

# GC20688-1/-2BDL

Single-needle/Twin-needle Long arm heavy duty compound feed lockstitcher with trimmer

# Instruction Manual Parts Catalog

### 1. PRECAUTIONS BEFORE STARTING OPERATION

### 1) Safety precautions

- (1) When turning the power on, keep your hands and fingers away from the area around/under the needle and the area around the pulley.
- (2) Power must be turned off when the machine is not used, or when the operator leaves his/her seat.
- (3) The power must be turned off before tilting the machine head, installing or adjusting the machine, or when replacing.
- (4) Avoid placing fingers, hairs, bars etc. nears the pulley, bobbin winder pulley, when the machine is operation. Injury could result.
- (5) Do not insert fingers into the thread take-up cover, under/round the needle, or pulley when the machine is in operation.
- (6) If a mini motor cover, finger guard, and/or eye guard are installed, do not operate the machine without these safety devices.

### 2) Precaution before starting operation

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

### 3) Precaution for Operating Conditions

- (1) Avoid using the machine at abnormally high temperature (35°C or higher) or low temperatures (5°C or lower). Otherwise, machine failure may result.
- (2) Avoid using the machine in dusty conditions. Avoid using the machine in areas where too much electrical noise, resulted from the high-frequency welder and others, is generated

### 2. SPECIFICATIONS

Item		GC20688-1BDL	GC20688-2BDL		
Max. Speed		2400rpm	2400rpm		
Stitch length		0 to 9mm	0 to 9mm		
Needle bar stre	oke	34mm	34mm		
Presser foot	By hand	9 mm	9 mm		
clearance	By knee	16 mm	16 mm		
Rotating hook		Large vertical hook (2.5times)	Large vertical hook (2.5 times)		
Needle		DP×17 #18-#25	DP×17 #18-#25		
Presser foot al	ternation	1-7mm	1-7mm		
Auto presser f	oot lifter	Pneumatic	Pneumatic		
Oil lubrication method		Automatic lubrication	Automatic lubrication		
Bed dimensions		710×140 mm	710×140 mm		
Needle gauge	(mm)		3.2 6 8 10 12 16		

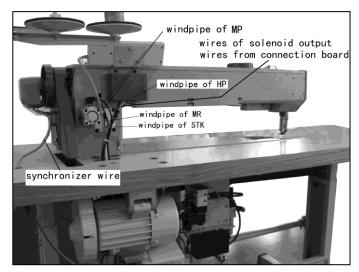
If sewing with stitch length of 6 mm or more, set the sewing speed to 1600 rpm or less.

### 3. PREPARATION BEFORE STARTING TO OPERATE

### 1) Connection of control box

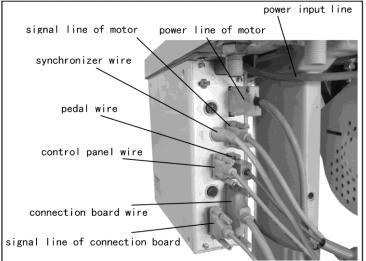
It shows the connection of the electrical wires of the whole machine on the right picture.

When the machine needs to be assembled, each line should be linked to the right joint according to the instruction of the picture.



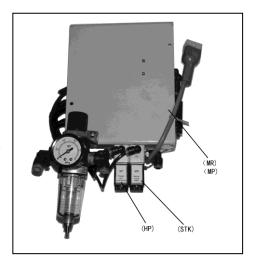
All the pins on the control box have signals of function showing, and usually, different wires have different kinds of joint.

**Caution**: the pin of synchronizer wire is the same with another two external pins and if there is a misconnection, the synchronizer might be burn.



When connecting the pipes, please check the joint at the picture of the whole machine above as reference.

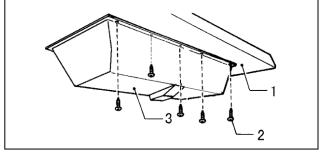
And also there have an instruction mark of each joint of the solenoid at the setting board.

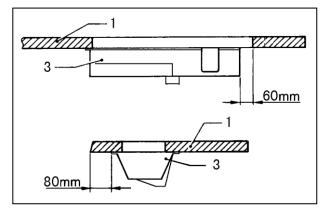


### 2) Oil pan

(1) Install the oil pan 3 to the underside of the worktable 1 in the place shown in the illustration using the nails 2.

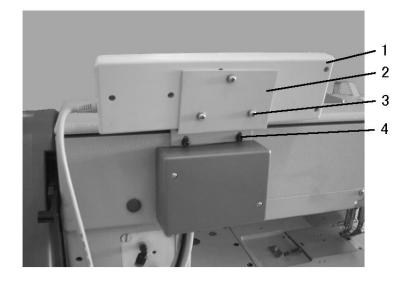
(2) From front view, the oil pan 3 to the side is 60mm; from right view, the oil pan 3 to the side is 80mm.





### 3) Operation panel

- (1) Install the operation panel 1 to the set plate 2 with the three screws 3.
- (2) Install the set plate 2 to the back of the machine arm with the two screws 4.



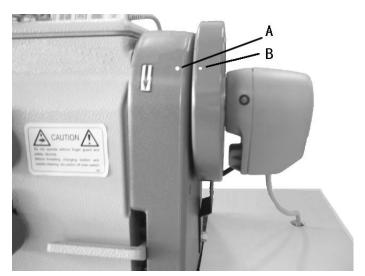
### 4) Adjusting the needle stop position

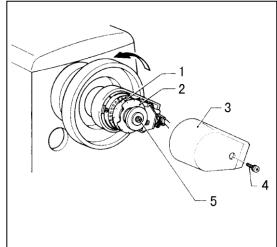
(1) Adjusting the needle up stop position

When the sewing machine stops in the needle up stop position (the stop position of trimming) and the treadle is pressed back, the red mark on the pulley should be consistent with the mark on the belt cover A. Adjust as follows:

- a. Turn off the power switch.
- b. Loosen the screw 4, and then remove the cover 3.

c. When the red mark stops in a position over the mark on the belt cover, the needle up stop position disc 1 should be turned in the opposite direction as the direction of machine pulley rotation. When the red mark stops in a position under the mark on the belt cover, Turn the disc 1 in the same direction as the pulley rotation direction.





(2) Adjusting the needle down stop position

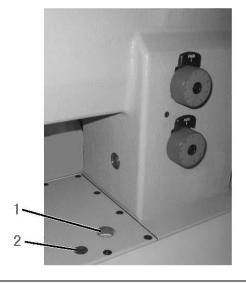
When the sewing machine stops in the needle down stop position, the black mark on the pulley should be consistent with the mark on the belt cover A. Adjust as follows:

- a. Turn off the power switch.
- b. When the black mark stops in a position over the mark on the belt cover, the needle down stop position disc 2 should be turned in the opposite direction as the direction of machine pulley rotation. When the black mark stops in a position under the mark on the belt cover, Turn the disc 2 in the same direction as the pulley rotation direction.
  - c. After adjusting, install the cover 3, with screw 4.

Note: There is no need to loosen the screw 5, when turning the discs.

### 5) Lubrication

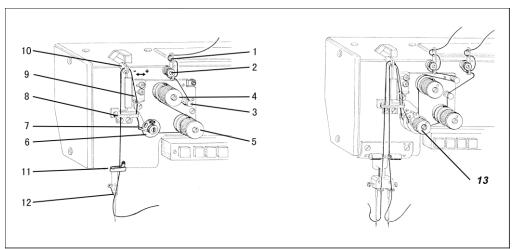
Before the new machine is used, please loosen the screw 2 and full the oil into the oil case. Set the oil level between "EMPTY" and "FULL". Then replace oil-filling screw 2.



### 4. HOW TO USE THE MACHINE

### 1) Threading

Raise the thread take-up lever to its highest position and thread the upper thread in the following order.

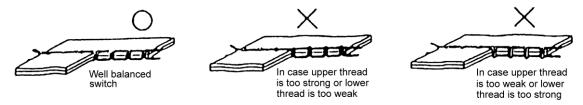


### 2) Adjusting of the thread regulator

The thread regulator 9 (see the right picture) regulates the amount of needle thread necessary for stitch formation. The setting depends on the following factors: material thickness, yarn characteristics and stitch length.

The thread regulator is fitted with slots for this purpose. Moving in the "+"direction increases the quantity of needle thread; Moving in the "-"direction reduces the quantity of needle thread.

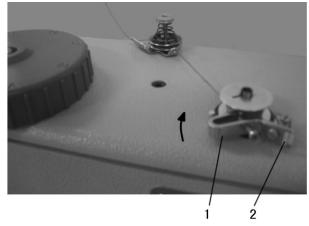
### 3) Adjusting of upper thread tension



Tension should be as low as possible. The crossover point should be in the center of the material. Upper thread tension can be adjusted by thread tension nut 4 and 5 (see the picture of above). Turn the thread tension nut clockwise to increase the needle thread tension. Turn the thread tension nut counter-clockwise to decrease the needle thread tension.

### 4) Winding the lower thread

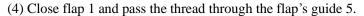
- (1) Place the bobbin onto the bobbin winder shaft.
- (2) Pass the thread for winding thread as shown in the figure, and wind the end of the thread clockwise around the bobbin several times.
  - (3) Push the bobbin presser 1 toward the bobbin.
- (4) The operation will automatically stop when winding is completed. The amount of thread wound onto the bobbin should be a maximum of 80% if the bobbin capacity.



(5) After the thread has been wound on, remove the bobbin and cut the thread with the thread-trimming knife 2.

### 5) Threading the lower thread

- (1) Raise flap 1 and remove the empty bobbin.
- (2) Insert bobbin 2 in such a way that when the thread is unwound from it moves in the opposite direction to the gripper.
- (3) Pass the thread through slit 3 and below spring 6, pass the thread through slit 4 and pull about 3 cm through.





The lower-thread tension should be set in accordance with the type of seam required. Adjust the tension with screw 7. (See the picture of above)

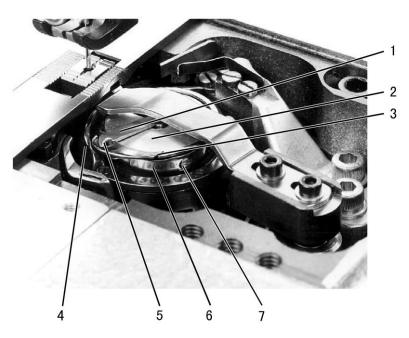
### 7) Installing the needle

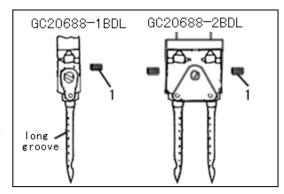
Note: Before attach needle, be sure to turn off the power.

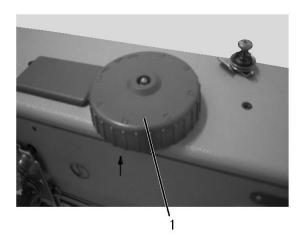
- 1) Turn the balance wheel by hand to raise the needle bar to its highest position;
- 2) Loosen the needle clamping screw;
- 3) Hold the needles so that the two needles side with the long grooved (faces each other), and insert it as deeply as it will go into the needle clamping holes (model GC20688-2-D); Hold the needle to its side with the long groove side (left), then insert the needle as deeply as it will go into the needle clamping hole (model GC20688-1-D).
- 4) Tighten the needle clamping screw.

### 8) Alternating presser foot movement amount

The alternating movement amount for the inner presser foot and the outer presser foot can be adjusted within the range of 1-7 mm using the alternating presser foot movement dial 1. Turn the alternating presser foot movement dial 1 clockwise or counterclockwise to align the mark. (MIN. A, B, C, D, E, F MAX.)





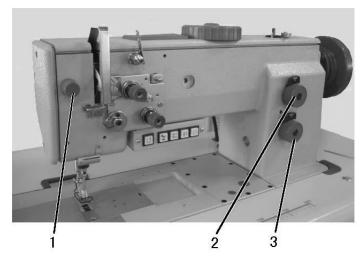


### 9) Adjusting the presser foot pressure

The presser foot pressure should be set as weak as possible, but strong enough so that the material does not slip. If the presser-adjusting dial 1 is turned clockwise, the presser foot pressure will become stronger, and if it is turned counterclockwise, the pressure will become weaker.

### 10) Adjusting the stitch length

The feed adjustment dials 2 and 3 can be



used to set two different types of stitch length. (See the picture of above) Use feed adjustment dial 2 to set the big stitch length. Use feed adjustment dial 3 to set the little stitch length. The sewing machine will switch between the two stitch lengths each time the stitch length change switch is pressed.

### 11) Using the manual switches

### (1) Quick reverse switch

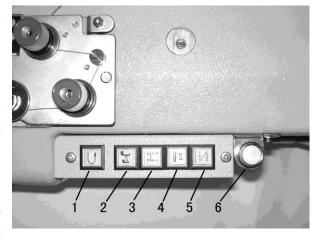
Back tacking is carried out during sewing only while the switch 1 is being pressed.

### (2) Alternating presser foot movement change switch

The sewing machine can be switched between two different alternating presser foot movement amounts each time when the switch 2 is pressed.

### (3) Auto back tacking select switch

If the switch 3 is pressed when either start back tacking or end back tacking has been set to ON at



the operation panel, back tacking is canceled for the first time only. Furthermore, if the switch 3 is pressed when neither starting nor end back tacking has been set, back tacking is carried out for the first time only.

### (4) Needle up or down switch

If the switch 4 is pressed, The needle will move up to the needle up stop position from down stop position or move down to the needle down stop position from up stop position.

### (5) Stitch length change switch

The stitch length changes alternately between two different stitch length settings each time the switch 5 is pressed. OFF: Sewing is carried out using the big stitch length; ON: Sewing is carried out using the little stitch length.

### (6) Feed wheel switch 6:

If the switch is pressed, the feed wheel will move up to the feed wheel up stop position from down position or move down to the feed wheel down stop position from up position.

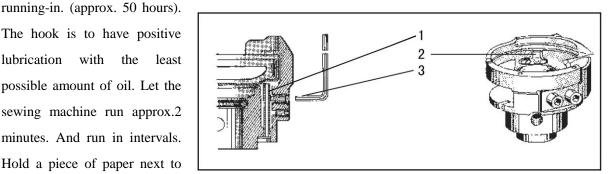
### 12) Cleaning

- (1) The area around the feed dog and the hook should be cleaned every day.
- (2) Remove any thread scraps from inside the rotary hook.
- (3) Keep the control box clean.

### 13) Lubrication

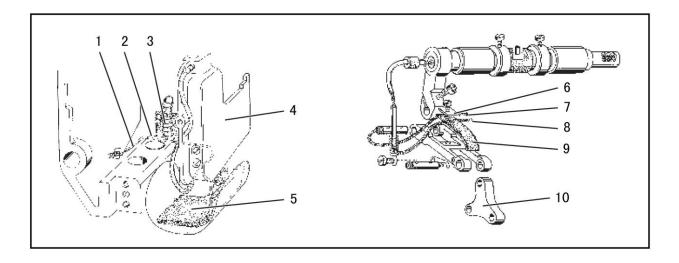
- (1) Check the oil level at the sight glass 1 every week. If the oil is not enough, remove oil-filling screw 2 and pour in oil. Check oil level at sight glass 2. The oil level must be between "EMPTY" and "FULL". Replace oil-filling screw 2. After running for 500 hours since buying the new sewing machine, the oil must be changed. Then change the oil every two years.
- (2) The oil quantity is pre-set at a relatively high level in order to ensure adequate lubrication during running-in. This setting should be checked and corrected after

The hook is to have positive lubrication with the possible amount of oil. Let the sewing machine run approx.2 minutes. And run in intervals. Hold a piece of paper next to



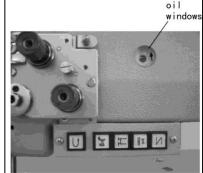
the hook and check if sufficient oil is spun oil onto the paper. Remove cover plate 2. Loosen screw 3 until the tube 1 no longer moves. This is the case when the tube is in the center of the drilled hole. Turn screw 3 in until the tube movement just starts and then a 1/8 turn farther. The hook lubrication is preset. Attach cover plate 2 again. Setting the hook lubrication with screw 3.

(3) Lubricating wicks and felt (see the picture of above)



- a. The wick 1 leading from the oil sump to the oscillating crank 4 must be fixed between the groove 2 in the arm and the spring 3 of the recirculation wick.
- b. When the oil satchel is changed, the flock side should be faced to connecting plate 10. The oil wick 7 and 8 should be set between the oil satchel 9 and plate 8.
- (4) Checking the lubrication oil.

Turn on the power switch. Depress the treadle gently and check that the oil level rises in the oil sight glass.



### 14) Adjusting the trailing length after thread trimming

Adjust by turning the pre-tensioner 1. If the tension of the pre-tension is increased, the lengths of the threads trailing from the needle tips will be reduced; if the tension is reduced, the lengths will be increased.





### 15) Back tacking

When the reverse lever 1 or the quick reverse switch is pressed during sewing, the feed direction will be reversed. When it is released, the feed direction will return to normal.

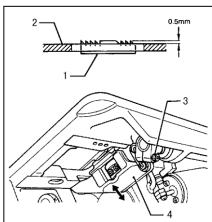
### 16) Adjusting the feed dog

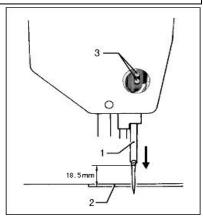
Set the feed adjustment dials to the minimum settings. Then adjust as follows so that the feed dog 1 is at its highest position (0.5mm above the top of the needle plate 2) when the needle bar is at its lowest position.

- (1) Turn the machine pulley to set the feed dog 1 is at its highest position.
  - (2) Loosen the screw 3.
  - (3) Adjust the feed dog's height.
  - (4) Tighten the screw 3.

### 17) Adjusting the needle bar height

Set the feed adjustment dials to the minimum settings. Then adjust so that the distance from the setting surface of the needle plate 2 to the end





of the needle bar 1 is 18.5mm when the needle bar 1 is at its lowest position.

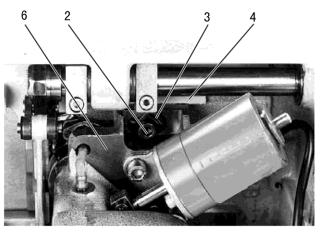
- (1) Remove the face plate.
- (2) Set the feed adjustment dials to "0".
- (3) Turn the pulley to set the needle bar 1 to its lowest position.
- (4) Loosen the screw 3 and then move the needle bar 1 up or down to adjust so that the distance from the setting surface of the needle plate 2 to the end of the needle bar 1 is 18.5 mm.
  - (5) Tighten the screw 3, install the face plate.

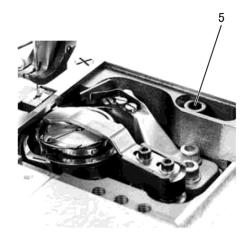
### 18) Adjusting the gap between the needle and the rotary hook tip

The gap between the needle and the rotary hook tip 1 is 0.1 mm.

Set the rotary hook tip at the level of the middle of the needle. Then adjusting the gap as follow:

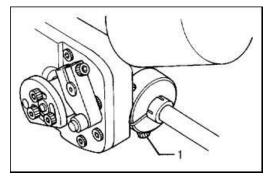
- (1) Loosen the screws 2 and 5 (see the picture of below).
- (2) Set the hook base 6 to the fit position.
- (3) Rotate the adjusting plate 3, let the hook base 6 depend on the bed plate 4.
  - (4) Tighten the screws 2 and 5.

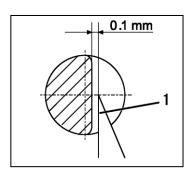




### 19) Adjusting of the needle and the hook timing

- (1) Set the stitch length to "0".
- (2) Remove the needle plate.
- (3) Overturn the arm.
- (4) Loosen the screw 1
- (5) Turn the machine pulley to raise the needle bar from its low position to the point that the needle rises 2.4 mm.
- (6) Turn the rotary hook to align the rotary hook tip with the center of the needle.
  - (7) Tighten the screw 1.





### 20) Hook protection

In looping stroke position the needle must abut on the hook protection 1 without being displaced.

Move needle in looping stroke position by pulley. In looping stroke position the hook tip is at the level of the middle of the needle. Press needle against hook protection 1 manually. The needle should not touch the hook tip.

### 21) Adjusting the needle and feed mechanism timing

(1) Horizontal feed direction

Set the feed adjustment dials to the maximum settings. Then turn the machine pulley until the needle bar is at its lowest position. Then adjust so that the needle and the feed dog do not move even when the reverse lever is moved up and down at this time.

- a. Remove the bed upper cover 1.
- b. Set the feed adjustment dial to the maximum settings.
- c. Loosen the two screws 2.
- d. Turn the machine pulley until the needle bar is at its lowest position.
- e. Turn the lower feed cam 3 gradually until it is at the position where the needle and the feed dog do not move even when the reverse lever is moved up and down.
  - f. Tighten the two screws 2.
  - (2) Vertical feed direction

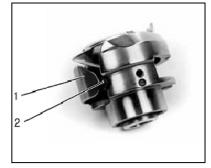
Set the feed adjustment dials to the minimum settings. Then adjust as follows so that the feed dog 1 is at its highest position (0.5mm above the top of the needle plate 2) when the needle bar is at its lowest position.

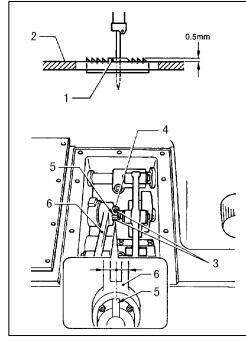
- a. Loosen the two screws 3
- b. Turn the machine pulley to set the needle bar to its lowest position.
  - c. Turn feed cam 4 to align the point 5 of feed cam 4 with the centerline of feed rod 6
  - d. Tighten the screws 3

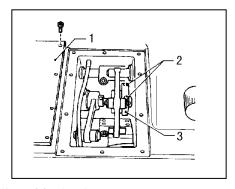
### 22) Adjusting the opener position

Adjust so that the clearance between the needle plate 3 and the stopper 4 of the inner rotary hook 2 is 0.5-0.7 mm when the opener 1 is at its closest position to the inner rotary hook 2.

(1) Turn the machine pulley to move the opener 1 in direction "a" (opening direction), and then loosen the







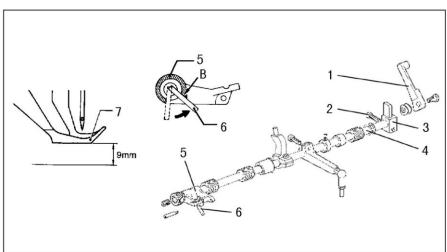
screw 5

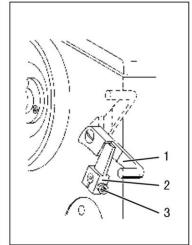
- (2) Turn the machine pulley to move the opener 1 in direction "b" (closing direction), and then loosen the screw 6.
- (3) Turn the machine pulley to move the opener 1 as close to the inner rotary hook 2 as possible.
- (4) While pressing the opener 1 against the inner rotary hook 2 with your finger, adjust so that the clearance between the needle plate 3 and the stopper 4 of the inner rotary hook 2 is 0.5-0.7 mm.
  - (5) Tighten the screw 6.
- (6) Turn the machine pulley to move the opener 1 in direction "a" (opening direction), and then tighten the screw 5.

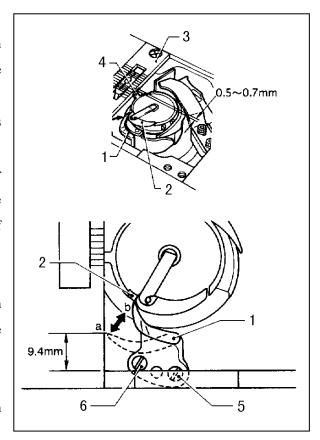
### 23) Adjusting the presser foot height

The standard height of the outer presser foot 7 is 9 mm when it is raised by the presser lifter bar 1.

- (1) Remove the belt cover.
- (2) Loosen the presser adjusting screw, to release the presser foot pressure.
- (3) Raise the presser lifters bar 1 and then loosen the screw 2.
- (4) Move the outer presser bar up or down to adjust so that the height of the outer presser foot 7 is 9 mm.
- (5) While the stopper pin 6 is touching against the notch B in the presser foot lifter connection 5 and while pushing the presser lifter shaft so that there is no play in the thrust direction, tighten the screw 2.
  - (6) Turn the presser adjusting screw to adjust the presser foot pressure.
  - (7) Install the belt guards.

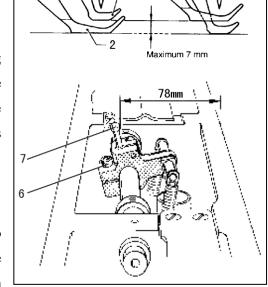






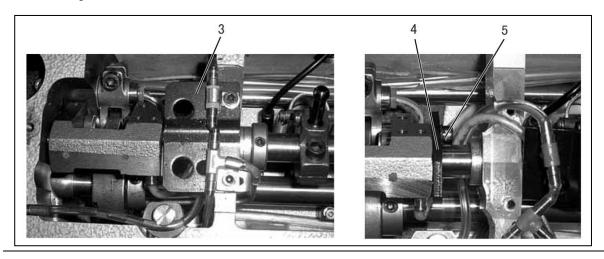
### 24) Adjusting the alternating presser foot movement amount

- (1) Maximum alternating presser foot movement amount. Carry out the following adjustment to set the maximum alternating movement amounts for the inner presser foot 1 and outer presser foot 2 to the maximum of 7 mm.
  - a. Remove the upper plate.
  - b. Remove the adjusting bracket 3.
  - c. Loosen screw 5 of adjusting bracket collar 4.
- d. Adjust the adjusting bracket collar 4. If the adjusting bracket collar 4 is be installed at the highest position, the alternating presser foot movement amount is 1-6mm. If it is at the lowest position, the alternating presser foot movement amount is 1.6-7mm.
  - e. Tighten the screw 5.
  - f. Install the adjusting bracket 3.
- d. Loosen the bolt 6 and turn connecting lever 7 to adjust so that the distance from the outer edge of the arm to the outer edge of the pin 7 is 78 mm at this time. Then tighten the bolt 6. (When



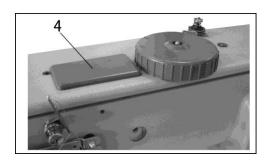
installing the upper plate, set the alternating presser foot movements dial to the "min." position.)

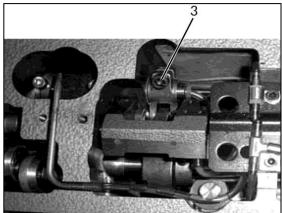
- (2) Inner presser foot 1 and outer presser foot 2 movement amounts. Carry out the following adjustment to make the movement amounts for the inner presser foot 1 and outer presser foot 2 equal when the presser feet are lowered and the machine pulley is turned.
  - a. Set the feed adjustment dials to the maximum settings.
  - b. Open the cover 4
  - c. Turn the alternating presser foot movement dial to the "B" position.
  - d. Loosen the screw 3
- e. Turn the machine pulley toward you to align the tip of the needle and the top of the feed dog with the top of the needle plate.



f. Move the connecting lever to adjust so that both the inner presser foot 2 and outer presser foot 1 are in contact with the top of the needle plate at this time. Then

tighten the screw 3.





### 25) Adjusting the presser foot timing

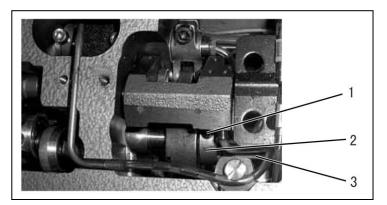
When the presser feet are lowered and the machine pulley is turned toward you. The inner presser foot should touch the feed dog before the needle arrives at the feed dog. Then when the needle lifts up, the tip of the needle should move away from the feed dog before the inner presser foot moves away.

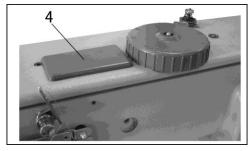
- (1) Remove the upper cover 4.
- (2) Loosen the two screws 1.
- (3) Turn the machine pulley until the needle tip and the feed dog's up face is the same plane.
- (4) Turn inner presser cam 2 to adjust so that the point of inner presser cam 2 is facing straight up.
  - (5) Tighten the screws 1.
  - (6) Install the upper cover.

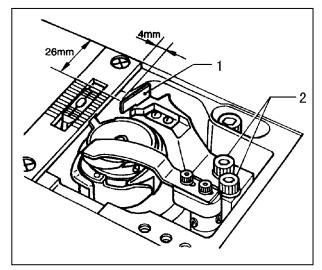
### 26) Adjusting the fixed knife position

The distance from the groove of slide plate to the fixed knife 1 should be 26 mm. Furthermore, the distance from the edge of the needle plate to the left edge of the tip of the fixed knife 1 should be 4 mm.

- (1) Loosen the two bolts 2.
- (2) Adjust the position of the fixed knife 1, and then tighten the bolts 2.







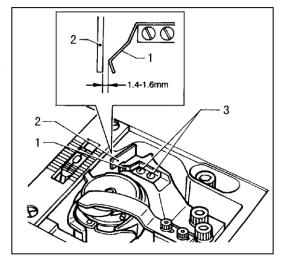
### 27) Adjusting the thread holding spring position (see the picture of above)

The thread holding spring 1 holds the lower thread after thread trimming to prepare it for the next sewing operation. The clearance between the thread holding spring 1 and the side of the fixed knife 2 should be 1.4-1.6 mm.

- (1) Loosen the two screws 3.
- (2) Move the thread holding spring 1 to adjust its position, and then tighten the screws 3.

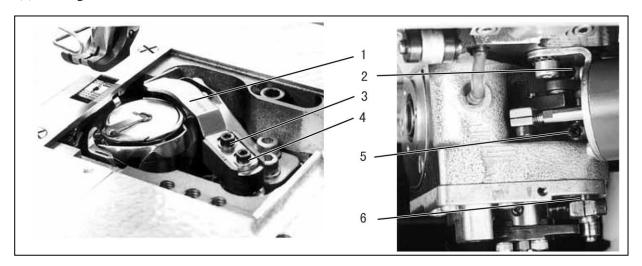
### 28) Adjusting the knife timing position

After adjusting the position of the fixed knife 1, adjust the knife timing position.



Adjust so that the driving knife 1 starts touching the fixed knife at a position 5.5 mm along the front edge of the driving knife 1.

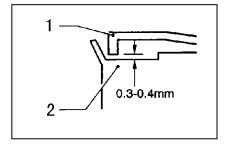
- (1) Loosen the two bolts 3 and 4.
- (2) Move the driving knife 1 to the left or right to adjust its position.
- (3) Then tighten the bolts 3 and 4.



### 29) Adjusting the driving knife height

The clearance between the lower blade edge of the driving knife 1 and the lower surface of the inner rotary hook should be 0.3-0.4mm. (see the picture on the right)

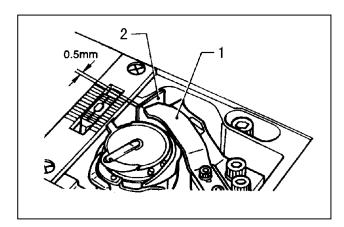
- (1) Loosen the two screws 2 and 5. (see the picture of above)
- (2) Move the driving knife shaft 6 up or down to adjust the position of the driving knife 1.
  - (3) Tighten the screws 2 and 5 on the setting collars again.

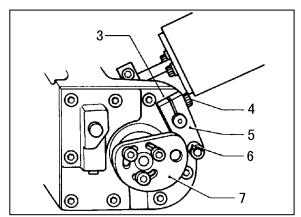


### 30) Adjusting the driving knife stop position

The distance from the blade of the fixed knife 2 to the end of the driving knife 1 should be 0.5 mm when the driving knife 1 has moved as far as possible toward the fixed knife 2.

- (1) Tilt back the machine head.
- (2) Turn the machine pulley to move the roller 4 of the driving knife arm 3 to the outermost side (right side) of the thread trimmer cam 5.
  - (3) Loosen the bolt 6.
- (4) Move the driving knife 1 so that the distance between the blade of the fixed knife 2 to the end of the driving knife 1 is 0.5 mm, and then tighten the bolt 6.



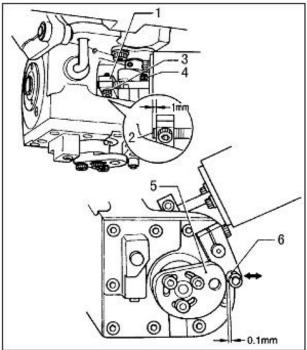


### 31) Adjusting the driving knife operating position

The standard distance from the left side of driving knife arm 1 to the screw tip on the plunger 2 of the thread

trimming solenoid is 1 mm. The clearance between the outermost side (right side) of the thread trimmer cam 5 and the roller 6 of the driving knife arm should be 0.1 mm.

- (1) Overturn the arm.
- (2) Loosen the bolt 3
- (3) Turn the plunger 2 of the thread trimming solenoid so that the distance from the left side of driving knife arm 1 to the screw tip on the plunger 2 of the thread trimming solenoid is 1 mm, and then tighten the bolt 3.
  - (4) Loosen the bolt 4.
- (5) Set the plunger 2 to the position where it projects as far as possible to the left.
- (6) Turn the machine pulley to move the roller 6 of the driving knife arm to the outermost side (right side) of the thread trimmer cam 5.



(7) Move the roller 6 so that the clearance between the outermost side (right side) of the thread trimmer cam 5 and the roller 6 is 0.1mm, and then tighten the bolt 4.

### 32) Adjusting the thread trimming timing

The center of the pin 1, the center of the reference hole 3 and the center of the roller 4 of the driving knife arm should be in a straight line when the thread take-up lever is at the highest position. (The white point on the pulley and the point on the belt cover are in a straight line.)

- (1) Turn the machine pulley until the white point on the pulley and the point on the belt cover are in a straight line.
  - (2) Overturn the arm.
  - (3) Loosen the three bolts 5
- (4) Turn the thread trimmer cam 2 to adjust the position of the thread trimmer cam 2 so that the center of the pin 1, the center of the reference hole 3 and the center of the roller 4 of the driving knife arm are in a straight line.
  - (5) Tighten the bolts 5.

### 33) Safety clutch

The standard safety clutch 2 in the lower toothed belt wheel protects the hook from being displaced or

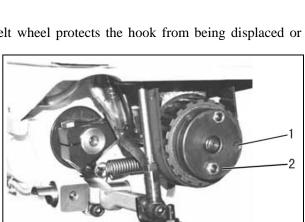
damaged in case of thread jamming in the hook path. When the hook is blocked, the safety clutch 2 must come out.

- (1) Set free blocked hook.
- (2) Stick a pin in drill-hole 1 of the outer clutch disc.
- (3) Turn the pulley until the pin can be stuck in the drill-holes of both clutch parts.
- (4) Turn the pulley forwards and backwards until the hook is freely movable again.
  - (5) Pull out pin.
- (6) Hold down hook and turn the pulley until safety clutch 2 engages.

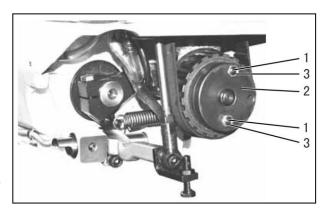
Adjust transmittable torque

Standard checking

The supplier by means of a torque spanner should adjust the torque transmittable from safety clutch 4.



2

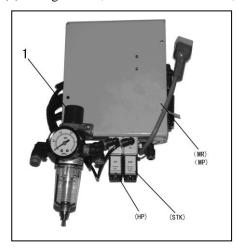


- (1) Loosen counter-nuts 3.
- (2) Adjust torque
- (3) Tighten counter-nuts 3 again.

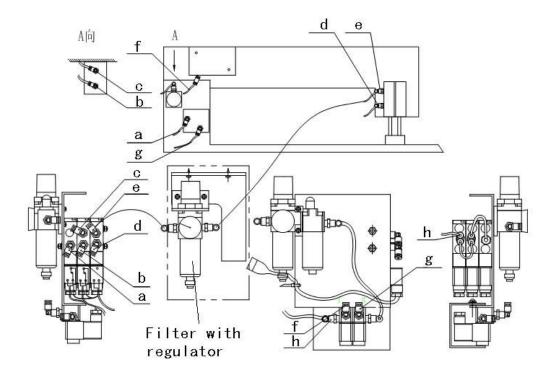
### 34) Regulate the atmospheric pressure

When the air cylinder works normally, the necessary atmospheric pressure is  $5.5\sim6.5$ bar. Can find out through the dial plate of the filtering.

- (1) Lifting knob 1, clockwise rotation, the pressure increases.
- (2)Lifting knob 1, anticlockwise rotation, the pressure is reduced



The air pressure of the feed wheel cylinder should between  $1\sim$ 2bar, it can be adjusted by need. (For filter with regulator)



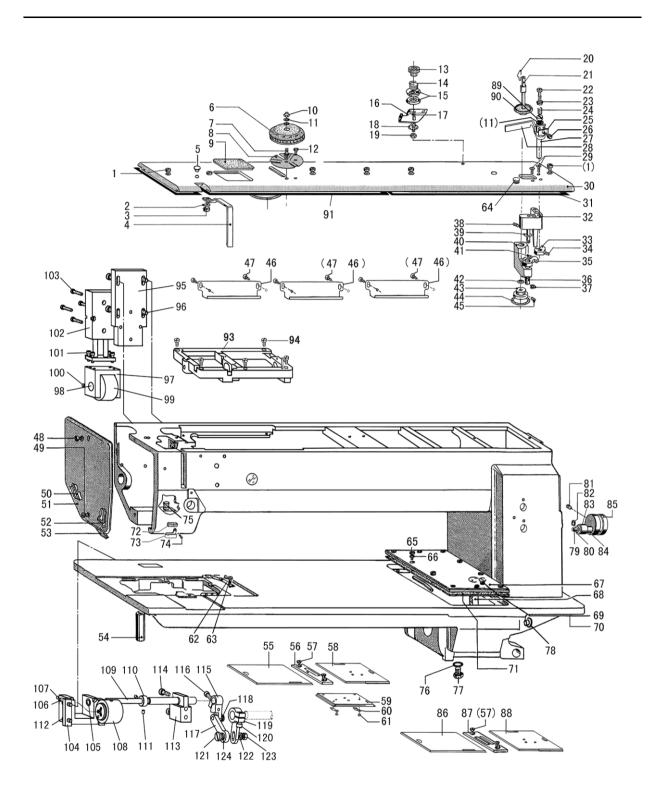
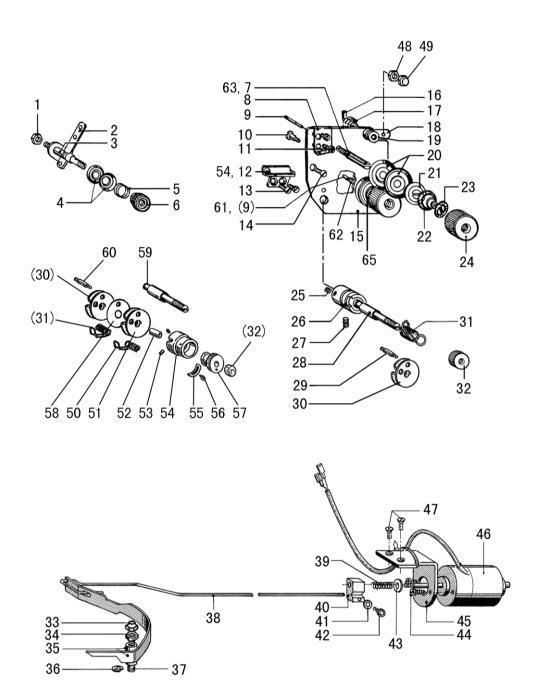


Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
A01	HF914B8001	Screw M5×12	6	6	
A02	H005001040	Washer	1	1	
A03	H415040080	Screw	1	1	$M4 \times 8$
A04	HE41B38001	Thread take-up cover	1	1	
A05		Plug	1	1	
A06		Dial	1	1	
A07	HF935B8001	Dial shaft	1	1	
A08	HF936B8001	Guard plate	1	1	
A09		Cover	1	1	
A10	H003024040	Hexagonal nut	1	1	M4
A11	H005001040	Washer	2	2	
A12	H401040060	Screw	1	1	$M4 \times 6$
A13		Pre-tension adjusting nut	1	1	
A14		Thread tension spring	1	1	
A15		Thread tension discs	2	2	
A16		Thread guide	1	1	
A17		Thread tension stud	1	1	
A18		Washer	1	1	
A19		Nut	1	1	
A20		Fixing clamp	1	1	
A21		Winder shaft	1	1	
A22		Screw	1	1	$M3 \times 12$
A23		Disc	1	1	
A24		Presser spring	1	1	
A25		Knife	1	1	
A26		Screw	1	1	$M3 \times 4$
A27		Release lever	1	1	
A28		Winder lever	1	1	$M3 \times 12$
A29		Screw	2	2	$M4 \times 8$
A30		Arm cover	1	1	
A31		Washer	1	1	
A32		Winder block	1	1	
A33		Release cam	1	1	
A34		Screw	1	1	$ ext{M5}{ imes}6$
A35		Block	1	1	
A36		Bushing	1	1	
A37		E-type stop ring 3.5	1	1	
A38		Presser spring	1	1	
A39		Washer	1	1	
A40		Arm	1	1	
A41		Presser spring	1	1	
A42		Washer	2	2	
A43		Winder wheel	1	1	

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
A44	H7331D8001	Rubber ring	1	1	
A45	H431050050	Screw	1	1	$M5 \times 5$
A46	HF999B8001	Cord cover	3	3	
A47	H7331G8001	Screw	6	6	
A48	HF914B8001	Screw M5×12	1	1	
A49	HF915B8001	Screw M5×12	1	1	
A50	HF918B8001	Bar	1	1	
A51	HF913B8001	Face plate	1	1	
A52	HF919B8001	Bar	1	1	
A53	HF920B8001	Oil pillow	1	1	
A54	HF998B8001	Leg	1	1	
A55	HF980B8001	Slide Plate	1		
A56		Needle plate	1		
A57	HF989B8001	Screw	2	2	
A58	HF981B8001	Slide Plate	1		
A59		Slide Plate	1	1	
A60		Spring for slide plate	2	2	
A61		Screw	2	2	M2×2.5
A62		Stopper	1	1	
A63		Screw	2	2	
A65		Screw M5×12	10	10	
A66		Gasket	10	10	
A67	HE22B38001	Cover	1	1	
A68		Oil indicator	1	1	
A69		Screw	1	1	
A70	HF994B8001		1	1	
A71	HE22B48001		1	1	
A72		Felt	1	1	
A73		Thread guide	1	1	
A74		Screw	1	1	
A75		Rubber plug	1	1	
A76		Gasket	2	2	
A77	100010	Screw	1	1	$M10 \times 1$
A78		Rubber plug	1	1	
A79		Pin	1	1	
A80		Washer	2	2	
A81		Screw	1	1	M8×12
A82		E-type stop ring 6	1	1	
A83		Bearing Bearing	2	2	
A84		Spacer	1	1	
A85		Belt tensioner	1	1	
A86		Slide Plate	1	1	
A87		Needle plate		1	

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
A88	HG006B8001	Slide Plate		1	
A89	H415040060	Screw	1	1	
A90	HE41B58001	Bobbin seat	1	1	
A91	HF923B8001	Washer	1	1	
A93	HE21B38001	Setting plate	1	1	
A94	H415050160	Screw	5	5	
A95	HE22B58001	Setting plate	1	1	
A96	H415060160	Screw	4	4	
A97	HE22B78001	Setting plate	1	1	
A98	HE22B88001	Feed shaft	1	1	
A99	HE22B98001	Feed wheel (up)	1	1	
A100	H431050060	Screw	1	1	
A101	H415040160	Screw	4	4	
A102	HE24B27101	Cylinder	1	1	
A103	H415040250	Screw	4	4	
A104	HE23B28001	Setting plate	1	1	
A105		Bushing	2	2	
A106		Screw	1	1	
A107		Screw	1	1	
A108		Feed wheel	1	1	
A109		Feed shaft (down)	1	1	
A110		Collar	1	1	
A111		Screw	2	2	$11/64(40) \times 5.5$
A112		Screw	3	3	
A113		Setting plate	1	1	
A114		Screw	2	2	
A115	HE23B58001	Crack	1	1	
A116		Screw	1	1	
A117		Link	1	1	
A118		Screw	1	1	
A119		Crack	1	1	
A120		Screw	1	1	SM15/64×28
A121		Screw	1	1	
A122		Washer	1	1	
A123		Nut	1	1	
A124		Ball bearing	1	1	

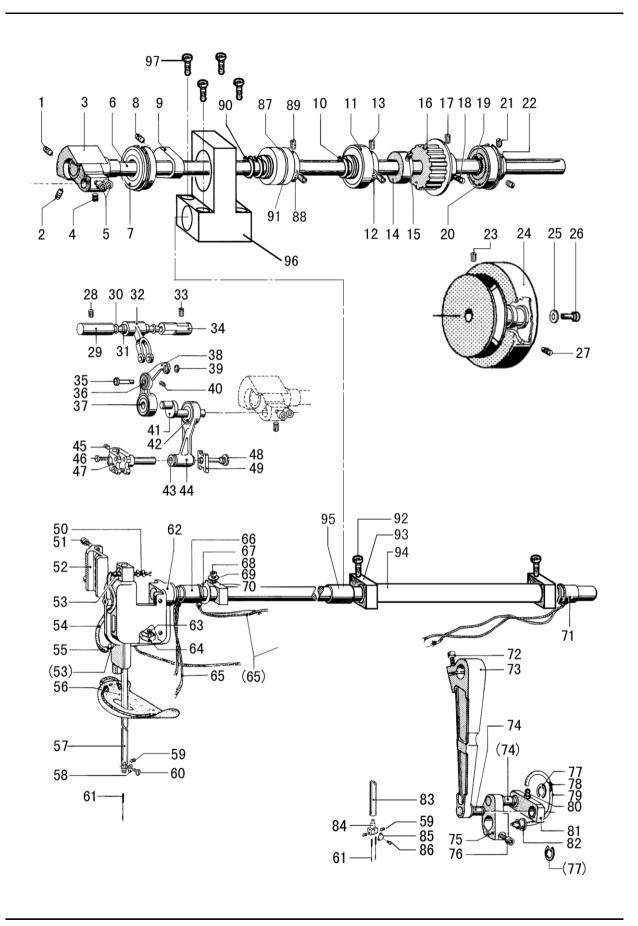


# **B.THREAD TENSION REGULATOR MECHANISM**

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
B01	H003002050	Nut	1	2	M5
B02	HF930C8001	Thead hook	1	2	
В03	HF929C8001	Thread tension stud	1	2	
B04	HA112B0693	Thread tension discs	1	2	
B05	HA710B0672	Tension spring	1	2	
В06	HA710B0671	Tension adjusting nut	1	2	
В07	HF907C8001	Thread tension stud	2		
В08	HF917C8001	Thread guide	1	1	
В09	H3221B6817	Thread tension releasing pin	2	1	
B10	H3221B6811	Shoulder screw	2	2	
B11	H7316B8001	Screw	2	2	
B12	HF925C8001	Thread guide	1		
B13		Screw	2	2	
B14	H7316B8001	Screw	2	2	
B15	HF905C8001	Tension plate	1	1	
B16		Rod	1	1	
B17		Sping	1	1	
B18		Tension release plate	1	1	
B19		Thread guide	1	1	
B20		Tension discs	4	4	
B21		Tension release discs	2	2	
B22		Tension spring	2	2	
B23		Stopper	2	2	
B24		Tension nut	2	2	
B25	H431040040	Screw	1	1	$M4 \times 4$
B26		Thread tension post	1	1	
B27	H431050050		1	1	M5×5
B28		Thread tension stud	1	1	
B29	H4804C8001		1	1	
B30		Plate complete	1	2	
B31		Thread take-up spring	1	1	
B32		Thumb nut	1	1	
В33		Nut	1	1	M5
B34		Nut	1	1	M5
B35		Release lever	1	1	
В36		E-type stop ring 5	1	1	
B37		Bolt	1	1	
B38		Hook	1	1	
B39		Spring	1	1	
B40		Block	1	1	
B41		Washer	1	1	
B42		Screw	1	2	$M4 \times 8$
B43		Washer	1	1	-

# **B.THREAD TENSION REGULATOR MECHANISM**

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
B44	H415040080	Screw	2	1	$M4 \times 8$
B45	HF906C8001	Magnet support	1	1	
B46	HE22C28001	Solenoid	1	1	
B47	H403050120	Screw	2	2	$M5 \times 12$
B48	Н003002040	Nut		1	
B49	H003045040			1	
B50		Thread take-up spring		1	
B51		Plate complete		1	
B52		Bushing		1	
B53		Screw		2	
B54		Take-up spring guide		1	
B55	H32481B021			1	
B56		Screw		1	
B57		Thread tension post		1	
B58		Plate complete		1	
B59	HG008C8001	Thread tension stud		1	
B60	HG007C8001			1	
B61	HG009C8001	Tension release discs		1	
B62	H3221B0689			1	
B63	H3221B0686			1	
B64	HG005C8001	Thread guide		1	
B65	H4710C8001	Tension spring	1	2	



# C.NEEDLE BAR AND THREAD TAKE-UP MECHANISM

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
C01	H6715C8001	Screw	1	1	
C02	H431060080	Screw	1	1	$M6 \times 8$
C03	HF907D8001	Crank	1	1	
C04	H431060060	Screw	1	1	$M6 \times 6$
C05	HF914B8001	Screw	2	2	
C06	HE20D58001	Upper shaft	1	1	
C07	H3205J0662	Ball bearing	1	1	
C08	H431080100	Screw	1	1	$M8 \times 10$
C09	HF913D8001	Counterweight	1	1	
C10	H007009200	Retainer ring	1	1	
C11	HF921D8001	Ball bearing	1	1	
C12	HF918D8001	Bushing	1	1	
C13	H431060060	Screw	2	2	$M6 \times 6$
C14	HF943D8001	Bobbin winder driving wheel	1	1	
C15	H431060100	Screw	2	2	$M6 \times 10$
C16	HF923D8001	Belt pulley(upper)	1	1	
C17	H431060080	Screw	1	1	$M6 \times 8$
C18	H429060100	Screw	1	1	$M6 \times 10$
C19	H007009200	Retainer ring	1	1	
C20	HF932D8001	Ball bearing	1	1	
C21	H431060080	Screw	2	2	$M6 \times 8$
C22	HF929D8001	Bushing	1	1	
C23	H431060100	Screw	1	1	$M6 \times 10$
C24	HF934D8001	Pulley	1	1	
C25	H005008080	Washer	1	1	
C26	H415080250	Screw	1	1	$M8 \times 25$
C27	H429060100	Screw	1	1	$M6 \times 10$
C28	H428050060	Screw	1	1	$M5 \times 6$
C29	HF913G8001	Thread take-up pin	1	1	
C30	HF918G8001	Gasket	2	2	
C31	H7221G8001	Needle bearing	2	2	
C32	HF916G8001	Thread take-up support	1	1	
C33	H428050120	Screw	1	1	$M5 \times 6$
C34	HF911G8001	Thread take-up pin bushing	1	1	
C35	HF919G8001	Support screw	1	1	
C36	HF909G8001	Bearing	1	1	
C37	H6722I8001	Bearing	1	1	
C38	HE40G78001	Thread take-up lever	1	1	
C39	HF908G8001	Bushing	1	1	
C40	H431030040	Nut	1	1	М3
C41	HF920G8001	Thread take-up crank	1	1	
C42	HF923G8001	Bearing	2	2	
C43	HF926G8001	Bushing	1	1	

# C.NEEDLE BAR AND THREAD TAKE-UP MECHANISM

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
C44	HF922G8001	Needle bar link	1	1	
C45	H431030050	Screw	1	1	$M3 \times 5$
C46	H401040100	Screw	2	2	$M4 \times 10$
C47	HF924G8001	Needle bar holder	1	1	
C48	HF928G8001	Threaded bolt	1	1	
C49	HF927G8001	Slide block	1	1	
C50	HF938G8001	Oil wick	1	1	
C51	H415040100	Screw	2	2	$M4 \times 10$
C52	HF933G8001	Slide guide	1	1	
C53	HF939G8001	Oil feeding pipe	2	2	
C54	HF936G8001	Oil pipe	1	1	
C55	HF937G8001	Oil wick	1	1	
C56	HF940G7101	Rubber	1	1	
C57	HE21G58001	Needle bar	1	1	
C58	HF971G8001	Thread guide	1	1	
C59	H402030040	Screw	1	2	$M3 \times 3$
C60	HF972G8001	Screw	1	1	
C61	JZDP1700G2301	Neddle	1	2	DP×17 #23
C62	HE20G97101	Needle bar bracket	1	1	
C63	H403040100	Screw	1	1	$M4 \times 10$
C64	HF943G8001	Oil satchel	1	1	
C65	HF947G8001	Oil wick	3	3	
C66	HF927E8001	Bushing	1	1	
C67	HF968G8001	Support disc	2	2	
C68	H415040120	Screw	2	2	$M4 \times 12$
C69	H005001040	Washer	2	2	
C70	HF965G8001	Collar	2	2	
C71	HF924E8001	Bushing	1	1	
C72	H415060200	Screw	1	1	$M6 \times 20$
C73	HE21G38001	Upper feed connecting rod	1	1	
C74	HF951G8001	Shoulder screw	1	1	
C75	HF949G8001	Connecting lever	1	1	
C76	H415060160	Screw	1	1	$M6 \times 16$
C77	H007013080	E-type stop ring 8	2	2	
C78	HF958G8001	Oil wick	1	1	
C79	HF957G8001	Oil pipe	1	1	
C80	HF956G8001	Oil feeding pipe	1	1	
C81	HF952G7101	Pull rod	1	1	
C82	HF959G8001	Plug	1	1	
C83	HE30G58001	needle bar		1	
C84		needle bar connecting stud		1	
C85		Thread guide		1	
C86	HG008G8001	Screw		1	

# C.NEEDLE BAR AND THREAD TAKE-UP MECHANISM

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
C87	HG608C8001	Bearing	2	2	6804 ZZNR/5K 20×32×7
C88		Bushing	1	1	
C89		Screw	2	2	
C90		Retainer ring	1	1	
C91		Washer	1	1	
C95		Bushing	1	1	
C96		Bearing setting plate	1	1	
C97		Screw	4	4	

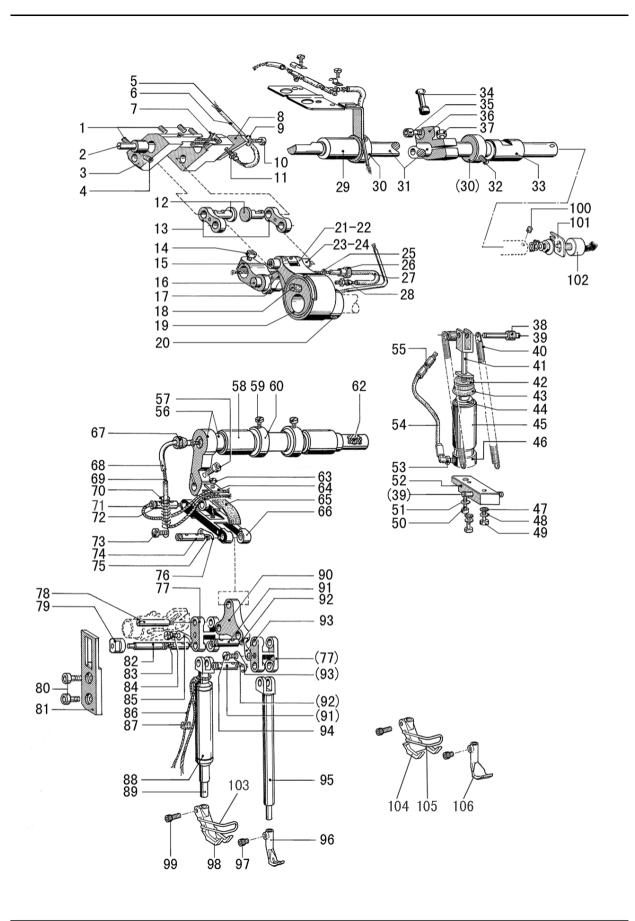
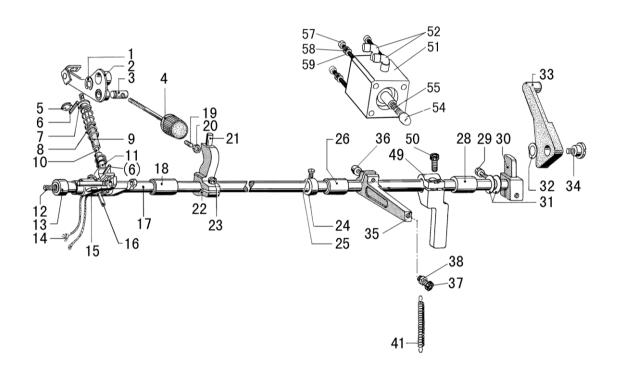


Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
D01	H428050080	Screw	4	4	
D02	HF919E8001	Support pin	1	1	
D03	HF906E8001	Adjusting bracket	1	1	
D04	H428050080	Screw	1	1	
D05	HF912E8001	Oil wick	1	1	
D06	HF911E8001	Oil pipe	1	1	
D07	HF908E8001	Oil wick	2	2	
D08	HF913E8001	Plate	1	1	
D09	H005018050	Washer	1	1	
D10	H415050100	Screw	1	1	
D11		Oil feeding pipe	1	1	
D12		Link pin	2	2	
D13		Link	2	2	
D14		Screw	1	1	
D15		Connecting lever	1	1	
D16		Pin	1	1	
D17		Link	1	1	
D18		Plug	1	1	
D19		Inner presser cam	1	1	
D20		Screw	2	2	
D21		Inner presser rod	1	1	
D22		Bearing	1	1	
D23		Rod pin	1	1	
D24		Oil wick	1	1	
D25		Oil wick	1	1	
D26		Plug	1	1	
D27	HF959E8001		1	1	
D28		Oil feeding pipe	1	1	
D29		Bushing	1	1	
D30		Collar	2	2	
D31		Adjusting shaft	1	1	
D32		Screw	2	2	
D33		Bushing	1	1	
D34		Ball pin	1	1	
D35		Screw	1	1	
D36	HF926E8001		1	1	
D37		Screw	1	1	
D38	HF940E8001		2	2	
D39		Pin	2	2	
D40		Spring	2	2	
D41		Draught rod	1	1	
D42		Disc	1	1	
D43		Gasket	1	1	

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
D44	HF934E8001	Piston	1	1	
D45	HF931E8001	Pipe	1	1	
D46	HF932E8001	Cylinder base	1	1	
D47	HF997B8001	Gasket	2	2	
D48	H005001050	Washer	2	2	
D49	H415050180	Screw	2	2	
D50		Screw	1	1	
D51	H005001040	Washer	1	1	
D52	HF943E8001	Spacer	1	1	
D53		Coupling	1	1	
D54		Hose	1	1	
D55	HF939E8001	Coupling	1	1	
D56		Shaft	1	1	
D57		Screw	1	1	
D58		Bushing	2	2	
D59		Screw	2	2	
D60		Collar	2	2	
D61		Sponge	1	1	
D62		0il wick	1	1	
D63		Screw	1	1	
D64		Plate	1	1	
D65		Oil satchel	1	1	
D66		Draught rod	1	1	
D67		Plug	1	1	
D68		0il pipe	1	1	
D69		Oil wick	1	1	
D70		Spring	1	1	
D71		0il wick	1	1	
D72		Pin	1	1	
D73		Screw	1	1	
D74		Pin	1	1	
D75		0il wick	1	1	
D76		Stopper claw	1	1	
D77		Joint	1	1	
D78		Pin	1	1	
D79		Slide block	1	1	
D80		Screw	2	2	
D81		Guide	1	1	
D82		Pin	1	1	
D83		0il wick	1	1	
D84		Screw	1	1	
D85		Stopper claw	1	1	
D86		Oil wick	1	1	

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
D87	H431050100	Screw	1	1	
D88	HF940F8001	Bushing	1	1	
D89		Outer presser bar	1	1	
D90		Presser connecting plate	1	1	
D91		Connecting pin	2	2	
D92	HF978E8001		2	2	
D93		Stopper claw	2	2	
D94	H401040040		1		$ ext{M5}  imes 10$
D95		Inner presser bar	1	1	
D96		Inner presser foot	1	1	
D97	HF960F8001		1	1	
D97		Outer presser foot	1	1	
				,	
D99	HF944F8001		1	1	
D100	H431040040		1	1	WANA
D101	HF987E8001		1		$M4 \times 4$
D102		Potentiometer control	1	1	
D103		Finger gusrd		1	
D104		Outer presser foot		1	
D105		Finger gusrd		1	
D106	HG008F8001	Inner presser foot		1	$M4 \times 10$

## E.UPPER FEED LIFTING ROCK SHAFT MECHANISM

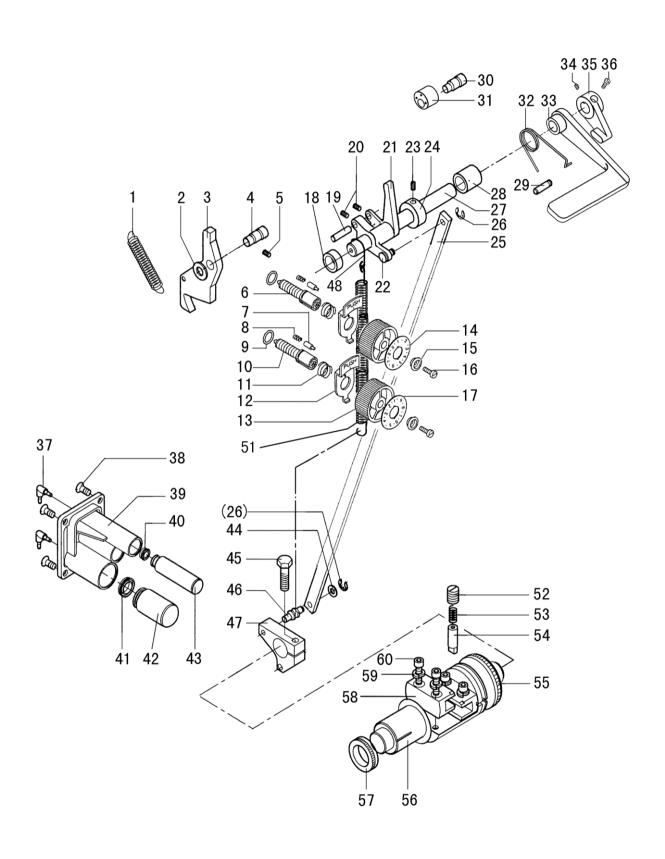


# E.UPPER FEED LIFTING ROCK SHAFT MECHANISM

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
E01	Н007013080	E-type retaining ring 8	1	1	
E02	HF965F7101	Press adjusting plate assy	1	1	
E03	HF963F8001	Pin	1	1	
E04	HF961F7101	Press adjusting dial	1	1	
E05	H007013050	E-type retaining ring 5	1	1	
E06	Н609030080	Spring pin	2	2	
E07	HF976F8001	Spring support (U)	1	1	
E08	HF972F8001	Spring	1	1	
E09	HF975F8001	Hose	1	1	
E10	HF973F8001	Shaft	1	1	
E11	HF974F8001	Spring support (D)	1	1	
E12	H428080120	Bolt	1	1	$M8 \times 12$
E13	HF905F8001	Press-foot lifter shaft bush(L)	1	1	
E14	HF922F8001	Oil wick	1	1	
E15	HF919F7101	Press-foot lifter connection assy	1	1	
E16	Н605050320	Pin	1	1	
E17	HE20F48001	Press bar lifter shaft	1	1	
E18	HF906F8001	Spreader shaft bush(L2)	1	1	
E19	H424050160	Set screw	1	1	
E20	H003002050	Nut	1	1	
E21	HF997F8001	Stopper	1	1	
E22	HF996F8001	Crack	1	1	
E23	H415060160	Screw	1	1	$M6 \times 16$
E24	HF910F8001	Set screw collar	1	1	
E25	H401050060	Screw	1	1	
E26	HF908F8001	Bushing(R2)	1	1	
E28	HF907F8001	Bushing(R)	1	1	
E29	H415060200	Screw	1	1	$M6 \times 20$
E30	HF913F8001	Crack	1	1	
E31	HF915F8001	Washer	2	2	
E32	H005014080	Wave washer	1	1	
E33	HF916F8001	Lifter lever	1	1	
E34	HF917F8001	Screw	1	1	
E35	HF980F8001	Lever (U)	1	1	
E36		Screw	1	1	$M6 \times 16$
E37		Screw	1	1	$M5 \times 25$
E38		Nut	1	1	M5
E41	HF982F8001	Main spring	1	1	
E49		Crack	1	1	
E50		Screw	1	1	
E51		Pump	1	1	SDA32×20
E52		Windpipe joint	2	2	EPL4-01 <b>φ</b> 4-1/8"
E54	HF91BF8001	Coupling	1	1	

#### E.UPPER FEED LIFTING ROCK SHAFT MECHANISM

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
E55	H428060160	Screw	1	1	
E57		Screw	4	4	
E58	H005008040	Spring washer	4	4	
E59		Washer	4	4	
E 59	H005004040	Washer			

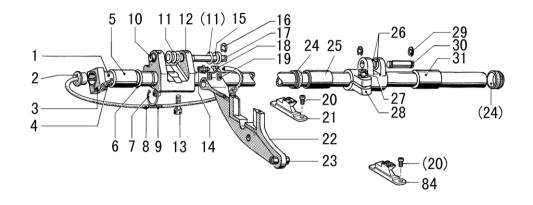


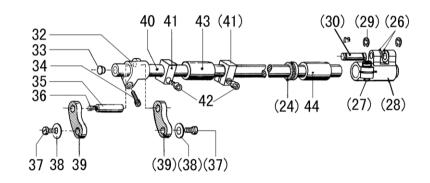
#### F.STITCH REGULATOR MECHANISM

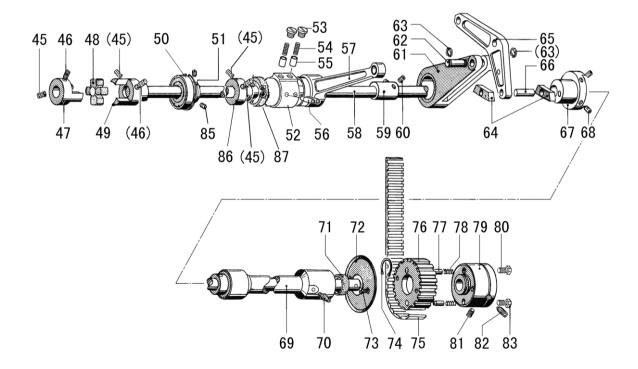
Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
F01	HF925H8001	Spring	1	1	
F02	HF924H8001	Washer	1	1	
F03	HF922H8001	Feed adjusting arm	1	1	
F04	HF923H8001	Pin	1	1	
F05	H431050080	Bolt	1	1	$M5 \times 8$
F06	HF914H8001	Feed adjusting screw (long)	1	1	
F07	HA700F2030	Positioning pin	2	2	
F08	H3200F2110	Spring	2	2	
F09	HA109F0674	0 ring	2	2	
F10	HF914H8001	Feed adjusting screw (short)	1	1	
F11	HA720F0687	Spring	2	2	
F12	HA720F0683	Support plate	2	2	
F13	HA7421F120	Feed adjusting dial	2	2	
F14	HF909H8001	Feed adjusting dial plate(L)	1	1	
F15	HA720F0685	Bushing	2	2	
F16	HA720F0686	Screw	2	2	
F17	HF918H8001	Feed adjusting dial plate(S)	1	1	
F18	HF928H8001	Reverse shaft bushing(L)	1	1	
F19		Pin	1	1	
F20	H428060080	Bolt	2	2	$M6 \times 8$
F21	HF930H8001	Reverse stitching arm(U)	1	1	
F22		Pin	1	1	
F23	H428060060	Bolt	1	1	$M6 \times 6$
F24	HF927H8001	Collar	1	1	
F25	HE20H48001	Rod	1	1	
F26	Н007013050	E-tpye retaining ring 5	2	2	
F27	HF970H8001	Reverse stitching shaft	1	1	
F28	HF931H8001	Reverse shaft bushing(R)	1	1	
F29	H6511H8001	Pin	1	1	
F30	H4937L8001	Bolt	1	1	
F31	H4938L8001	Rubber ring	1	1	
F32	HF969H8001	Spring	1	1	
F33	HF968H8001	Reverse stitching lever	1	1	
F34	HA3411D308	Bolt	1	1	
F35		Reverse stitching lever block	1	1	
F36		Bolt	1	1	
F37		Coupling	2	2	
F38		Screw	4	4	M6×10
F39		Pump	1	1	
F40		Ring	1	1	
F41		Ring	1	1	
F42		Piston	1	1	
F43	HF953H8001	Piston	1	1	

#### F.STITCH REGULATOR MECHANISM

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
F44	H005001060	Washer	1	1	
F45	H104060250		1	1	$M6 \times 25$
F46		Bolt	1	1	
F47		Reverse stitching arm(D)	1	1	
F48		S shaped hook	1	1	
F51		Pull spring	1	1	
F52	H424100100		1		M10×10
F53		Presser spring	1	1	MIO / IO
F54	HF963H8001		1	1	
F55	HF966H8001			1	
			1		
F56	HF958H8001		1	1	
F57	HF967H8001		1	1	
F58		Guide	2	2	
F59		Elastic washer	4	4	
F60	H415050160	Screw	4	4	$M5 \times 16$







#### G.FEEDING AND FEED LIFTING & ROTATING HOOK SHAFT MECHANISM

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
G01	HE20I68001	Feed shaft	1	1	
G02	HF959G8001	Rubber cap	1	1	
G03	HF965G8001	Adjusting shaft collar	1	1	
G04	H415040120	Bolt	1	1	$M4 \times 12$
G05	HF927E8001	Bushing(L)	1	1	
G06	HF931I8001	Thurst ring	1	1	
G07	HF93018001	C-type retaining ring	1	1	
G08	HF941I8001	Tube	1	1	
G09	HF942I8001	Oil wick	1	1	
G10	HF937I8001	Bushing	4	4	
G11	HF945I8001	Washer	3	3	
G12	HF93518001	Feed arm(L)	1	1	
G13	HF936I8001	Bolt(L)	2	2	
G14	HF956G8001	Oil joint	1	1	
G15	HF946I8001	Spring	2	2	
G16	Н007013050	E-type retaining ring 5	1	1	
G17	HF944I8001	Pin	1	1	
G18	HF939I8001	Tube support	1	1	
G19	HF948I8001	Bolt	2	2	
G20	HF951I8001	Screw	2	2	
G21	HF95018001	Feed dog	1		
G22	HF949I8001	Feed bracket	1	1	
G23	HF95318001	Pin	1	1	
G24	HF92918001	Oil seal	3	3	
G25	HF924E8002	Feed shaft bushing(L)	1	1	
G26	HF927I8001	Washer	4	4	
G27	H415060120	Bolt(R)	2	2	$M6 \times 12$
G28	HF92318001	Feed shaft arm(R)	2	2	
G29	H007013050	E-type retaining ring 5	4	4	
G30	HF926I8001	Pin	2	2	
G31	HF924E8001	Feed shaft bushing(R)	2	2	
G32	HF957I8001	Feed connecting arm(L)	1	1	
G33	HA719B0707	Rubber cap	1	1	
G34	H415050160	Bolt	1	1	$M5 \times 16$
G35	HF95818001	Pin(L)	1	1	
G36		Oil wick	1	1	
G37	H401030080	Bolt	2	2	
G38	HF954I8001	Washer	2	2	
G39	HF952I8001	Feed link	2	2	
G40	HE20178001	Shaft	1	1	
G41	HF965G8001	Adjusting shaft collar	2	2	
G42	H415040120	Bolt	2	2	$M4 \times 12$
G43	HF927E8001	Bushing(L)	1	1	

#### G.FEEDING AND FEED LIFTING & ROTATING HOOK SHAFT MECHANISM

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
G44	HF924E8001	Bushing(R)	1	1	
G45	H428060100	Bolt	3	3	$M6 \times 10$
G46	H429060100	Bolt	1	1	$M6 \times 10$
G47	HF975J8001	Coupling claw(L)	1	1	
G48	HF978J8001	Toothed wreath	1	1	
G49	HF977J8001	Coupling craw(R)	1	1	
G50	Н3205Ј0662	Ball bearing	2	2	
G51	HB42D61081	Bushing	1	1	
G52	HF987I8003	Bushing	1	1	
G53	HF992I8001	Bolt	1	1	
G54	H34412C110	Plunger spring	2	2	
G55	HF966I8001	Plunger	2	2	
G56	HA110E0672	Oil feeding pipe	2	2	
G57	HF971I7101	Feed rod	1	1	
G58	HE20I58001	Lower shaft	1	1	
G59	HF963I8001	Feed cam	1	1	
G60	H428060050	Bolt	2	2	$M6 \times 5$
G61	HF919I7101	Lowe feed connecting rod assy	1	1	
G62		Pin	1	1	
G63		E-tpye retaining ring 5	2	2	
G64		Slide block	2	2	
G65	HF92518001	Back sylinder connection	1	1	
G66		Pin	1	1	
G67	HF917I8001	Lower feed cam	1	1	
G68		Bolt	2	2	$M6 \times 8$
G69		Bushing(R)	1	1	
G70	HF956G8001		1	1	
G71		Sealing ring	1	1	
G72		Disk	1	1	
G73		Stunk screw	2	2	
G74		Retainer ring	1	1	
G75		Toothed belt	1	1	
G76		Belt pulley(D)	1	1	
G77		Piston	2	2	
G78		Presser spring	2	2	
G79		Body	1	1	
G80		Adjusting screw	2	2	$M6 \times 12$
G81		Bolt	1	1	M8×12
G82		Bolt	1	1	M8×12
G83		Nut	2	2	M6
G84		Feed dog		1	
G85		Screw	2	2	$M4 \times 4$
G86		Collar ASSY	1	1	
G87		0il seal	1	1	

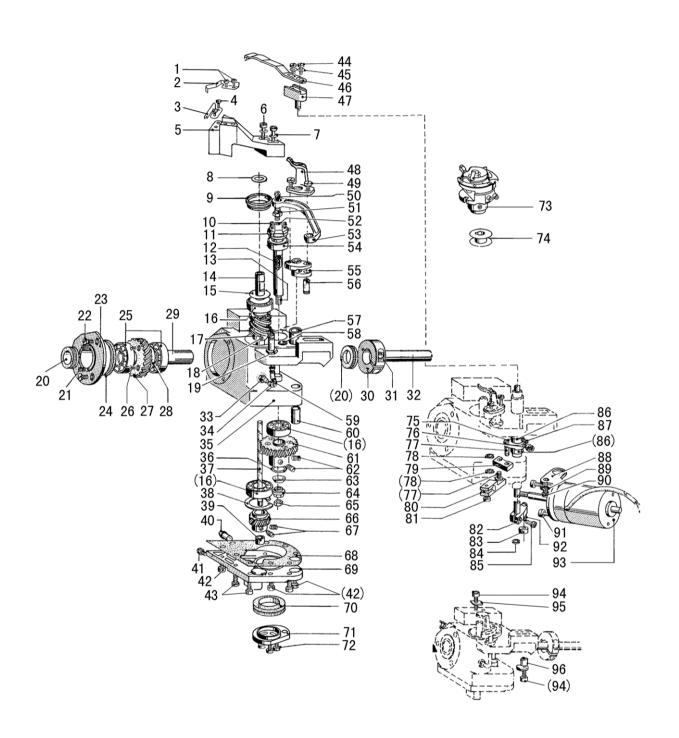
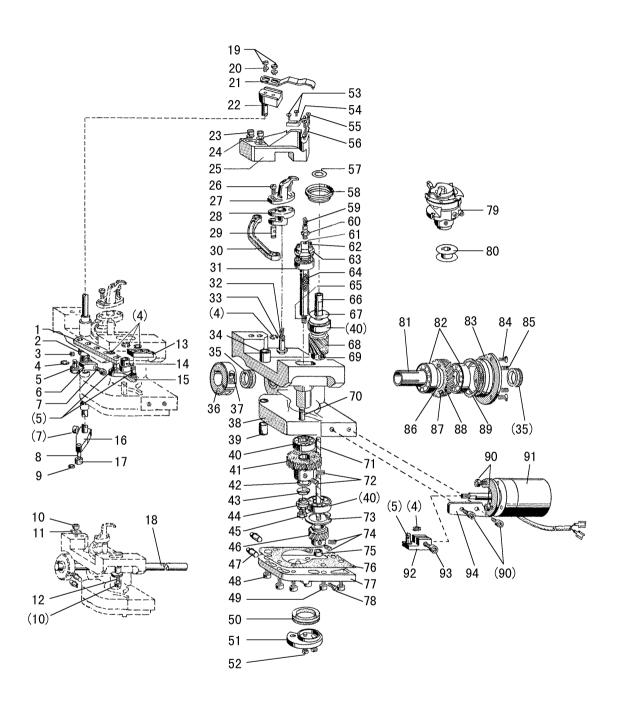


Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
H01	H402025060	Screw	2	2	M2.5×6
H02	HF910J8001	Thread holding spring	1	1	
Н03	HF908J8001	Fixed knife	1	1	
H04	H402025060	Screw	2	2	M2.5×6
H05	HE40J68001	Fixed knife support bracket	1	1	
Н06	H415050250	Bolt	2	2	$M5 \times 25$
Н07	H005005050	Washer	2	2	
Н08	HF989J8001	Washer	5	5	
Н09	HF991J8001	Oil drip ring	1	1	
H10	HF997J8001	Bolt	2	2	
H11	HF995J8001	Shaft	1	1	
H12	HF92AJ8001	Oil wick	1	1	
H13	H424050250	Bolt	1	1	$M5 \times 25$
H14	HF981J8001	Hook shaft	1	1	
H15	HF992J8001	Washer	1	1	
H16	HF984J8001	Ball bearing	3	3	
H17	HF983J8001	Gear	1	1	
H18	H431050050	Bolt	2	2	$M5 \times 5$
H19	HF946J8001	Pin(L)	1	1	
H20	HF964J8001	Oil seal	2	2	
H21	HF966J8001	Bolt	3	3	
H22	HF965J8001	Screw	3	3	
H23	HF962J8001	Lower shaft holder	1	1	
H24	HF960J8001	0 ring	1	1	GB/T 3452.1 38.5×1.8
H25	HF963J8001	Ball bearing	2	2	
H26	H403030080	Screw	4	4	
H27	HF969J8001	Lower shaft gear	1	1	
H28	HF970J8001	Washer	1	1	
H29	HF967J8001	Driving shaft	1	1	
H30	HF973J8001	collar	1	1	
H31	H415060160	Bolt	1	1	$M6 \times 20$
H32	HF971J8001	Shaft	1		
Н33	HF956G8001	Oil feeding pipe(S)	1	1	
H34	HF949J8001	Tube	1	1	
Н35	HF945J8001	Horizontal hook base	1	1	
Н36	095018	Wave washer	1	1	
Н37	HF990J8001	Lubrication shaft	1	1	
Н38	Н007007260	Retainer ring	1	1	
Н39	HF956J8001	Bushing	1	1	
H40	HF947J8001	Oil feeding pipe(M)	2	2	
H41	H402030040	Bolt	1	1	$M3 \times 4$
H42	H415040080	Bolt(short)	6	6	$M4 \times 8$
H43	H415040120	Bolt(long)	3	3	$M4 \times 12$

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
H44	H415030060	Bolt	2	2	$M3 \times 6$
H45	H005004030	Washer	2	2	
H46	НЕ40Ј88001	Driving knife	1	1	
H47	HF913J8001	Driving knife shaft	1	1	
H48	HE41J28001	Opener	1	1	
H49	НF90НJ8001	Screw	2	2	
H50	HF90AJ8001	Oil wick	1	1	
H51	HF999J8001	Adjusting pin	1	1	
H52	HF90BJ8001	Adjusting guide rail	1	1	
H53	HF90DJ8001	Opener shaft	1	1	
H54	HF996J8001	Bearing	1	1	
H55	HE41J18001	Opener setting bracket	1	1	
H56	HF90EJ8001	Pin	1	1	
H57	HF917J8001	Bushing	1	1	
H58	H007013040	E-type retaining ring	1	1	
H59	HF950J8001	Oil wick	1	1	
H60	HF919J8001	Bushing	1	1	
H61	HF91CJ7101	Gear base assy	1	1	
H62	H431050060	Bolt	2	2	$M5 \times 6$
H63	H005014060	Belleville spring washer	1	1	
H64	HF91IJ8001	Nut	1	1	
H65	HF91JJ8001	Hexagonal nut	1	1	
H66	HF91AJ8001	Gear	1	1	
H67	H431050050	Bolt	2	2	$M5 \times 5$
H68	HF954J8001	Sheet packing	1	1	
Н69	HF953J8001	Cover	1	1	
H70	HF958J8001	Oil seal	1	1	
H71	HF942J8001	Thread trimmer cam	1	1	
H72	H415040080	Bolt	3	3	$M4 \times 8$
H73	HE41J07101	Horizontal hook	1	1	
H74	HE41J38001	Bobbin	1	1	
H75	HF931J8001	Driving knife arm(S)	1	1	
H76	H415040120	Bolt	1	1	$M4 \times 12$
H77	HF934J8001	Pin	2	2	
H78	H007013040	E-type retaining ring	2	2	
H79	HF933J8001	Driving knife connection	1	1	
H80	HF928J8001	Solinoid setting bracket	1	1	
H81	H415040080	Bolt	1	1	$M4 \times 8$
H82	HF937J8001	Driving knife arm(L)	1	1	
Н83	HF940J8001	Roller	1	1	
H84	Н007013030	E-type retaining ring	1	1	
H85	H415040120	Bolt	1	1	$M4 \times 12$
Н86	HF920J8001	collar	2	2	

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
H87	H428050050	Bolt	2	2	$M5 \times 5$
Н88		Solinoid setting plate	1	1	
Н89		Washer	1	1	
Н90		Bolt	1		M6×12
Н91		Bolt	2		$M4 \times 10$
Н92		Pin	1	1	
Н93		Thread trimmer solinoid	1	1	
Н94		Bolt	2		M6×22
Н95		Spacer	1	1	
Н96		Eccentric collar	1	1	



# I.HOOK SADDLE MECHANISM (LEFT)

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
I01	HG013J8001	Link lever		1	
I02	HF920J8001	collar		1	
103	H428050050	Bolt		1	$M5 \times 5$
I04	H007013040	E-type stop ring 4		6	
105	HF934J8001	Pin		4	
106	HG012J8001	Thread trimmer arm(S)		1	
107	H415040120	Bolt		2	$M4 \times 12$
108	HF939J8001	Pin		1	
109	Н007013030	E-type stop ring 4		1	
I10	H415060220	Bolt		2	$M6 \times 22$
I11	HF92BJ8001	Spacer		1	
I12		Eccentric collar		1	
I13		Driving knife connection		1	
I14		Bushing		1	
I15	HG016J8001	Crack		1	
I16		Thread trimmer arm(L)		1	
I17		Roller		1	
I18		Driving shaft mandril		1	
I19		Bolt		2	$M3 \times 6$
I20		Washer		2	
I21		Driving knife		1	
I22		Driving knife shaft		1	
I23		Bolt		2	M5×25
I24		Washer		2	
I25		Fixed knife support bracket		1	
I26		Screw		2	
127		Opener		1	
I28		Opener setting bracket		1	
129		Pin		1	
130		Opener shaft		1	
I31		Bearing		1	
I32		Oil wick		1	
I33		Oil joint		1	
I34		Bushing		1	
I35		0il seal		2	
I36		Collar		1	
137		Bolt		1	$M6 \times 20$
138		Horizontal hook base		1	
139		Bushing		1	
I40		Bearing		3	
I41		Gear base assy		1	
I42	095018	Wave washer		1	
I43		Belleville spring washer		1	

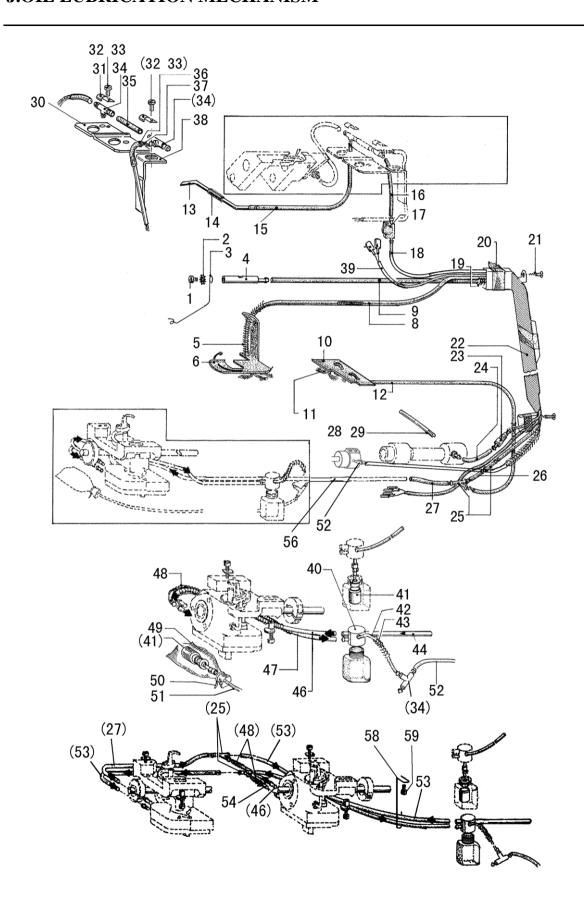
# I.HOOK SADDLE MECHANISM (LEFT)

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
I44	HF91IJ8001	Adjusting block		1	
I45	HF91JJ8001	Hexagonal nut		1	
I46	HF91AJ8001	Driving gear		1	
I47	HF947J8001	Oil joint(M)		2	
I48	H415040080	Bolt(short)		6	$M4 \times 8$
I49	H415040120	Bolt(long)		3	$M4 \times 12$
I50	HF958J8001	Oil seal		1	
I51	HF942J8001	Thread trimmer cam		1	
I52	H415040080	Bolt		3	$M4 \times 8$
I53	H402025060	Screw		2	M2.5×6
I54	HF910J8001	Thread holding spring		1	
I55		Screw		2	M2.5×6
I56	HF908J8001	Fixed knife		1	
I57	HF989J8001	Uncork washer		5	
I58	HF991J8001	Hook support		1	
I59		Oil wick		1	
160		Adjusting pin		1	
I61		Adjusting guide rail		1	
I62		Bolt		2	
163		Shaft		1	
I64		Oil wick		1	
165	_	Bolt		1	$M5 \times 30$
166		Spacer		1	
167		Hook shaft		1	
168		Driven gear		1	
169		Bolt		2	M5×5
170		Arm adjusting pin		1	
I71		Lubrication shaft		1	
172		Bolt		2	M5×6
173		Retainer ring		1	
174		Bolt		2	$ ext{M5}{ imes5}$
175		Bushing		1	
176		Sheet pack		1	
177		Cover (L)		1	
178		Bolt		1	$M3 \times 4$
179		Horizontal hook assy		1	· *
I80		Bobbin		1	
I81		Driving shaft		1	
I82		Boll bushing		2	
I83		Lower shaft holder		1	
I84		Screw		3	
I85		Bolt		3	
I86		Washer		1	

# I.HOOK SADDLE MECHANISM (LEFT)

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
I87	HF969J8001	Driving gear		1	
I88		Screw		4	
I89		0-ring			GB/T 3452.1 38.5×1.8
190		Bolt			M4×10
I91		Thread trimmer solenoid		1	
192		Solenoid setting bracket		1	
193		Bolt			$M4 \times 8$
I94		Solenoid setting plate		1	MIX
194	HG020J8001	Solemoid Setting plate			

#### J.OIL LUBRICATION MECHANISM

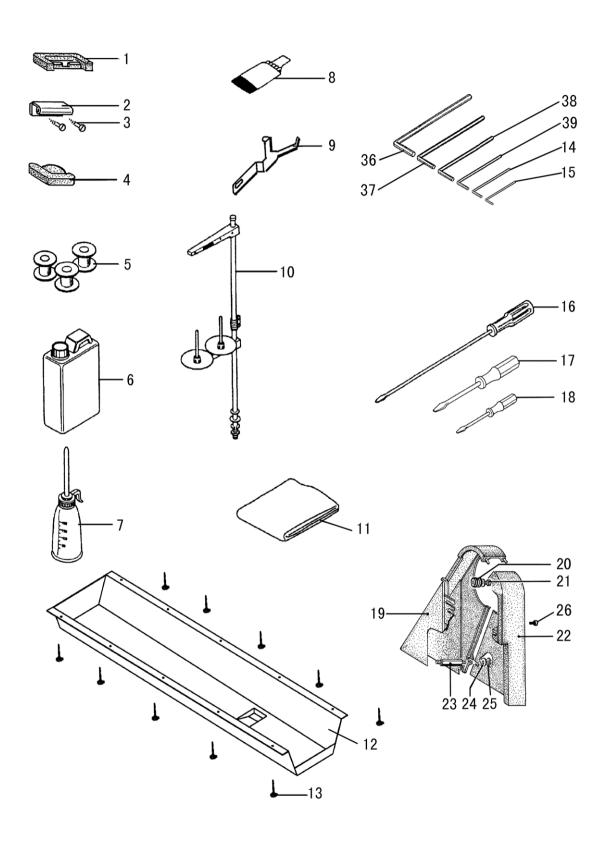


# J.OIL LUBRICATION MECHANISM

×1150
×950
×900
×25
×210
×60
×970
×110
×25
×120
1220
×140
.110
≺21
×30
×30
×700
\100
~ · · · · · · · · · · · · · · · · · · ·

# J.OIL LUBRICATION MECHANISM

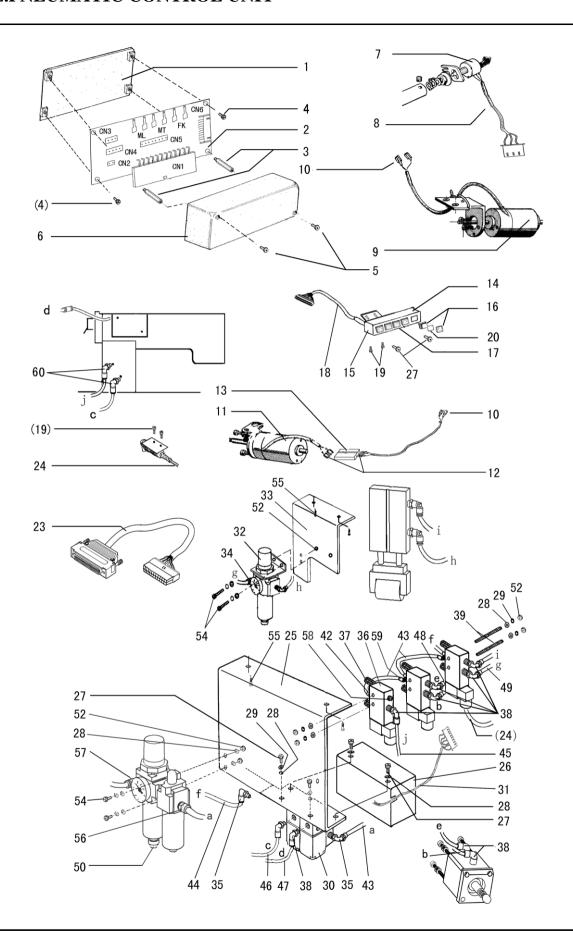
Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
J44	HF923K8001	Oil pipe	1	1	
J46	HE22K48001		1		φ 7×φ 5×400
J47	HE22K58001		1	1	$\phi 7 \times \phi 5 \times 410$
J48		Support spring	2	2	
J49	HF932K8001		1	1	
J50	HA30012040		1	1	
J51	HF934K8001		1		φ 3×φ 5×250
J52	HF937K8001		1	1	$\varphi 3 \times \varphi 5 \times 600$
J53	HG006K8001		1	3	$\varphi \ 7 \times \varphi \ 5 \times 100$
J54	HG005K8001			1	$\varphi 7 \times \varphi 5 \times 60$
J55	HF922K8001			1	$\varphi 7 \times \varphi 5 \times 120$
	HE23K08001		1		$\psi \wedge \psi \circ \wedge 120$
J56			1	1	
Ј58 Ј59		Tube support Screw	1 1	1 1	
300	11110000000	BOLC"		•	



# **K.ACCESSORIES**

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
K01	НАЗО7Ј0671	Hinge support	2	2	
K02	HF914L8001	Hinge	2	2	
К03	H411060100	Screw	4	4	
K04	HF905L8001	Head cushion	2	2	
K05	HE41J38001	Bobbin	2	4	
K06	НА100Ј2170	Oil tank	1	1	
K07	H200400069	0iler	1	1	
K08	JZDP1700G2301	Neddle	4		DP×17 #23
K08	JZDP1700G2302	Neddle		6	DP×17 #23
K09	HF913L8001	Detector setting plate	1	1	
K10	НА200Ј2030	Cotton stand assy	1		
K10	H3200L0120	Cotton stand assy		1	
K11	НА100Ј2180	Cover	1	1	
K12	HE20L48001	Oil plate	1	1	
K13	Н801050200	Screw	10	10	
K14	HB00001025	Hexagonal wrench (2.5)	1	1	
K15	HB00001015	Hexagonal wrench (1.5)	1	1	
K16	НАЗООЈ2070	Screw driver(L)	1	1	
K17	НА300Ј2200	Screw driver(M)	1	1	
K18	НАЗООЈ2210	Screw driver(S)	1	1	
K19	HF908L8001	Belt guard(R)	1	1	
K20	HF915L8001	Rubber washer	1	1	
K21	Н401060120	Bolt	1	1	
K22	HF907L8001	Belt guard(L)	1	1	
K23	HF911L8001	Bolt	1	1	
K24	Н005001060	Washer	1	1	
K25	H7316E8001	Nut	1	1	
K36	НВ00001060	Hexagonal wrench (6)	1	1	
K37	НВ00001050	Hexagonal wrench (5)	1	1	
K38	HB00001040	Hexagonal wrench (4)	1	1	
К39	НВ00001030	Hexagonal wrench (3)	1	1	
1100	11500001000	nonagonar wronen (e)	1	1	

#### L.PNEUMATIC CONTROL UNIT



# L.PNEUMATIC CONTROL UNIT

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
L01	HF930M8001	Connecting box base	1	1	
L02	HF924M8002	PCB board	1	1	
L03	HF932M8001	Connecting box screw	2	2	
L04	H409040160		2	2	
L05	H415030120	Screw	2	2	
L06	HF931M8001	Connecting box cover	1	1	
L07	HF922E8001		1	1	
L08	HE20E57101	Rheostat wire assy	1	1	
L09		Tension release solenoid	1	1	
L10	HF92IJ8001	Wire joint	4	4	
L11	HF926J7101	Trimming solenoid	1	2	
L12		Wire joint	4	6	
L13		H type wire joint	1	1	
L14		Button set frame	1	1	
L15		Button set board	1	1	
L16		Button with light	3	3	
L17		Button without light	2	2	
L18		Button wire assy	1	1	
L19	H415040060	<u> </u>	4	4	
L20	HF940M8001		5	5	
L22		Count to alarm wire assy	1	1	
L23		Control box wire assy	1	1	
L24		Reset button assy	1	1	
L25		Solenoid valve set board	1	1	
L26		Solenoid valve cover	1	1	
L27	H409040100		4	4	
L28		Washer	8	8	
L29		Spring washer	4	4	
L30		Solenoid valve assy	1	1	
L31		Solenoid valve wire assy	1	1	
L32		Filter with regulator	1	1	
L33	H4923N8001	_	1	1	
L34		Wire joint	2	2	
L35		Wire joint	2	2	
L36		Solenoid valve	3	3	
L37		Exhaust muffler	6	6	
L38				9	
L39		3		2	
L40		Spring washer	2 2	2	
L41		Washer	2	2	
L42		Wire joint	1	1	
L43		Windpipe	3	3	
L44		Windpipe	1	1	

# L.PNEUMATIC CONTROL UNIT

Fig. No.	Part No.	Description	GC20688-1BDL	GC20688-2BDL	Remarks
L45	HF914M8002	windpipe	1	1	
L46		Windpipe	1	1	
L47		Windpipe	1	1	
L48	HF914M8004		2	2	
L49		Windpipe	2	2	
L50		Air source units	1	1	
L52		Nut	8	8	
L53		Washer	1	1	
L54		Screw	2	2	
L54			4	4	
	H801050200				
L56		Wire joint	1	1	
L57		Wire joint	1	1	
L58		Screw plug	1	1	
L59		Wire joint(Y)	2	2	
L60	HF937E8001	Wire joint	1	1	

#### **GAUGE PARTS LIST**

Needle gauge	3. 2mm	6. 4mm	8mm	8mm	10mm	12mm	Pcs.	16mm	Pcs.
Needle bar connecting stud	HG017G8001	HG019G8001	HG006G8001		HG010G8001	HG013G8001	1	HG015G8001	1
Outer presser foot	HG021F8001	HG025F8001	HG005F8001		HG013F8001	HG016F8001	1	HG018F8001	1
Finger gusrd	HG022F8001		HG006F8001		HG014F8001		1	HG019F8001	1
Inner presser foot	HG023F8001	HG026F8001	HG008F8001		HG009F8001	HG010F8001	1	HG011F8001	1
Feed dog	HG010I8001	HG011I8001	HG006I8001	HG006I8002	HG007I8001	HG008I8001	1	HG00918001	1
Needle plate	HG014B8001	HG015B8001	HG007B8001		HG008B8001	HG009B8001	1	HG010B8001	1
Slide Plate left	HF980B8001		HG005B8001		HG013B8001	1	HG011B8001	1	
Slide Plate right HF98		B8001	HG006B8001				1	HG012B8001	1
Thread guide		HG007	G8001 HG01		HG011G8001		HF971G8001	2	
Screw	HG008G8001						1	HF972G8001	2

#### SHANGHAI HUIGONG NO.3 SEWING MACHINE FACTORY

ADD: 1418, Yishan Road, Shanghai, China

**Zip Code: 201103** 

Overseas Business: TEL: 86-21-64853303 FAX: 86-21-64854304

E-mail:highlead@online.sh.cn http://www.highlead.com.cn