sewer tension rod (No. 67 in Fig. 30) and the connecting bolt(No.70 in Fig.30) of adjusting drive rod (No. 71 in Fig. 30), as indicated in Fig. 30.

(2)Take off the 4 screws (No. 65 in Fig. 27) on the sewing adjusting box.

If it is needed to adjust the three cardinal areas after checking, install the sewing adjusting box in sequences contrary to the disassembly. Before the sewing tension spring is placed, put the connecting bolt (No. 70 in Fig. 27) into the box first.

Before adjusting the driving mechanism, short needle (upper needle gauge) shall be adjusted to zero, and long needle(lower needle gauge) to the maximum, which is completed by the scale disc (14-15), as indicated in Fig. 32.
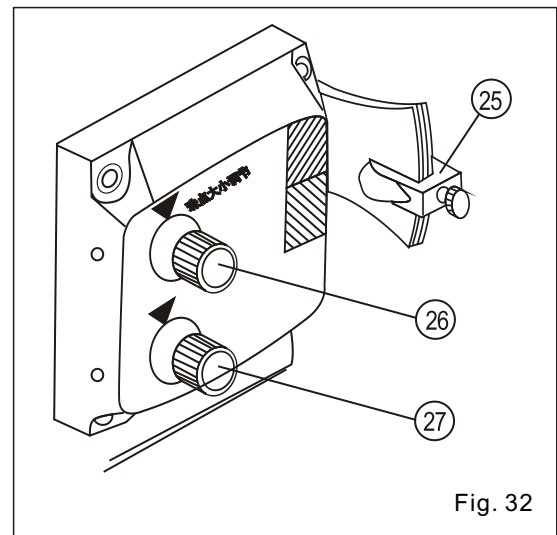
Fig. 32

Adjustment

(1) The space between thread control lever (No. 71 in Fig. 30) and lower main shaft (No. 82 in Fig. 30) shall be 3mm. When the control lever is in this position, the four hook rings shall be on a straight line, as indicated in Fig. 29 and Fig. 30.
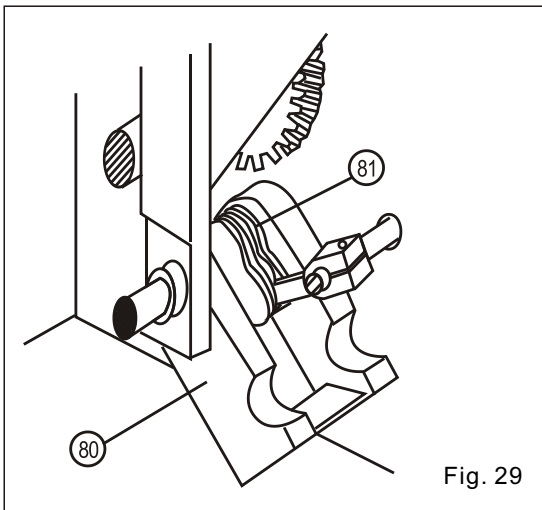
Fig. 29
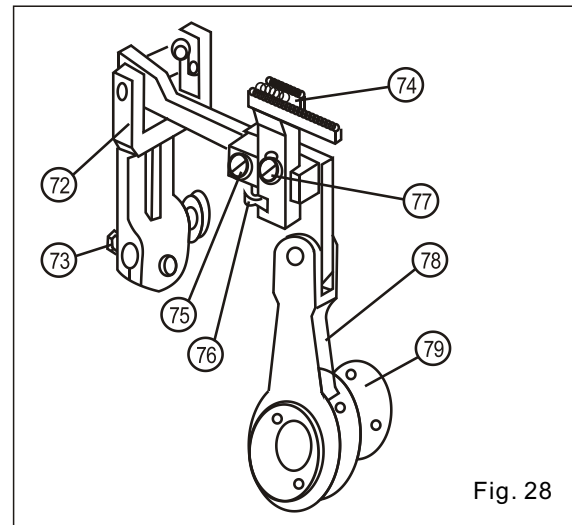
Fig. 28
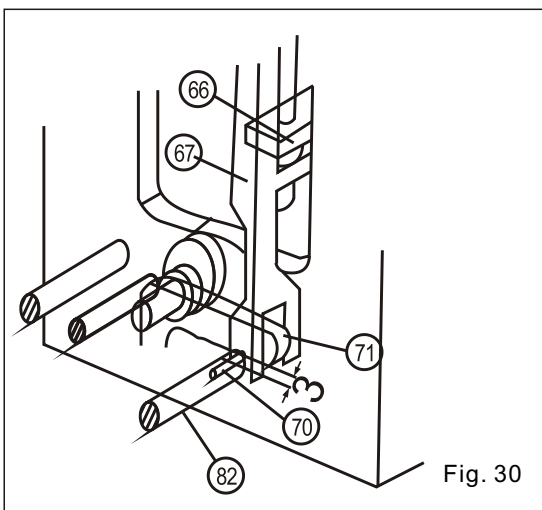
Fig. 30

(2) Loosen the screw (No. 79 in Fig. 28) on the lifting eccentric cam of lower cloth feed dog and the screw (No. 73 in Fig. 28) of lower cloth feed dog stand(No. 72 in Fig. 28). The pinhole of needle plate shall be accurately aligned with the needle, and the needle shall be kept vertical to the needle plate, as indicated in Fig. 28.

(3) Place the lower cloth feed dog (No. 74 in Fig. 28) in the center of the needle plate, and make it fixed in advance. To make the two ends of lower cloth feed dog equal distance from the inside notch of needle plate, it needs to adjust the stand of lower cloth feed dog. If needed, move the lifting eccentric cam of lower cloth feed dog along the shaft, thus to prevent it from being away from the center due to the movement. fasten the screws on the lifting eccentric cam and the stand of lower cloth feeding dog. As indicated in Fig. 28.

(4) Fasten the clamp screw of sewing eccentric cam (No. 84 in Fig. 31), and turn the handwheel to make the needle bar into the lower dead center. To move the upper needle gauge adjusting roller carrier (No. 80 in Fig. 29) with hand, it is needed to move the extension eccentric cam radially to a fixed position of lower cloth feed dog. When the connecting rod (No. 85 in Fig. 31) gets in line, fasten the screw of eccentric cam, as indicated in Fig. 31.

(5) Move the handwheel to make the lower cloth feed dog (No. 74 in Fig. 28) up to the highest point of needle plate, adjust the two screws (No. 75 and 76 in Fig.28) to the position in parallel with the lower cloth feed dog and needle plate.

Whether the lower cloth feed dog is in a correct position according to the following two conditions.

1.When lower cloth feed dog begins to rise toward and into the needle plate, the height of needles on needle plate shall be the same. (Needle, needle top, and point of lower cloth feed dog)

2.When needle bar is in the upper dead center, the height of lower cloth feed dog on the needle plate shall be 0.8mm, as indicated in Fig. 33.

Fig. 33

Fig. 34
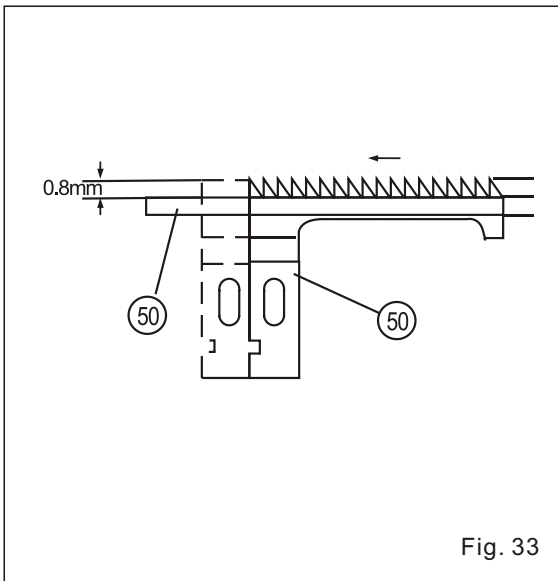
(3) This state may be achieved through adjustment to the lifting eccentric cam (No. 79 in Fig. 28) of lower cloth feed dog and height adjusting screw (No. 76 in Fig. 28). Before turning the adjusting screw (No. 76 in Fig. 28), fasten the screw (No. 77 in Fig. 28) first, as indicated in Fig. 28.

Note: Keep no impact between lower cloth feed dog and needle plate.

9. Adjustment of Lower Thread Hook

(1)Remove the thread loading disc (No. 86 in Fig. 34) and fixing disc to make sure of no end clearance at the shaft. Take the lower thread hook off from the thread loading disc. Note that when taking off the lower thread hook (No. 34 in Fig. 34) from the disc, don't let the bearing (No. 87 in Fig. 34) fallen off. Take off the bearing pin (No. 88 in Fig. 34) and clean it. Check the lower thread hook (No. 34 in Fig. 34) and clean it, and polish all the surfaces that will be in contact with the thread, as indicated in Fig. 34.
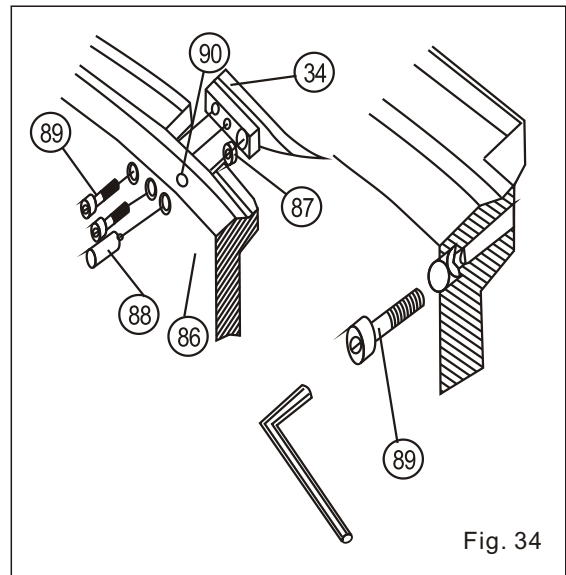
(1)Use soft wiper to clean away the marks and burrs. If it is inappropriate to use soft wiper, polish with a rubbing stone. Put the lower thread hook to the thread loading disc, and fixed by the screw (No. 89 in Fig. 34). Place bearing pin (No. 88 in Fig. 34) and bearing into the hole of lower thread hook, and then screw down the fastening screws (No. 89 and 90 in Fig. 34).

Check whether bearing can rotate freely. The tail of pin shall not be longer than the thickness of the bearing, so that when it is completely pushed in, the bearing will not be blocked.

Check the thread loading disc to make sure it is completely smooth, especially at the locations where the thread passes through. Clean the residuals of oil etc. in the thread loading and fixing discs.

Fig. 35

回线
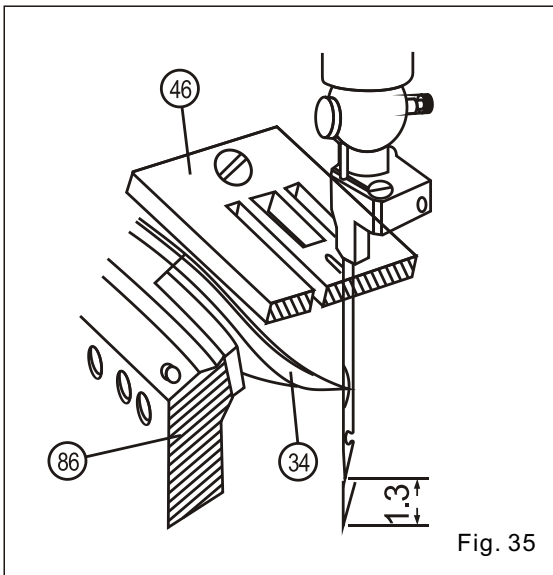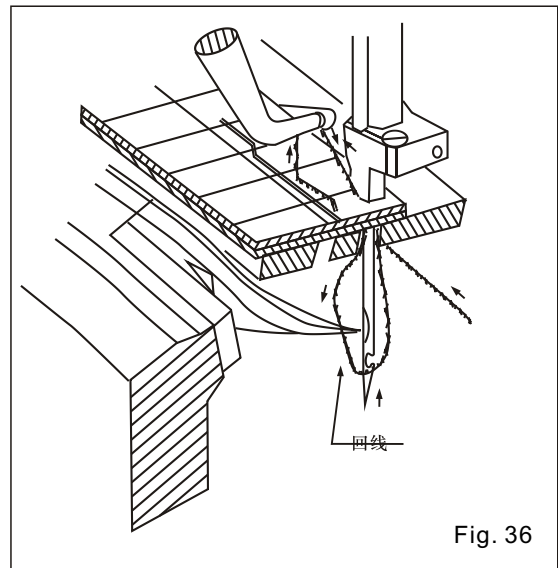
Fig. 36

(3) When needle bar is fixed in the lower dead center, move the thread loading disc to make both needle and thread loading disc in the center of the location hole (No. 49 in Fig. 20). Make the machine running towards the working direction by hand. When needle bar rises up to 1.3mm above the lower dead center, the lower thread hook will go to the center of the needle at a same time, as indicated in Fig. 35. When needle bar passes through this position, the thread will shape into a circle. As indicated in Fig. 36, lift the needle bar 1.3mm to make the point of lower thread hook accurately in the center of the concave of the needle. As indicated in Fig. 35.

Note: upon adjustment, the lower thread hook shall be in parallel with the disc mounted. Under this condition can the screw be adjusted, otherwise, move the whole disc suitably.

To carry out this adjustment, it is needed to check bolt (No. 88 in Fig. 34) and bearing (No. 87 in Fig. 34). After the height of needle bar has been completely adjusted, lock the lower thread hook into the thread loading disc.

Fasten the locking screw and thread loading disc, and check their conditions.

10. Adjustment of Thread Take-up Hook

To distinguish the two take-up hooks, the one near to the operator is called the front take-up hook (No. 91 in Fig. 37), the one near to the needle is called back take-up hook (No. 92 in Fig. 37). The front take-up hook is 3.5-4.5mm away from the thread disc (No. 86 in Fig. 37), while the back one is 5.5-8mm away from the thread disc. The base of take-up device (No. 95 in Fig. 37) shall be mounted in a position where the both take-up hooks can reach the edge of the thread disc, as indicated in Fig. 37.
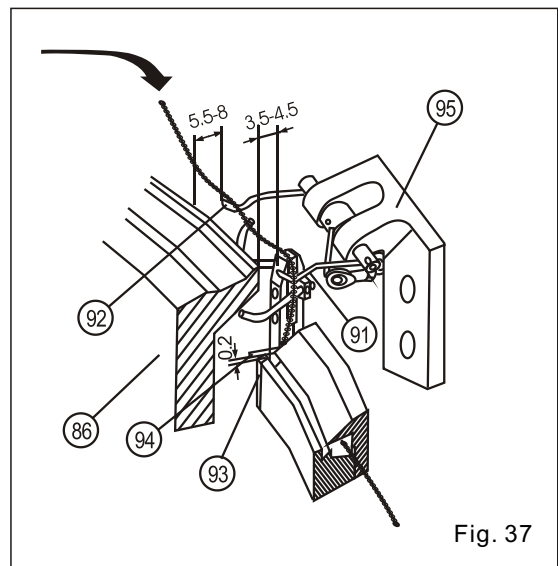
Fig. 37

(2) If the upper hook needle (No. 33 in Fig. 38) reaches the center of the needle when the front thread hook (No. 91 in Fig. 37) is in the lowest point of its stroke in the first circle, that mean theirs positions are correct. To keep the two take-up hooks synchronous with the upper hook needle, adjust the cam (No. 96 in Fig. 39). At the highest point of its stroke, the point of front take-up hook shall be 5mm above the outer edge of the thread disc, as indicated in Fig. 39.

Fig. 38

Fig. 39
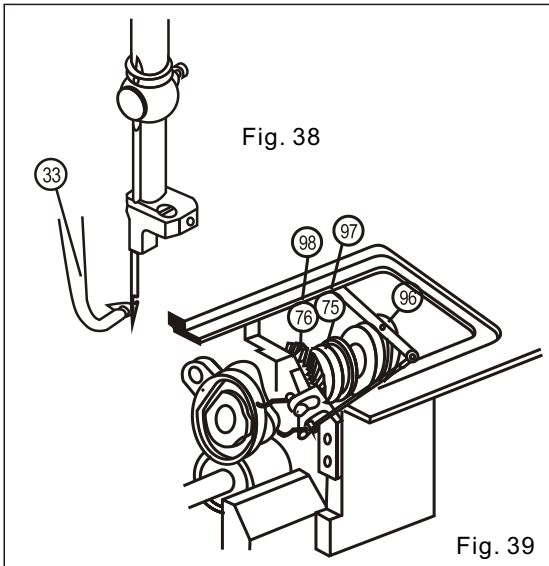
The horizontal position of take-up hook is regulated by moving its shaft. The front take-up hook shall be 3.5mm away from the small piece (No. 93 in Fig. 37).

11. Adjustment of Thread Tension Device

(1)Take off the thread loading disc (No. 86 in Fig. 40) and screw cap and the two screws (No.103 in Fig. 40) on the connecting piece of tension bar (No. 99 in Fig. 41), as indicated in Fig. 40 and Fig. 41, and then take off the thread tension device (No. 104 in Fig. 40).

Fig. 40
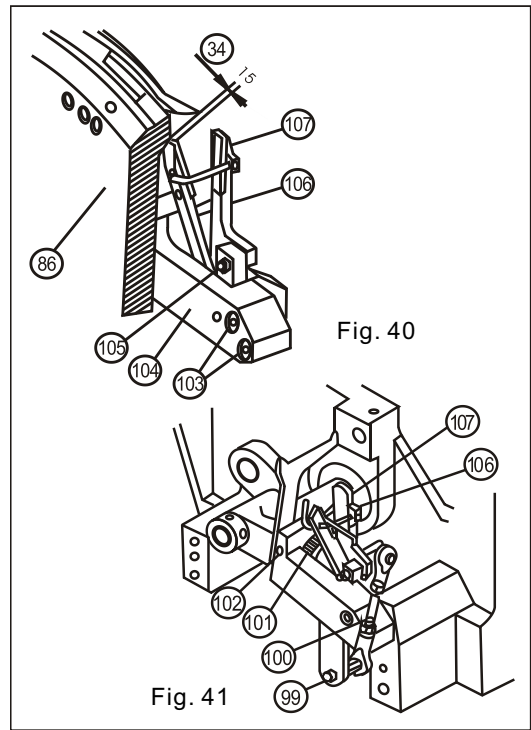
Fig. 41

After loosening the screw (No. 102 in Fig. 41), turn the knurled nut (No. 101 in Fig. 41) and adjust the spring (No. 106 and 107 in Fig. 41) on the rod, as indicated in Fig. 41.

The pressure of the spring on tension stands (No. 106 and 107 in Fig. 42) shall be greater than that on the lower thread feeding hook (No. 106 in Fig. 42).
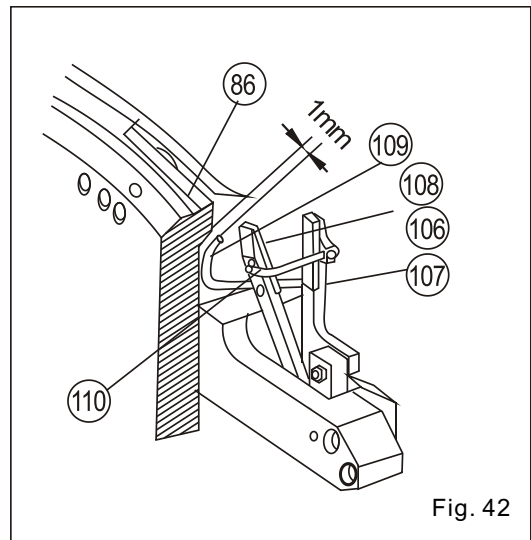
Fig. 42

To maintain this relationship, when checking the quick and dependable resetting of all movable parts, the two springs shall be regulated to the minimum pressure needed.

(2) After thread tension device has been reset, fasten the two screws (No. 103 in Fig. 40 and No. 99 in Fig. 41). Keep a 0.2mm space between thread guide bar (No. 94 in Fig. 43) and the small piece on the fixed thread disc (No. 93 in Fig. 43). After thread disc has reset, don't lock first.
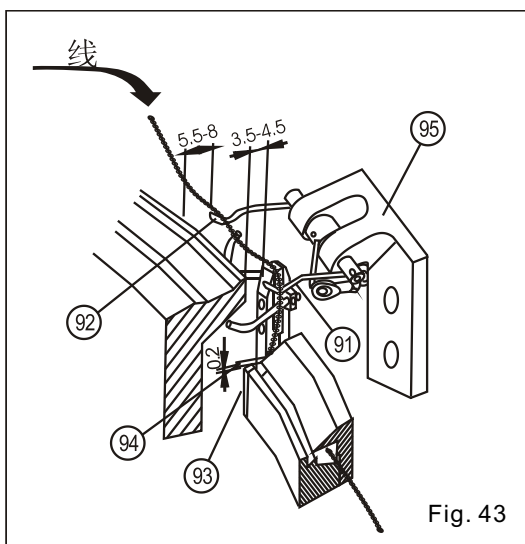
Fig. 43

Note: as the thread tension device (No. 106 and 107 in Fig. 41) hasn't been in the position, the operator shall be very careful to avoid impact between the lower thread hook (No. 34 in Fig. 40) and thread tension device (No. 104 in Fig. 40).

(3) Operate the machine with hand to make the closed thread tension devices (No. 106 and 107 in Fig. 44) to their horizontal terminal on the right. The space between the right and left sides of thread loading disc (No. 86 in Fig. 44) and the center of the closed thread tension device shall be 18mm. Adjust the two ends of the connecting rod (No. 100 in Fig. 41) to change this space.

As indicated in Fig. 44.
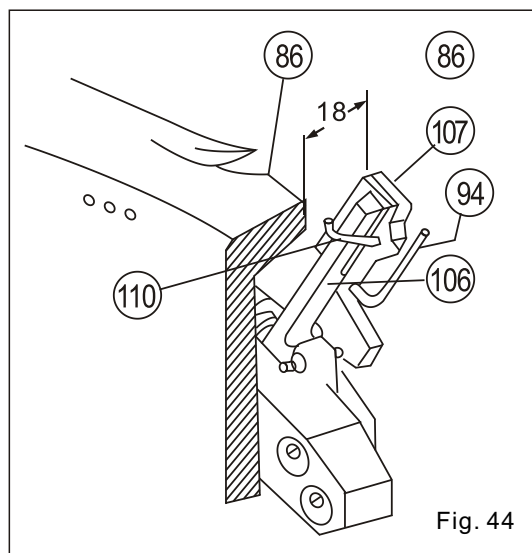
Fig. 44

Adjust the thread tension cam (No. 56 in Fig. 45) in the upper shaft. The control rod shall be kept in the center of the reference hole of the needle. And meanwhile, the upper part of thread clamp shall be at the most outside fringe of the vertical line of thread carrying disc (No. 86 in Fig. 42).

Adjust the thread take-up hook (No. 109 in Fig. 42) to make it 4-5mm away from the front of the incline face of rotatory needle base, and 1mm away from the inner hole of the thread carrying disc, as indicated in Fig. 42.

(4) Reinstall the thread carrying cam. If in the first circle, the end of the upper thread hook reaches the center of the needle, and meanwhile, the thread tension device is closed again, and then the upper ring opens, that means the direction of thread tension cam (No. 56 in Fig. 45) is correct. The space of the opened thread tension device in this direction shall be 1.5mm. After the locking screw (No. 103 in Fig. 40) has been loosened, readjust the screw (No. 105 in Fig. 40) to achieve satisfactory position, as indicated in Fig. 40.
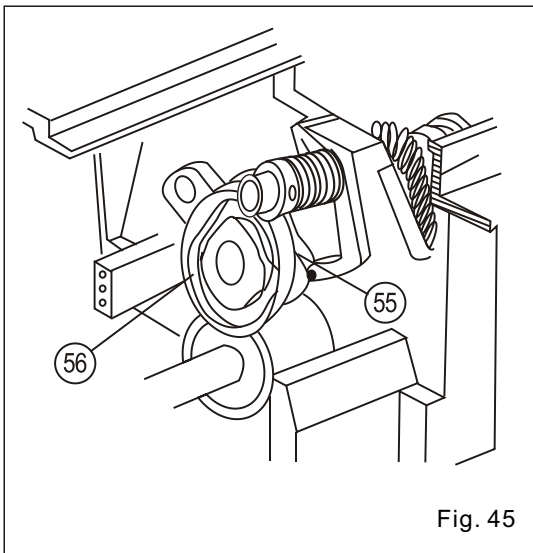
Fig. 45

To mount thread guide in the original direction of the fixed thread disc, move the thread guide a bit toward the left of left top of the thread guide disc, and then install the thread guide disc. After making sure of its correct direction, fasten the clamp screw of the thread guide disc.

Thread guide block (No. 93 in Fig. 43) is on the top left, as indicated in Fig. 43. It is mounted on the fixed thread disc. Stop the thread carrying disc (No. 86 in Fig. 42), make sure of correct position, and then fasten the clamp screw on the thread loading disc.

12. Adjustment of Lower Thread Feeding Mechanism

(1) The lower thread feeding fork (No. 111 in Fig. 46) is used to put the thread to the needle. As indicated in Fig. 46, when the back of its top (A) cannot be bended when it is close to or in touch with the needle. Loosen the two screws (No. 112 in Fig. 46), and adjust the position of lower thread feeding mechanism by moving it on the stand, as indicated in Fig. 46.
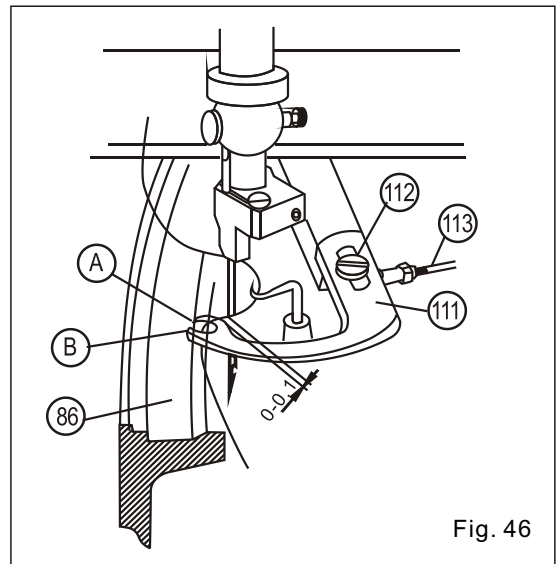
Fig. 46

(2) When the lower thread feeding fork moves rightward to the end of the cross arm, the space between the back of the lower thread feeding mechanism (A) and the thread disc (No. 86 in Fig. 46) shall be 1.5-2mm, as indicated in Fig. 47. Adjust the connecting rod (No. 113 in Fig. 46) between the two connecting parts to achieve accurate space.
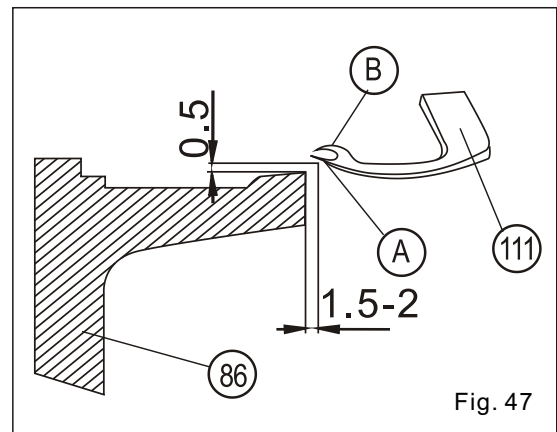
Fig. 47

((3) Height is adjusted through the bending of lower thread feeding mechanism, as indicated in Fig. 47. The space between the lower thread feeding mechanism and the lower cloth feed dog shall be 0.2-0.3mm, as indicated in Fig. 48.

(4) Use the cam (No. 97 in Fig. 49) to get it into the position, and check whether the

period is correct or not. The positions of the two cams shall be: the second bolt of the cam of lower thread feeding mechanism (No. 97 in Fig. 49) shall be in a straight line with the thread lifting cam (No. 96 in Fig. 49). Check before sewing to make sure that when needle plate is opened, the thread on the lower thread feeding mechanism is 3mm above the upper hook of the needle.

Fig. 48

Fig. 49
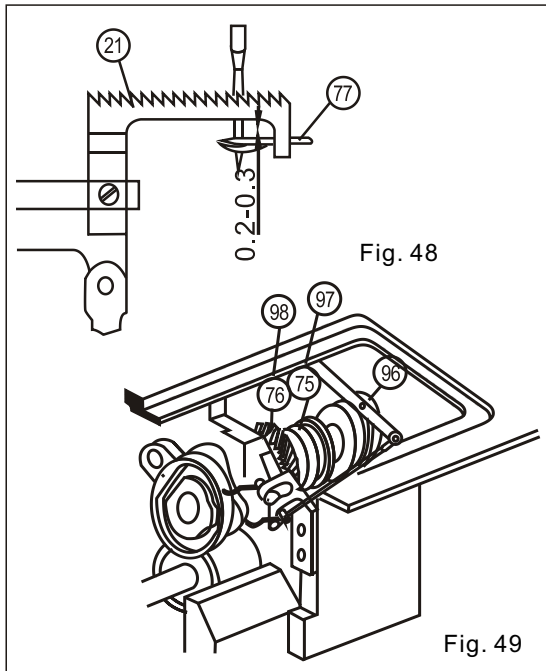
13. Adjustment of Upper Cloth Feeding Mechanism

(1) Place the mechanically actuated presser foot (No. 114 in Fig. 50) onto the tension rod. In a cycle of the machine, the lower cloth feed dog shall be lower than the needle plate, as indicated in Fig. 50.

Upon adjustment, keep a space of 0.3mm between the guide rod and presser foot driving lever (No. 117 in Fig. 50). Once this work has been completed, keep the presser foot not moving, above and in parallel with the needle plate.

Fig. 50
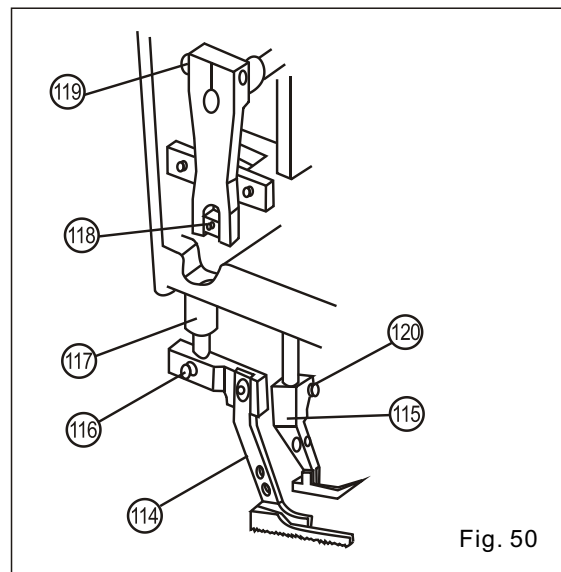
(2) Place the soft sewing machine and connecting presser foot onto the connecting rod. Turn the handwheel to make the lower cloth feed dog to the lowest point of its stroke. Push it onto the needle plate to fix the connecting presser foot (No. 115 in Fig.50). Check whether the mechanically actuated presser foot is in parallel with the needle plate, and whether the two presser feet are of equal space from the needle plate. This distance may be adjusted by the screw (No. 120 in Fig. 50), as indicated in Fig. 50.

Presser foot shall move in parallel with and in the center of the cloth feed dog, which is actualized by the rocker arm of upper cloth feed dog (No. 119 in Fig. 50) and by changing the position of the sliding block in the trough of the presser foot. Adjust the screw in connection into the hole on the right of the stand, as indicated in Fig. 51. Take care when the rock arm of upper cloth feed dog (No. 119 in Fig. 50) stops, the sliding block of screw (No. 118 in Fig. 50) shall cover the rocker arm of upper cloth feed dog, but not braked. Turn the handwheel, check to see whether there is any impact between moving parts under the longest seam length.
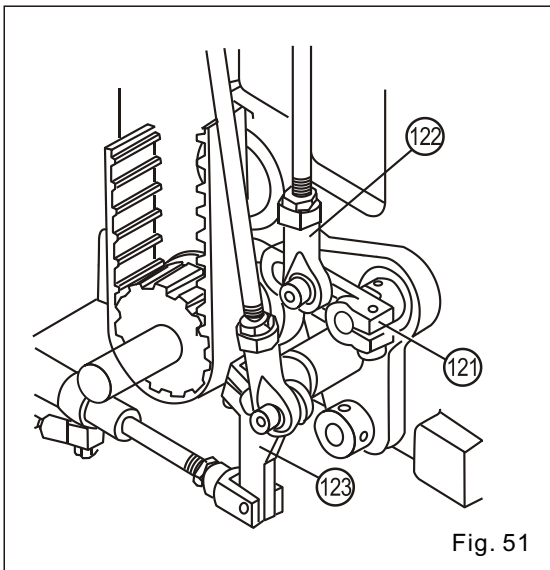
Fig. 51

(3) Make the presser foot to lift the eccentric cam, so that the mechanical presser foot can be fallen onto the lower cloth feed dog as soon as the lower cloth feed dog comes out of the needle plate.

Note: Upon fastening the screw of eccentric part, the eccentric cam and the connecting rod shall be in a straight line.

Take off the cover at the top of the arm, and this can touch the clamp screw of the eccentric part.

Turn the handwheel to make the upper hook needle into the first cycle.

Use a bent joint to make the presser foot to the utmost height. Turn the handwheel to make the upper hook needle in touch with the connecting presser foot (No. 115 in Fig. 50). Under this state, the upper hook needle may cover vertically the connecting presser foot from the possible nearest distance.

This adjustment can be achieved by the lifting driving lever of presser foot. Take off the cover at the back of the arm, and this can touch the lifting driving lever.

The main driving mechanism has thus been adjusted. The machine can be used for joint seam, with the length of seam changeable from the shortest of 1.6mm to the longest of 6.3mm.

(4) Further adjustment may be needed to make the machine working under different conditions within the possible range.
Note: 1. The lifting piece of maximum presser foot shall be fixed upon installation. Therefore, it is no good of the blockage caused by adjusting screws (No. 124 and 125 in Fig. 52), as indicated in Fig. 52.
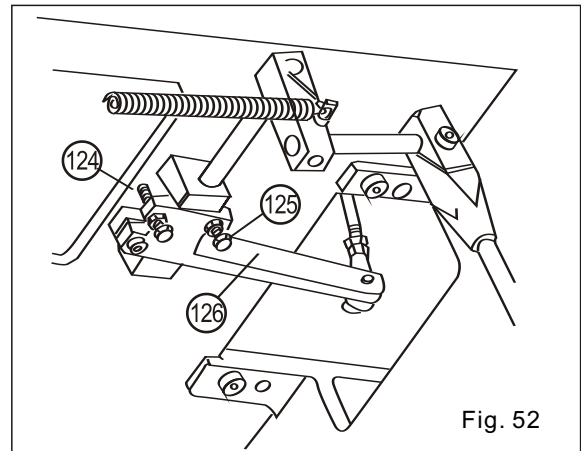
Fig. 52

2．The length of eccentric cam crank (No. 129 in Fig. 53) has been properly adjusted before being delivered out of the factory. And the screw (No. 127 in Fig. 53) cannot be loosened for adjustment by nonprofessional people.
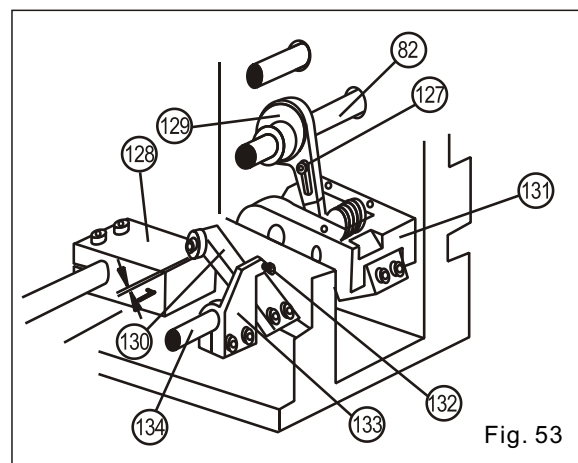
Fig. 53

14. Adjustment of Stitch Correction

(1)Turn the length adjusting knob (No. 27 in Fig. 54) of (781NP) stitch to make it to the position of the longest.

Fig. 54
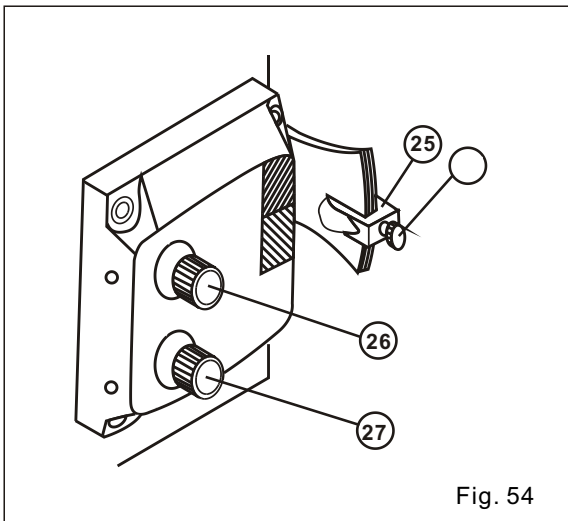
The longest position of (lower needle gauge) length on 782NP display (No. 18B in Fig. 5) is 80. Fasten the screw on the roller stand (No. 130 in Fig. 5) for upper needle gauge adjustment to make it a certain distance from the stop block (No. 128 in Fig. 5), as indicated in Fig. 5.

(2) Turn the handwheel to make the needle bar to the lower dead center in the second cycle. When the needle bar is in the lower dead center, place the correcting eccentric cam to such a position as following: in a position that the upper needle gauge adjusting roller stand (No. 130 in Fig. 56) will not move under the return stroke of the positive and negative upper needle gauge adjusting handle (No. 25 in Fig. 54) on the adjusting box. Check the eccentric cam (No. 129 in Fig. 56) and connecting rod, and they shall still be in a straight line when the screw of eccentric part is being fastened. Make the adjusting handle (No. 25 in Fig. 54) fixed at the lowest position by screw (No. 135 in Fig. 54), as indicated in Fig. 54.

(3) Loosen the screws of upper needle gauge adjusting roller stand (No. 130 in Fig. 56) and stop block (No. 128 in Fig. 56). When the needle bar is still in the dead center in the second cycle, put on the bearing of upper needle gauge adjusting roller stand (No. 130 in Fig. 56), to keep the guide bar in touch with the stop block (No. 128 in Fig. 56) 1mm away from the front fringe of the positioning part.

Then fasten the screw of the stop block completely, as indicated in Fig. 56.

(4) Turn the adjusting screw on upper needle gauge adjusting presser block (No. 133 in Fig. 56) till the end without screw thread, and 1mm stretched from the upper needle gauge adjusting presser block (No. 133 in Fig. 56). When the needle bar is in the lower dead center in the second cycle, fasten the adjusting screw (No. 132 in Fig. 56) of upper needle gauge adjusting presser block toward the upper needle gauge adjusting roller stand (No. 130 in Fig. 56). Move the two bars and fasten the clamp screw of upper needle gauge adjusting presser block to make the space between shaft and stop block (No. 128 in Fig. 56) at 1.5mm.

(5) The following work shall be done to adjust the positive and negative short needles (upper needle gauge).
A. Compare the sizes of positive and negative short needles (upper needle gauge), and make sure of what to be amended.
B. Turn the handwheel to make the short needle (upper needle gauge) adjusting roller stand (No. 130 in Fig. 56) at the position of maximum space upon the contact of shaft and stop block. Loosen the screw of adjusting presser block (No. 123 in Fig. 57), as indicated in Fig. 56.
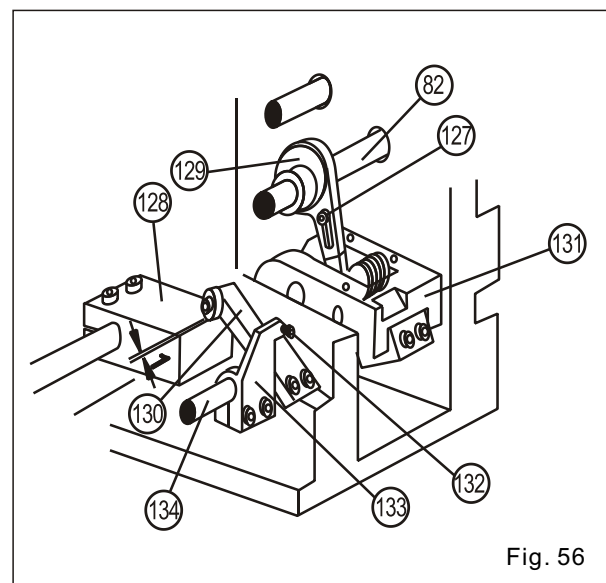
Fig. 56

C. Move the short needle (upper needle gauge) adjusting stand (No. 131 in Fig. 56) toward the lower main shaft (No. 82 in Fig. 56), producing longest seam length in process (B) and shortest seam length in process (T).

D. Move the short needle (upper needle gauge) adjusting stand (No. 131 in Fig. 56) toward the shaft of correcting bar, producing shortest seam length in process (B) and longest seam length in process (T). The effect of this adjustment may be seen from the position change of seam length adjusting driving lever (No. 67 in Fig. 30).

E. After correction, fasten the two screws of adjusting presser block (No. 123 in Fig. 57), as indicated in Fig. 57.

The final adjustment is for the shortest length of the short amended seam length.

1.Turn the handwheel to make short needle (upper needle gauge) adjusting roller stand (No. 130 in Fig. 56) toward the stop block (No. 128 in Fig. 56) to the most front position of shaft.

2.Loosen the cap of adjusting screw (No. 132 in Fig. 56) and the two clamp screws of short needle (upper needle gauge) adjusting roller stand (No. 130 in Fig. 56).

3.Turn the adjusting screw clockwise to make the short correction connector shortened, counterclockwise to make the correction connector lengthened.

4.Push the shaft of short needle (upper needle gauge) adjusting roller stand (No. 130 in Fig. 56) toward the stop block (No. 128 in Fig. 56) to make the adjusting screw (No. 132 in Fig. 56) turned. After adjustment, use screw cap to fix the adjusting screw and the screw on seam length correction bar (No. 130 in Fig. 56), thus to make short needle (upper needle gauge) adjusting roller stand (No. 130 in

Fig. 56) aligned to the stop block (No. 128 in Fig. 56), as indicated in Fig. 56.
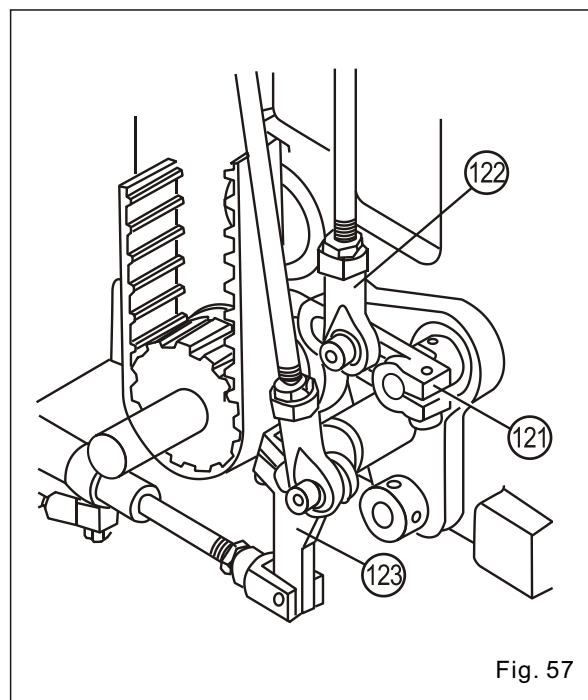
Fig. 57

15. Adjustment of Brake Thread Tension Device

Brake thread tension device is used for the braking thread of the first stitch cutting.

The thread tension device only opens when the elbow connector is moved.

Thread tension device may be adjusted through height adjustment of the eccentric part (No. 136 in Fig. 59) inside the arm. The eccentric part is on the presser foot lifting hook (No. 137 in Fig. 59). Or adjusted through moving the whole thread tension device axially after the clamp screw (No. 138 in Fig. 59) has been loosened.

When the machine is to be threaded, make sure that when elbow connector is moving, thread tension device can open before presser foot is lifted, as indicated in Fig. 59.
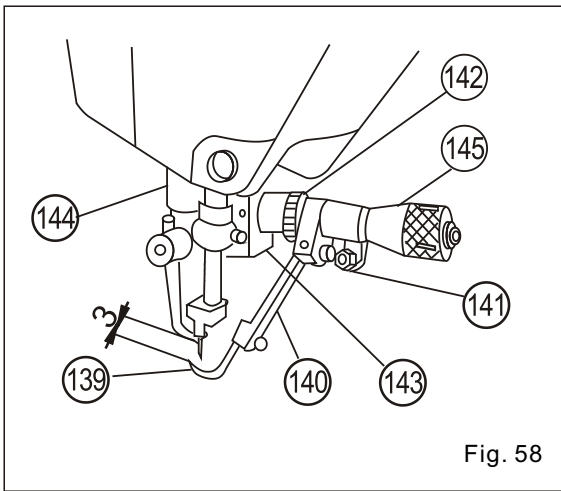
Fig. 58

16. Adjustment of Thread Letdown Mechanism

(1)Turn the handwheel to make the machine into the back stroke terminal of upper hook needle (No. 33 in Fig. 9) in the first cycle.
Adjust the height and verticality of driving lever clamper (No. 138 in Fig. 59). The height shall make the driving lever 1.5mm away from the end of upper hook needle. Verticality is actualized through adjustment to the shaft which is mounted with the driving lever. Driving lever is in parallel with the longitudinal shaft of the machine. This adjustment may be done by clamp screw (No. 138 in Fig. 59), as indicated in Fig. 59.
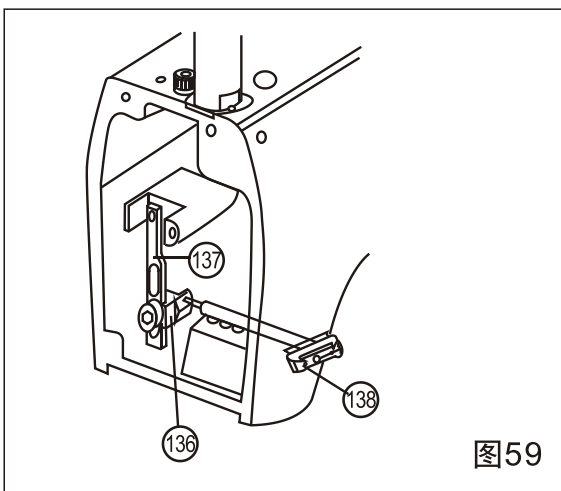
图59

(1)Turn the annular screw cap (No. 142 in Fig. 59) to adjust the elongation of spring. The spring elongation shall be adjusted to the most.

Note: the point of thread letdown hook (No. 139 in Fig. 58) is being compressed when it is moving toward the operator into the maximum space.

Fasten the clamp screw of thread letdown bar (No. 140 in Fig. 58) to enable adjustment at the back.

Pull up thread letdown hook (No. 139 in Fig. 58) to make it 1.5mm away from the needle plate. Turn its connector slowly toward the direction of driving part to make thread letdown hook turned up. And then fasten the screw of thread letdown hook.

(3) Effect of soft needle responds to the requirements of operator.
软针效果由操作者要求确定
Adjust the thread pickup bar (No. 140 in Fig. 58) to make soft needle mechanism moved into an appropriate position.

Turn the styled screw cap (No. 145 in Fig. 58) to make thread letdown hook (No. 139 in Fig. 58) moving left and right, thus to achieve smooth thread letdown.

Turn the handwheel to make the needle bar into the upper dead center. Here the upper hook needle begins to move horizontally, thus to make the thread moving toward the needle bar.

In this position, the vertical space between the negative end of upper letdown hook and upper hook needle shall be 3mm, as indicated in Fig. 58.

Longitudinal position adjustment of thread letdown hook as follows:

Lift up the elbow connector to make it moving, turn the handwheel to make thread letdown hook touching the upper hook needle as close as possible. Meanwhile, check the conditions of thread letdown hook passing through below the needle in forward and return strokes. This means correct adjustment is done. The adjustable braking element (No. 141 in Fig. 58) is used to fix the special position of connected thread letdown hook.

29

Adjust the braking element (No. 141 in Fig. 58) to provide enough space between thread letdown hook and connecting presser foot, thus to allow thread easily passing through when the thread letdown hook reaches the braking behind the needle.

Thread letdown mechanism may be disconnected by the handle on the connecting rod of the moving upper hook needle (No. 144 in Fig. 58), as indicated in Fig. 58.

17. Lubrication and Maintenance of Machine

To avoid broken and skipped stitches and broken needle etc., the machine shall be regularly lubricated and cleaned, at least once a month. Use special gear oil for the lubrication of cam and gear. Have all the moving parts lubricated when the machine is in operation. Moving parts shall be lubricated by oil for industrial sewing machines.

Clean away the dust and residuals on other nonmoving parts.

Component Samples

NO	Quantity	Name
1-1 SK11-20	1	Display hull
1-2 SK11-22	1	Display covers behind
1-3 SK11-23	1	Display Bottom
1-4 SK11-21	1	782 Display Main plank
1-5 SK11-25	1	Connect to deal with contact
1-6 SK11-24	1	Joint
1-7 SK11-25-1	1	Conjunction a bolt
1-8 SK11-22-1	2	Display Cover the bolt behind
1-9 SK11-22-2	6	Display Cover the bolt behind
1-10 SK11-23-1	4	Display Bottom Bolt
1-11 SK11-21-1	4	Display Main plank Bolt
1-12 SK11-21-2	1	783 Display Main plank

1

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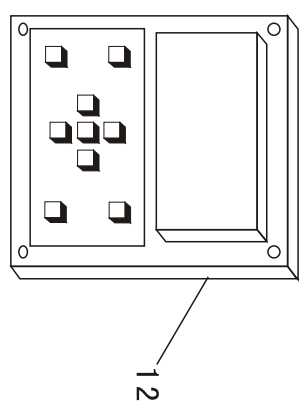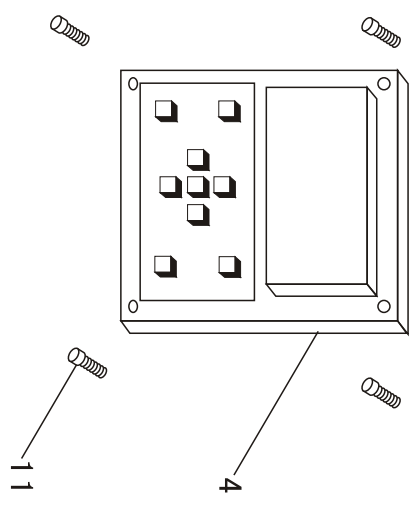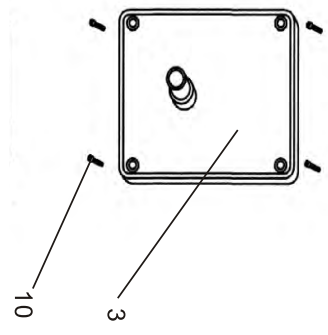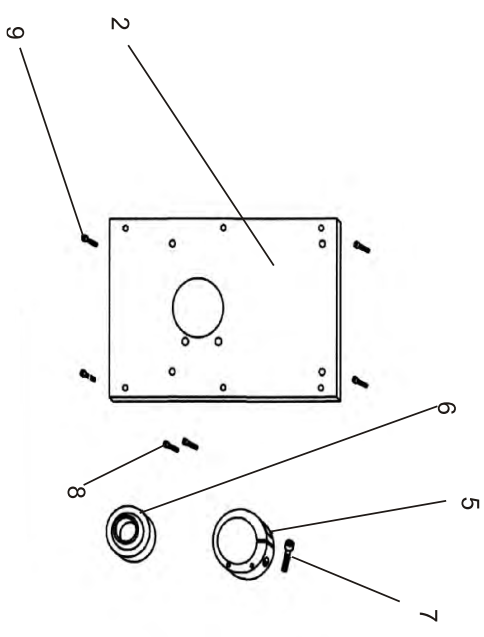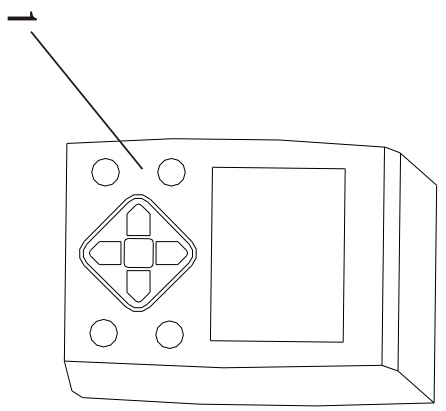
NO	Quantity	Name
2-1 SK11-01	1	The needle is apart from to regulate Bottom
2-2 SK11-02	1	The needle is apart from to regulate Silk mother
2-3 SK11-06	1	The needle is apart from to regulate Silk pole
2-4 SK11-14	2	Wheel gear
2-5 SK11-14-1	2	Wheel gear
2-6 SK11-05	1	The needle is apart from to regulate Silk pole
2-7 SK11-18	2	Electric potential machine
2-8 SK11-16	4	Bearings
2-9 SK11-15	1	The bead orders to regulate Connect the pole
2-10 SK11-15-1	1	The bead orders to regulate Fixed position
2-11 SK11-12	1	The bead orders to regulate Silk mother
2-12 SK11-03	1	The needle is apart from to regulate Stalk
2-13 SK11-17	2	Electrical engineering
2-14 SK11-01-1	4	Electrical engineering Fixed position feet
2-15 SK11-01-3	4	Fixed position feet Bolt
2-16 SK11-14-3	12	Wheel gear Bolt
2-17 SK11-05-1	2	The stanza connects the pole Bolt
2-18 SK11-08	1	The bead orders to regulate Bottom
2-19 SK11-11	1	Regulate silk mother bottom
2-20 SK11-08-1	4	Dead orders to regulate a bolt
2-21 SK11-11-1	2	Silk mother a bolt
2-22 SK11-14-2	1	Wheel gear
2-23 SK11-09	1	Electrical engineering bottom
2-24 SK11-09-1	1	Electric potential machine bottom
2-25 SK11-13	1	The bead orders the silk pole
2-26 SK11-13-1	1	Wheel gear
2-27 SK11-13-2	1	Conjunction spring coil
2-28 SK11-17-1	4	Electrical engineering bottom a bolt
2-29 SK11-01-2	3	Needle is apart from to regulate a bolt
2-30 SK11-09-2	4	Fixed position feet bolt
2-31 SK11-15-2	2	Connect the pole bolt
2-32 SDA1625	1	Cylinder
2-33 11-33	1	Cylinder arm
2-34 VCB516TUN	2	Cap screw
2-35 SQL4-01	2	L joint
2-36 VCB520TUN	1	Cap screw
2-37 VCB510TUN	2	Cap screw
2-38 11-28	1	Lifter Pressure foot switch tube
2-39 11-32	1	Pressure foot connecting rod
2-40 11-32-1	1	Pressure foot connecting rod sleeve
2-41 11-29	1	Magnet steel
2-42 11-27	1	Pressure spring
2-43 11-31	1	Presser foot switch bolt
2-44 M6	1	Nut
2-45 11-36	1	Connecting rod sleeve
2-46 11-35	1	Pressure foot connecting rod
2-47 SIGKM6	2	Ball joint
2-48 11-30	1	Tension spring
2-49 VCB36TUN	2	Cap screw
2-50 11-38	1	Cylinder seat
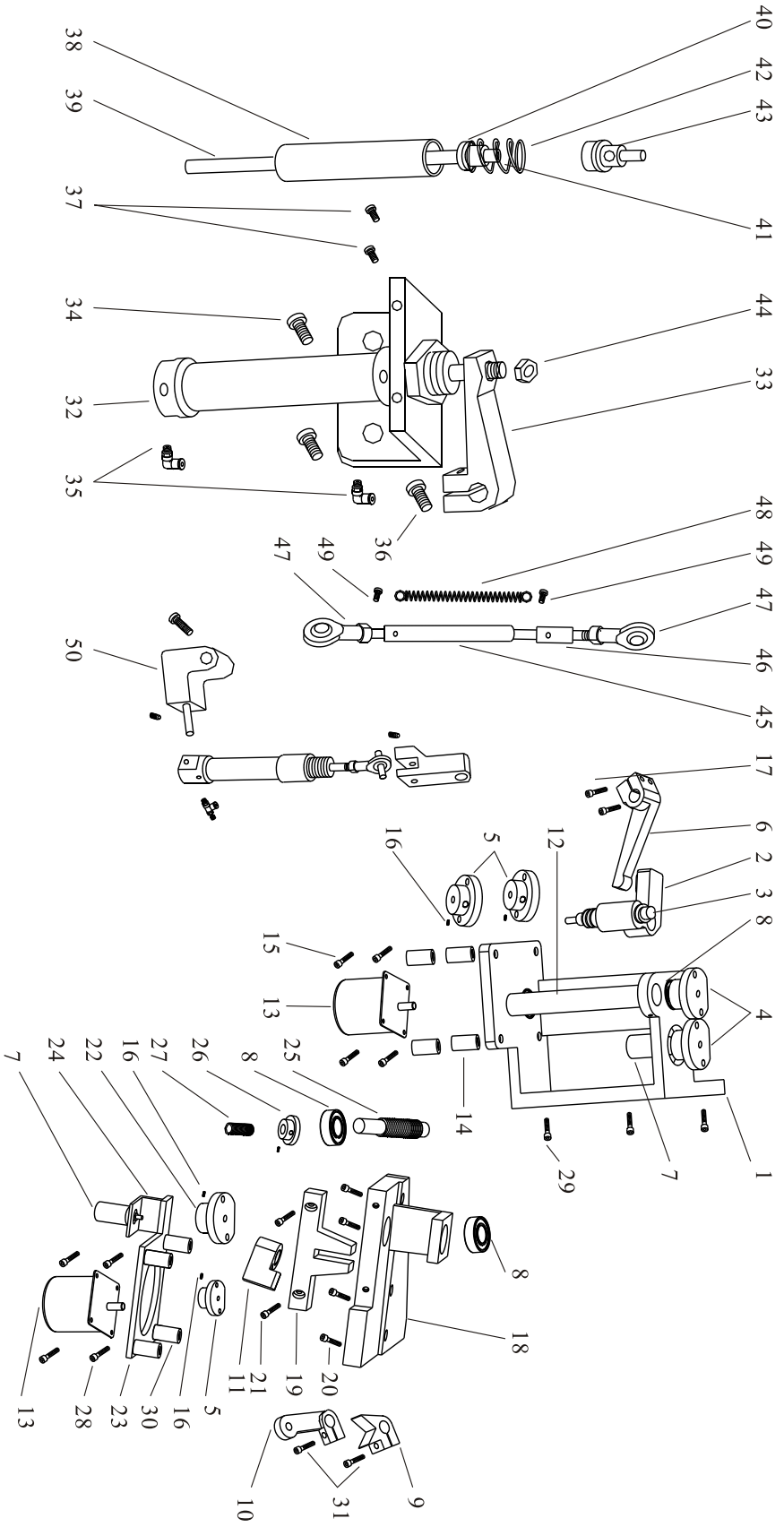
NO	Quantity	Name
2-51VCB830TUN	1	Cap screw
2-5211-34	1	Cylinder seat
2-536X30	1	Minor axis
2-54SDA1625	1	Cylinder
2-55QSC4-01	1	Throttle valve
2-56SIGKM6	1	Ball joint
2-5711-37	1	Pressure block
2-586X30	1	Minor axis
2-59Gb46	2	locating screw
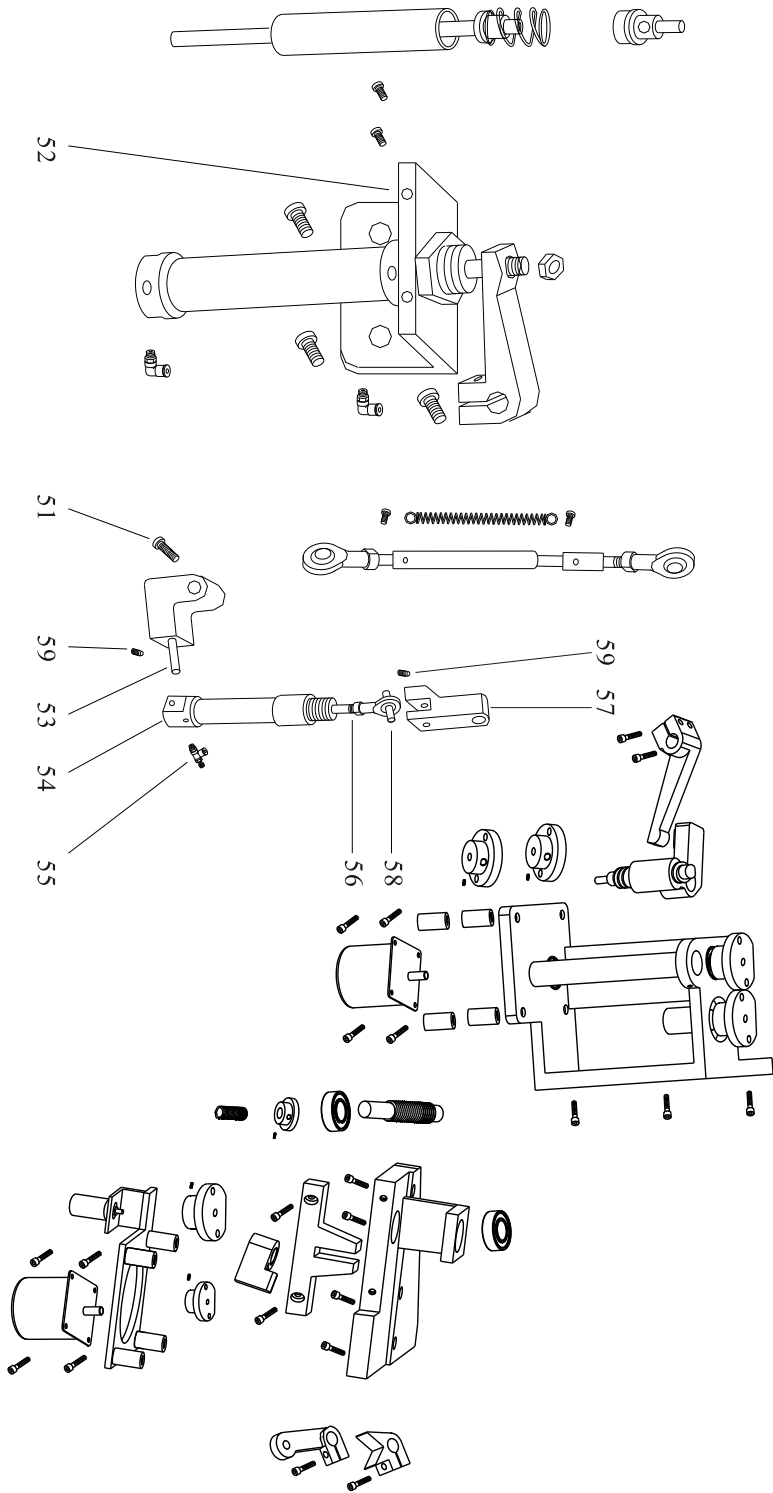
NO		Quantity	Name
1	12-13	1	Motor support board
2	12-12	1	Motor installation board
3	12-04	3	Drive motor
4	6001	1	Bearing
5	12-14	1	Synchronous wheel
6	12-11	1	Synchronous wheel
7	300 3M	1	Synchronous belt
8	12-07	1	Sensor board
9	12-03	1	Sensor
10	12-05	1	Sensor support
11	VCB512TUN	3	Cap screw
12	VCB412TUN	4	Cap screw
13	GB45	4	Locating screw
14	GB56	2	Locating screw
15	VCB2.5X12TUN	2	Cap screw
16	VCB35TUN	2	Cap screw
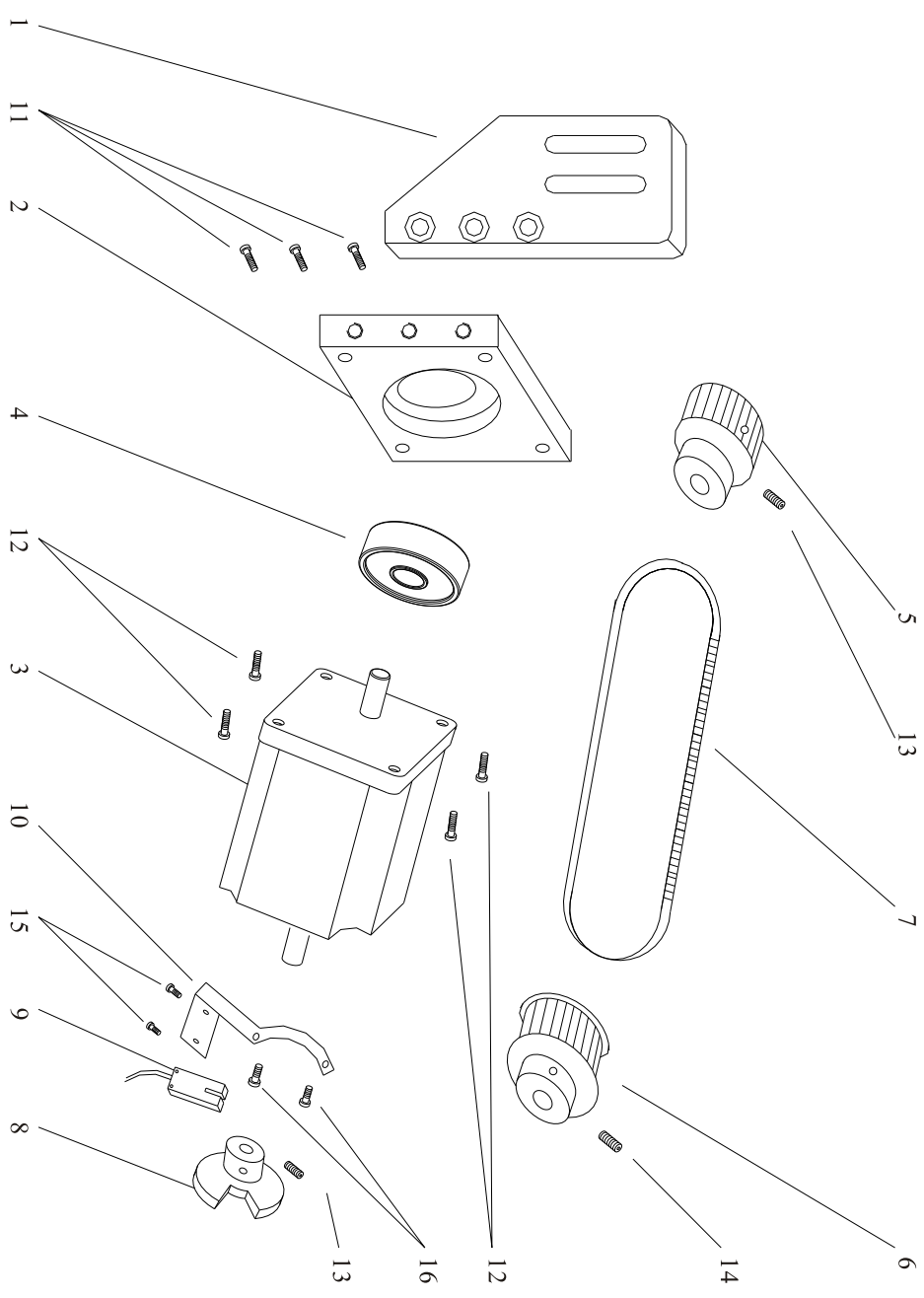
NO		Quantity	Name
4-1	GH782-14/01	1	console table board
4-2	SK714-09	1	fastener latch
4-3	SK711-35	1	table tilt up hook
4-4	SK714-17	2	upper hinge
4-5	VCB820 TUN	4	hex.soc.hd.cap screw
4-6	SK14-20	2	lower hinge
4-7	VCB516 TUN	4	table board support rod
4-8	SK714-18	2	flat washer
4-9	SK711-34	1	kunckle connection
4-10	RP5	4	hex nut
4-11	SK712-06	1	drawer support plate
4-12	DE6	12	drawer
4-13	SK711-14	1	left hand leg assy
4-14	002201.00	1	lower rear traverse
4-15	SK711-03	1	foot treadle
4-16	SK711-05	1	treadle rubber pad
4-17	SK711-12	1	rubber pad
4-18	SK711-09	2	hex.soc.hd cap screw
4-19	SK711-13	4	flat washer
4-20	VCB860 TUN	8	rear wheels support plate
4-21	RP8	8	flat washer
4-22	SK711-43	2	rear wheels support plate
4-26	SK711-23	4	turning wheel
4-24	PLASTICQ50	10	hex.soc.hd cap screw
4-27	RP6	1	front trimming
4-25	VCB612 TUN	24	flat washer
4-28	DE6	4	hex nut
4-29	SK711-25	1	back guard
4-30	SK711-02	1	right hand leg assy
4-31	SK711-07	1	machine support frame
4-32	U711-41	1	guard
4-33	VCB610 TUN	4	hex.soc.hd cap screw
4-34	SK716-04	1	motor front support
4-35	SK716-05	1	motor back support
4-36	SK7111-06	1	motor support traverse
4-37	SK714-23	1	magnet
4-38	DE5	1	hex nut
4-39	SK714-24	5	spacer table
4-41	SK711-40	1	belt guard
4-42	SK714-08	1	locking handle
4-43	VCB410 TUN	2	hex.soc.hd.cap screw
4-44	SK711-08	1	side fixed pedal
4-45	002154.00	1	right fixed pedal
4-46	SK711-10	1	magnet block
4-47	SK714-22	1	hex.soc.hd cap screw
4-48	VCB625 TUN	2	hinged table board
4-49	SK714-04	1	foldout middle board
4-50	SK714-03	1	support bracket
4-51	SK714-07	1	hex.soc.hd.cap screw
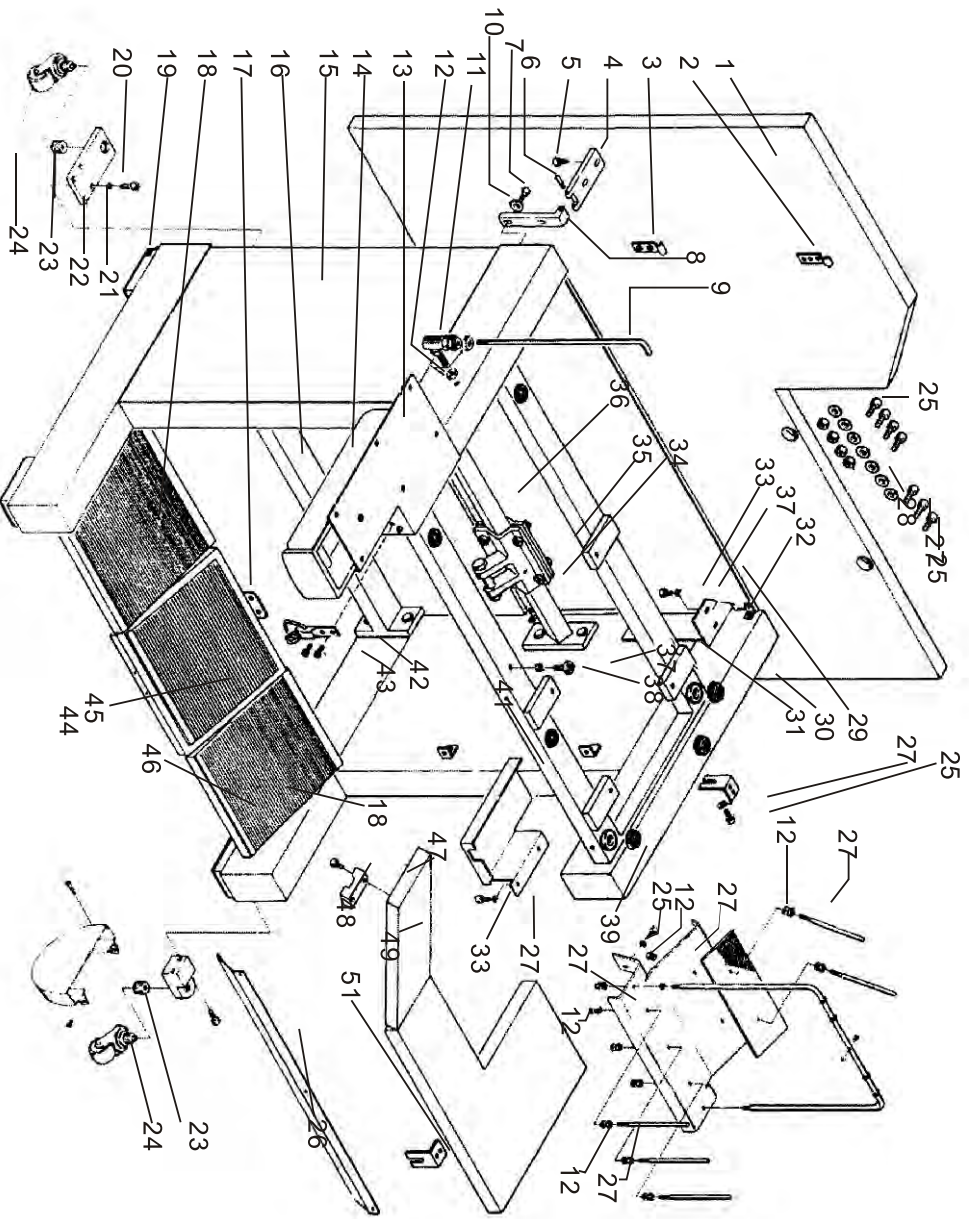
NO		Quantity	Name
4-52	VCB840 TUN	4	front wheels support square
4-53	SK711-42	2	support bracket
4-54	SK714-15	1	table support
4-55	SK711-26	6	stud
4-56	SK715-07	5	protection mousse
4-57	SK782-15/03	1	spool-holder plate
4-58	SK782-15/02	1	washer
4-59	Rp5	4	gasket
4-60	DE5	2	tubular ring
4-61	PLASTIC25	10	threading hook bar
4-62	782-15/01	1	guard for wheel
4-63	711-38	1	hex.soc.hd.cap.screw
4-64	VCB512 TUN	3	micros wit
4-65	AZ-7140、781	1	
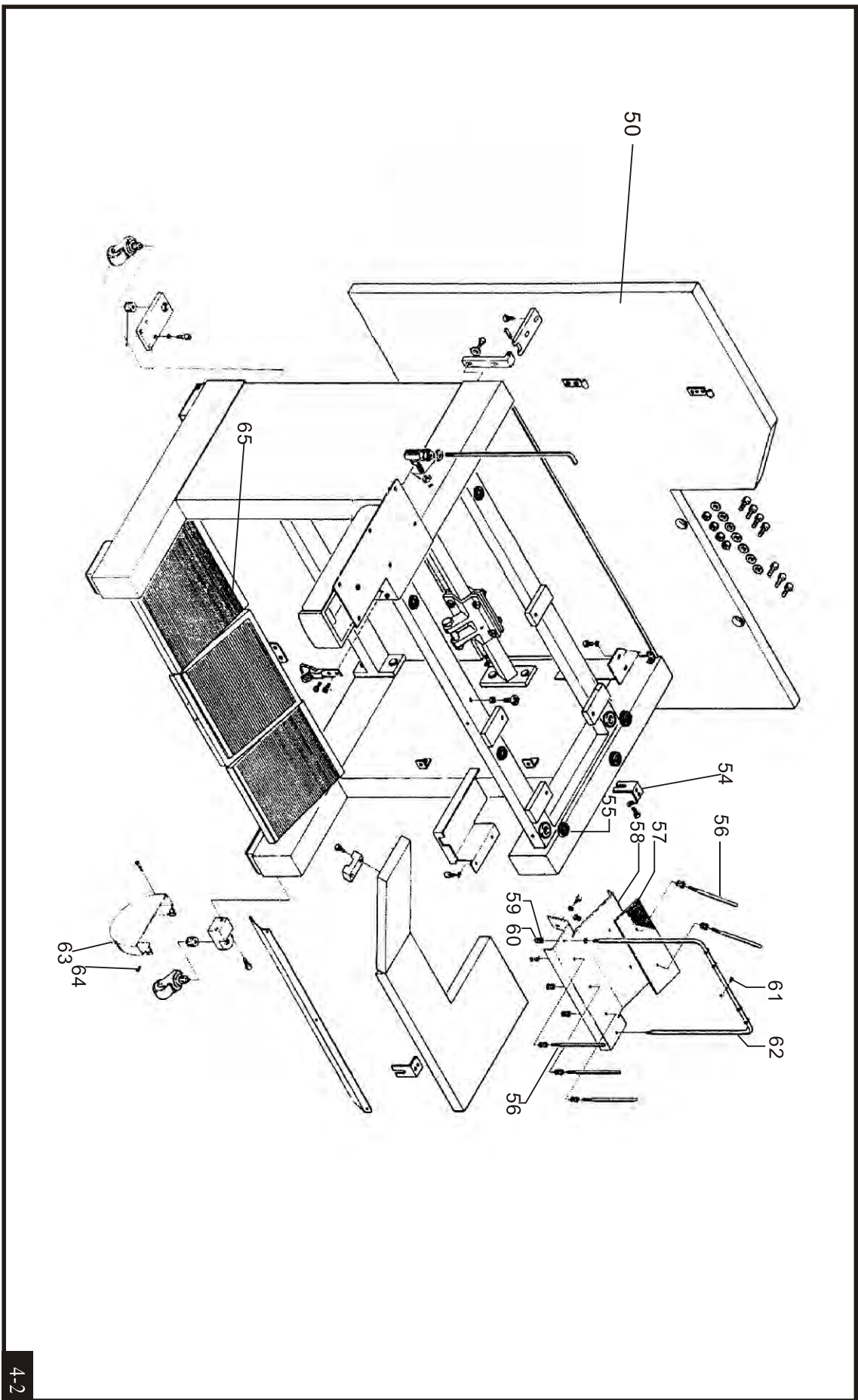
NO	Quantity	Name
5-1 VTE845	3	hex.hd screw
5-2 SK716-05	1	motor back support
5-3 DE8	3	flat washer
5-4 SK716-04	1	motor front support
5-5 SK716-02/30	1	three-front support
5-5 SK716-02/40	1	single-phase motor
5-6 SK712-07	1	tie rod assy
5-7 RP15	1	ring
5-8 SK713-04	1	pulley pin
5-9 6002-2NSE	2	ball bearing
5-10 DEASE32	2	ring
5-11 SK716-07/01	1	reduction pulley
5-12 VCB825TUN	2	hex.hd.screw
5-13 RP8	2	flat washer
5-14 SK713-02	1	support
5-15 GB610	2	hex.soc.set screw
5-16 VCB516TUN	2	hex.soc.hd.cap screw
5-17 RP5	2	flat washer
5-18 SK718-08	1	synchronizer
5-19 GB68	2	hex.soc.set screw
5-20 620.z032.0815	1	"V"belt
5-21 620.Z032.0785	1	"V"blet Z30 3/4
5-22 620.000.063	1	60 cycle drive pulley
5-22 621.000.075	1	50 cycle drive pulley
5-23 SK724-36	1	cable with connector
5-24 VCB820TUN	1	hex.soc.hd.cap screw
5-25 VCB430TUN	2	hex.soc.flat hd.cap scre
5-26 SK718-10	1	synchronizer holder clam
5-27 SK718-04	1	synchronizer bracket
5-28 R9S2D.180XL.038	1	timing blet
5-29 SK718-07	1	main pulley with timing belt pull
5-30 Gb12	2	hes.soc.set screw
5-31 DE4	2	hex nut
5-32 AZ7310、781	1	micro switch
5-33 SK719-12	1	switch bracket
5-34 VCB48TUN	1	hex.soc.hd.cap screw
5-35 RP4	5	flat washer
5-36 VCB430	2	hex.soc.hd.cap screw
5-37 SK718-09	1	pulley
5-38 SK719-26	1	control box,three-phase
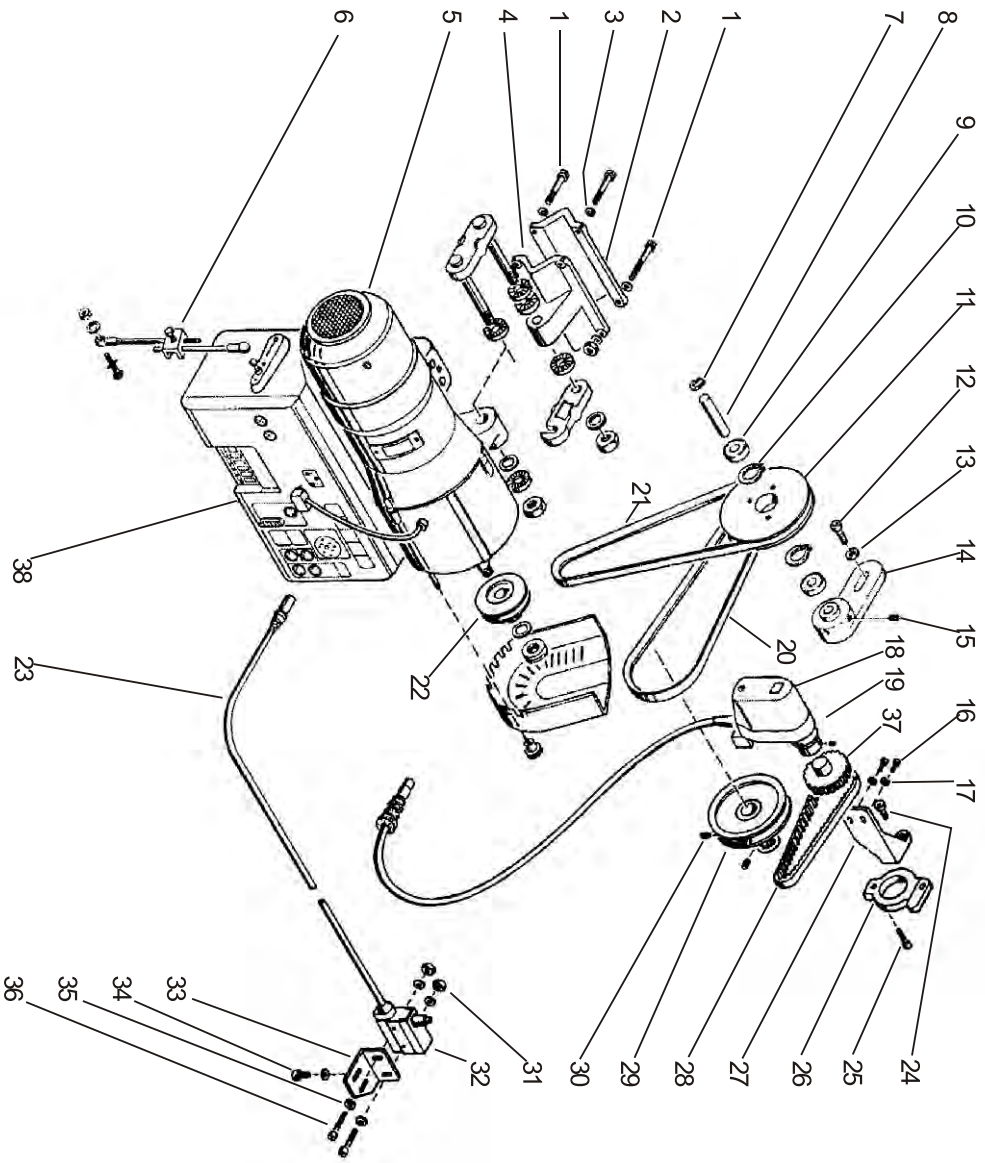
NO		Quantity	Name
6-1	GB66	12	hex.soc.set screw
6-2	SK720-09	1	stitch shortening eccentric
6-3	SK720-04	1	lower cam shaft
6-4	GB68	4	hex.soc.set screw
6-5	SK720-08	1	thread lifting cam
6-6	SK720-07	1	thread loader cam
6-7	SK720-05	1	driver gear
6-8	SK720-06	1	spacer
6-9	6003、2NSE	3	ball bearing
6-10	RP17	2	ring
6-11	SK745-02	1	pull off rimger cam
6-12	GB610	2	hex.soc.set screw
6-13	VCB410 TUN	2	hex.soc.hd.cap screw
6-14	SK741-02	1	tension drive cam
6-15	VCB620 TUN	1	hex.soc.hd.cap screw
6-16	SK720-28	1	looper wheel stop collar
6-17	SK730-02	1	feed lift eccentric
6-18	VSB625 TUN	4	hez.soc.flat he.cap screw
6-19	SK720-20	4	washer
6-20	SK720-19	4	grommet spacer
6-21	SK720-18	4	shock absorber grommet
6-22	SK720-17	4	support pad
6-23	6001、2RS	2	ball bearing
6-24	SK720-13	1	main feed eccentric
6-25	SK720-11	1	lowwer main shaft
6-26	SK720-12	1	driving gear
6-27	SK720-25	1	Spacer
6-28	63003-2RS	1	ball bearing
6-29	TLA1010Z	2	roller-bearing sleeve
6-30	SK720-10	1	ring
6-31	GB612	2	hex.soc set screws
6-32	SK718-07	1	main pulley with timing hot pulley
6-33	SK720-14	1	lower timing belt pulley
6-34	SK720-24	1	pulley flange
6-35	SK720-02	1	bed
6-36	SK720-03	1	bushing
6-37	SK720-16/1	1	bottom cover
6-38	VCB525 TUN	3	hex.soc.hd.cap screw
6-39	TLA1015Z	1	roller-bearing sleeve
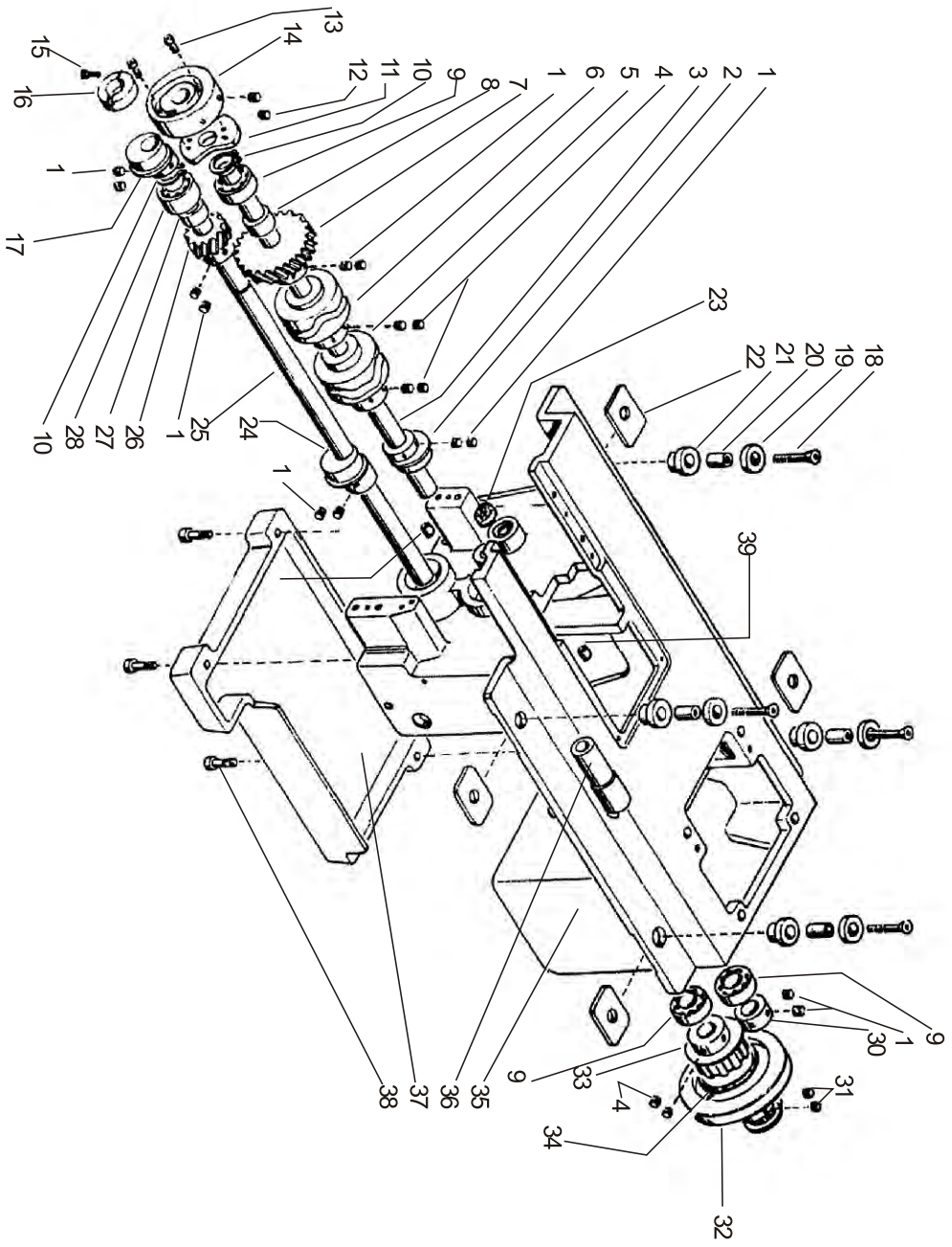
NO		Quantity	Name
7-1	SK722-06/1	1	control lever
7-2	SK752-02	1	drive shaft,foot movement
7-3	VCB520 TUN	6	hex.soc.hd.cap screw
7-4	SK752-03	1	fork lever
7-5	SK730-06	1	feed dog holder
7-6	SK730-08	2	feed dog screw
7-7	SK730-07	1	feed dog height ad justment screw
7-8	VCB410 TUN	1	hex..soc.hd.cap screw
7-9	Cc2067	1	clamp
7-10	GB56	8	hex.soc.set screw
7-11	SK730-05	1	feed dog carrier bar
7-12	SK730-11	1	hinge stud
7-13	ASE12	1	ring
7-14	SK730-09	1	stud
7-15	SK730-03	1	feed lift connecting tod
7-16	SK730-02	1	feed lift eccentric
7-17	GB66	4	hex.soc.set screw
7-18	SK721-06	1	stitch-(lengthner)control lever
7-19	SIGKM6	2	articulated(endpiece)
7-20	SK730-13	1	foot control lever
7-21	SK730-12	1	feed drive rock shaft
7-22	SK730-14	1	ring nut
7-23	SK743-04	1	ring
7-26	SK730-04	1	roller-bearing sleeve
7-24	TLA0609Z	1	Stud
7-27	SK721-09	2	roroller
7-25	SK721-04	1	hinge stud
7-28	ASE7	2	retainning ring
7-29	SK721-05	1	stud
7-30	SK721-13	1	spring connection
7-31	SK720-23	1	ring nut
7-32	VSB440 TUN	1	hex.soc.flat hd.cap screw
7-33	VCB616 TUN	1	hex.soc.hd.cap screw
7-34	VCB512 TUN	1	hex.soc.hd.cap screw
7-35	SK752-28/1	1	washer
7-36	SK730-10	1	feed dog fork
7-37	DE6	2	hex nut
7-38	SK752-29	1	connecting rod
7-39	VCB620 TUN	1	hex.soc.hd.cap screw
7-40	SK10-32	1	spacer ring
7-41	SK2027	2	ring
7-42	SK721-11	1	long needle control rod
7-43	VCB516 TUN	2	hex.soc.hd.cap screw
7-44	SK721-10	1	clamp block
7-45	SK721-08	1	stitch-lengthner pivot shaft
7-46	SK721-02	1	stitch-lengthenr support
7-47	SK721-03	4	link
7-48	SK720-13	1	main feed eccentric
7-49	SK721-07	1	stitch-lengthner connercting rod
7-50	SK720-22	1	spring
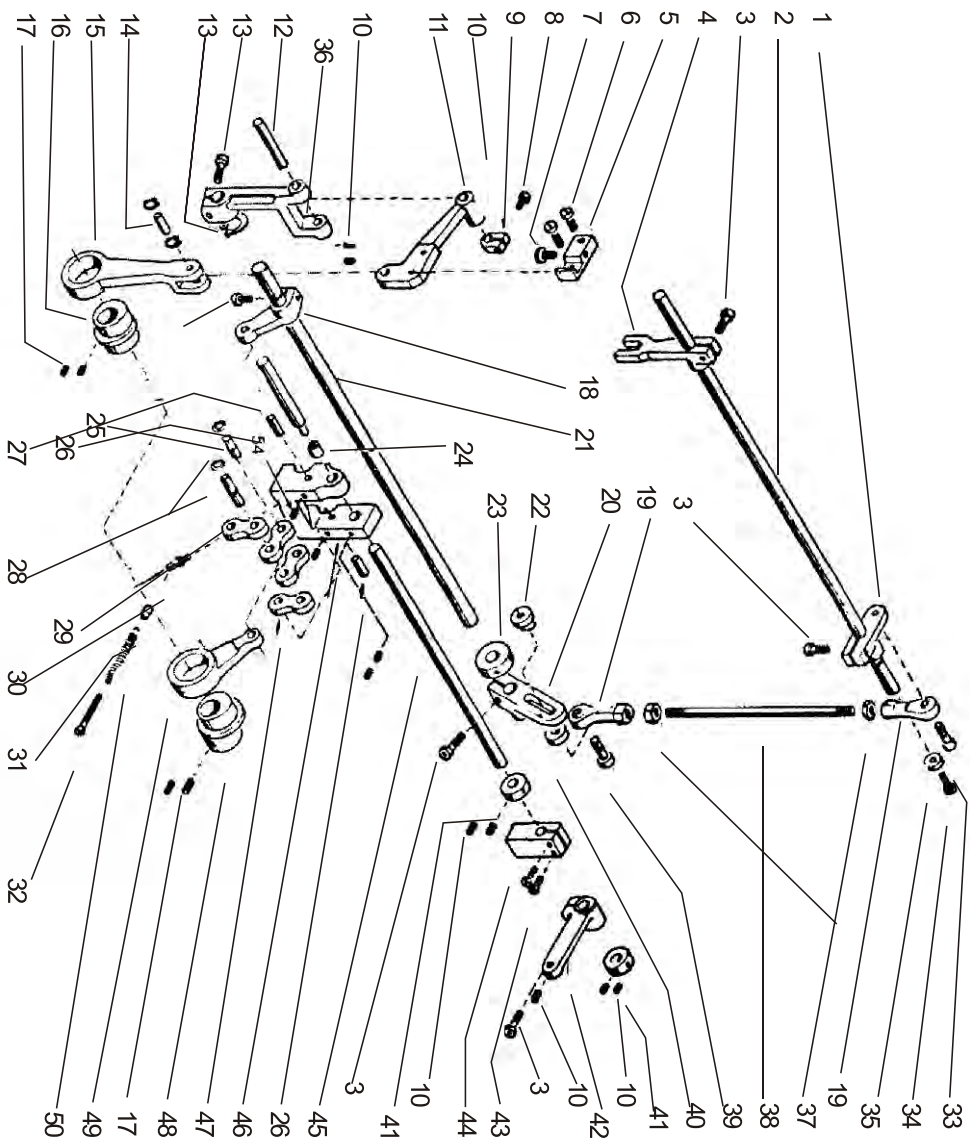
NO	Quantity	Name
7-51 ASE7	2	ring
7-52 GB55	1	hex.soc.set screw
7-53 GB56	1	hex.soc.set screw
7-54 GBP58	2	hex.soc.set screw
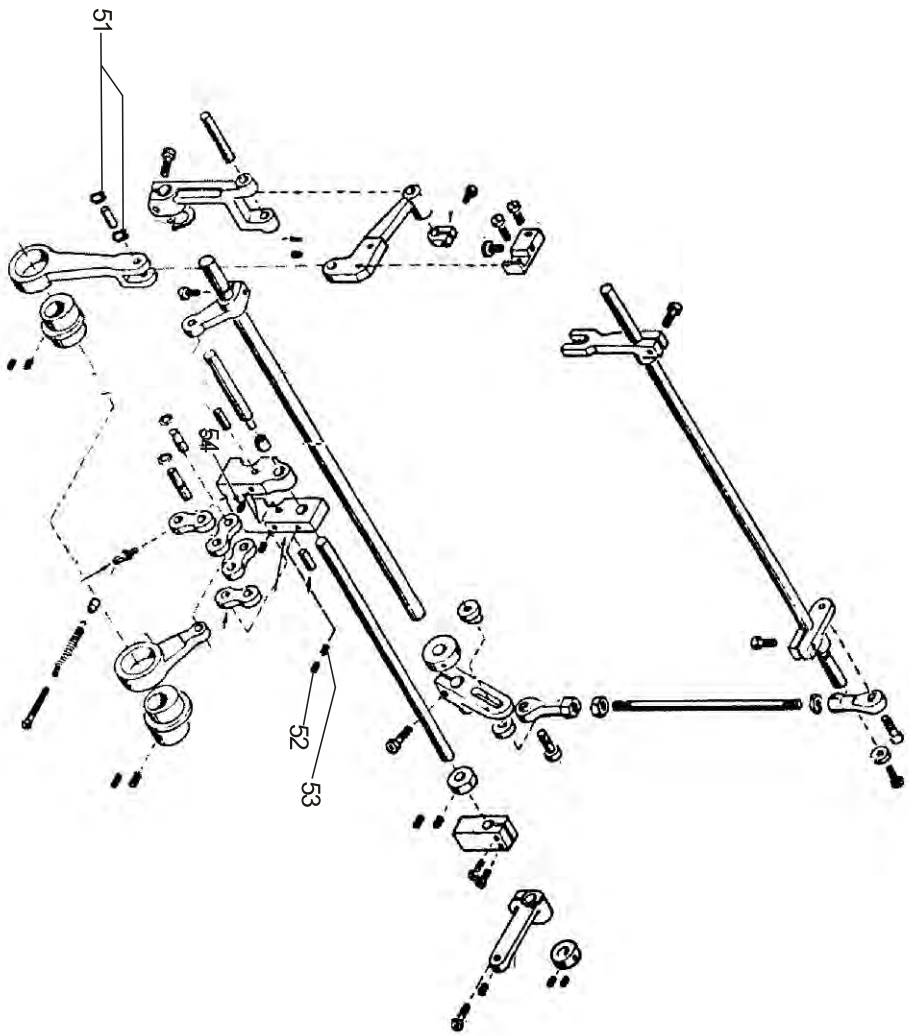
NO		Quantity	Name
8-1	VCB616 TUN	2	hex.soc.hd.cap screw
8-2	SK724-05	1	stitch inversion control lever
8-3	SK722-05	1	loose support control shaft
8-4	SK730-04	2	roller
8-5	GB55	1	hex.soc.hd.cap screw
8-6	GB55	2	hex.soc.hd.cap screw
8-7	SK721-02	1	stitch-lengthner support
8-8	SK722-04	1	hinge stud
8-9	TLA692	1	roller-bearing sleeve
8-10	625ZZ.5165	1	ball bearing
8-11	VCB516 TUN	2	hex.soc.hd.cap screw
8-12	DE5	1	hex nut
8-13	SK722-07	1	shaft,stitch correction lever
8-14	SK722-09	1	counter lever
8-15	VCB520 TUN	9	hex.soc.hd.cap screw
8-16	ASE7	2	retaining ring
8-17	SK721-05	1	stud
8-18	SK722-10	1	cam with excentric
8-19	SK722-08	1	stitch correction lever
8-20	SK722-03	1	stitch correction control lever
8-21	SK721-03	4	link
8-22	GB56	2	hex.soc.hd.cap screw
8-23	cc2027	1	ring
8-26	GB720-30	1	stud
8-24	SK721-04	1	hex.soc.flat hd.cap screw
8-27	TLA3512Z	1	flane
8-25	Gb410	1	roller-bearing sleeve
8-28	SK722-02	1	stitch correction connecting rod
8-29	GB66	2	hex.soc.set screw
8-30	SK720-09	1	stitch shortening eccentric
8-31	SK755-20/1	1	stitch corection control lever
8-32	SIGKM6	2	articulated(endpiece)
8-33	DE6	2	hex nut
8-34	SK752-29/1	1	connecting rod
8-35	GBP56	1	hex.soc.set screw
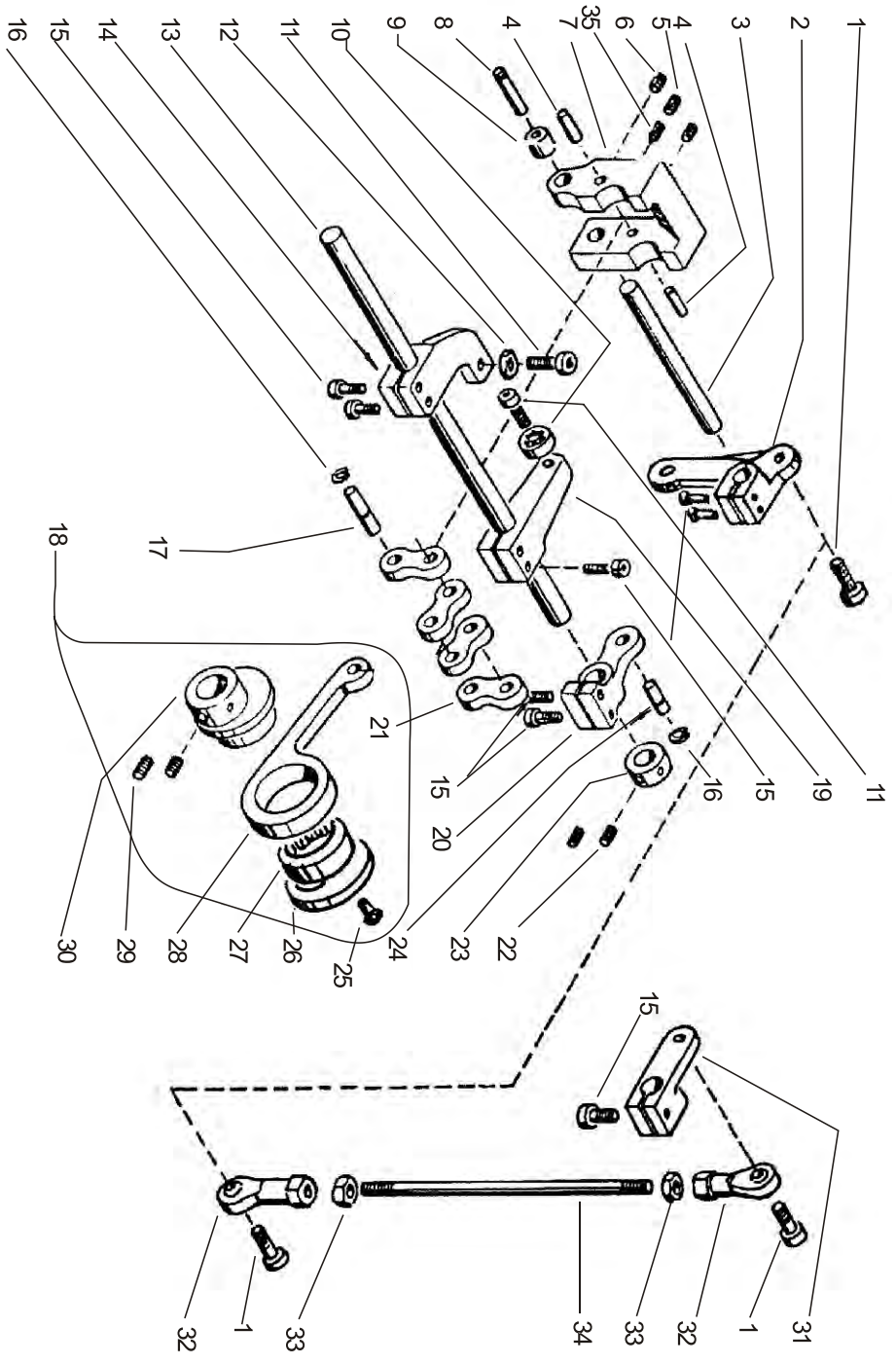
NO		Quantity	Name
9-1	VSB36	2	hes.soc.flat hd.cap screw
9-2	VCB516	4	hex.soc.hd.cap screw
9-3	SK740-02	1	stationary wheel
9-4	SK740-05/1	1	wheel
9-5	SK782-40.05.2	1	hub
9-6	GB510	1	hes.soc.set screw
9-7	SK782.40.03	1	cam for(hreadloader)wheel
9-8	VCB512	3	hex.soc.hd.cap screw
9-9	VCB825	1	hex.soc.hd.cap screw
9-10	SK740-08	1	sheave shaft
9-11	TLA52Z	1	bearing
9-12	VCB316	2	hex.soc.hd.cap screw
9-13	VSB48	10	hex.soc.hd.cap screw
9-14	VSB410	2	hex.soc.hd.cap screw
9-15	SK744-11	1	left and cover plate
9-16	SK744-10/01	1	throat plate support frame
9-17	SK744-13	1	thread separator
9-18	SK740-03	1	thread guide plate
9-19	SK740-29	2	dowel pin
9-20	VSB48	2	hex.soc.flat hd.cap screw
9-21	SK740-06	1	rotary hook
9-22	VCB412	1	hex.soc.hd.cap screw
9-23	SK745-10	1	needle guide
9-26	GBP33	1	dowel pin
9-24	SK740-09	1	thread shifter assembly
9-27	SICKM3	2	hex.soc.set screw
9-25	SK745-04	2	articulatde(endpiece)
9-28	SK744-17	1	screw
9-29	DE3	2	hex nut
9-30	SK744-06	1	connecting rod
9-31	VSB616	1	hex.soc.flat hd.cap screw
9-32	SK744-04	1	washer
9-33	SK744-03	1	hinge stud
9-34	SK743-04	1	ring
9-35	SK744-12/1	1	right and cover plate
9-36	SK744-07	1	hinge fork
9-37	SK744-16	2	screw
9-38	SK744-08	1	holder
9-39	SK744-09	1	(thread loader)
9-40	VCB312	1	hex.soc.hd.cap screw
9-41	TAF0510X	1	rollers bearing
9-42	SK744-05	1	screw stud
9-43	SK744-02	1	thread loader lever
9-44	DE6	1	hex nut
9-45	SK743-05	1	roller stud
9-46	RP5	1	flat washer
9-47	DE5	1	hex nut
9-48	GB56	2	hex.soc.set screw
9-49	VCB820	1	hex.soc.hd.cap screw
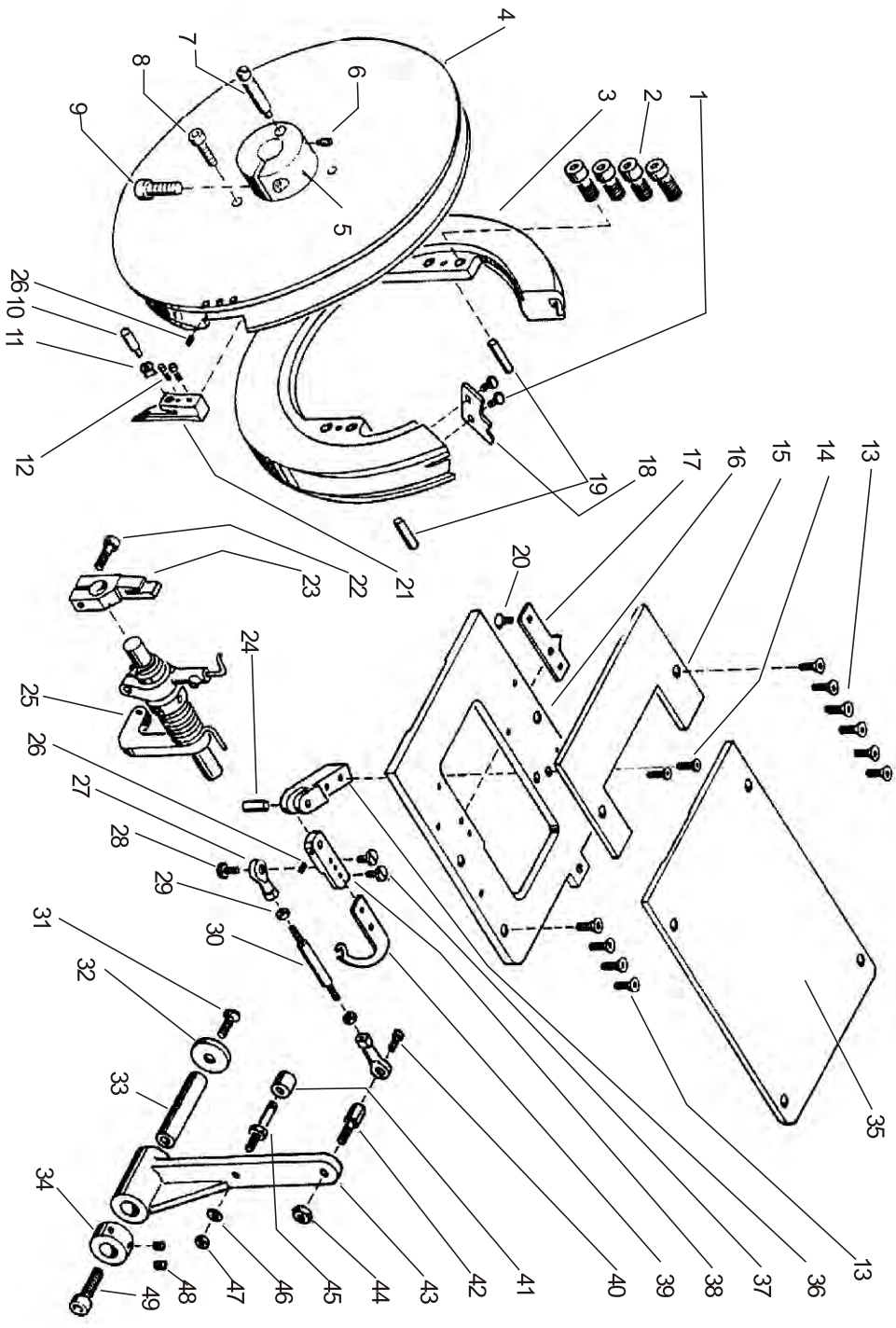
NO		Quantity	Name
10-1	SK742-01	1	Strain assembly
10-2	SK742-12	1	thread holder hook
10-3	SK742-05	1	spring tensioning drum
10-4	SK742-06	2	torsion spring
10-5	SK742-03	1	right hand tension prong
10-6	SK742-03/3	1	plate
10-7	SK742-21	2	hex.soc.flat hd.cap screw
10-8	SK742-20	1	stop screw spring
10-9	SK742-19	2	stop screw
10-10	SK742-11	1	thread pusher hook
10-11	SK742-08	1	thread pusher stud
10-12	SK742-14	1	thread support plate
10-13	VCB38	2	hex.soc.hd.cap screw
10-14	SK742-09	1	spring tensioning drum
10-15	SK742-10	2	torsion spring
10-16	SK742-02	1	(pre-tensioning)support
10-17	GB416	1	hex.soc.set screw
10-18	GB45	2	hex.soc.set screw
10-19	VCB525	2	hes.soc.hd.cap screw
10-20	SK721-09	1	hinge stud
10-21	SK741-03	1	tension driver lever
10-22	GB56	4	hex.soc.set screw
10-23	cc2027	1	ring
10-26	SK741-02	1	stud
10-24	SK754-12	2	rollers bearing
10-27	SK741-06/2	1	tension drive cam
10-25	TAF0510X	2	screw stud
10-28	SK745-09	1	Hook
10-29	SK745-11	1	washer
10-30	ASE8	1	ring
10-31	SK742-18	1	stop lever
10-32	SK753-12	1	throat plate screw
10-33	GB34	1	hex.soc.set screw
10-34	VCB420	1	hex.soc.hd.cap screw
10-35	DE3	6	hex nut
10-36	SK742-13	2	bushing dowel
10-37	VCB36	1	hex.soc.hd.cap screw
10-38	SK742-04	1	left hand tension prong
10-39	SK742-17	1	stop lever
10-40	SK742-07	1	hinge shaft
10-41	SK745-02	1	pull off finger cam
10-42	SK745-12	1	torsion spring
10-43	VCB312	3	hex.soc.hd.cap screw
10-44	SK745-08	1	thread shifter lever
10-45	GB44	2	hex.soc.hd.cap screw
10-46	SK745-07	1	adjusting collar
10-47	SK745-05	1	roller
10-48	CS3104	1	ball bearing
10-49	SK745-13	1	pawl
10-50	VCB325	2	hex.soc.hd.cap screw
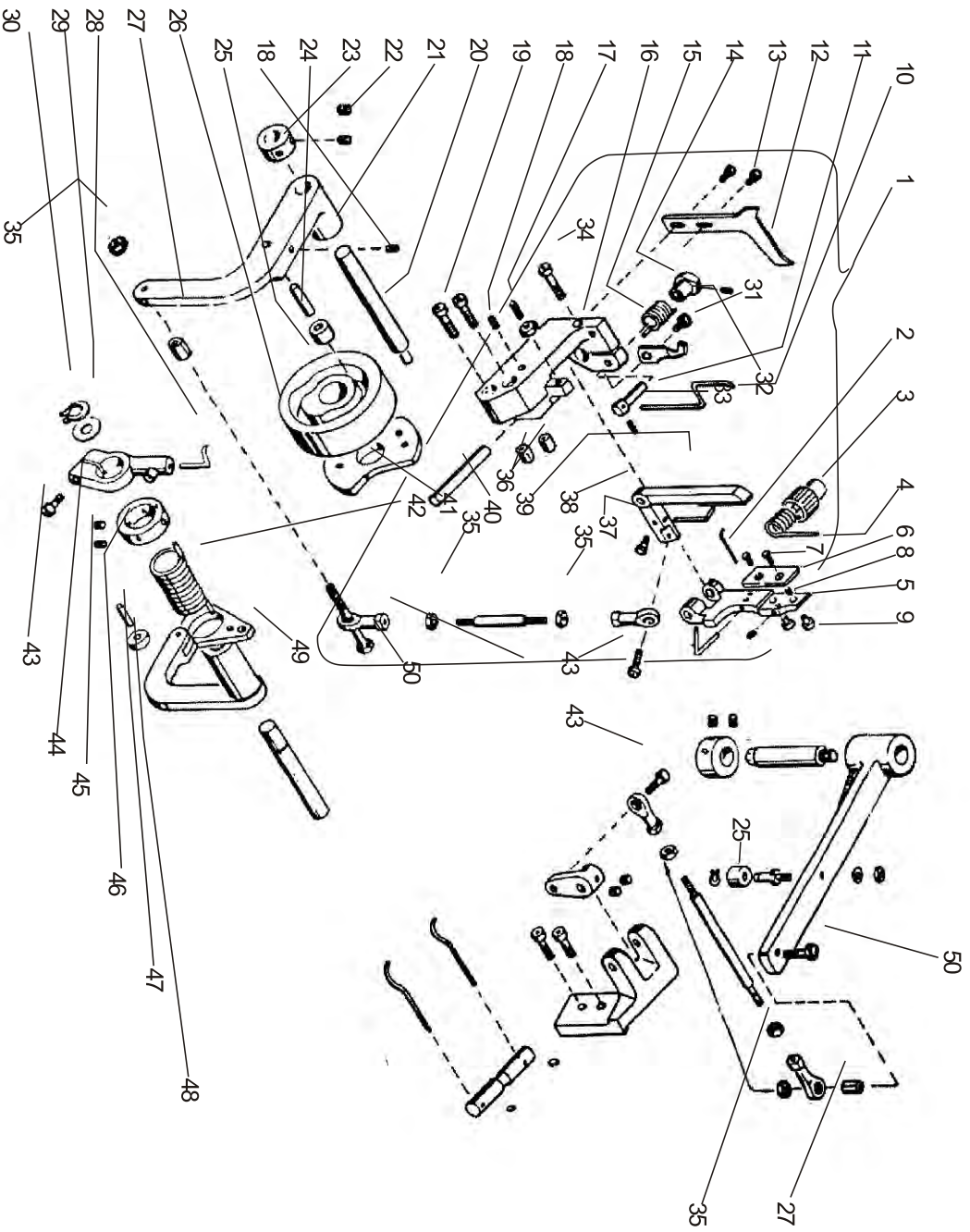
NO	Quantity	Name
10-51 SK742-15	1	connecting rod
10-52 GB55	2	hex.soc.set screw
10-53 SK743-07	1	thread lifter connecting rod
10-54 SICKM3	4	articu lated endpiece
10-55 SK742-16	1	thread wiping finger
10-56 SK743-04	1	ring
10-57 SK743-03	1	pin for lever
10-58 SK743-05/1	1	roller stud
10-59 ASE5	1	ring
10-60 SK743-02	1	thread lifting lever
10-61 SK743-06	1	tie-rod
10-62 SK743-08	1	thread lifter supoort
10-63 GB33	4	hex.soc.hd.set screw
10-64 SK743-09	1	thread lifting finger shaft
10-65 SK743-10	2	thread lifter
10-66 SK743-01	1	thread lifting finger assembly
10-67 VCB520	2	hex.soc.hd.cap screw
10-68 SK745-03	1	needle guard carrier shaft
10-69 SK745-01	1	thread shifter assembly
10-70 SK745-04	1	thread shifter control lever
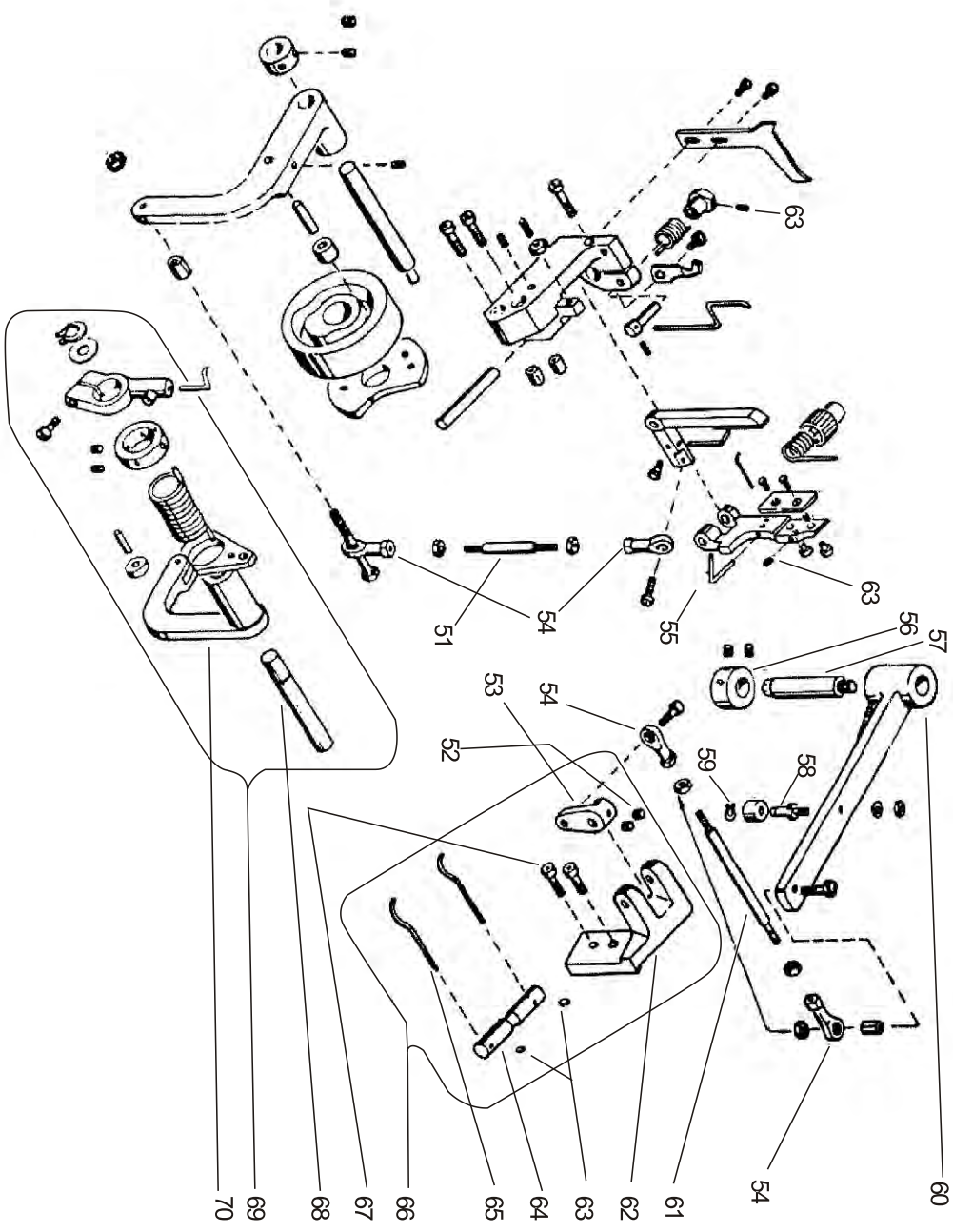
NO		Quantity	Name
11-1	752-04/1	1	foot lifter lever
11-2	VCB520	2	hex.soc.hd.cap screw
11-3	SK752-05	1	foot lifter shaft
11-4	SK752-06/1	1	lifting crank
11-5	GB55	2	hex.soc.set screw
11-6	SK723-02	1	knee lifter connection lever
11-7	DE5	3	hex nut
11-8	VIE530	2	hex.hd.screw
11-9	VCB616	2	hex.soc.hd.cap screw
11-10	SK723-03	1	knee lever pivot shaft
11-11	VCB516	2	h hex.soc.hd.cap screw
11-12	SK723-05	1	adjusting joint
11-13	SK720-21	1	screw stud
11-14	SK723-07/1	1	coil spring
11-15	GBP516	1	hex.soc.set screw
11-16	Ca1517	1	thread guide
11-17	SICKM6	2	articultated(endpiece)
11-18	DE6	2	hex nut
11-19	SK723-08	1	connecting rod
11-20	SK723-04	1	lover stud
11-21	SK723-06	1	knee rod lever
11-22	VCB620	1	hex.soc.hd.cap screw
11-23	TR3581	1	knee device
11-24	Tr3598	1	knee lever pad
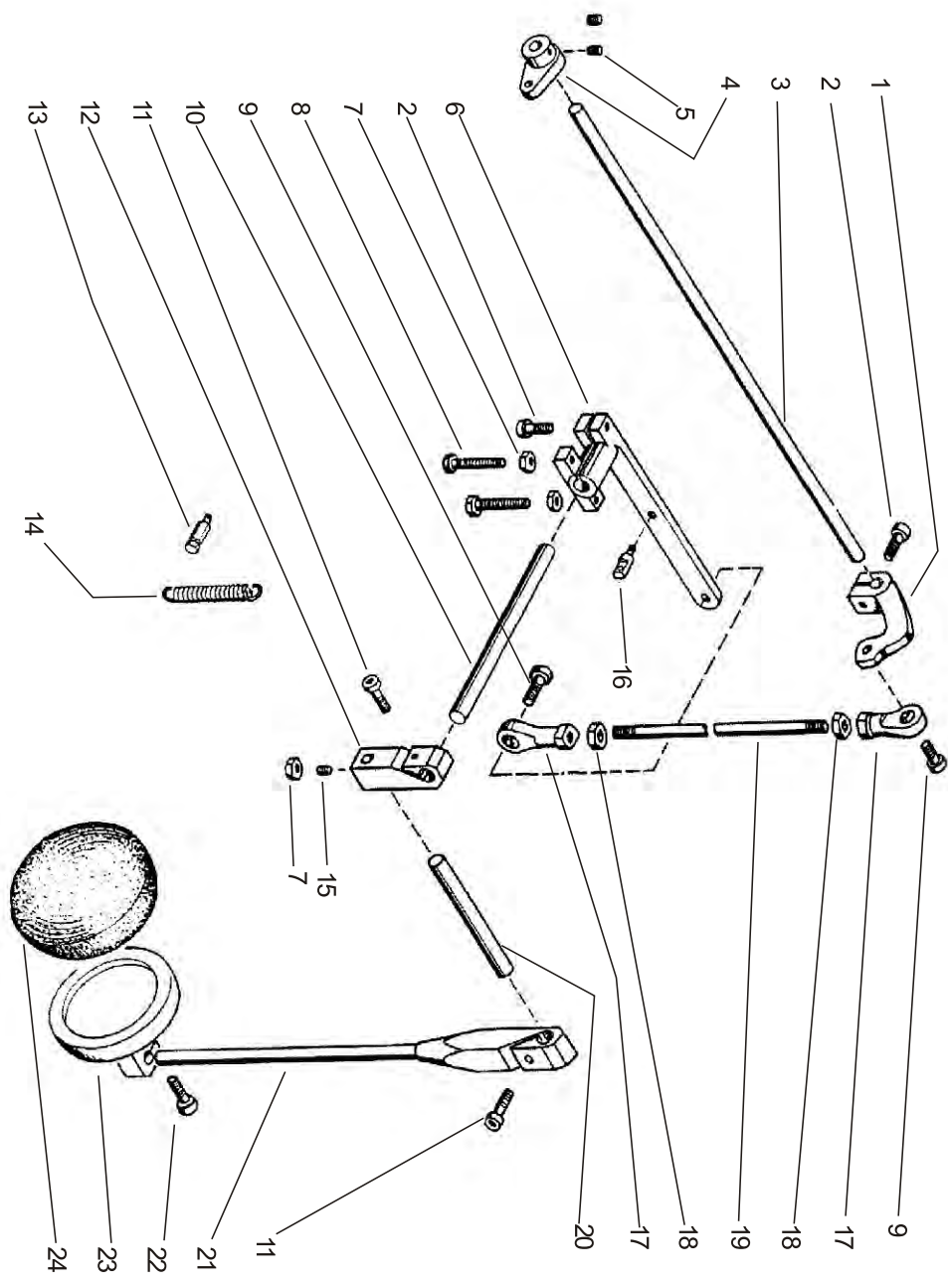
NO		Quantity	Name
12-1	SK782-50/1	1	nose section
12-2	VCB530	4	hex.soc.hd.cap screw
12-3	SK750-18	1	lower cam shaft
12-4	ASE17	2	ring
12-5	GB66	14	hex.soc.set screw
12-6	SK750-19	1	upper looper driver cam
12-7	SK750-12	1	needle bar crank
12-8	SK750-08	1	upper main shaft
12-9	SK754-04	1	lever guide
12-10	VCB516	2	hex.soc.hd.cap screw
12-11	SK750-10	1	walking presser lifting eccentric
12-12	TLA0810Z	2	roller-bearing sleeve
12-13	6003-2NSE	4	ball bearing
12-14	SK750-06	1	upper needle bar bushing
12-15	SK750-26	1	access cover
12-16	SK782-50/5	1	support base for connection board
12-17	SK720-12	1	driving gear
12-18	SK720-05	1	driver gear
12-19	SK70-27	1	access cover
12-20	SK720-06/1	2	spacer
12-21	GY754-05	2	spacer
12-22	GB55	1	hex.sic.set screw
12-23	SK750-07	1	lower needle bar bushing
12-26	VCB1025	1	hex.soc.set screw
12-24	GB58	2	lower needle bar bushing
12-27	SK750-02	4	hex.soc.set screw
12-25	ZR322L	1	arm
12-28	SE830	2	spring pin
12-29	6000LLB/2A01	1	ball bearing
12-32	SK720-10	1	ring
12-33	SK750-20	1	plug
12-34	SA007.34	1	tag with arrow
12-35	SK750-16	1	hand wheel
12-36	SK750-17	1	hand wheel screw
12-37	SK750-22	1	timing collar
12-38	GB68	2	hex.soc.set screw
12-39	SK750-09	1	upper timming belt pulley
12-40	VCB316	2	hex.soc.hd.cap screw
12-41	SK782-50/7	1	small connection board for button-strip
12-42	VCB254	2	hex.soc.hd.cap screw
12-43	PLASTIC25	5	flanged tube
12-44	SK760-06	1	thread guide
12-45	VCB48	2	hex.soc.hd.cap screw
12-46	SK782-50/4	1	support base for keyboard
12-47	SK782-50/6	1	three-button membrane button strlp
12-48	VCB36	2	hex.soc.hd.cap screw
12-49	SK750-32	1	in-and-out screw board
12-50	VCB48	1	hex.soc.hd.cap screw
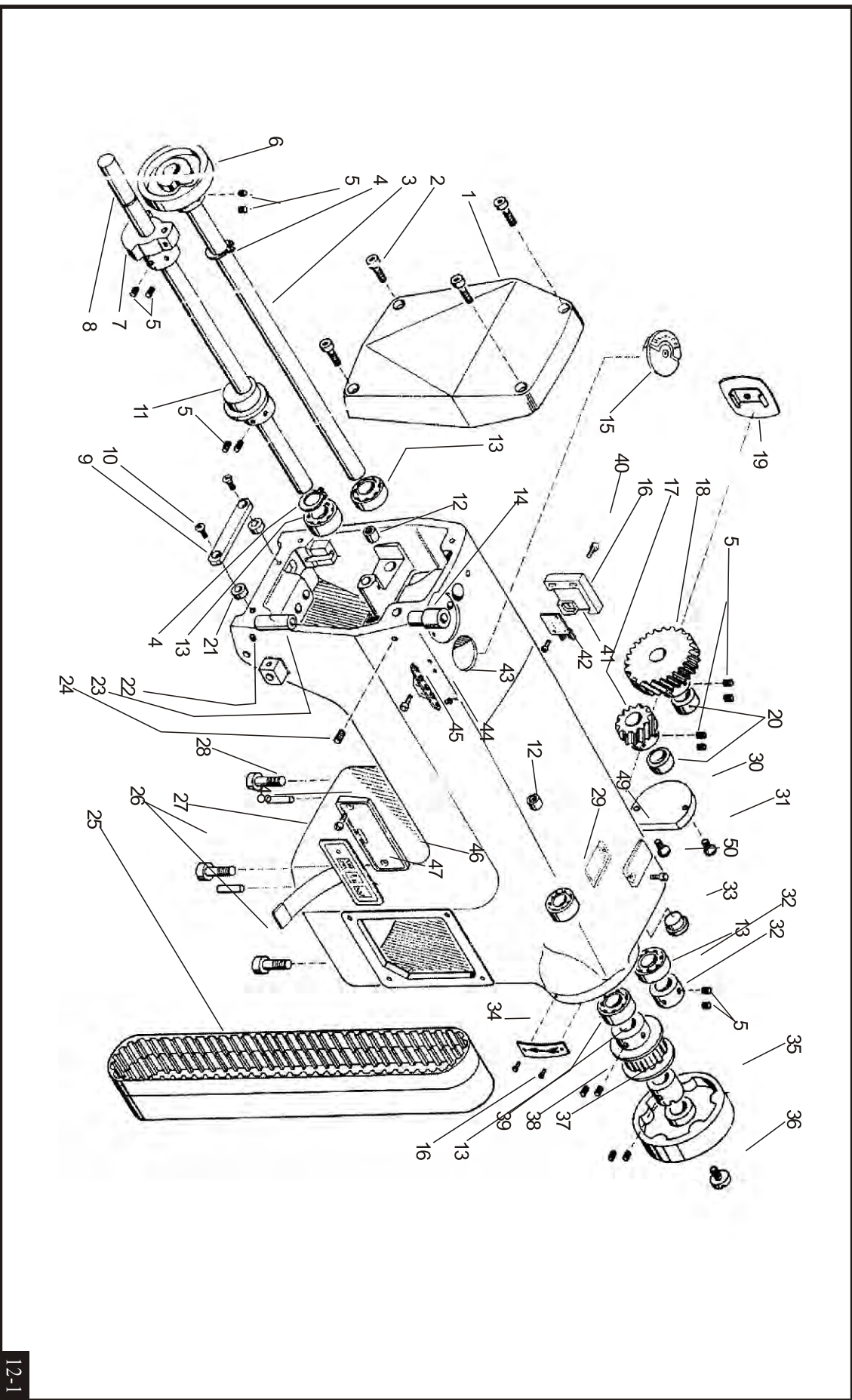
NO		Quantity	Name
13-1	VSB48	1	hex.soc.flat hd cap screw
13-2	755-22	1	stop washer
13-3	GBP55	3	hex.soc.set screw
13-4	755-21	1	stitch sequence inversion prism
13-5	755-18	1	roller
13-6	GB45	4	hex.soc.set screw
13-7	755-17	1	stitch adjustment screw
13-8	755-08	1	roller
13-9	755-12	1	roller
13-10	755-11	1	linkage lever
13-11	755-14	1	shoc absorber grommet
13-12	VCB516	1	hex.soc.hd cap screw
13-13	721-11	1	stitch-lengthner control lever
13-14	755-16	1	connection stud
13-15	755-15	1	stitch length control
13-16	755-13	1	guide bar
13-17	755-29	1	minimum stitch length limit stop
13-18	755-28	1	maximum stitch length limit stop
13-19	755-10	1	hinge pin
13-20	755-31	4	ring nut for bush
13-21	755-03/1	1	panel dial plate
13-22	VCB425	4	hex.soc.hd cap screw
13-23	755-02	1	stitch length control panel housing
13-24	S532	2	ball
13-25	755-06	2	Spring
13-26	SK755-30	2	stitch regulation nut
13-27	SK755-07	1	stitch length regulating screw
13-28	GBP58	1	hex.soc.set screw
13-29	SK755-09	1	stitch length control fork lever
13-30	ASE6	1	ring
13-31	GB56	1	hex.soc.set screw
13-32	SK755-20/1	1	stitch correction control lever
13-33	VCB520	2	hex.soc.hd cap screw
13-35	VSB512	2	hex.soc.flat hd cap screw
13-36	SK755-24	1	stitch inverting lever
13-37	VCB616	2	hex.soc.hd cap screw
13-38	SK755-25	1	knuled head screw
13-39	SIGKM6	2	articulated (endpiece)
13-40	De6	2	hex nut
13-41	SK755-19	1	stitch inversion spindle
13-42	SK755-23	1	stiitch inverting lever guide plate
13-43	SK755-29/1	1	connecting rod
13-44	SK25	5	rivet
13-45	SK755-32/1	1	dial knob
13-46	SK755-32/2	1	dial knob
13-47	Gb58	1	hex.soc.set screw

13-1
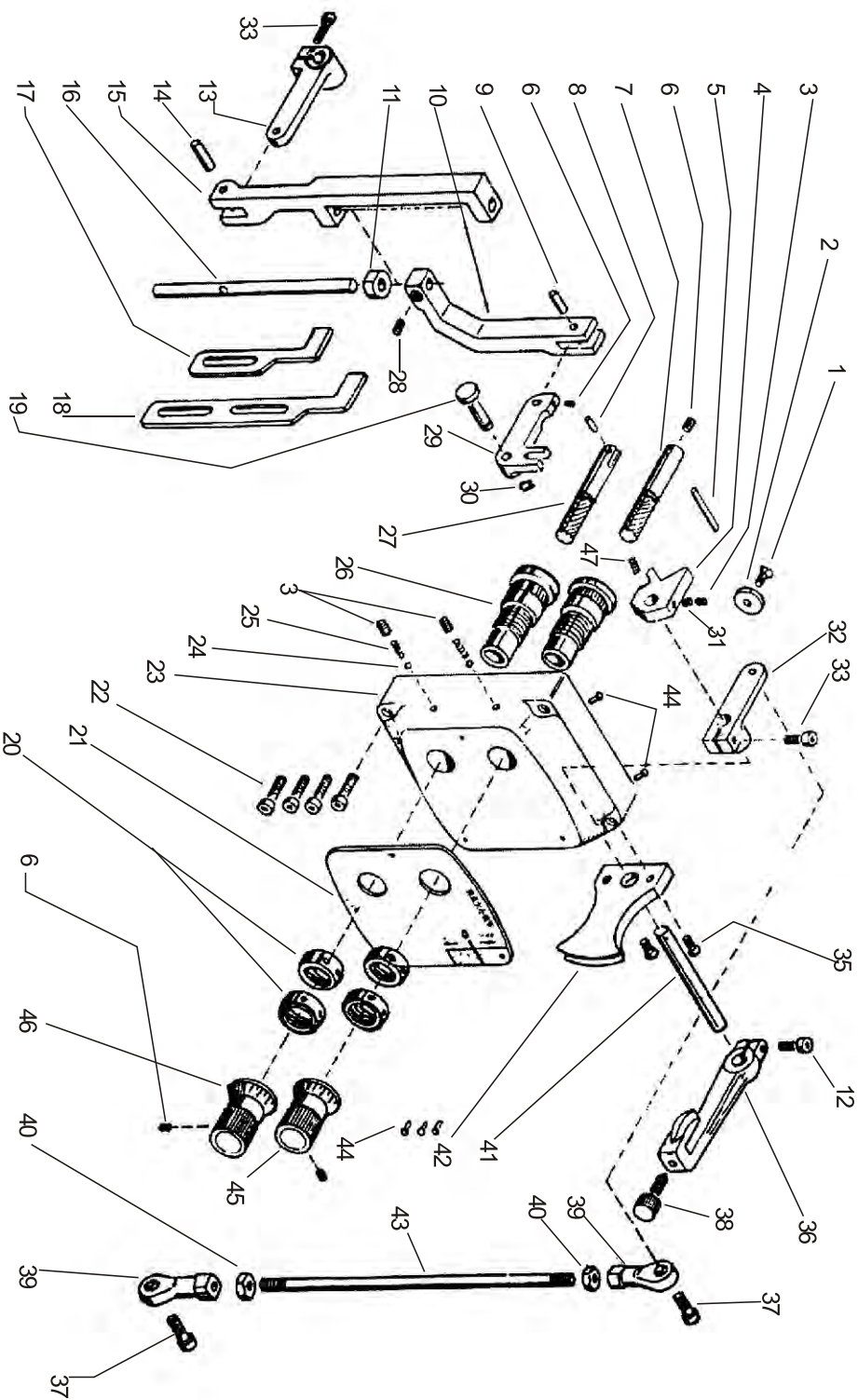
NO		Quantity	Name
14-1	SK752-25	1	plug screw
14-2	SK752-24	1	pressure regulator screw
14-3	ASE15	1	ring
14-4	SK752-23	1	pressure regulator nut
14-5	SK752-22	1	spring
14-6	SK752-06/1	1	lifting crank
14-7	SK752-07/1	1	presser feet lifting link
14-8	SK752-33	1	spring
14-9	SK752-08/1	1	shoulder screw
14-10	SK752-34	1	cam block
14-11	SK752-35	1	clamp collar
14-12	SK752-09	1	foot-lifter bracket
14-13	VCB410	2	hex.soc.hd.cap screw
14-14	SK752-10	1	guide
14-15	SK752-36	2	shoulder screw
14-16	VCB416	2	hex.soc.hd.cap screw
14-17	SK752-12	1	guide fork
14-18	SK752-11	2	slider bar
14-19	SK752-13	1	presser foot drive bushing
14-20	GB45	3	hex.soc.set screw
14-21	VCB512	1	hex.soc.hd.cap screw
14-22	SK752-15	1	walking presser holder
14-23	GB55	1	hex.soc.set screw
14-24	SK752-16	1	belt crank
14-25	SK752-18	1	hinge pin
14-26	SK752-17	1	pivot shaft
14-27	VCB310	1	hex.soc.hd.cap screw
14-28	SK750-15/1	1	clamp
14-29	GBP58	2	hex.soc.set screw
14-30	AR04010	2	spring
14-31	SK752-26	1	guide bar
14-32	SK751-16	1	cushion ring
14-33	SK751-06	1	needle bar clamp
14-34	SK751-05	1	needle bar spring
14-35	Ct340	1	clamp
14-36	VCB412	1	hex.soc.hd.cap screw
14-37	SK452-19	1	link
14-38	SK752-20/1	2	collar
14-39	SK752-27	1	foot-lifter drawrod
14-40	SK752-21	1	presser bar
14-41	GB44	2	hex.soc.hd.cap screw
14-42	SK752-30	1	small bilock
14-43	VCB520	1	hex.soc.hd.cap screw
14-44	SK752-03	1	fork lever
14-45	ASE5	1	ring
14-46	SK752-14	1	stud
14-47	SK757-06	1	ad just table cap
14-48	SK751-14	1	cushion ring
14-49	SK750-11	1	connecting link
14-50	SK750-10	1	walking presser lifting eccentrle
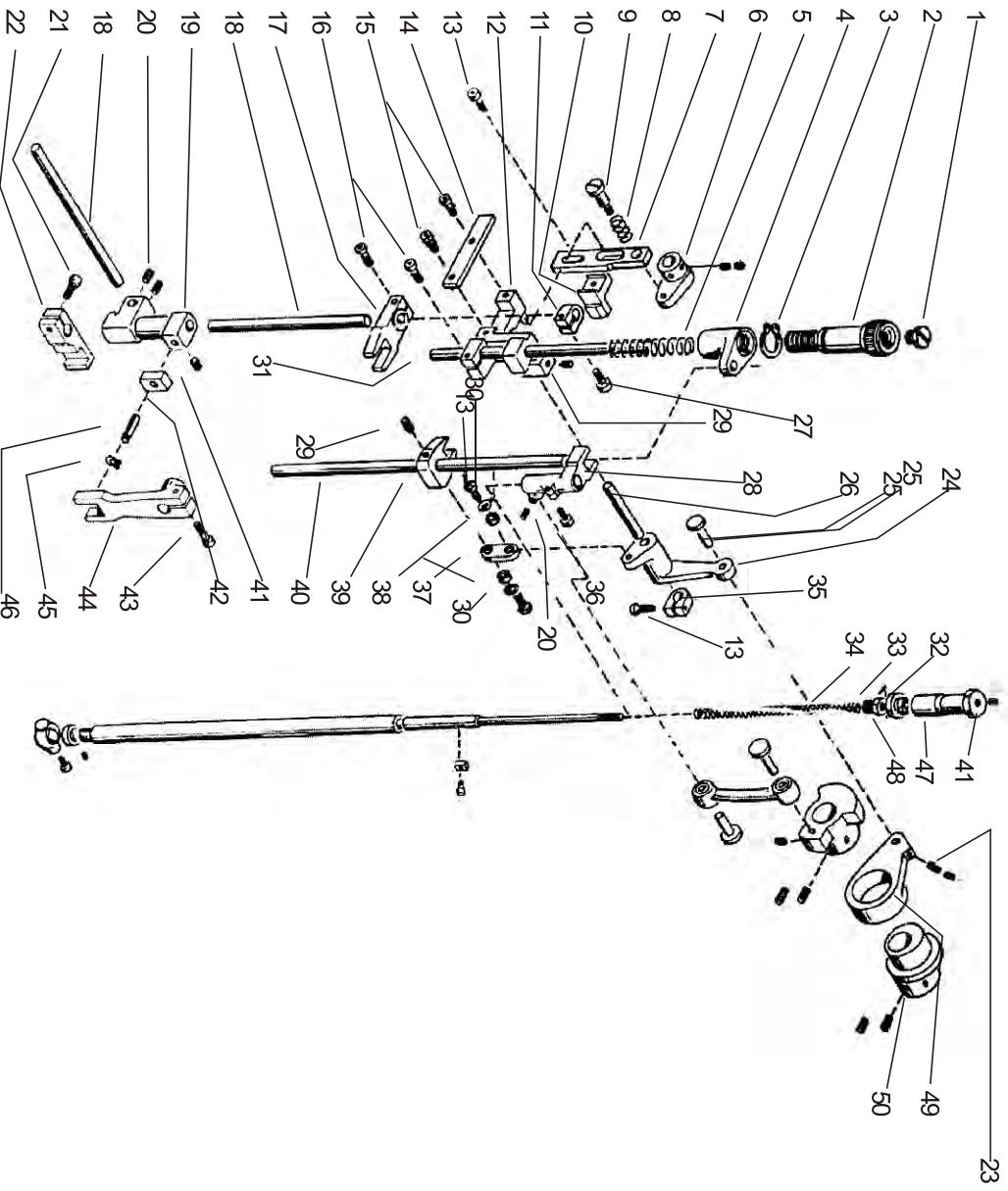
NO	Quantity	Name
14-51 GB66	4	hex.soc.set screw
14-52 SK750-12	1	needle bar crank
14-53 SK750-13	1	connection link with bearing
14-54 SK750-25	1	hinge pin
14-55 U750-14	1	pin for con-rod
14-56 SK751-01/1	1	needle bar assembly
14-57 SK751-03	1	fabric-holder rod
14-58 VCB38	1	hex.soc.hd.cap screw
14-59 SK751-04	1	side block
14-60 SK751-02	1	needle bar rod
14-61 GB33	1	hex.soc.set screw
14-62 SK751-15	1	needle stop collar
14-63 GB35	1	hex.soc.hd.cap screw
14-64 SK751-08	1	needle camp
14-65 GB56	4	hex.soc.set screw
14-66 SK752-20	8	hex.soc.hd.cap screw

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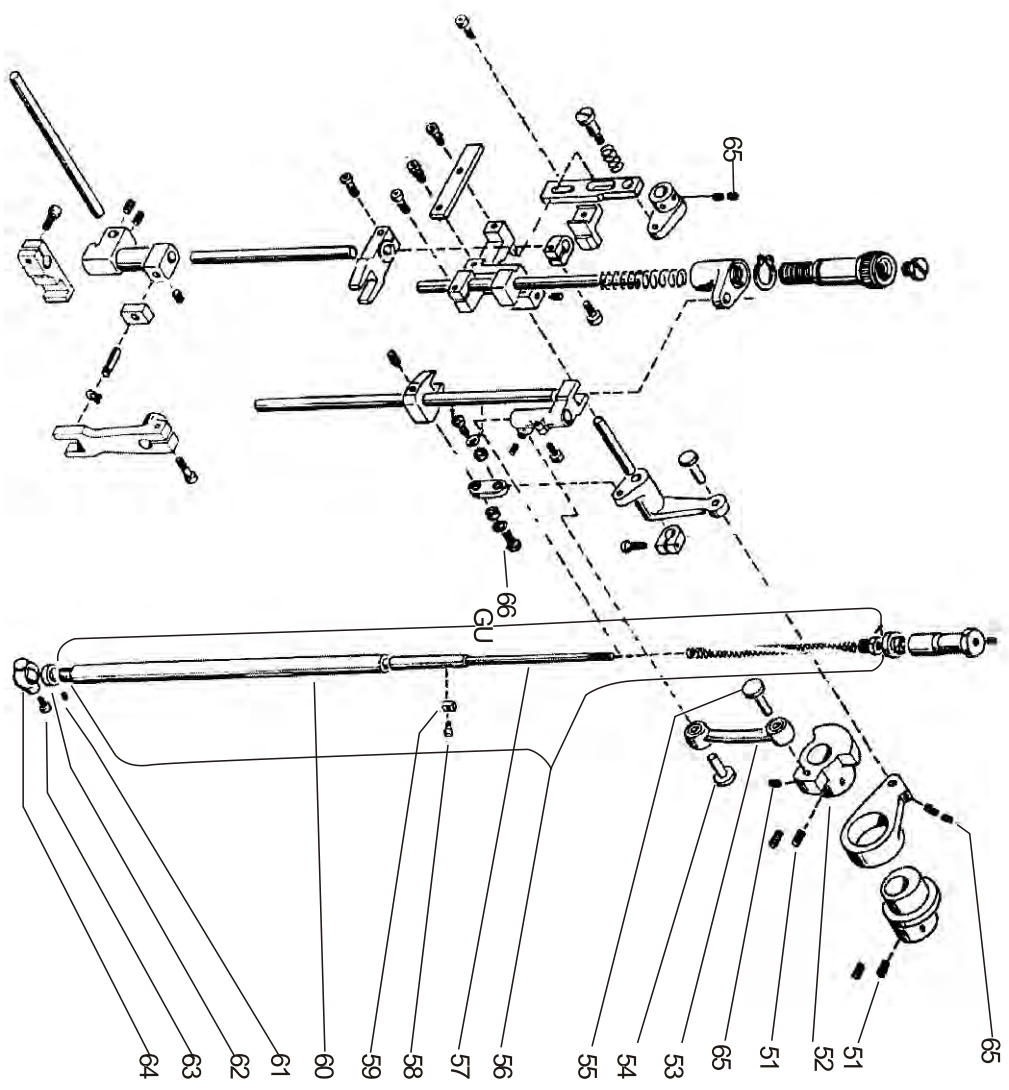
NO		Quantity	Name
15-1	GB781-09	1	edge guide support bracket
15-2	VCB36	2	hex.soc.he cap screw
15-3	SK765-02	1	sliding support for retractab le edge guide
15-4	GB33	2	hex.soc.set screw
15-5	615.CN.615	1	ball presser
15-6	SK765-04	1	rotating lever for retractable edge guide
15-7	SK765-05	1	washer for retractable edge guide
15-8	VCB2-256	4	hex.soc.he cap screw
15-9	DE6	2	flat washer
15-10	VCB312	1	hex.soc.he cap screw
15-11	SK765-06	1	adjustment support for retractable edge guide
15-12	SK765-07	1	snap retractable edge guide
15-13	SK765-03	1	lock plate for snap retractable edge guide
15-14	SK765-01	1	snap retractable edge guide assembly
15-15	SK782-50	1	eyes guard unit
15-16	SK782-50/3	1	eyes guard return spring
15-17	SK780-50/2	1	theaded washer
15-18	SK710-50/1	1	eyes guard protection
15-19	VTE5	1	needle protection
15-20	SK766-01	1	stitch slackening assembly wit clamp
15-21	SK766-16	1	finger guard
15-22	SK766-04	1	stitch slackening lever
15-23	DE3	1	hex nut
15-26	SK766-11	1	parallel pin
15-24	SE38	1	convex-headed screw
15-27	SK753-20	1	lever lock
15-25	VTE48	1	stop screw
15-28	SK756-05	1	torsion spring
15-29	SK756-04	1	spring housing cap
15-30	GB34	1	hex.soc.set screw
15-31	SK766-20	1	threaded sleeve
15-32	VCB258	2	hex.soc.he cap screw
15-33	SK766-09	1	spring for pawl
15-34	U766-14	1	ball pawl
15-35	SK751-13	3	latch wire fastening screw
15-36	SK766-15	1	washer
15-37	SK766-10	1	impressed disc
15-38	SK766-08	1	stitch slackening ad justmenl knob
15-39	VCB310	1	hex.soc.he cap screw
15-41	RP3	1	washer
15-42	SK766-06	1	stitch slackenig lever
15-43	SK756-11	1	fastenig screw cap
15-44	SK756-07	1	stitcn slackening finger
15-45	VCB412	1	hex.soc.he cap screw
15-46	SK756-02	1	stitch slackening shaft lushing
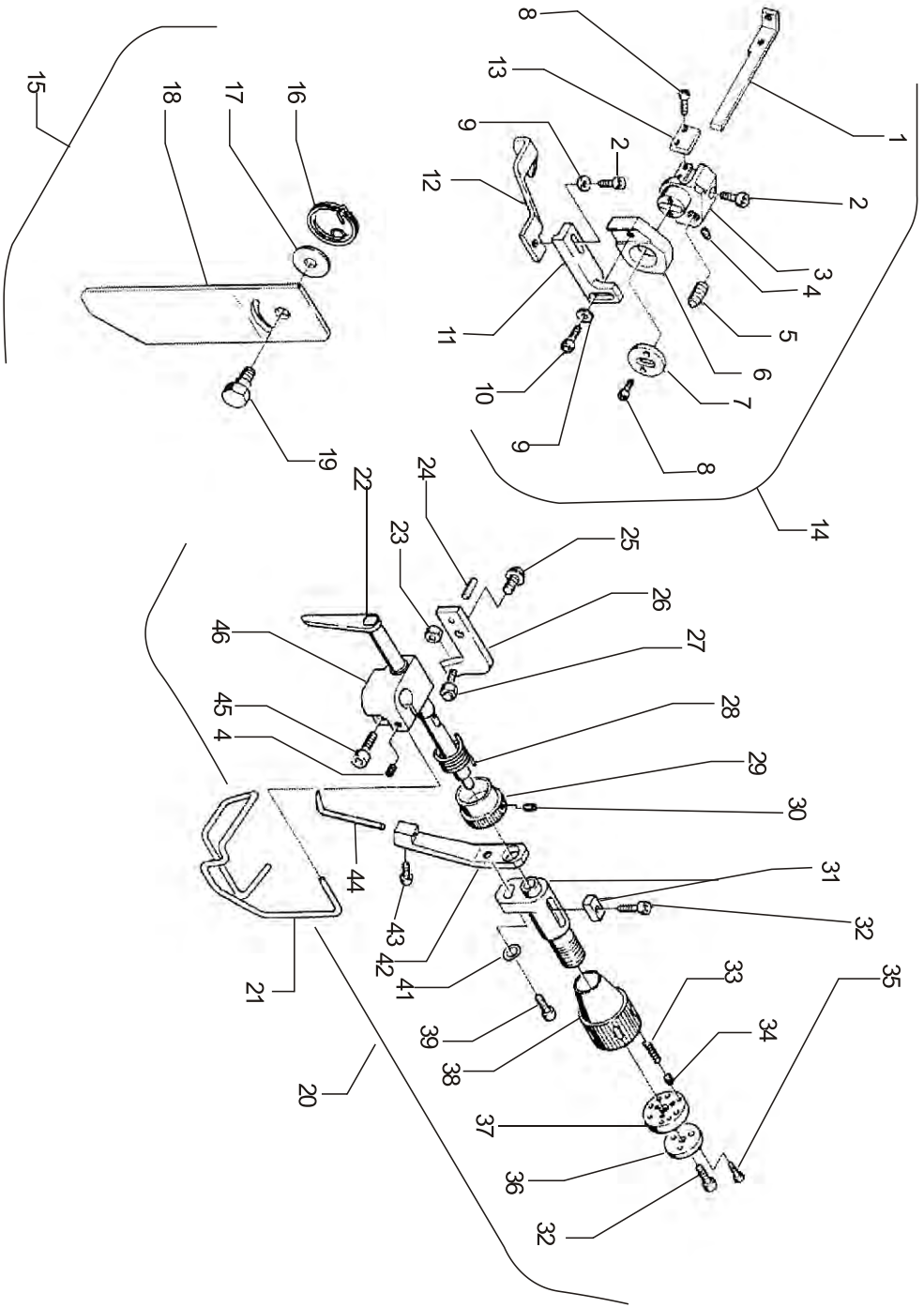
NO		Quantity	Name
16-1	SK753-13	1	thread cutter guide
16-2	SK753-16	1	thread cutter
16-3	SK753-18	1	spring
16-4	SK753-14	1	thread cutter screw
16-5	SK753-15	1	eccentric stud
16-6	SK753-17	1	screw
16-7	SK753-19	1	thread cutter assembly"N.P"
16-8	SK753-33	1	spring
16-9	SK753-21	1	thread cutter screw
16-10	SKDE3	1	eccentric stud
16-11	SK753-09	1	screw
16-12	SK753-10	1	thread cutter assembly"N.P"
16-13	SK753-02	1	sewing unit"M.P"
16-14	SK753-12	2	thread guide
16-15	SK753-06	1	hex nut
16-16	SK753-07	1	screw
16-17	SK751-12	1	stop lever
16-18	SK753-27	1	walking presser
16-19	VCB36	1	throat plate screw
16-20	SK730-07	1	feed dog height adjustment screw
16-22	GB33	1	hex.soc.set screw
16-23	SK780-090	1	needle gauge 90 system 780C
16-23	SK780-125	1	needle gauge 100 system 780C
16-23	SK780-100	1	needle gauge 110 system 780C
16-24	SK751-13	1	latch wire fastenig screw
16-23	SK780-110	1	fabric holder for needle sixe90
16-25	SK751-09/1	1	fabric holder for needle sixe100
16-25	SK751-09/2	1	fabric holder for needle sixe110
16-25	SK751-09/3	1	fabric holder for needle sixe125
16-25	SK751-09/4	1	hex.soc.set screw
16-26	GB35	1	presser feet assembly"M.P"
16-27	SK753-11	1	hex.soc.hd.cap screw
16-28	VCB38		
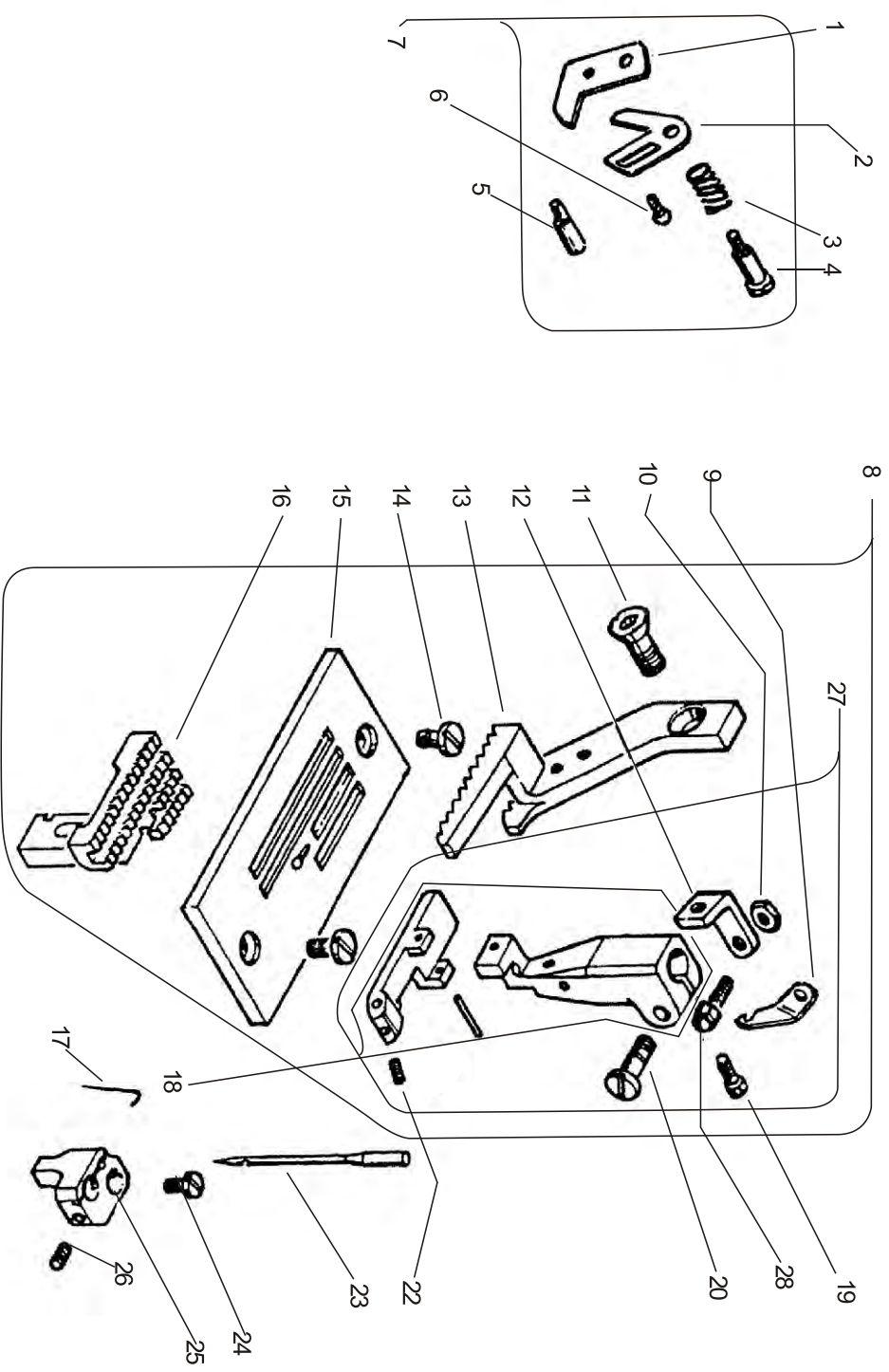
NO		Quantity	Name
17-1	SK757-05	1	gylinder cap
17-2	SK757-09	1	02081 washer
17-3	SK757-08	2	washer
17-4	SK757-04	1	threaded guide
17-5	SPC04-M5	2	elbow pneumatic coupler
17-6	VCB410	2	hex.soc.hd.cap screw
17-7	SK757-02	1	tang-lifter cylinder
17-8	SK757-07	1	washer
17-9	SK757-03	1	seal piston
17-10	SIGKM6	2	articulated endpiece
17-11	SK752-29	1	connecting rod
17-12	VCB616	1	hex.soc.hd.cap screw
17-13	SK724-05	1	stitch inversion control lever
17-14	SK724-11/1	1	fork
17-15	SK724-09	1	cylinder body
17-16	SK724-06	1	trunnion mounting
17-17	VCB850	1	hex.soc.hd.cap screw
17-18	SK724-11/2	1	lock clips
17-19	NSE04-M5	2	reagulator
17-20	SK724-07	1	hinge pin
17-21	ASE6	2	ring
17-22	616.11.235.06	1	fixing square
17-23	VCB512	2	hex.soc.hd.cap screw
17-24	SK724-31	1	spring tube
17-25	SK724-41	1	air gun
17-26	SK724-50	1	straight pneumatic coupler
17-27	SK724-15/2	1	straight pneumatic coupler
17-28	SK724-15/1	1	faucet
17-29	SK724-44	1	quick coupling
17-30	SK724-13	1	filter
17-31	SK724-14	1	gauge
17-32	SK781-05	1	elbow pneumatic coupler
17-33	644.235.0001	1	connector
17-34	616.11.000.01	1	screw plug
17-35	SK781-08	2	muffler
17-36	SK781-09	1	extension
17-37	SK781-06	2	nipple
17-38	SK781-01	3	(electro valve)
17-39	616.11.000.02	2	screw plug
17-40	SK781-02	1	sub-base
17-41	SK781-03	2	muffler
17-42	PLL04-M5	1	elbow pneumatic coupler
17-43	PLL04-M5	4	elbow pneumatic coupler
17-44	644.781.0002	2	connector
17-45	SK724-259hose	1	clamp 4
17-46	SK724-30	1	pipe
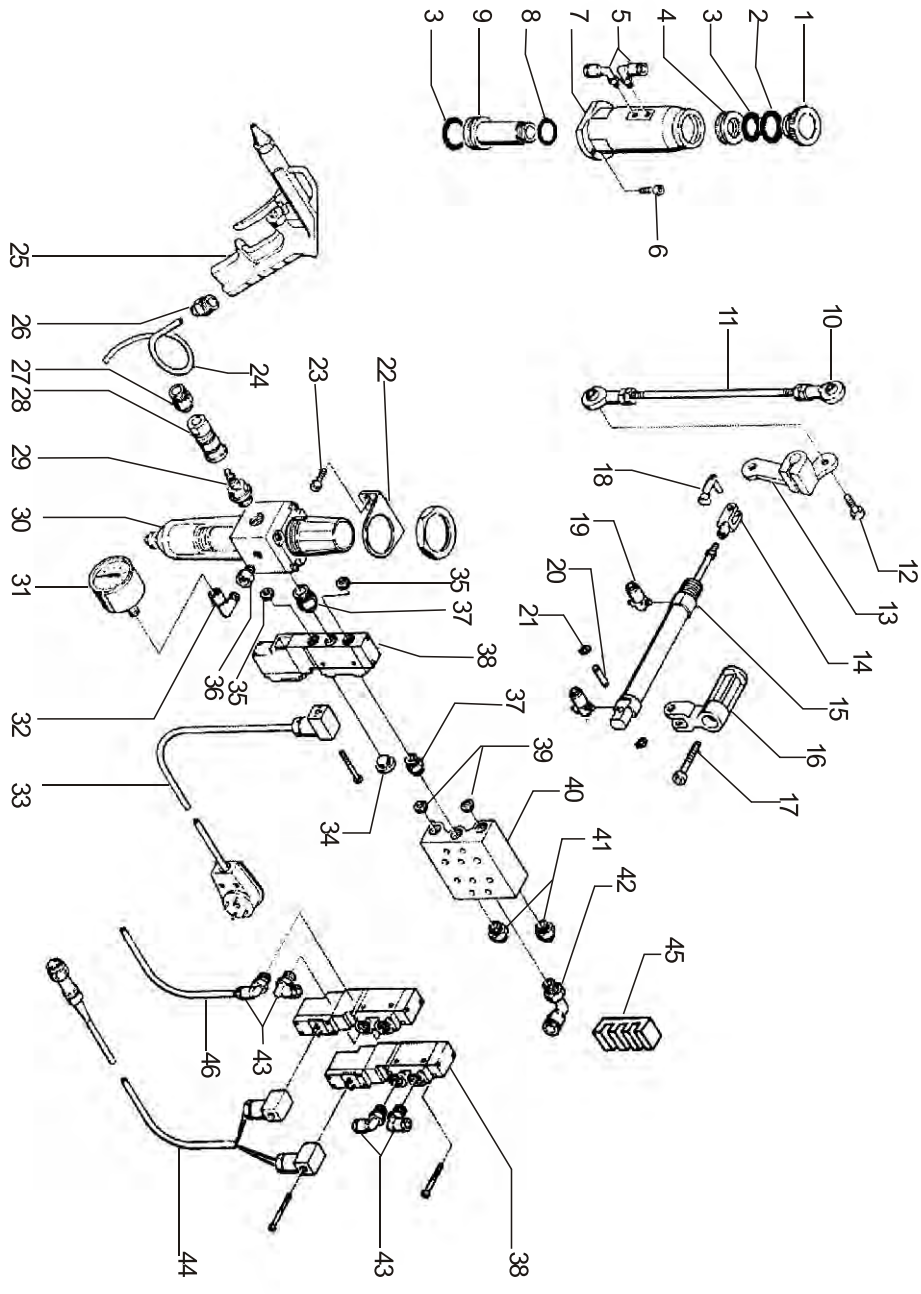
NO	Quantity	Name
18-1 SK762-01	1	cutters assembly
18-2 SK762-05	1	blade screw
18-3 VCB38	1	hex.soc.hd.cap screw
18-4 SK762-04	1	spring blade
18-5 SK762-03	1	moving blade
18-6 SK762-02	1	stationary blade
18-7 SK762-06	1	spring
18-8 SK762-07	1	nut
18-9 DE3	1	hex nut
18-10 VCB416	4	hex.soc.hd.cap screw
18-11 SK760-07	1	thread-brake tension group
18-12 SK760-14	1	tension cap
18-13 SK760-13	1	spring
18-14 SK760-08	1	guide sleeve
18-15 SK760-12	1	nipper release rod
18-16 SK760-09	1	rear pressure plate
18-17 GBP34	2	hex.soc.set screw
18-18 GBP35	1	hex.soc.set screw
18-19 SK760-11	1	nut
18-20 SK760-10	1	front pressure plate
18-21 R2510	2	foller
18-22 SK761-20	1	snap retactable edge guide assembly
18-23 RP4	2	flat washer
18-26 SK761-08	2	hex.soc.hd.cap screw
18-24 VCB36	1	reinforcement for spring
18-27 SK761-10	1	release spring for guide
18-25 SK761-08/1	1	threaded block
18-28 SK761-03	1	bottom for guide with lock
18-29 VSB36	2	hex.soc.hd.cap screw
18-30 SK761-06	1	spring for cloth-guide
18-31 SK761-07	1	push button for guide
18-32 SK761-05	1	spring guide point
18-33 SO212	1	spring pin
18-34 SK761-15	1	adjustable sliding bar
18-35 SK761-13	1	adjustable guide suppot
18-36 SK761-12	1	index
18-37 SK761-11	1	ball grip for adjustable guide
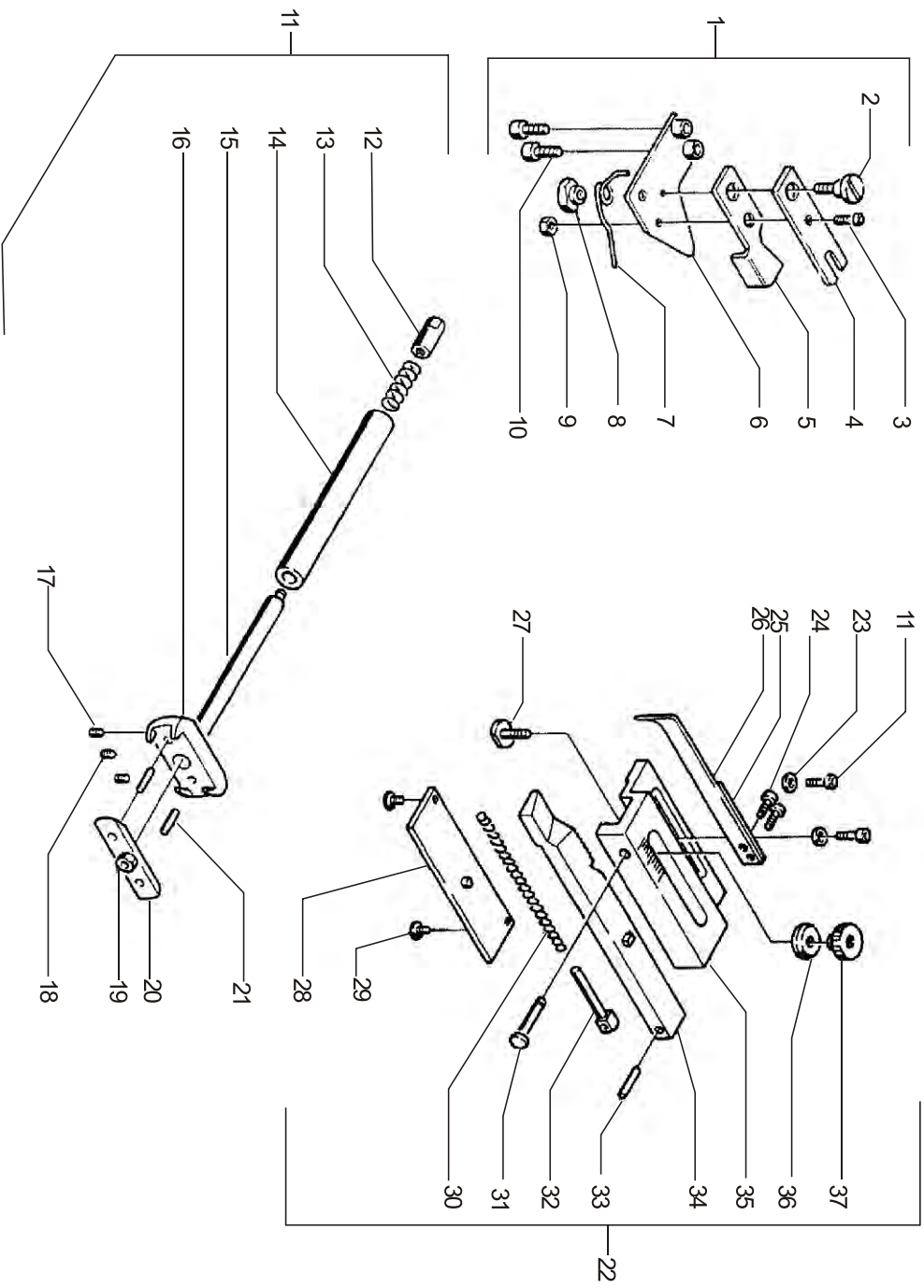
NO	Quantity	Name
19-1 GB45	1	hex.soc.set screw
19-2 SK754-12	1	stud
19-3 SK754-03	1	hinge stud
19-4 TAF81512X	1	rollers bearing
19-5 SK754-10	1	upper looper lever
19-6 SK34	1	hex.soc.set screw
19-7 SK756-10	1	control knob
19-8 SK754-11	1	upper looper support
19-9 GB55	1	hex.soc.set screw
19-10 SK754-09	1	upper looper
19-11 GB56	1	hex.soc.set screw
19-12 SK754-08	1	upper looper holder cap
19-13 SK754-07	1	cap for hook
19-14 SK756-09	1	spring
19-15 SK756-08	1	roller stud
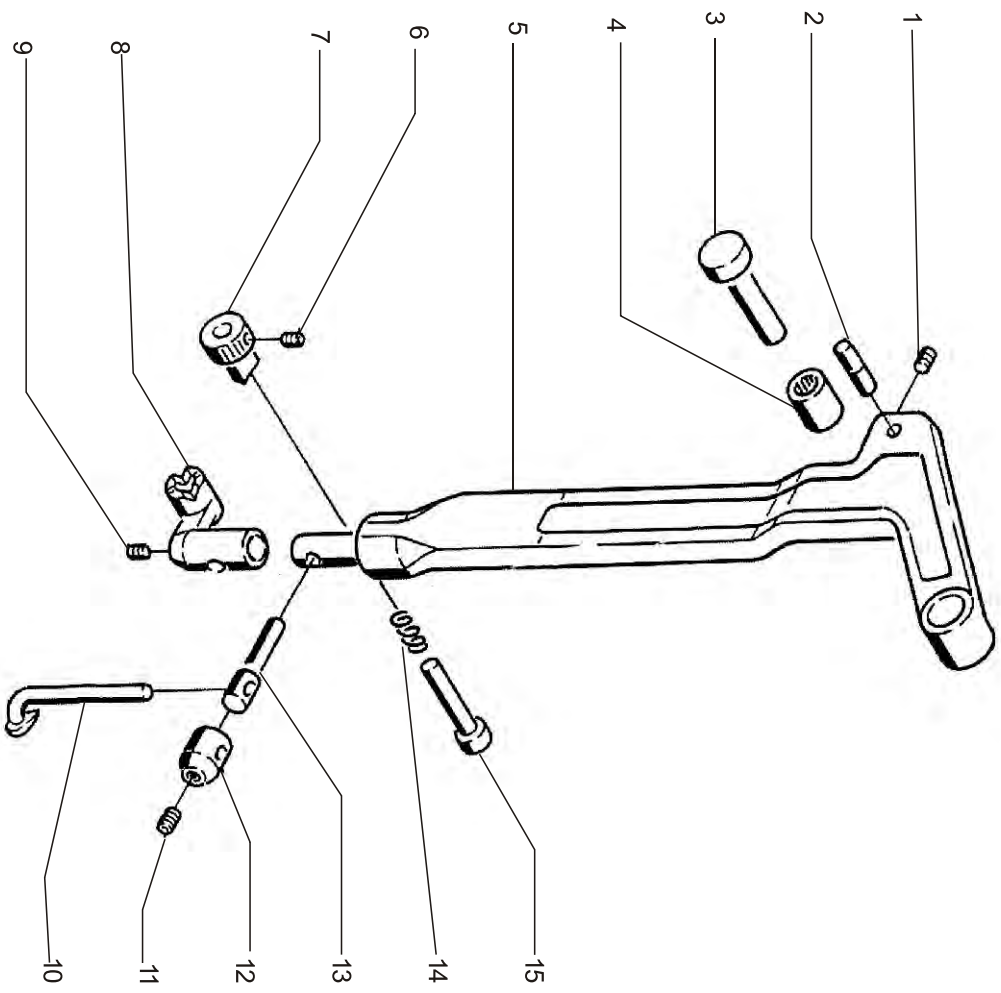
NO	Quantity	Name
20-1 PG9	2	cable holder
20-2 PG7	1	cable holder
20-3 SK719-28	1	box base
20-4 VTE516	2	hex.soc.hd.cap screw
20-5 SK719-27	1	electric box
20-6 PABB	1	indented cover
20-7 NC3(CJ46)-12	1	circuit breaker with terminal overload
20-8 RP5	2	flat washer
20-9 CE5	2	hex nut
20-10 MR11-12V10W	1	light bulb
20-11 SK763-18	1	halogen lamp
20-12 RP4	2	washer
20-13 VCB46	2	hex.soc.hd.cap screw
20-14 PK50	1	transformer
20-15 VCB510	4	convex-headed screw
20-16 SK719-03	1	box cover

NO	Name
21-1	oiler
21-2	pincers
21-3	angular screw driver
21-4	socket head screw driver mm.7
21-5	open and wrench mm5,5.7
21-6	hexagonal key mm.1.5
21-7	hexagonal key mm.2
21-8	hexagonal key mm.2.5
21-9	hexagonal key mm.3
21-10	hexagonal key mm.4
21-11	hexagonal key mm.5
21-12	hexagonal key mm.6
21-13	sample throat plate type"M.P.-M.L."
21-14	sample throat plate type"L"
21-15	sample gauge for lower bad center(on demand)
21-16	template for height of drop feed dog and needle