User Manual



GF-5131-447 MH

ANITA B s.r.o.
Průmyslová 2453/7
680 01 Boskovice
Česká republika
tel: +420 515 553 628
+420 515 553 629
fax: +420 516 452 751
e-mail: info@anita.cz

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A. BASIC INFORMATION

A.1. WHO IS THIS MANUAL FOR?

The user manual includes important recommendations for Your safety and machine use. **It is not a sewing technique manual.**

The Manual is for:

- Machine operators instructed for machine use and with an access to the manual.
- Specialized personnel with required specialized education which qualifies them for machine maintenance and malfunctions elimination.

A.2. WARRANTY

All the information and warnings were formed considering the current design and state of the equipment and the applicable regulations and standards.

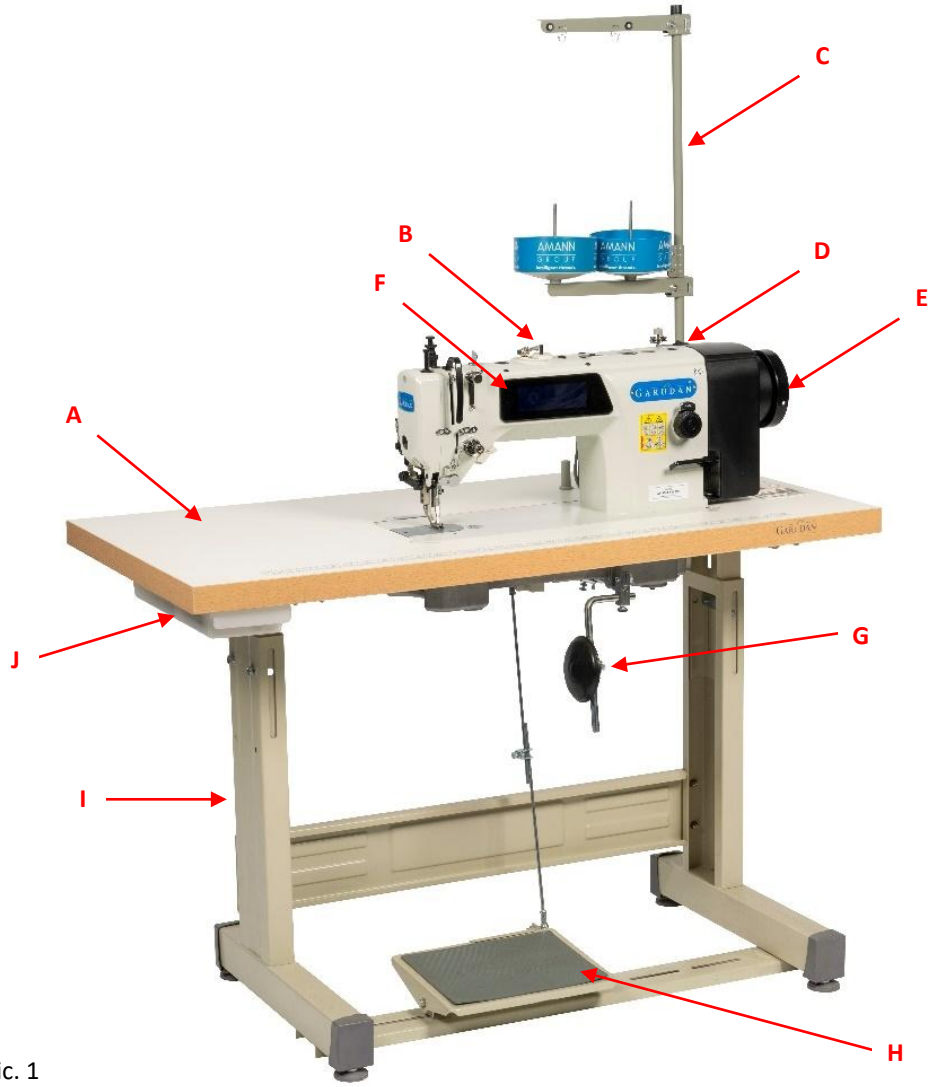
Anita B s.r.o. is not responsible for damage caused by:

- use contrary to the intended purpose
- use of an uninstructed personnel
- failure to follow the instructions
- unauthorized modifications to the machine
- use of unapproved spare parts
- breakage or damage caused by transport.

Check the machine immediately after receiving from your carrier. If there is any damage, file a complaint with the carrier. This applies even if the package is not visibly damaged.
Leave the machine, its equipment and package in the same conditions as they were when the damage was discovered to ensure that you can claim against the transport company. Report any other defects you find to the supplier of the machine immediately after delivery.

A.3. BRIEF DESCRIPTION AND INTENDED USE OF THE MACHINE

Single-needle flatbed machine with stitch length up to 8 mm, large, horizontally located hook and combination of lower drop feed and presser feet feed. The quiet and economical servomotor integrated on the machine head secures the thread trimming, automatic backstitching and automatic presser feet lift. These functions can be programmed or turned off. The machine is suitable for medium and heavy materials with threads Nm 40 to 15. It is used mainly in the production of upholstery, home textiles, haberdashery, etc.



Pic. 1

A	Table	F	Operation panel
B	Bobbin winder	G	Knee lever
C	Thread stand	H	Pedal
D	Main switch	I	Stand
E	Hand wheel	J	Tool drawer

A.4. TECHNICAL PARAMETERS

Model	**GF-5131-447 MH**
Use	Medium/Heavy materials
Stitch type	Double thread lockstitch
Stitch length	8 mm
Presser-foot lift by hand lever	5 mm
Presser-foot lift by knee lever/automatic	12 mm
Automatic thread trimming	YES – by solenoid
Programmable backstitching	YES - by solenoid
Automatic presser foot lift	
Needle system	For textile materials: 135x17; for leather: 135x16
Needle size	Nm. 110-160 *
Hook type	Horizontal, bobbin Ø26mm
Lubrication	Automatic
Lubrication oil	M22
Motor	Integrated servomotor
Machine head weight	49 kg (netto)
Stand weight	26 kg (netto)
Working space	260 x 120 mm
Machine table dimensions	475 x 180 mm
Power	1x230V 50Hz / 750 W
Ground plan dimensions (including frame)	1200 x 540 mm
Bedplate height	740 – 800 mm
Machine height including thread stand	1550 mm
Noise level by 50% machine utilization and under standard conditions	83 dB / A
Max. sewing speed	2000 stitches/min **

* per needle Nm. 140 the machine is set at the factory

** The specified value of the sewing speed must not be exceeded regarding the service life of the machine mechanism. It cannot be guaranteed to achieve it under any conditions. It is usually necessary to reduce it depending on the thread used, the needle and sewn material, the length of the stitch and the foot step.

B. SAFETY INSTRUCTIONS

B.1. GENERAL SAFETY INSTRUCTIONS

- Before using the machine, please, read the operation manual carefully, where are mentioned parameters of the machine and specified limits and conditions under which the machine can be used.
- Make sure about the position of ON/OFF button to be able to use it operatively.
- Do not put your fingers in sewing area on any occasion.
- Make sure that electronic cables are not damaged to avoid an injury. Damaged covers must be immediately repaired or replaced for a new one.
- During any mechanical operation such as needle change or threading always make sure to turn off the machine with ON/OFF button or main switch.
- Before cleaning the machine or during its maintenance turn of the machine by pulling the plug out of a socket.
- After finishing work on the machine, turn off the machine with main switch.
- In case of power failure, turn off the machine with main switch.
- Do not adjust the machine in any way that might cause a damage or endanger the safety.
- In case of damaged safety label, order a new one and place it to its original place.
- Make sure to avoid getting caught into the moving mechanisms of the machine with your hair, sleeves or any other loose parts of your clothes.
- Do not use the machine under the influence of alcohol or drugs.

B.2. SAFETY INSTRUCTIONS AFTER DELIVERY

- During the unpacking of the machine, please, follow the marks on the packing.
- Report any visible damage of the order to the carrier. Doublecheck the contents of the package with your order and immediately report any defect to the manufacturer. Later complaints will not be accepted.

B.3. SAFETY INSTRUCTIONS DURING MACHINE INSTALLATION AND MAINTENANCE

- The machine should be installed and set up by an instructed person.
- Only an instructed person can manipulate with an electrical circuit.
- Make sure that the electric power, its voltage and circuit breaker enable stable supply of power necessary for a steady performance of the machine.
- Connect a correct earthing.
- It is prohibited to connect all the connectors when the machine is under voltage owing to threat of damage of electronic parts and motor.
- If it is necessary to dismantle any of the covers on the machine, turn of the main switch or unplug the machine from a socket.
- It is allowed to use only spare parts supplied or approved by the manufacturer.
- The machine should be placed out of high frequency and radio waves. Impact of electromagnetic waves generating interference with servo motor can cause a malfunction.



B.4. SAFETY INSTRUCTION FOR A DAILY OPERATION OF THE MACHINE

- Do not plug the machine to the socket if any of the safety covers is removed.
- Check if any of the cables is not damaged to avoid an injury caused by touching an uncovered conductor.
- If you are not sure how to adjust the machine correctly for any concrete operation, contact a machinist responsible.
- The user must ensure an appropriate lightning of the work area and surroundings.



B.5. WORK AREA OF THE MACHINE

All installation or service work with machine must be made when the machine is unplugged from a socket.

A. Do not use the machine in case the electrical voltage exceeds the tolerance of +/-10%
B. Use a machine under following conditions:
   - working temperature: 5-40 °C
   - stocking temperature: -10 – 60 °C
C. Humidity between 20 – 80 % (relative humidity)

B.6. CONDITIONS OF ELECTRICAL INSTALATION OF THE MACHINE

A. Power supply
   - Power supply must be in regulated range +/- 10 %.
   - Frequency should be regulated (50/60 Hz) +/- 1 %.

B. Electromagnetic compatibility
   - Use separated power supply and make sure that the machine is not placed near to products emitting a strong magnetic or high frequency field.

C. Make sure to avoid spilling the fluids to the control box and motors. Protect the control box and motors from splashing liquids.

B.7. DISPOSAL INSTRUCTIONS

For a disposal of the machine contact your local dealer or manufacturer in accordance with legislation.

B.8. DECLARATION OF CONFORMITY

CE

The machine complies with European regulations concerning the guarantee of health, safety and environmental protection, which are stated in the declaration of conformity or, where applicable, in the declaration of assembly.

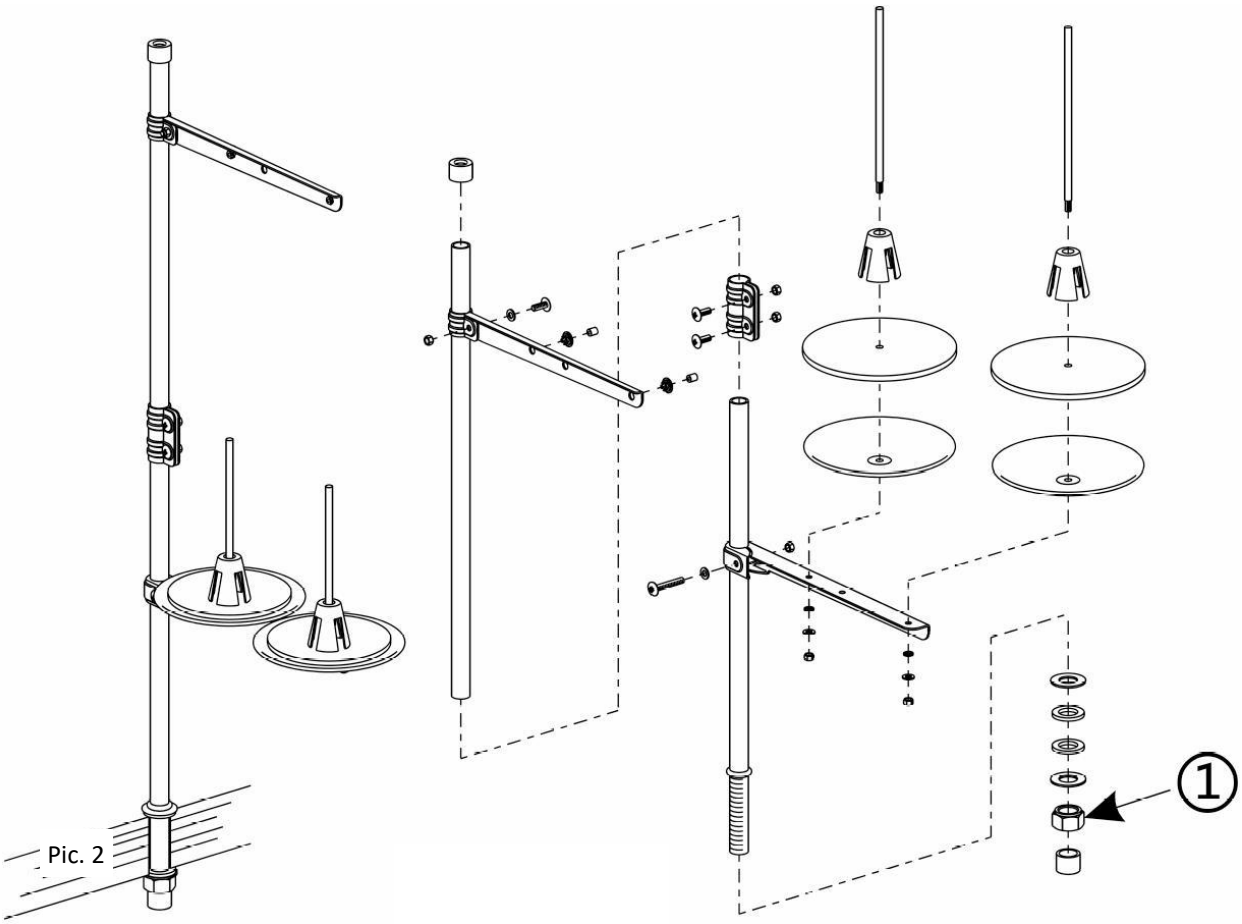
C. INSTALACE

C.1. AFTER DELIVERY CHECK

Check after the delivery whether the machine is complete and undamaged. If there is any damage, contact the carrier immediately. In case the delivery is incomplete, complain with the supplier.

C.2. THREAD STAND INSTALLATION

1. Install the thread stand according to the pic. 2 to the hole on the machine table.
2. Fasten the nut (1).



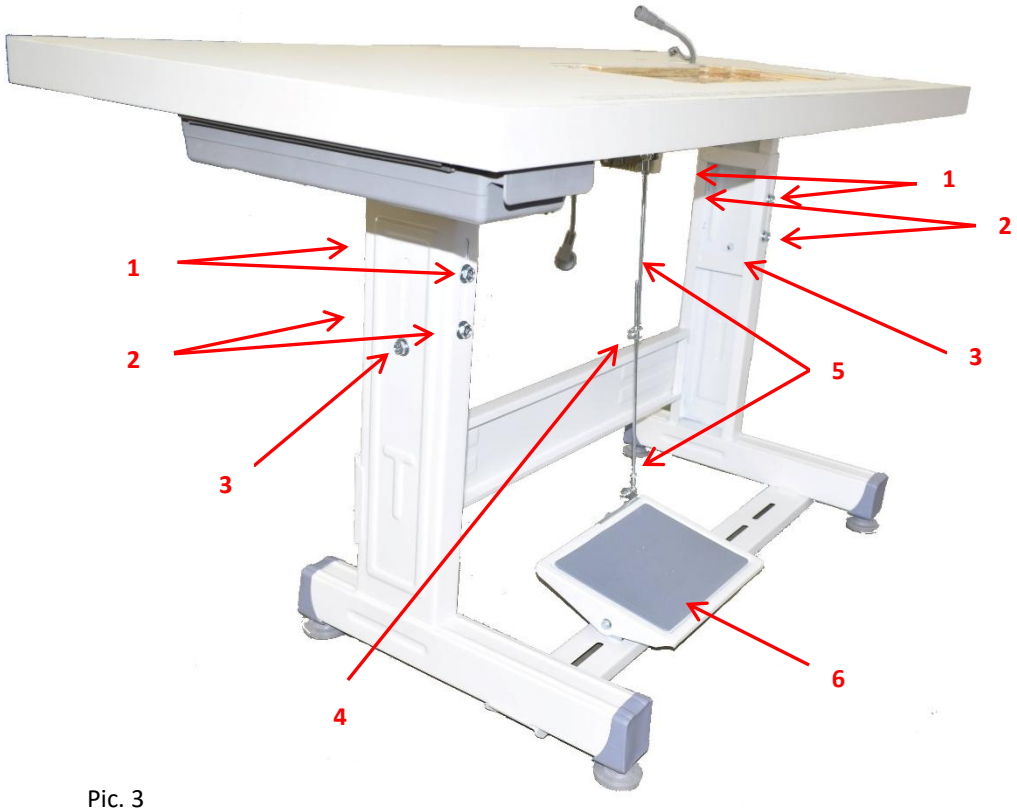
Pic. 2

C.3. STAND HEIGHT AND PEDAL INCLINATION ADJUSTMENT

Attention: Danger of an injury! When loosening the screws on the stand, the tabletop may fall due to its own weight.

Attention: Danger of an injury! Be careful while loosening the screws to avoid closing your hands.

The height is adjustable between 700 to 800 mm.



Pic. 3

Loosen the screws (1), (2), (3) and (4).
Adjust the height of the stand height according to your preferences. Adjust the height of the stand on both sides. Slide the board out or in evenly, be careful not to get it stuck. For a maximum height, remove the screws (1).

Tighten the screws (1), (2), (3).
Adjust the pedal inclination with connecting rod (5) to 10° inclination for lightweight pedal (6).
Tighten the screw (4).

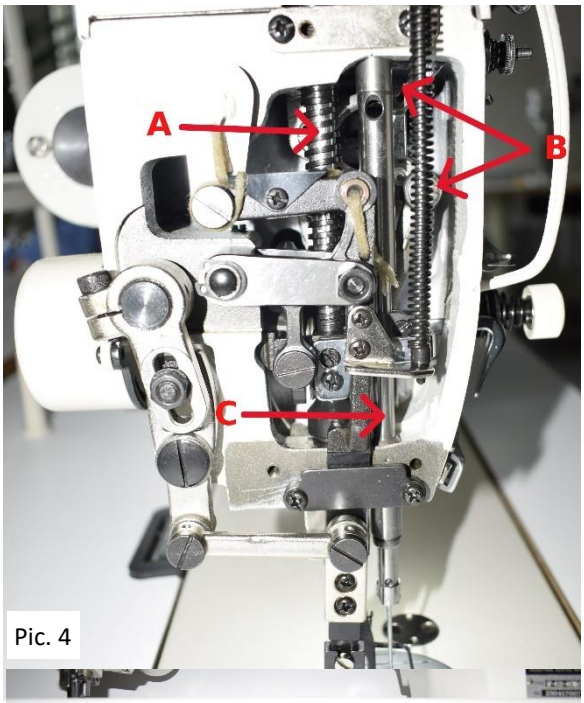
Note: The quantity and positions of the screws can differ due to stand type.

D. PUTTING THE MACHINE INTO OPERATION

D.1. OIL FILLING

Attention! It is necessary to lubricate the machine properly before putting the machine into an operation!

It is necessary to lubricate the machine before the first running or in case the machine was not operated for a longer time. Lubricate the machine according to the pic. 4.



Pic. 4

- Dismantle the front covering, lubricate the presser foot bar (A), thread lever joint (B) and needle bar (C). Use 3-5 drops of oil M22.



Pic. 5

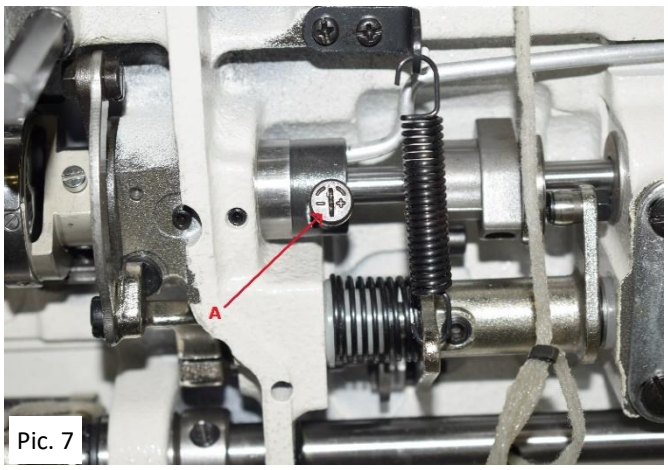
- Fill in the oil tub so the oil level would be between (H) and (L) as in pic. 5. To remove the oil, put a container bellow the drain and loosen the screw (A).



Pic. 6

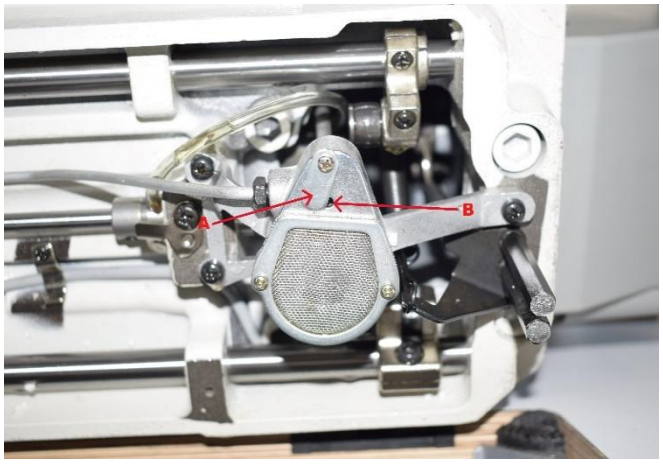
- Check the oil level regularly. Check if the oil spouts on the glass (E) during the operation according to pic. 6.

Note: Use the machine with 75 % of maximum rotations for the first five days of the operation to high-quality running-in and long machine life.



Pic. 7

- The regulation of the oil quantity can be adjusted by screw (A) on pic. 7. By turning it clockwise, the lubrication of the hook increases (be careful not to sully the thread or fabrics). By turning it counterclockwise, the hook lubrication decreases (be careful and avoid the overheat and wearing the hook). With a correct oil lubrication of the hook ensures its long life. After adjusting the lubrication run the machine idle for 30 seconds.



Pic. 8

- If the machine is lubricated too much (it leaks on the presser bar or needle bar), the amount of oil can be regulated by oil pump. Standardly, the diaphragm (A) covers the hole (B). By uncovering the hole, the oil pump delivers less oil.

D.2. TURNING ON THE MACHINE

Attention: Do not step on pedal while turning on the machine!

- Turn on the machine with a main switch (A) ON/OFF as on the pic. 9.

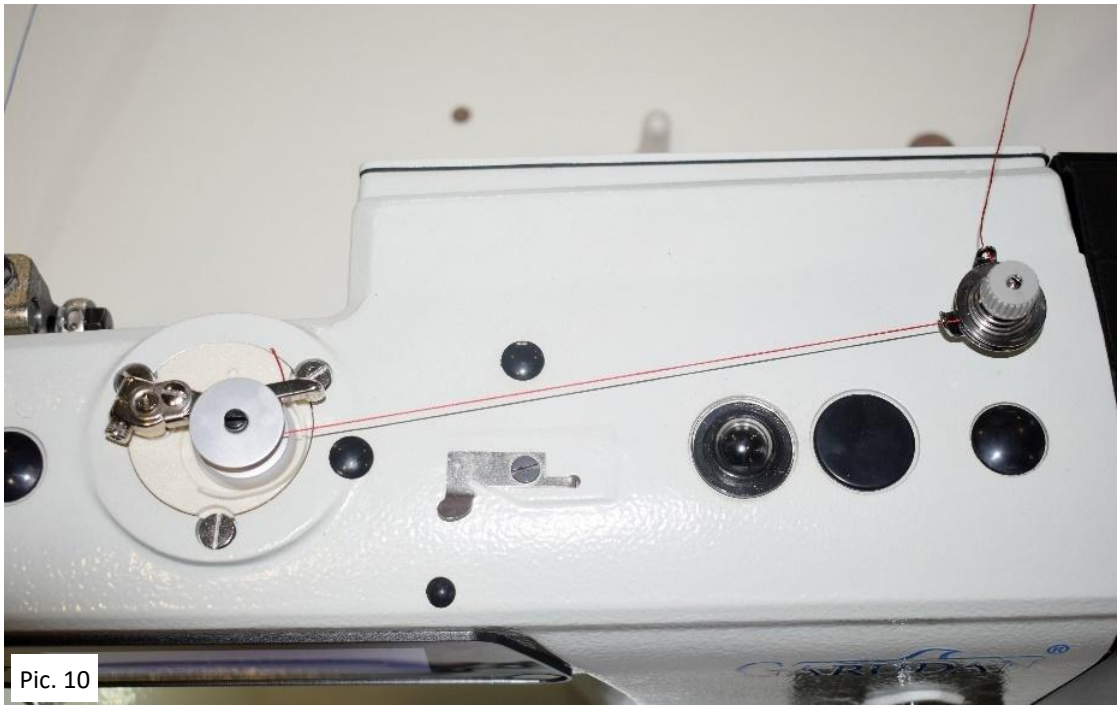


Pic. 9

D.3. LOWER THREAD WINDING

Attention: Turn off the machine before this operation.

- Lead the thread from the spool stand according to pic. 10.



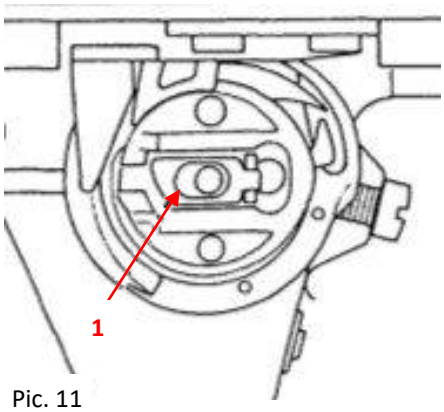
Pic. 10

D.4. LOWER THREAD THREADING

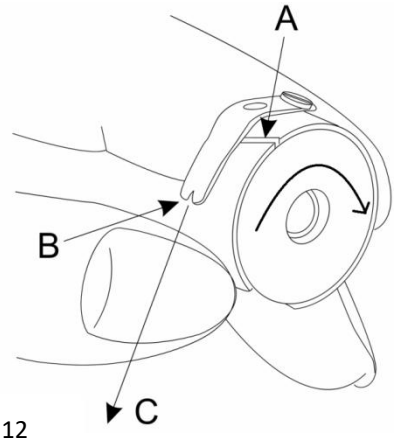
Removing the bobbin case:

- Turn off the machine.
- Pull the releasing lever on the bobbin case (1) as on pic. 1.
- Remove the bobbin case from the hook.

  Note: If the lever (1) is not released, the bobbin case cannot be removed.



Pic. 11



Pic. 12

- Put the bobbin to the bobbin case the way it turns in the direction marked on the pic 12.

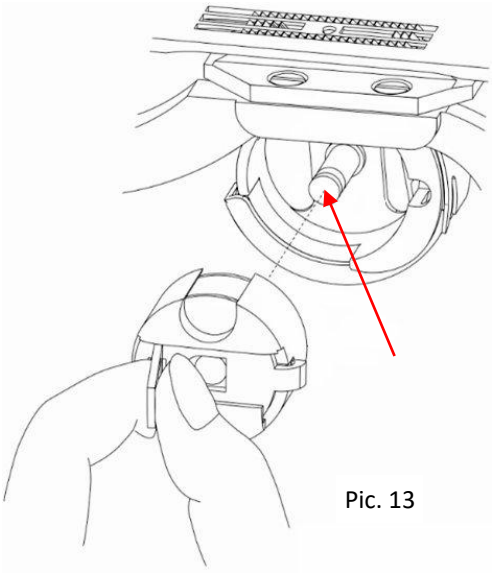
- Put the thread to the groove (A) under the presser spring (B). The bobbin must turn in the direction marked on the picture after pulling the thread.

Inserting the bobbin case to the hook:

- Take the release lever of the bobbin case with bobbin hook and insert it to the hook (pic. 13).

- Hold the bobbin case in one hand and insert it to the hook pin.

- Release the release lever of the bobbin case with a thumb and press it to the hook until it clacks. To check if the bobbin case is inserted correctly, pull lightly the release lever of the bobbin case and check if it comes back by itself.

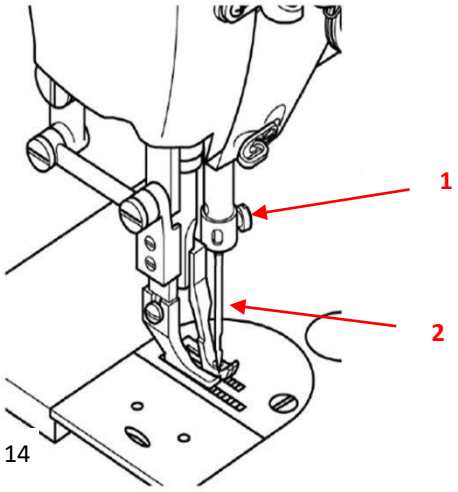


Pic. 13

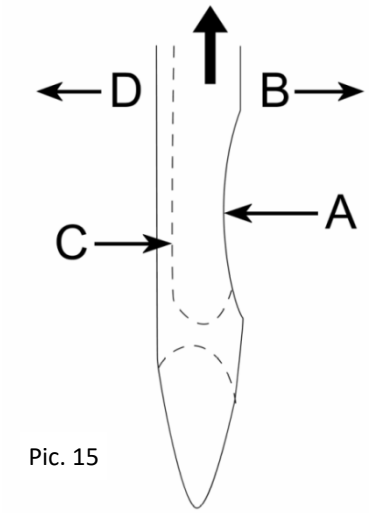
D.5. NEEDLE INSERTION AND CHANGING

Attention: Turn off the machine before this operation!

- Turn the hand wheel to reach the highest position of the needle bar.
- Loosen the screw (1) (pic.14), remove the needle (2).
- Choose a needle in accordance with thread.
- Insert the needle to the needle bar so the groove (C) is on the left side (direction D).
- Push the needle to the limit.
- Fasten the screw (2) (pic. 14).
- Check if the long groove (C) is on the direction (D).



Pic. 14



Pic. 15

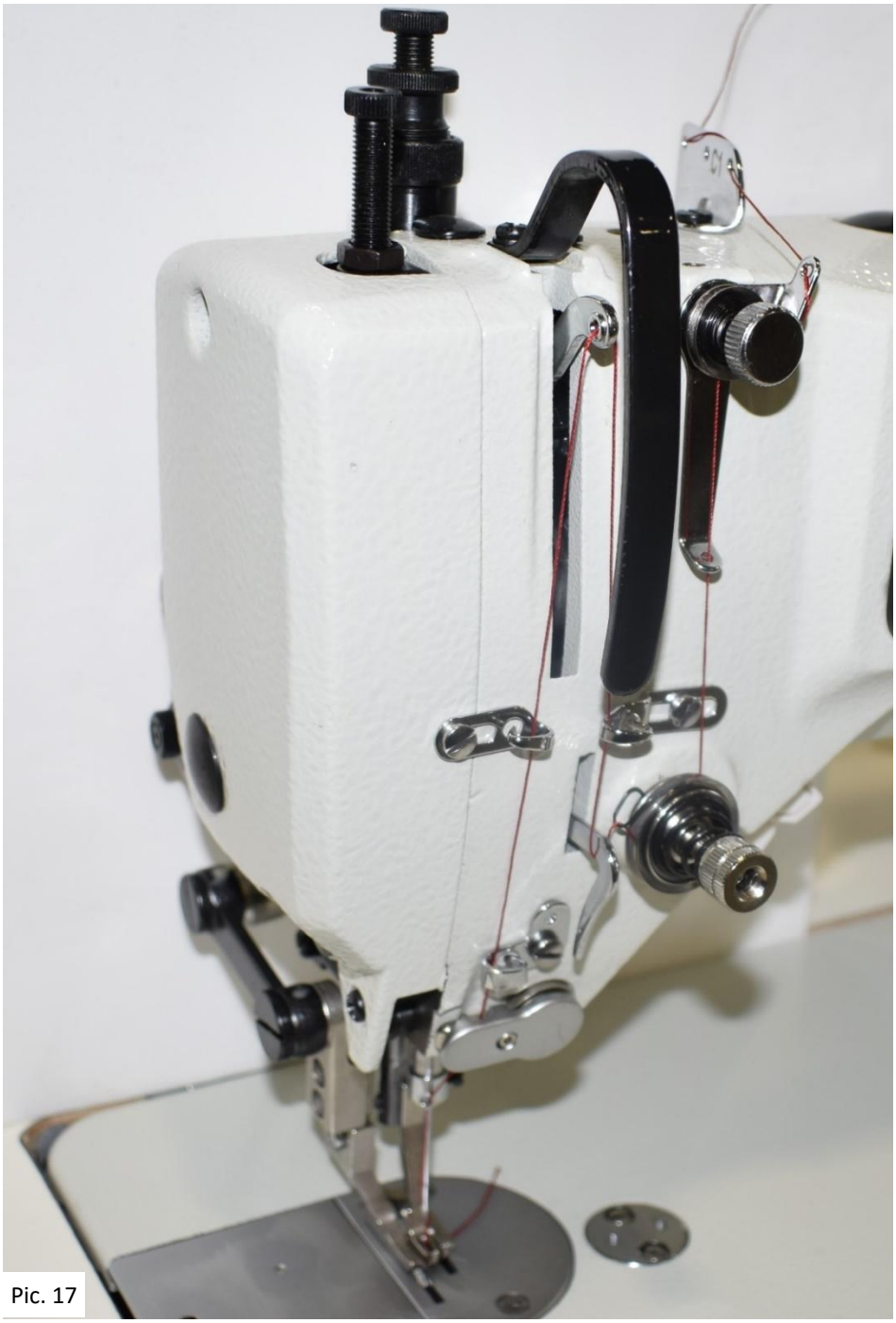
Note (pic. 15): The hook groove (A) is shorter one above the needle eye. The long groove (C) is the longer one which leads from the shank to the needle eye. The needle is always threaded in the direction out of the longer groove.


Pic. 16

D.6. UPPER THREAD THREADING

Attention: Turn off the machine before this operation!

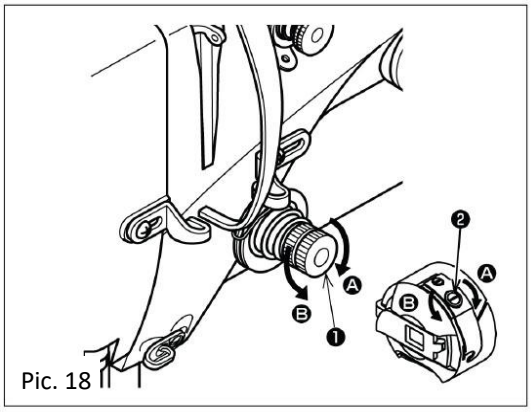
Thread the thread according to pic. 17.



Pic. 17

Note: Before changing the needle, cut it between the need the thread stand and guide and thread a new one.
We recommend releasing the tensioners by pulling the plate of the tensioner towards you for easier threading of the knot.

D.7. THREAD TENSION ADJUSTING



Pic. 18

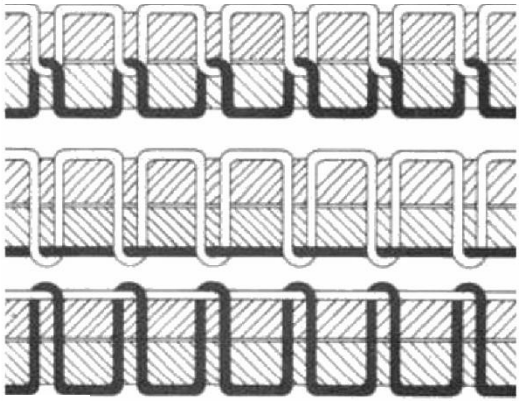
The tension can be adjusted with the components on the pic. 18.

A. Upper thread tension adjusting

- Turn the nut (1) in the direction (A) to increase the tension or in direction (B) to decrease it.

B. Lower thread tension adjusting

- Turn the nut (2) in in the direction (A) to increase the tension or in direction (B) to decrease it.


Pic. 19

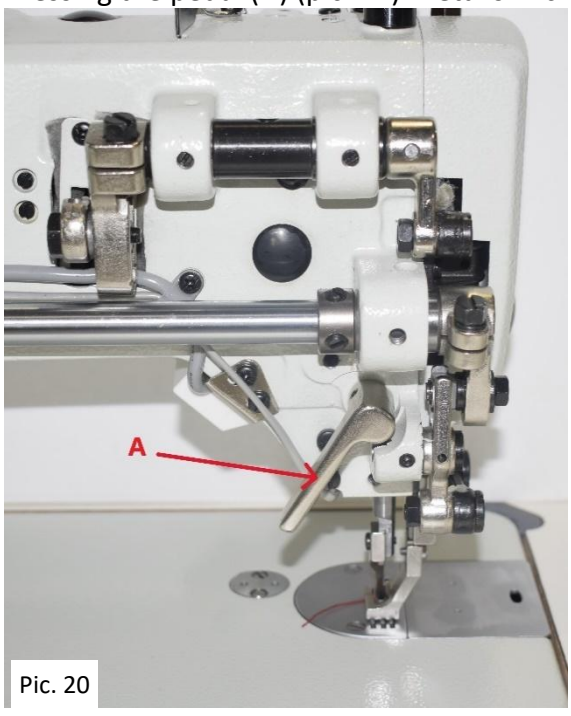
Correct tension.

Too strong tension of the lower thread and too weak tension of the upper thread.

Too strong tension of the upper thread and too weak tension of the lower thread.

D.8. PRESSER FOOT LIFT

The presser foot can be lifted with:
Hand lever (A) (pic. 20).
Knee lever (B) (pic. 21).
Pressing the pedal (D) (pic. 21). Details in chapter D.15.

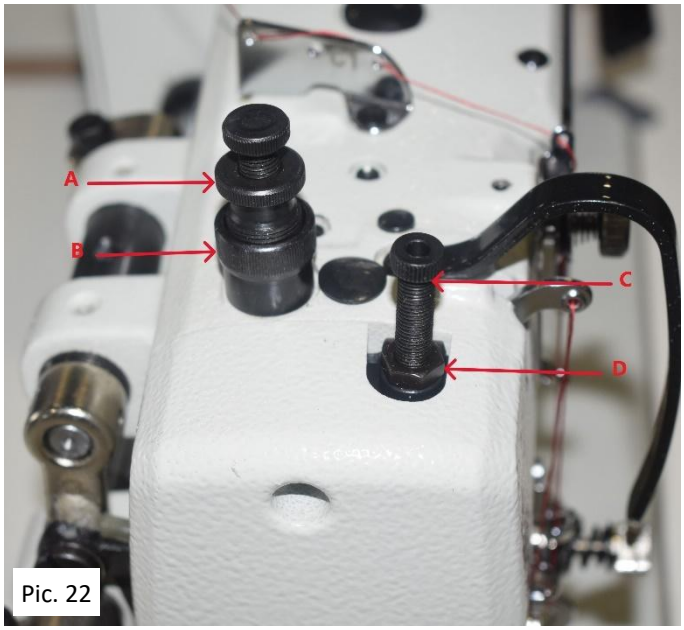


Pic. 20



Pic. 21

D.9. PRESSER FOOT PRESURE ADJUSTING



Pic. 22

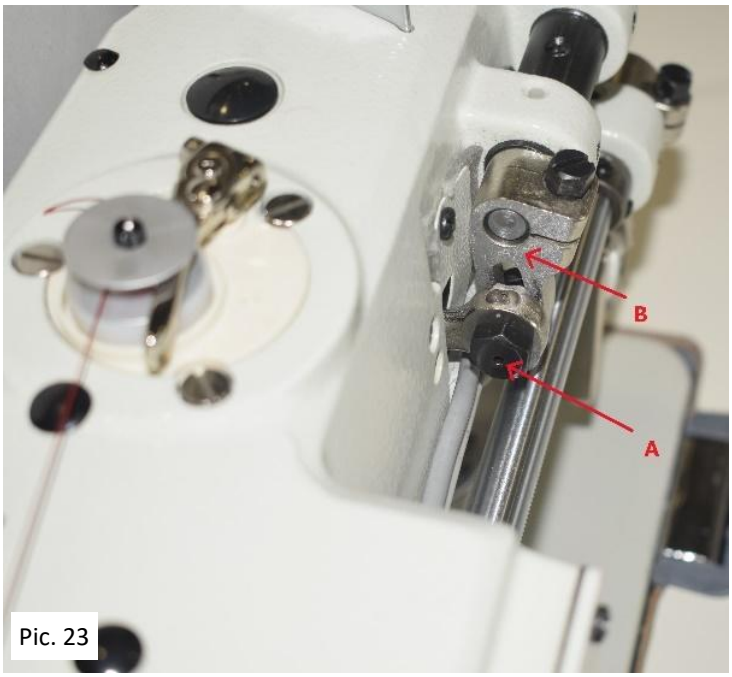
Inner presser foot pressure adjusting is made in accordance with material used with a screw (A) which is secured with a nut (B). The thinner the material is, the lower pressure should be adjusted. By tightening the screw down the pressure is increased, by loosening it the pressure is decreased.

Outer presser foot pressure adjusting is made in accordance with a material used with screw (C) which is secured with a nut (D). The thinner the material is, the lower pressure should be adjusted. By tightening the screw down the pressure is increased, by loosening it the pressure is decreased.

Note: Try to adjust the lowest pressure possible so the machine wouldn't be noisy and there wouldn't be too high pressure on the material. If the feeding doesn't work well, it is necessary to increase the pressure.

D.10. PRESSER FOOT STEP ADJUSTING

The presser foot step is adjusted by changing a positon of the screw (A) in the groove of the lever (B) marked on the pic. 23. Use a no. 14 key and loosen the screw. By moving it up the presser foot step increases, by moving it down, the presser foot step decreases. Adjust the height and tighten the screw.



Pic. 23

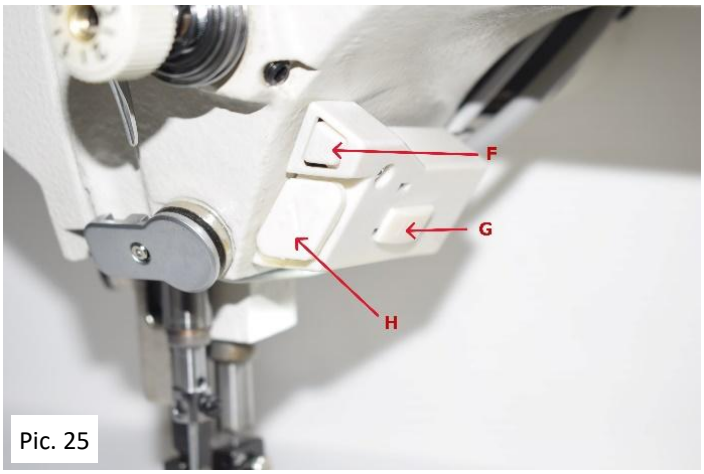
Use the lowest presser foot step possible so the machine will be less noisy and less strained.

D.11. STITCH LENGTH ADJUSTING

The stitch length adjusting is made by a button (A). After turning it, it is necessary to press the safety lock (B) marked on the pic. 24. By turning the button clockwise, the stitch length increases.



Pic. 24



Pic. 25

D.12. BACKSTITCH ADJUSTING (REVERSE FEED, BACKTACKING)

The reverse feed can be set by pressing the lever C (pic. 24). or by pressing the (H) button (pic. 25). If the automatic backtacking at the start and end of the sewing is set, it will be made automatically after first pressing the pedal after trimming and its end is made by pressing the pedal backwards.

D.13. SEWING WITH A BUTTON

The sewing can be also made with button (F) on pic. 25. The machine will make half a revolution after each pressing. (The needle goes down from the upper position, and the other way around). By pressing the button longer, the machine makes a whole revolution. By holding the button pressed, the machine will start sewing with a minimum sewing speed.

D.14. LIGHTING

The lighting can be turned on/off with a switch (G) (pic.25).

D.15. PEDAL SETTING

- The pedal has 5 operating positions:

  The starting position is **C** .

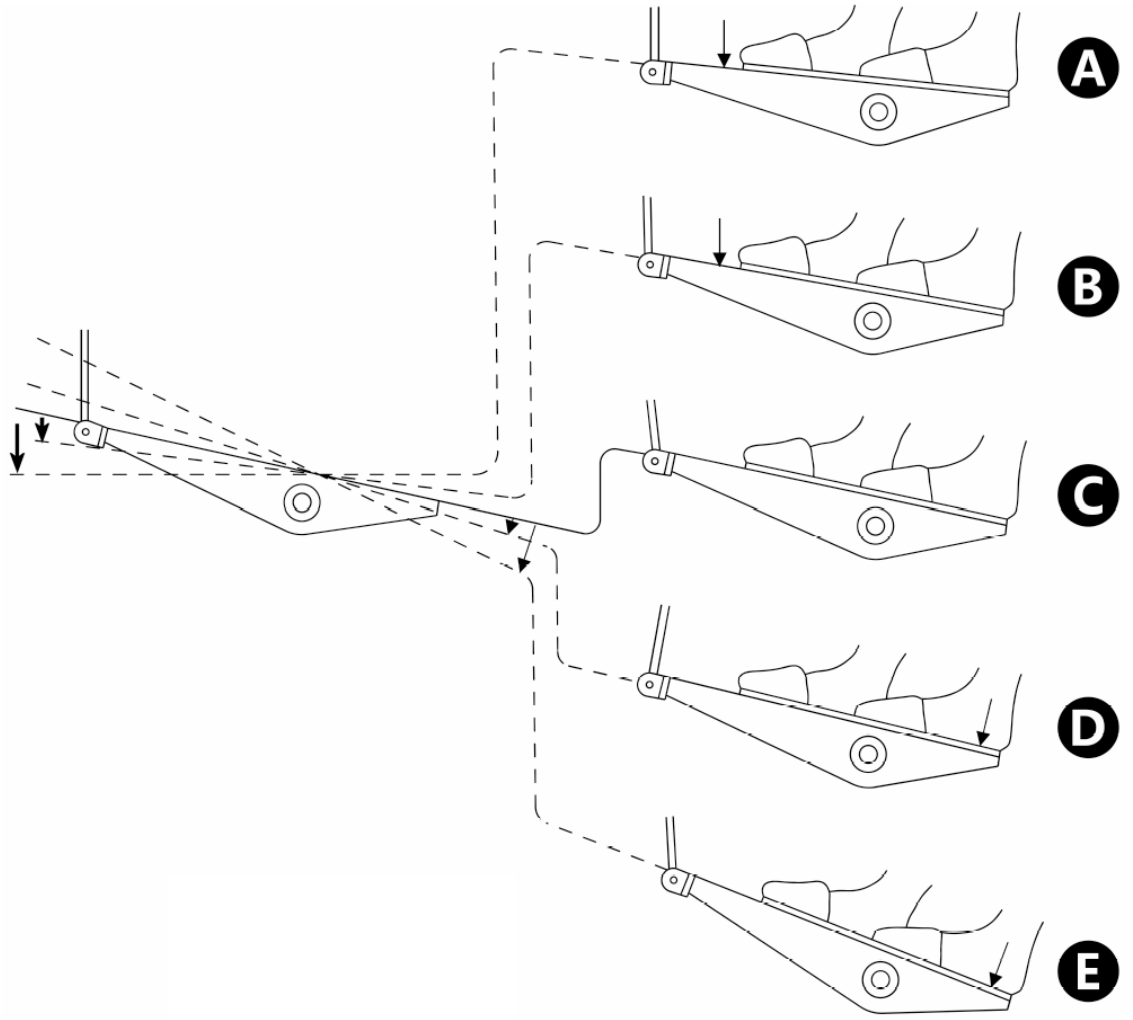
1. If you press the front part of the pedal lightly, the machine runs at low speed **B**
 If the automatic backtacking at the start function is on, it will be made.

2. If you press the front part of the pedal fully, the machine runs at high speed **A**

3. If you return the pedal to its original position, the machine stops **C**

4. If you press the rear part of the pedal lightly, the machine lifts the presser foot **D**

5. If you press the rear part of the pedal fully, the machine performs thread trimming and presser foot lift. **E**
If the automatic backtacking function at the end is on, it will be made.

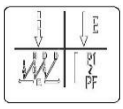


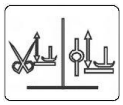
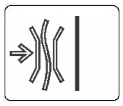
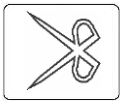
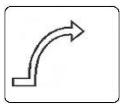
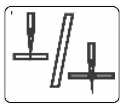
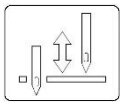
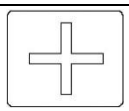
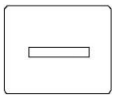
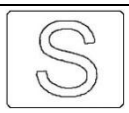
Pic. 26

D.16. OPERATION PANEL



Pic. 31

Name	Button	Description
Start/Stop Backtacking at the start of the sewing button		Starts/stops start backtacking – simple, classic or double.
Start/Stop Backtacking at the end of the sewing button		Starts/stops end backtacking – simple, classic or double.
Mode Shift Key		By pressing the button, switch between free sewing, constant stitch sewing, continuous back seam shortcuts and multi-section set needle shortcuts).
Auto Function		Program sewing mode: After pressing the pedal, the machine automatically makes E, F or G, H sections and after finishing the sewing, stops automatically. After next pedal pressing the machine automatically makes another section until trimming, thread wiping, etc. If the icon is not lighted, the function is off. By pressing the button constantly for more than 3 seconds, the machine will reset. All the parameters will be restored to factory settings.

Automatic Presser Foot Lifting Setting		1. Automatic presser foot lift after trimming, when the icon is lighted . 2. Automatic presser foot lift after pause function, when the icon is lighted . 3. Automatic presser foot lift after pause or trimming, when both icons are lighted. 4. Automatic presser foot lift is not activated when the icon is not lighted.
Clamp Function Setting		Press to turn on/off the clamp function.
Thread Trimming		Press to turn on/off the automatic thread trimming. The function is on when the icon is lighted.
Slow Launch Setting		Press to turn on/off the slow launch function. The function is on when the icon is lighted.
Needle Stop Position Selection		Changin the upper/lower needle position after stopping the sewing.
Fill Up Needle		While free sewing o rafter stopping, press the button to lift the needle or correct the half stitch forwards.
Increase button		Increases the parameter/sewing speed.
Decrease button		Decreases the parameter/sewing speed.
Function Parameter Edit		Press to enter/leave parameter edit mode.
Setting Parameter Check and Save		Press to set and save a parameter value.

All the automatic functions can be operated on the operation panel.

E. MAINTENANCE

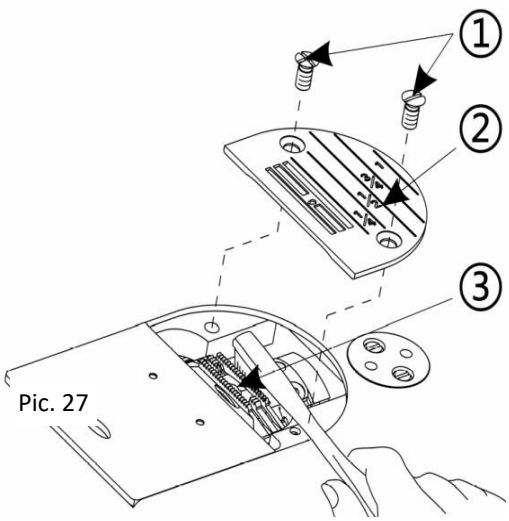
<u>For a correct machine operation and long life, maintain the machine daily.</u>

Attention: turn off the machine before this operation to avoid an injury.

Machine maintenance must be carried out no later than after the maintenance intervals according to the "Operating hours" table have expired. When operating with materials with high dustiness, the intervals can be shorter. Use a brush or pressed air for cleaning.

Attention! Avoid the contamination of the oil tank while using the pressed air.

E.1. CLEANING



Pic. 27

Clean the machine daily. Focus mainly on the needle plate, feed dog and loopers.

Lift the presser foot.

Remove the screws (1) and remove the needle plate (2).

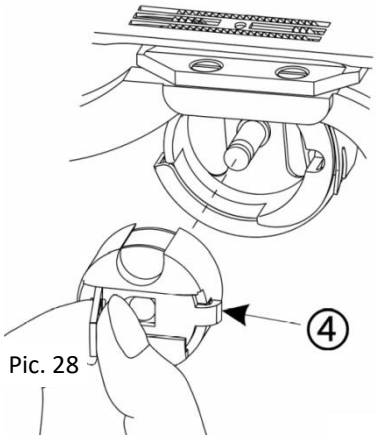
Remove the dust from the feed dog (3) and knifes with a brush, cloth or a compressed air (pic. 27).

Fasten the needle plate (2) with the screws (1).

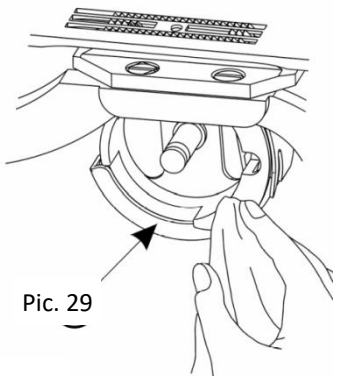
Recline the machine head. Remove the bobbin case with a bobbin (4).

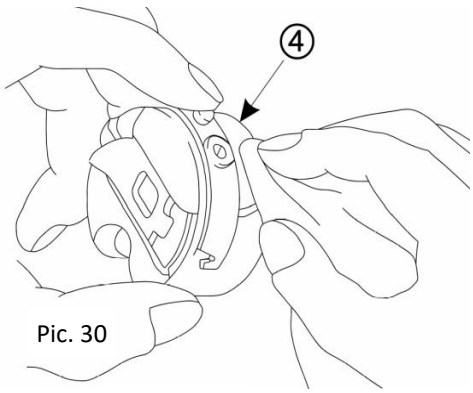
Remove the bobbin from the case (4) and clean the bobbin case.

Insert the bobbin to the case (4) and put it back to the machine.



Pic. 28


Pic. 29



Pic. 30

E.2. MACHINE LUBRICATION

The machine lubrication is described in chapter C.1.

For oil filling use the oil for sewing machines of viscosity M22. It is recommended to purchase the oil from Garudan company.

E.3. MAINTENANCE INTERVALS

To maintain the machine's long life and sewing quality, the operations described below must be performed regularly.

Operation	Description	Operating hours
Thread ends and dust removing	While cleaning the machine, focus on: - Needle surroundings - Needle plate - Feed dog - hook surroundings - Holes on the hand wheel	8
Bobbin check	The bobbins can be damaged or worn while using the machine.	160
Hook lubrication	Dust tor oil viscosity change can cause an insufficient lubrication of the hook.	40
Machine lubrication	Oil level check. Fill the oil in case it is below the minimum level.	8

E.4. NEEDLE CHANGING

Check the needle regularly that it is not blunt or bent. Consult your thread supplier for the appropriate needle size. Change the needle according to chapter D.5.

F. MALFUNCTIONS AND THEIR SOLUTION

This table summarizes the faults that can be repaired mechanically.
If the repair of some faults is beyond the scope of this manual, please contact the service.

No.	Malfunction	Check	Cause	Solution
1.	Broken needle	Needle height and side adjustment	The needle is inserted incorrectly.	Insert the needle correctly.
		Needle	The needle is bent.	Change the needle.
		Synchronization of the needle and feed dog	The synchronization is incorrect.	Adjust the synchronization.
		Needle bar height	Incorrect synchronization between the needle and rotating hook	Adjust the synchronization
		Distance between the needle and the hook	Incorrect synchronization between the needle and rotating hook	Adjust the synchronization
2.	Thread breakage	Threading	The threading is incorrect.	Thread the thread correctly.
		Needle	The needle is bent or damaged.	Change the needle.
		Needle height and side adjustment	The needle is inserted incorrectly.	Insert the needle correctly.
		Upper thread tension	The tension is too high.	Adjust the tension.
		Lower thread tension	The tension is too high.	Adjust the tension.
		tension spring lift	Upper thread is loosened	Adjust the tension spring
3.	Unsightly sewing	Thread tension	The tension is incorrect.	Adjust the tension.
		Tension spring tension	The tension is incorrect.	Adjust the tension.
		Distance between hook and hook opener	Incorrect distance between hook and hook opener.	Adjust the distance.
4.	Upper thread pulling at the start of the sewing or stitch skipping	High and side adjusting of the needle	The needle is inserted incorrectly.	Insert the needle correctly.
		Needle	The needle is bent or damaged.	Change the needle.
		Threading	Incorrect threading.	Thread the thread correctly.
		Distance between the needle and the hook	Incorrect synchronization between the needle and rotating hook	Adjust the synchronization
		The length of the upper thread after trimming	The end of the thread is too short after trimming	Adjust the upper thread tension.
		Lower thread holding	The lower thread is not held after trimming.	Adjust the thread holder.
		The highest position of the thread take-up lever.	The highest and lowest position is too high, and the thread take-up lever pulls out the thread.	Adjust the needle's highest position.
5.	Trimming does not work correctly	Distance between the moving and fixed knife	Incorrect distance between the knives	Adjust the moving knife.
		Fixed knife pressure	The tension of the fixed and moving knife is incorrect.	Adjust the tension between the knifes.
		Side adjusting of the needle	The needle is inserted incorrectly.	Insert the needle correctly.
		Blades of the fixed and moving knives.	The blades are damaged.	Change the knives.
		Trimming cam synchronization	Incorrect synchronization of the trimming cam.	Adjust the trimming cam.
		Tensioner adjusting.	The tensioner does not work correctly.	Adjust the tensioner.
6.	The thread end is too short after trimming	Trimming synchronization	Incorrect timing of the trimming.	Adjust the trimming timing.
		Tension washer hole.	The hole is too small.	Adjust the tensioner.
		Auxiliary tensioner	The tension of the auxiliar tensioner is too high.	Adjust the tension of the auxiliar tensioner.
		Tensioner spring	The tension of the tensioner spring is too high.	Adjust the tension of the tension spring.

Error code list

Error code	Problem description	Measure
E1	Over-voltage	Turn off the machine, check the power supply voltage. (Or whether exceed the rated voltage of use). If there are still errors, please replace the control box and call for customer service.
E2	Low voltage	Turn off the machine, check the power supply voltage. (Or whether under the rated voltage of use). If there are still errors, please replace the control box and call for customer service.
E3	CPU communication error	Turn off the machine, please check if the operation panel in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E5	Pedal connection error	Turn off the machine, please check if the pedal in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E7	a Motor locked-rotor error	Turn the machine handwheel, check if it is stuck. If it is stuck, you must rule out the mechanical failure. If turn normal, check if the encoder and motor in bad connection or is too loose. If yes, please correct. If connection well, check if the power supply voltage is abnormal or sewing speed is too high. If yes, please adjust. If there are still errors, please replace the control box and call for customer service
E8	Manual reverse feeding operation more than 15 seconds	Back-Tacking electromagnet response time is too long, you have only to restart the machine. If there are still errors E-08 after restart the machine, check if the manual reverse feeding switch is damaged.
E10	Solenoid over-current	Turn off the machine, please check the related circuit is shorted or damaged.
E09 E11	Positioning signal error	Turn off the machine, please check if the encoder in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E14	Encoder error	Turn off the machine, please check if the encoder in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E15	Power supply module abnormal	Turn off the machine, then turn on again. If there are still errors, please replace the
E17	Machine protection switch is not in the correct position	Turn off the machine, check if the machine is turn over, or the Mercury Switch is shifted or damaged.
E20	Motor failed to start (Electrical angle error)	Turn off the machine, please check if the encoder and motor in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.

G. PARAMETER LIST

G.1. USER PARAMETERS

Press the button P to enter the parameter section.

Parameter	Function	Range	Default	Description
P01	Maximum sewing speed（rpm）	100-2200	2200	Maximum speed of machine sewing
P02	Set accelerated curve（%）	10-100	80	Set the acceleration slope
P03	Needle UP/ DOWN	UP/DN	DN	UP: Needle Stops at Up Position DN: Needle Stops at Down Position
P04	Start back-tacking speed（rpm）	200-3200	1200	Set Start Back-Tacking Speed
P05	End back-tacking speed（rpm）	200-3200	1200	Set End Back-Tacking Speed
P06	Bar-tacking speed（rpm）	200-3200	1200	Set Repeat Bar-Tacking Speed
P07	Soft start speed（rpm）	200-1500	400	Set Soft Start Speed
P08	Stitch numbers for soft start	0-99	2	Soft Start Stitches Setting
P09	Automatic constant-stitch sewing speed（rpm）	200-2200	2200	Speed adjustment for automatic constant-stitch sewing
P10	Automatic end back-tacking sewing	ON/OFF	ON	ON: After last seam of constant stitch sewing, it will automatically execute the End Back-Tacking sewing function. When turn on, the Stitch-Correction is invalid. OFF: Automatic End Back-Tacking will not execute after last seam but can be done by pedal manually.
P11	Back-tacking mode selection	J/B	J	J: JUKI Mode (Press TB switch will activate reverse solenoid when either machine is stopped or running). B: BROTHER Mode (Press TB switch will activate reverse solenoid only when machine is running).
P12	Start back-tacking running mode selection	0-3	1	0:Could be arbitrarily stop and start 1:Automatically perform actions 2:Pause mode
P13	Ending mode of start back-tacking	CON/STP	CON	CON：Start Back-Tacking is completed automatically continued for next action. STP：After the number of stitches is completed, stop automatically.
P14	Slow start function selection	ON/OFF	OFF	
P18	Start back-tacking compensation 1	0-200	148	Stitch Balance for end back-tacking A section, 0~200 action gradually delay; the large value, the longer of the A section last stitch, and the shorter of the B section first stitch.
P19	Start back-tacking compensation 2		153	
P20	End back-tacking running mode selection	1-3	1	
P21	The position of the pedal for running	30-1000	520	
P22	The position of the pedal for the stop	30-1000	418	

P23	The position of the pedal for lifting presser foot	30-1000	248	
P24	The position of the pedal for thread trimming	30-1000	130	
P25	End back-tacking compensation 3	0-200 0-200	148	Stitch Balance for end back-tacking C section, 0~200 action gradually delay; the large value, the shorter of the C section first stitch. Stitch Balance for end back-tacking D section, 0~200 action gradually delay; the large value, the longer of the C section last stitch, and the shorter of the D section first stitch.
P26	End back-tacking compensation 4		153	
P28	Bar-tacking running mode selection	0-3	1	0: Could be arbitrarily stop and start 1: Automatically perform actions
P29	The rate of thread trimming stop	1-45	23	
P30	The strength of the motor torque when sewing	0-100 0-100	10	The larger the value the greater the intensity, the adjustment is too large may cause the motor abnormalities. The larger the value the greater the intensity, the adjustment is too large may cause the motor abnormalities.
P31	The strength of the motor torque when thread trimming		60	
P34	Constant-Stitch Sewing running mode selection	A/M	A	A：Automatically perform actions M：Could be arbitrarily stop and start
P37	Automatic thread wiping function / Automatic thread clamping function selection	0-11	8	0 : OFF 1: Automatic thread wiping Function 2-11: Automatic thread clamping Function and the strength of automatic thread clamping.
P38	Automatic thread trimming function selection	ON/OFF	ON	ON: ON OFF: OFFF
P39	Automatic presser foot lifting when pause function selection	UP/DN	DN	UP: ON DN: OFF
P40	Automatic presser foot lifting after trimming function selection	UP/DN	DN	UP: ON DN: OFF
P41	Counter display	0-9999		Display the quantity of finished sewing piece.
P42	Information Display			N01The control system version number N02 The panel version number N03 Speed N04 The pedal AD N05 The mechanical angle(up position) N06The mechanical angle(down position) N07 Busbar voltage AD N12 Kneeling device position sensor AD
P43	Direction of Motor Rotation	CCW/CW	CCW	CW: Clockwise CCW: Counter Clockwise

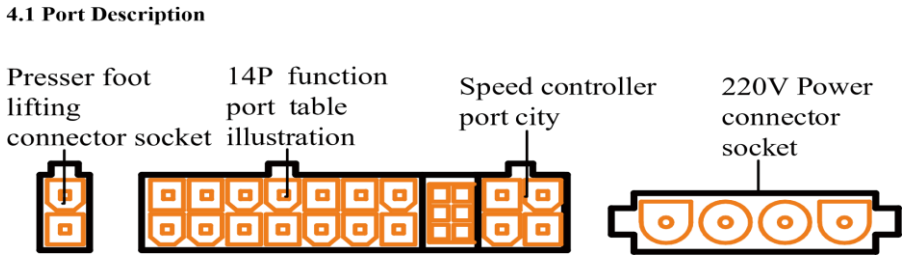
G.2. TECHNICIAN PARAMETERS

To enter this parameter section, contact service centre of ANITA B.

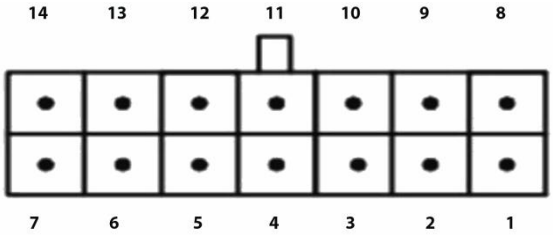
Parameter	Function	Range	Default	Description
P44	The rate of normal stop	1-45	20	
P45	Back-tacking operation duty cycle (%)	1-50	30	Back-tacking operate in duty cycle to save electricity and protect the electromagnet from over-heat.
P46	Motor stop with a reverse angle after trimming function	ON/OFF	OFF	ON: ON OFF: OFF
P47	Adjust the reverse angle when motor stop after trimming	50-200	160	Adjusting at reverse direction after trimming.
P48	The minimum speed Limit （rpm ）	100-500	210	Adjust the minimum speed
P49	Thread trimming speed（rpm ）	100-500	250	Adjust thread trimming speed
P50	Toot lifter operation time to full output（ms）	10-990	200	
P51	Presser foot lifter operation duty cycle (%)	1-50	25	Presser foot lifter operate in duty cycle to save electricity and protect the electromagnet from over-heat.
P52	Motor starting delay time（ ms）	10-990	300	Delay the start time, with automatic presser foot down.
P53	Half back pedalling lifting presser foot function to cancel	ON/OFF	OFF	ON: Function to cancel OFF: Half back pedalling lifting presser foot
P54	Thread trimming action time （ms）	10-990	200	Completion of the thread trimming action required time.
P55	Thread wiping action time （ms）	10-990	30	Completion of the thread wiping action required time.
P56	Power on and positioning	0-2	1	0: always not to find the up needle position 1: always to find the up needle position 2:If the motor is not into the up needle position, it will find the up needle position
P57	Hold time of presser foot lifter （s）	1-120	10	Forced shut-down after hold time.
P58	Up needle position adjustment	0-1439	40	Up position adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased.
P59	Down needle position adjustment	0-1439	650	Down position adjustment, the needle will advance stop when the
P60	Testing Speed（rpm ）	100-2200	2200	Setting testing speed.
P61	Testing A	ON/OFF	OFF	Continuous running testing.
P62	Testing B	ON/OFF	OFF	Start and stop testing with all functions.
P63	Testing C	ON/OFF	OFF	Start and stop testing without all function.

P64	Running Time of Testing B and C	1-250	20	
P65	Stop Time of Testing B and C	1-250	20	
P66	Machine protection switch selection	0-2	1	0：Disable 1：Testing zero signal 2：Testing positive signal
P70	The factory type selection			
P71	Presser foot release operation duty cycle (%)	0-50	0	The buffer force of presser foot release operation.
P72	Up needle position adjustment	0-1439		Hand rotation manual to the appropriate position, press S key to save.
P73	Down needle position adjustment	0-1439		Hand rotation manual to the appropriate position, press S key to save.
P76	Back-tacking operation time to full output（ms）	10-990	200	Back tacking start action, full output action times.
P78	The start angle of thread clamping	5-359	100	
P79	The stop angle of thread clamping	5-359	350	

G.3. CONNECTOR SCHEME



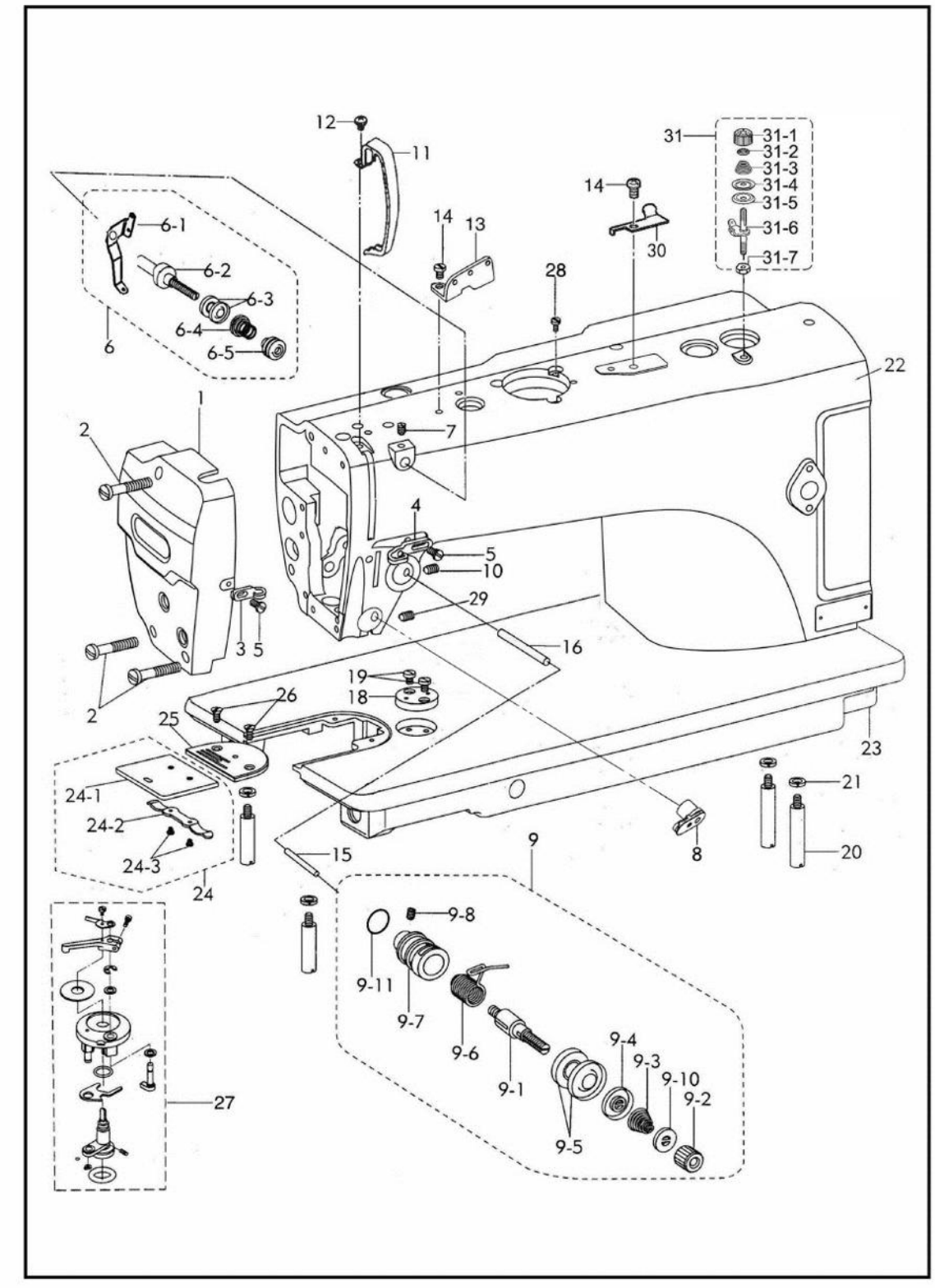
Port function description (14P)



1) Thread trimming solenoid: 1, 8
2) Wiper: 2, 9
3) Lighting: 4 (earth), 11 (signal +5v)
4) Backtacking (by hand) button: 5 (sensor signal), 12 (earth)
5) Backtacking solenoid: 6, 13
6) Backtacking button and needle positioning: 7 (sensor signal), 14 (earth)

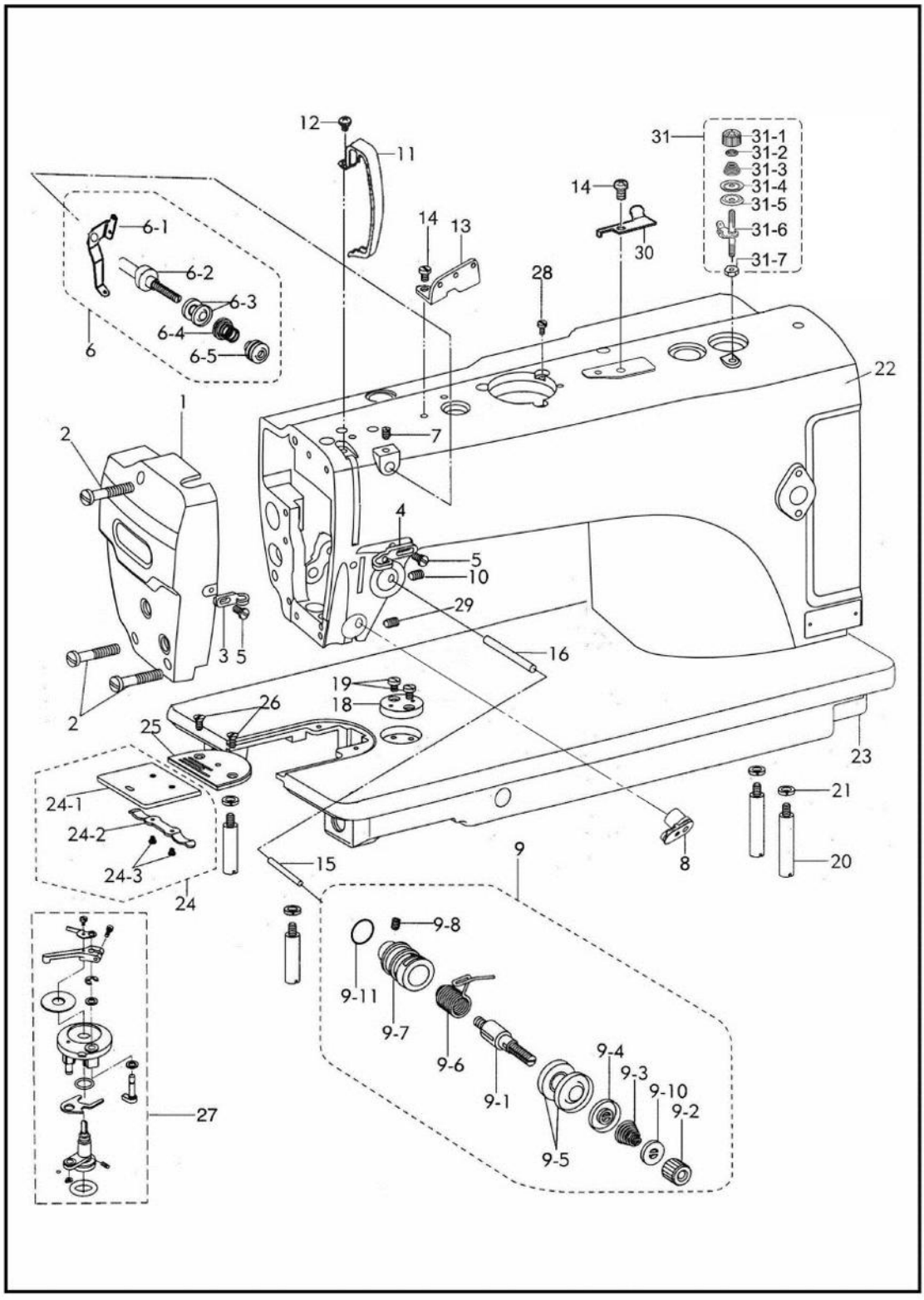
H. SPARE PARTS LIST

H.1. ARM MECHANISM (1/2)



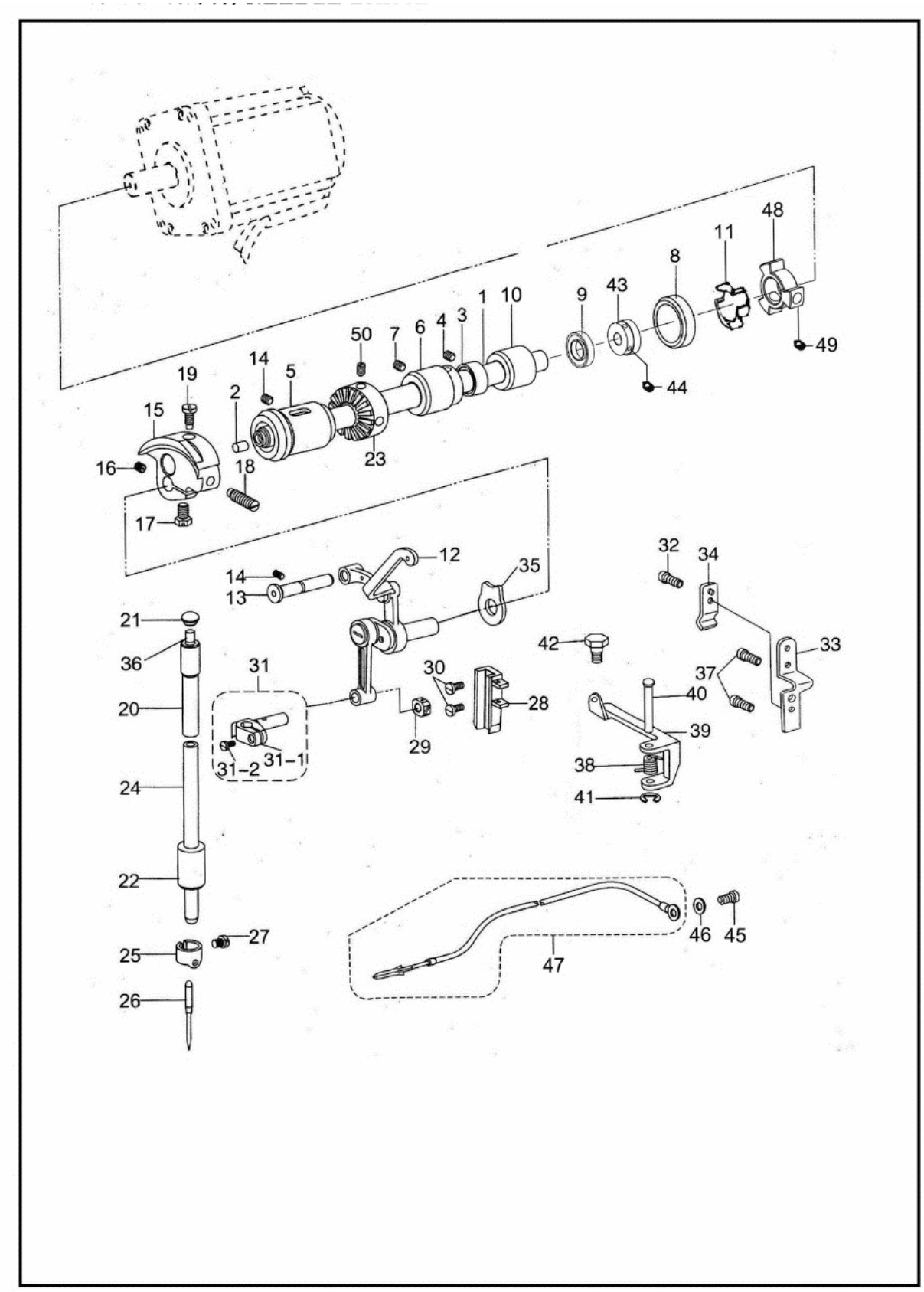
H.1 ARM MECHANISM (1/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/A1	Face plate		1	
2	GF3131/A2	Face plate screw		3	
3	GF3131/A3	Face plate thread guide		1	
4	GF3131/A4	Thread guide		1	
5	GF3131/A5	Face plate thread guide screw		2	
6	GF3131/A6	Bobbin thread tension assy		1	
6-1	GF3131/A6-1	Bobbin thread tension rod		1	
6-2	GF3131/A6-2	Screw type tension rod		1	
6-3	GF3131/A6-3	Disc for pretension		2	
6-4	GF3131/A6-4	Spring for pretension		1	
6-5	GF3131/A6-5	Nut type tension stud		1	
7	GF3131/A7	Screw		1	
8	GF3131/A8	Electronic thread clamp device		1	
9	GF3131/A9	Thread tension assy		1	
9-1	GF3131/A9-1	Thread tension screw		1	
9-2	GF3131/A9-2	Tension devices net assy		1	
9-3	GF3131/A9-3	Tension devices spring		1	
9-4	GF3131/A9-4	Thread tension plate		1	
9-5	GF3131/A9-5	Tension device plate		2	
9-6	GF3131/A9-6	Thread take-up spring		1	
9-7	GF3131/A9-7	Thread tension regulation holder		1	
9-8	GF3131/A9-8	Screw		1	
9-10	GF3131/A9-10	Thread tension net stop plate		1	
9-11	GF3131/A9-11	O-ring		1	
10	GF3131/A10	Screw		1	
11	GF3131/A11	Thread take-up lever cover		1	
12	GF3131/A12	Screw		1	
13	GF3131/A13	Three holes thread guide plate		1	
15	GF3131/A15	Thread tension pin		1	
16	GF3131/A16	Thread release pin		1	
18	GF3131/A18	Cloth guide plate		1	
19	GF3131/A19	Set screw		2	
20	GF3131/A20	Bed screw stud		4	
21	GF3131/A21	Spring washer		4	
22	GF3131/A22	Arm		1	
23	GF3131/A23	Bed		1	
24	GF3131/A24	Slide plate assy		1	
24-1	GF3131/A24-1	Slide plate		1	

H.2. ARM MECHANISM (2/2)



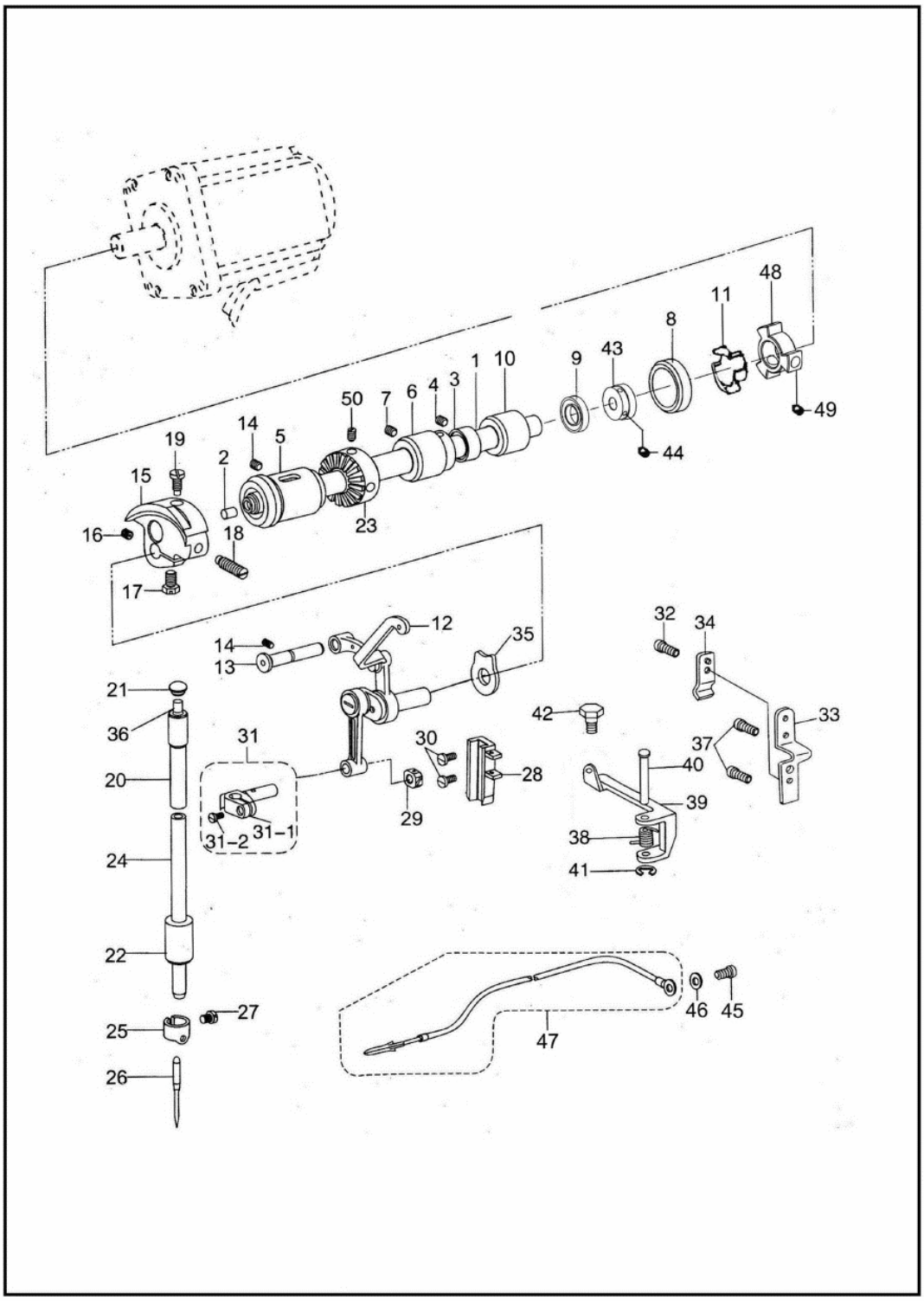
H.2 ARM MECHANISM (2/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
24-2	GF3131/A24-2	Slide plate spring		1	
24-3	GF3131/A24-3	Slide plate screw		2	
25	GF3131/A25	Needle plate		1	
26	GF3131/A26	Needle plate screw		2	
27	GF3131/A27	Bobbin winder unit		1	
28	GF3131/A28	Screw		3	
29	GF3131/A29	Screw		1	
30	GF3131/A30	Knife		1	
31	GF3131/A31	Bobbin thread tension assy		1	
31-1	GF3131/A31-1	Tension nut		1	
31-2	GF3131/A31-2	Washer		1	
31-3	GF3131/A31-3	Tension spring		2	
31-4	GF3131/A31-4	Disc tension		1	
31-5	GF3131/A31-5	Disc tension		1	
31-6	GF3131/A31-6	Thread tension guide		1	
31-7	GF3131/A31-7	Nut		1	

H.3. NEEDLE BAR AND THREAD TAKE-UP MECHANISM (1/2)



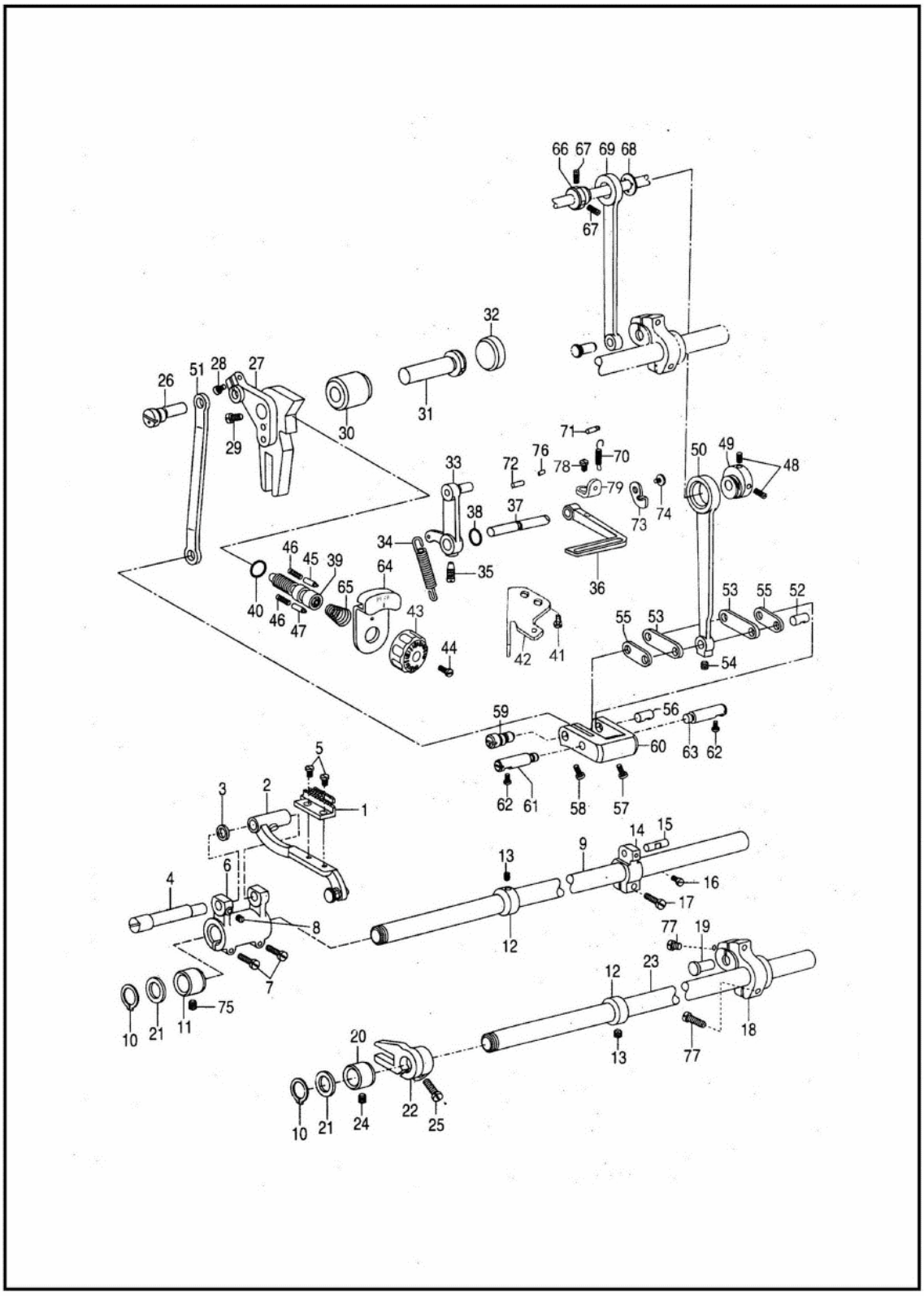
H.3 NEEDLE BAR AND THREAD TAKE-UP MECHANISM (1/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/B1	Arm shaft		1	
2	GF3131/B2	Rubber plug		1	
3	GF3131/B3	Collar for arm shaft		1	
4	GF3131/B4	Set screw		2	
5	GF3131/B5	Arm shaft bushing (left)		1	
6	GF3131/B6	Arm shaft bushing (middle)		1	
7	GF3131/B7	Set screw		1	
8	GF3131/B8	Needle bearing		1	
9	GF3131/B9	Oil seal		1	
10	GF3131/B10	Arm shaft bushing (right)		1	
11	GF3131/B11	Rubber ring		1	
12	GF3131/B12	Thread take-up assy		1	
13	GF3131/B13	Hinge pin		1	
14	GF3131/B14	Set screw		2	
15	GF3131/B15	Needle bar link		1	
16	GF3131/B16	Screw		1	
17	GF3131/B17	Set screw		1	
18	GF3131/B18	Screw		1	
19	GF3131/B19	Set screw		1	
20	GF3131/B20	Needle bar shaft bushing (upper)		1	
21	GF3131/B21	Rubber plug (upper)		1	
22	GF3131/B22	Needle bar shaft bushing (lower)		1	
23	GF3131/B23	Btw-driving-wheel		1	
24	GF3131/B24	Needle bar		1	
25	GF3131/B25	Thread guide for needle bar		1	
26	GF3131/B26	Needle		1	
27	GF3131/B27	Needle clamp screw		1	
28	GF3131/B28	Needle bar through		1	
29	GF3131/B29	Slide blood		1	
30	GF3131/B30	Set screw		2	
31	GF3131/B31	Needle bar connection assy		1	
31-1	GF3131/B31-1	Needle bar adaptor		1	
31-2	GF3131/B31-2	Set screw		1	
32	GF3131/B32	Screw		1	
33	GF3131/B33	Loose thread rope fixed frame		1	
34	GF3131/B34	Loose thread presser plate		1	
35	GF3131/B35	Washer plate		1	
36	GF3131/B36	Oil felt for needle bar		1	
37	GF3131/B37	Screw		2	
38	GF3131/B38	Spring		1	

H.4. NEEDLE BAR AND THREAD TAKE-UP MECHANISM (2/2)



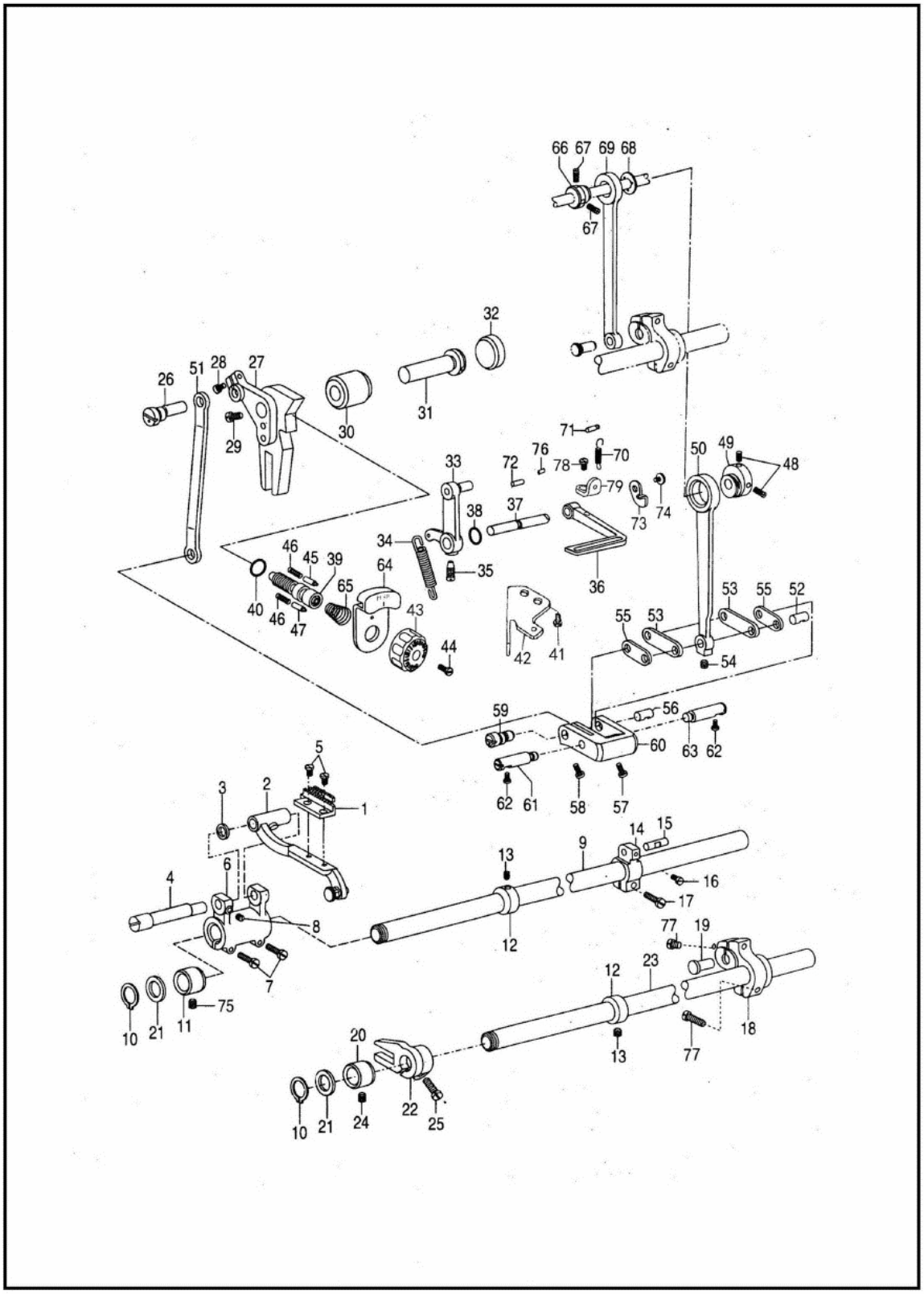
H.4 NEEDLE BAR AND THREAD TAKE-UP MECHANISM (2/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
39	GF3131/B39	Loose thread hinge		1	
40	GF3131/B40	Pin		1	
41	GF3131/B41	Retaining ring		1	
42	GF3131/B42	Screw		1	
43	GF3131/B43	Connect block		1	
44	GF3131/B44	Screw		2	
45	GF3131/B45	Screw		1	
46	GF3131/B46	Washer		1	
47	GF3131/B47	Ground wire assy		1	
48	GF3131/B48	Linker		1	
49	GF3131/B49	Screw		1	
50	GF3131/B50	Btw-driving-wheel screw		2	

H.5. FEED MECHANISM COMPONENTS (1/2)



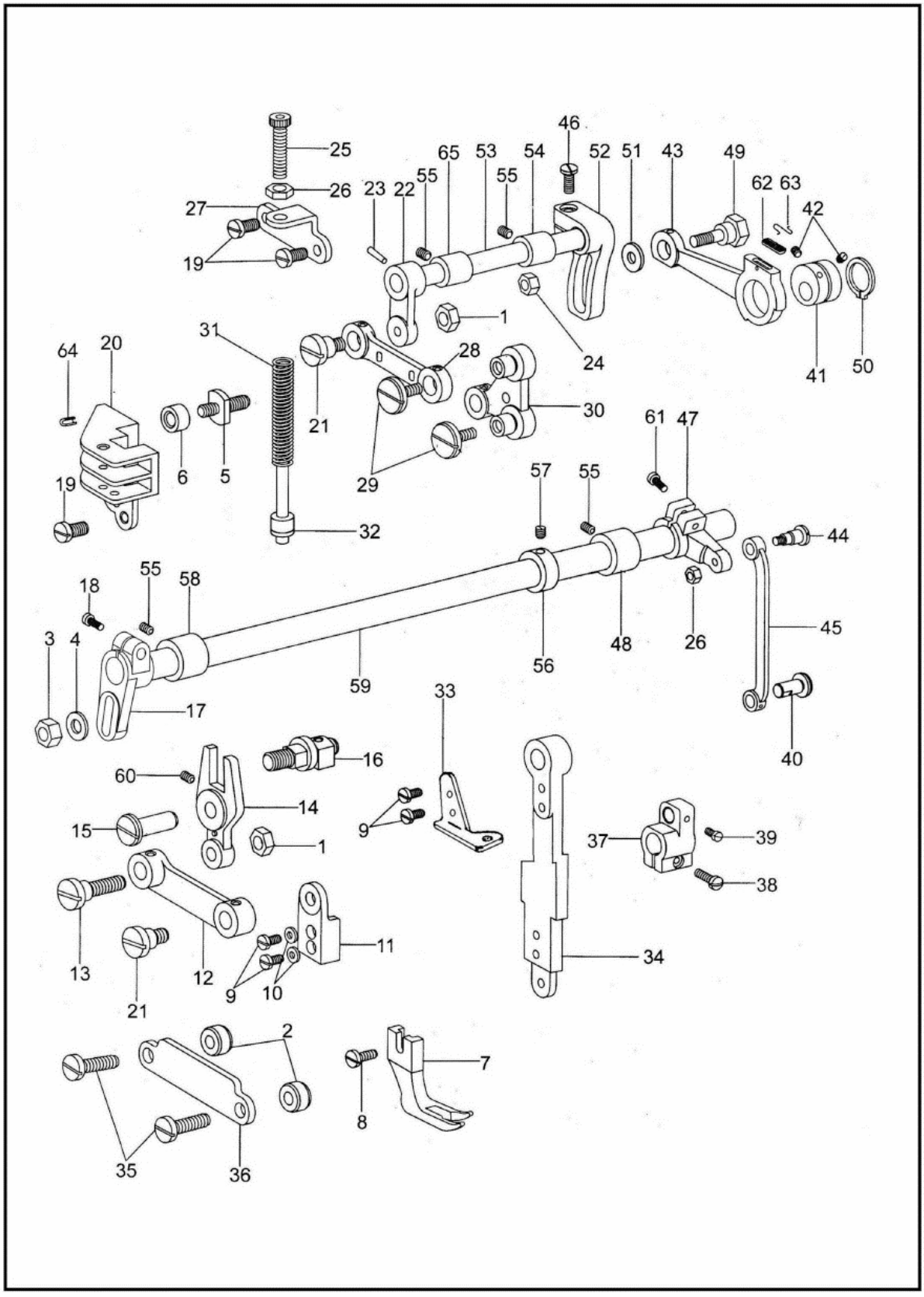
H.5 FEED MECHANISM COMPONENTS (1/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/C1	Feed dog		1	
2	GF3131/C2	Feed bar assembly		1	
3	GF3131/C3	Washer		1	
4	GF3131/C4	Shaft for feed bar		1	
5	GF3131/C5	Screw		2	
6	GF3131/C6	Feed rock crank		1	
7	GF3131/C7	Screw		2	
8	GF3131/C8	Screw		1	
9	GF3131/C9	Feed rock shaft		1	
10	GF3131/C10	Type stop ring		2	
11	GF3131/C11	Collar for feed lifting rock shaft		1	
12	GF3131/C12	Collar for feed lifting rock shaft		2	
13	GF3131/C13	Screw		4	
14	GF3131/C14	Feed rock shaft craned (right)		1	
15	GF3131/C15	Hinge pin		1	
16	GF3131/C16	Screw		1	
17	GF3131/C17	Screw		1	
18	GF3131/C18	Feed rock shaft craned (right)		1	
19	GF3131/C19	Hinge pin		1	
20	GF3131/C20	Feed rock lifting shaft		1	
21	GF3131/C21	Screw		2	
22	GF3131/C22	Feed forked connection		1	
23	GF3131/C23	Feed lifting rock shaft		1	
24	GF3131/C24	Screw		1	
25	GF3131/C25	Screw		1	
26	GF3131/C26	Hinge pin		1	
27	GF3131/C27	Feed regulator		1	
28	GF3131/C28	Screw		1	
29	GF3131/C29	Screw		1	
30	GF3131/C30	Feed regulator bushing		1	
31	GF3131/C31	Hinge pin for feed regulator		1	
32	GF3131/C32	Rubber plug		1	
33	GF3131/C33	Slide block pin assy		1	
34	GF3131/C34	Spring for feed crank		1	
35	GF3131/C35	Screw		1	
36	GF3131/C36	Reverse feed lever		1	
37	GF3131/C37	Reverse feed lever shaft		1	
38	GF3131/C38	O-ring		1	
39	GF3131/C39	Feed regulator screw bar		1	
40	GF3131/C40	O-ring		1	

H.6. FEED MECHANISM COMPONENTS (2/2)



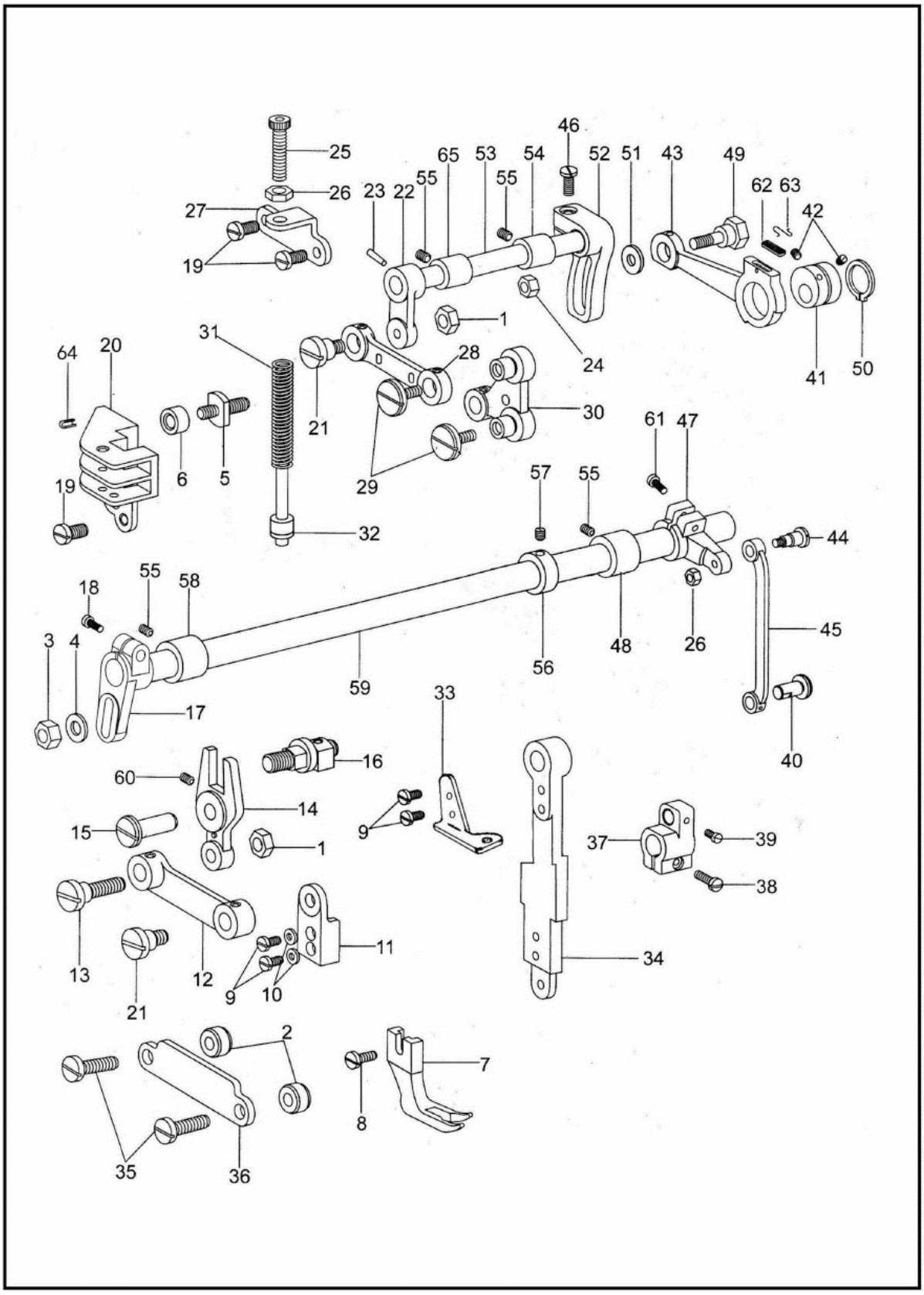
H.6 FEED MECHANISM COMPONENTS (2/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
41	GF3131/C41	Screw		2	
42	GF3131/C42	Spring stand		1	
43	GF3131/C43	Dial face		1	
44	GF3131/C44	Screw		1	
45	GF3131/C45	Stopper pin		1	
46	GF3131/C46	Spring for stopper pin		2	
47	GF3131/C47	Dial stopper pin		1	
48	GF3131/C48	Screw		3	
49	GF3131/C49	Feed shaft connecting rod		1	
50	GF3131/C50	Rocker shaft connecting rod		1	
51	GF3131/C51	Feed regulator connecting rod		1	
52	GF3131/C52	Walking foot pin		1	
53	GF3131/C53	Walking foot link		2	
54	GF3131/C54	Screw		1	
55	GF3131/C55	Connecting link		2	
56	GF3131/C56	Walking foot pin		1	
57	GF3131/C57	Screw		1	
58	GF3131/C58	Screw		2	
59	GF3131/C59	Hinge pin		1	
60	GF3131/C60	Walking foot adjusting link		1	
61	GF3131/C61	Adjusting link fulcrum shaft		1	
62	GF3131/C62	Screw		2	
63	GF3131/C63	Adjusting link fulcrum shaft		1	
64	GF3131/C64	Feed regulator key-press		1	
65	GF3131/C65	Dial spring for stopper pin		1	
66	GF3131/C66	Feed drive eccentric cam		1	
67	GF3131/C67	Screw		3	
68	GF3131/C68	Thrust collar		1	
69	GF3131/C69	Connecting rod		1	
70	GF3131/C70	Spring		1	
71	GF3131/C71	Pin for spring		1	
72	GF3131/C72	Pin		1	
73	GF3131/C73	Baffle		1	
74	GF3131/C74	Screw		1	
75	GF3131/C75	Screw		1	
76	GF3131/C76	Pin bushing		1	
77	GF3131/C77	Screw		1	
78	GF3131/C78	Screw		1	
79	GF3131/C79	Spring stand		1	

H.7. FEED MECHANISM (1/2)



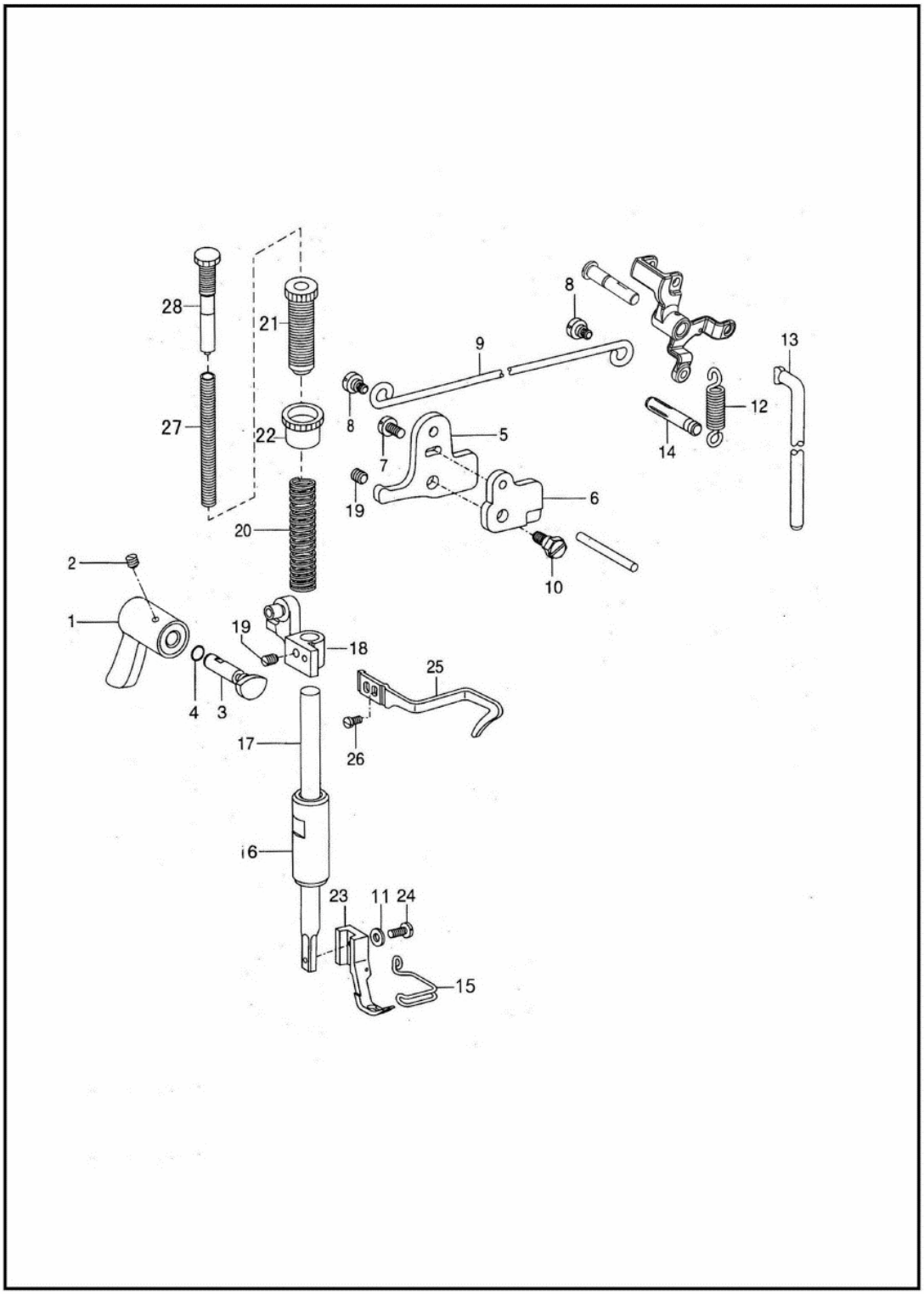
H.7 FEED MECHANISM (1/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/D1	Nut		2	
2	GF3131/D2	Spacer		2	
3	GF3131/D3	Nut		1	
4	GF3131/D4	Washer		1	
5	GF3131/D5	Guide shaft		1	
6	GF3131/D6	Needle of bearing		1	
7	GF3131/D7	Working foot		1	
8	GF3131/D8	Screw		1	
9	GF3131/D9	Screw		4	
10	GF3131/D10	Spacer		2	
11	GF3131/D11	Holder for walking foot bar		1	
12	GF3131/D12	Link of walking foot		1	
13	GF3131/D13	Screw		1	
14	GF3131/D14	Fork lever		1	
15	GF3131/D15	Pin		1	
16	GF3131/D16	Crank shaft complete		1	
17	GF3131/D17	Presser swing crank (left)		1	
18	GF3131/D18	Screw		1	
19	GF3131/D19	Screw		4	
20	GF3131/D20	Guide plate		1	
21	GF3131/D21	Screw		2	
22	GF3131/D22	Crank		1	
23	GF3131/D23	Pin		1	
24	GF3131/D24	Nut		1	
25	GF3131/D25	Screw		1	
26	GF3131/D26	Nut		2	
27	GF3131/D27	Bracket for screw		1	
28	GF3131/D28	Link		1	
29	GF3131/D29	Screw		2	
30	GF3131/D30	Presser foot feed crank		1	
31	GF3131/D31	Spring		1	
32	GF3131/D32	Guide pin		1	
33	GF3131/D33	Set plate		1	
34	GF3131/D34	Walking foot lever		1	
35	GF3131/D35	Screw		2	
36	GF3131/D36	Presser plate		1	
37	GF3131/D37	Feed rock crank (min)		1	
38	GF3131/D38	Screw		1	
39	GF3131/D39	Screw		1	
40	GF3131/D40	Feed rock crank shaft		1	

H.8. FEED MECHANISM (2/2)



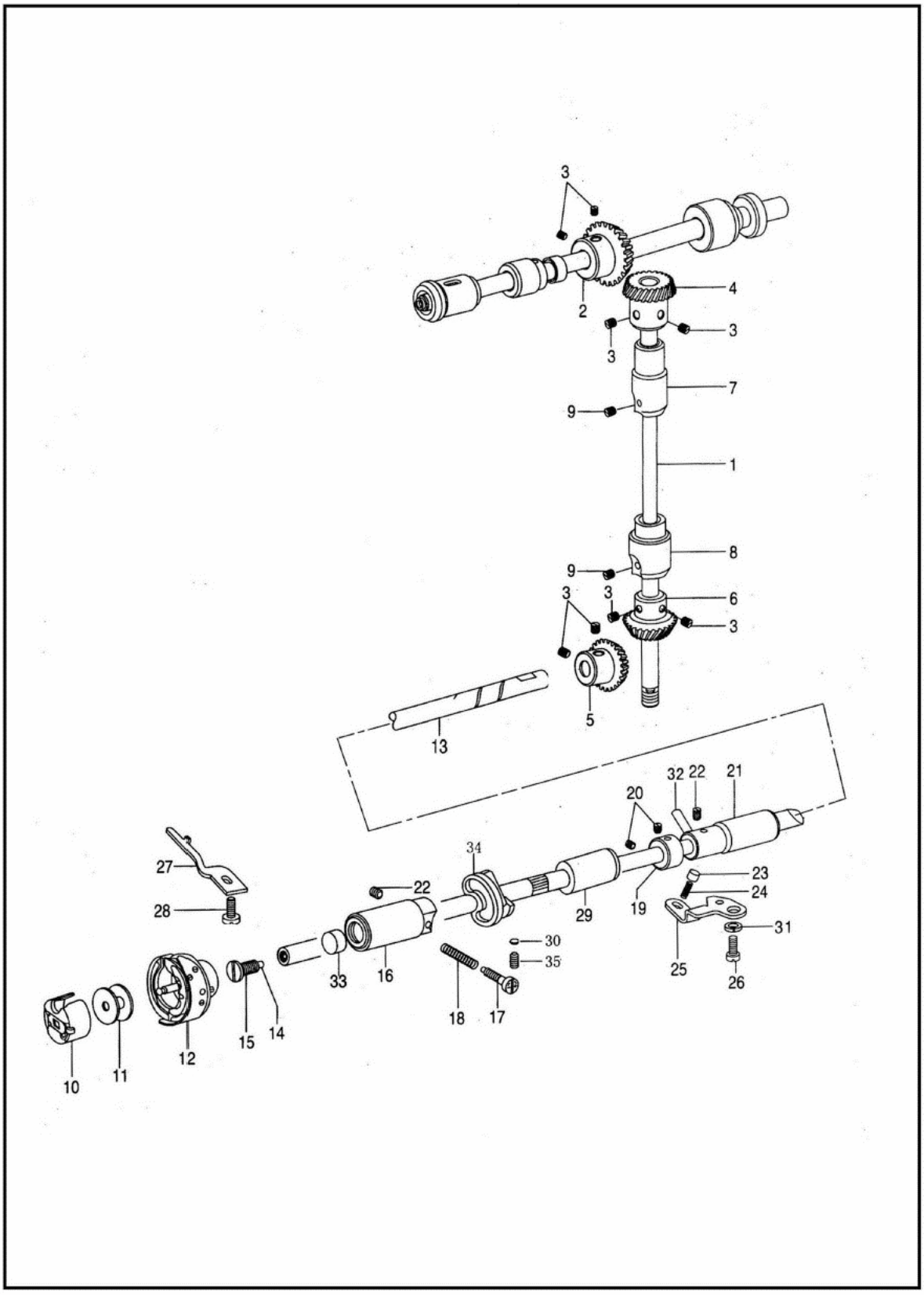
H.8 FEED MECHANISM (2/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
41	GF3131/D41	Eccentric cam		1	
42	GF3131/D42	Screw		2	
43	GF3131/D43	Link complete		1	
44	GF3131/D44	Screw		1	
45	GF3131/D45	Link		1	
46	GF3131/D46	Screw		1	
47	GF3131/D47	Pear crank		1	
48	GF3131/D48	Rear bushing		1	
49	GF3131/D49	Screw		1	
50	GF3131/D50	Split ring		1	
51	GF3131/D51	Washer		1	
52	GF3131/D52	Link adjusting crank		1	
53	GF3131/D53	Presser foot Elevator shaft		1	
54	GF3131/D54	Rear bushing		1	
55	GF3131/D55	Screw		3	
56	GF3131/D56	Collar for presser swing shaft		1	
57	GF3131/D57	Screw		2	
58	GF3131/D58	Front bushing		1	
59	GF3131/D59	Presser foot swing shaft		1	
60	GF3131/D60	Screw		1	
61	GF3131/D61	Screw		1	
62	GF3131/D62	Oil felt		1	
63	GF3131/D63	Spring		1	
64	GF3131/D64	Pin		2	
65	GF3131/D65	Front bushing		1	

H.9. PRESSER FOOT MECHANISM



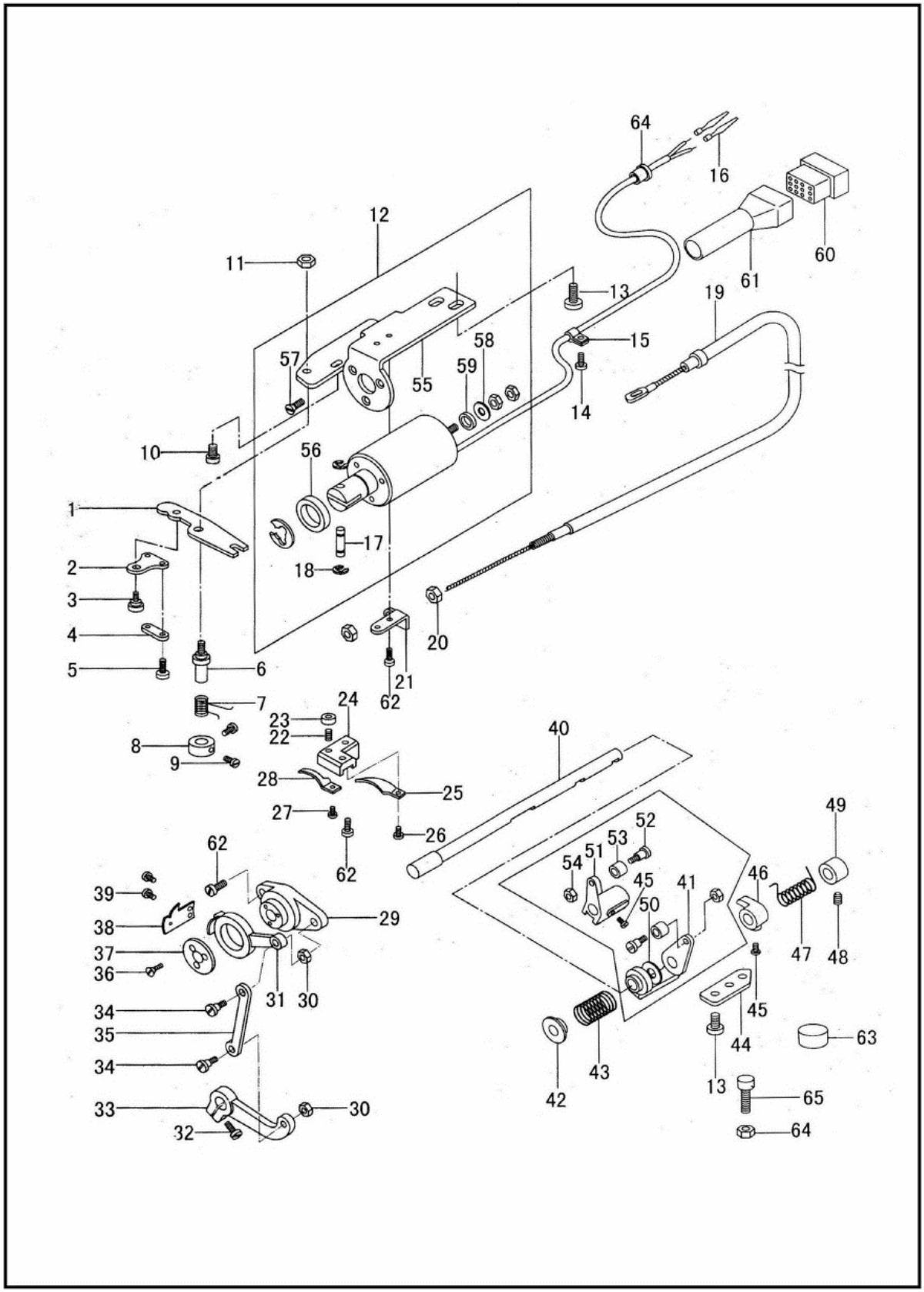
H.9 PRESSER FOOT MECHANISM					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/E1	Presser bar lifter		1	
2	GF3131/E2	Set screw		1	
3	GF3131/E3	Presser bar lifting cam		1	
4	GF3131/E4	O-ring		1	
5	GF3131/E5	Scar		1	
6	GF3131/E6	Tension releasing cam		1	
7	GF3131/E7	Scar		1	
8	GF3131/E8	Hinge screw		2	
9	GF3131/E9	Knee lifter rod		1	
10	GF3131/E10	Bolt		1	
11	GF3131/E11	Gasket		1	
12	GF3131/E12	Spring		1	
13	GF3131/E13	Knee lifter connecting rod		1	
14	GF3131/E14	Pin for spring		1	
15	GF3131/E15	Protective hook		1	
16	GF3131/E16	Presser bar bushing		1	
17	GF3131/E17	Presser bar		1	
18	GF3131/E18	Presser bar lifting bracket		1	
19	GF3131/E19	Set screw		1	
20	GF3131/E20	Presser bar spring		1	
21	GF3131/E21	Presser regulating thumb screw		1	
22	GF3131/E22	Lock nut		1	
23	GF3131/E23	Inner passer		1	
24	GF3131/E24	Set screw		1	
25	GF3131/E25	Upper thread guide		1	
26	GF3131/E26	Screw		1	
27	GF3131/E27	Spring		1	
28	GF3131/E28	Screw		1	

H.10. ROTARY HOOK MECHANISM



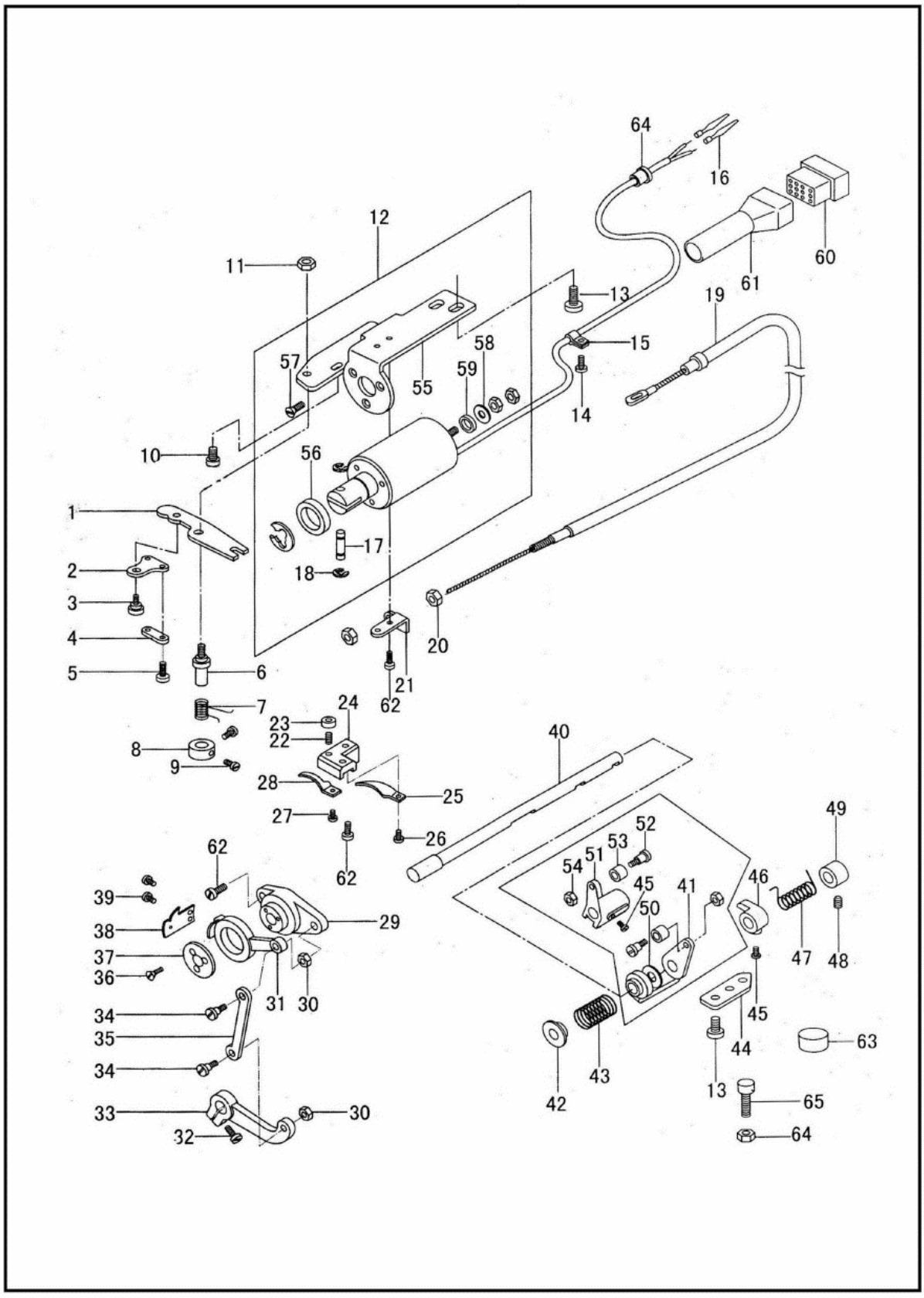
H.10 ROTARY HOOK MECHANISM					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/F1	Vertical shaft		1	
2	GF3131/F2	Bevel gear for arm shaft		1	
3	GF3131/F3	Set screw		8	
4	GF3131/F4	Bevel gear for vertical shaft (upper)		1	
5	GF3131/F5	Bevel gear for hook shaft		1	
6	GF3131/F6	Bevel gear for vertical shaft (lower)		1	
7	GF3131/F7	Vertical shaft bushing (upper)		1	
8	GF3131/F8	Vertical shaft bushing (lower)		1	
9	GF3131/F9	Set screw		2	
10	GF3131/F10	Bobbin case		1	
11	GF3131/F11	Bobbin		1	
12	GF3131/F12	Rotating hook complete		1	
13	GF3131/F13	Rotating hook shaft		1	
14	GF3131/F14	Filter		1	
15	GF3131/F15	Filter screw		1	
16	GF3131/F16	Hook shaft bushing (left)		1	
17	GF3131/F17	Oil adjust screw		1	
18	GF3131/F18	Spring for oil adjust		1	
19	GF3131/F19	Collar for hook shaft		1	
20	GF3131/F20	Set screw		2	
21	GF3131/F21	Hook shaft bushing (right)		1	
22	GF3131/F22	Set screw		2	
23	GF3131/F23	Plunger		1	
24	GF3131/F24	Plunger spring		1	
25	GF3131/F25	Guide plate		1	
26	GF3131/F26	Screw		1	
27	GF3131/F27	Bobbin case holder		1	
28	GF3131/F28	Screw		1	
29	GF3131/F29	Hook shaft bushing (middle)		2	
30	GF3131/F30	Washer		1	
31	GF3131/F31	Washer		1	
32	GF3131/F32	Oil pine for hook shaft bushing		1	
33	GF3131/F33	Oil seal for rotating hook shaft		1	
34	GF3131/F34	Thread trimmer cam gear		2	
35	GF3131/F35	Screw		2	

H.11. THREAD TRIMMER MECHANISM (1/2)



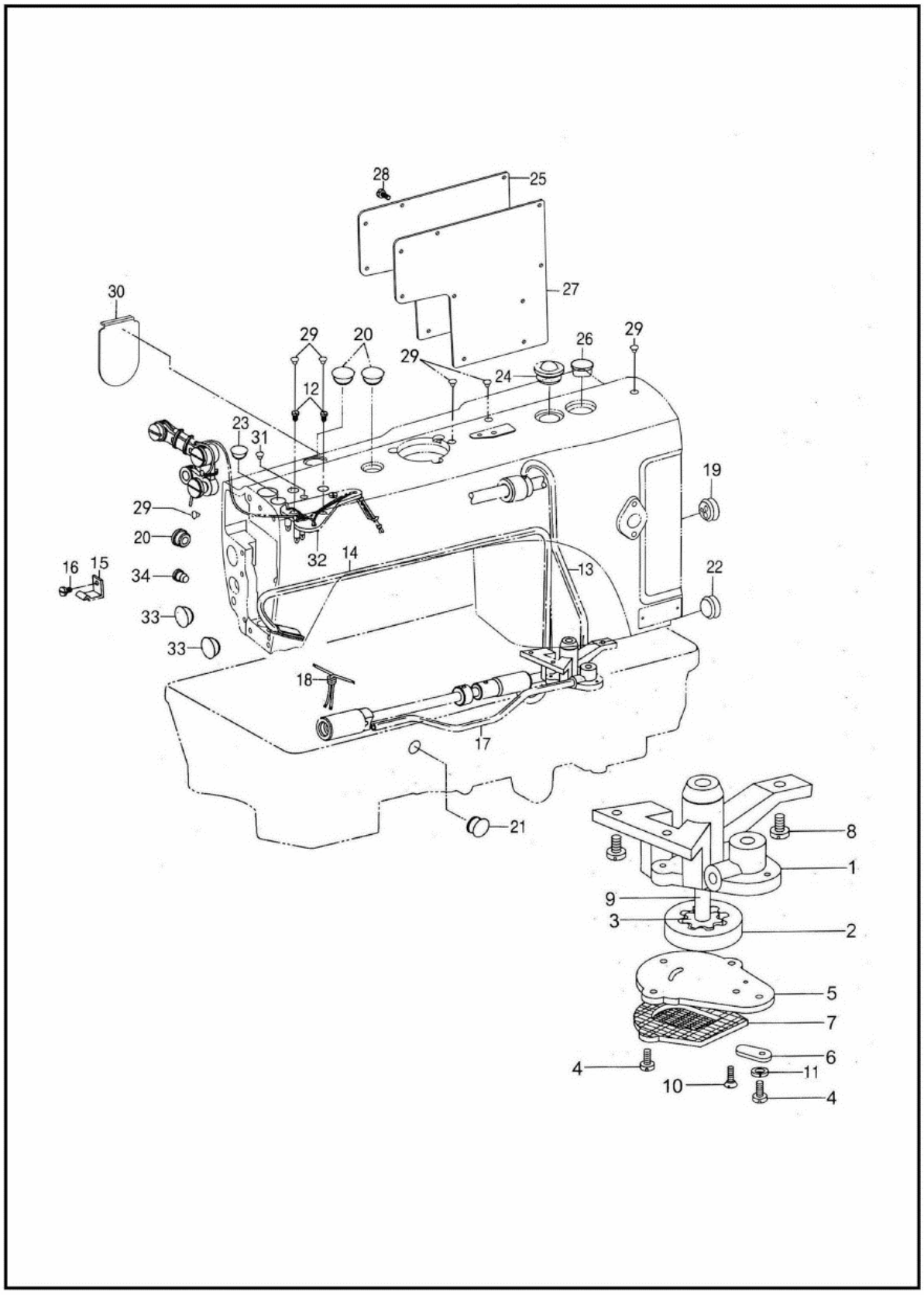
H.11 THREAD TRIMMER MECHANISM (1/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/G1	Drive plate		1	
2	GF3131/G2	Flexible support plate		1	
3	GF3131/G3	Screw		1	
4	GF3131/G4	Flexible connecting plate		1	
5	GF3131/G5	Screw		1	
6	GF3131/G6	Drive plate shaft		1	
7	GF3131/G7	Drive plate spring		1	
8	GF3131/G8	Drive plate Shaft locking ring		1	
9	GF3131/G9	Screw		2	
10	GF3131/G10	Screw		1	
11	GF3131/G11	Nut		1	
12	GF3131/G12	Thread electromagnet drive asm		1	
13	GF3131/G13	Screw		4	
14	GF3131/G14	Screw		1	
15	GF3131/G15	Cable clip		1	
16	GF3131/G16	Plug connector		2	
17	GF3131/G17	Pin		1	
18	GF3131/G18	Ring		2	
19	GF3131/G19	Loose thread Steel wire rope asm		1	
20	GF3131/G20	Nut		2	
21	GF3131/G21	The mounting plate		1	
22	GF3131/G22	Screw		1	
23	GF3131/G23	Nut		1	
24	GF3131/G24	Bracket for fixed blade		1	
25	GF3131/G25	Thread guide		1	
26	GF3131/G26	Screw		1	
27	GF3131/G27	Screw		1	
28	GF3131/G28	Fixed blade		1	
29	GF3131/G29	Knife holding bracket saddle		1	
30	GF3131/G30	Nut		2	
31	GF3131/G31	Knife base (left)		1	
32	GF3131/G32	Screw		1	
33	GF3131/G33	Knife driving crank		1	
34	GF3131/G34	Screw		2	
35	GF3131/G35	Link		1	
36	GF3131/G36	Screw		3	
37	GF3131/G37	Washer		1	
38	GF3131/G38	Movable knife		1	
39	GF3131/G39	Screw		2	
40	GF3131/G40	Knife driving shaft		1	

H.12. THREAD TRIMMER MECHANISM (2/2)



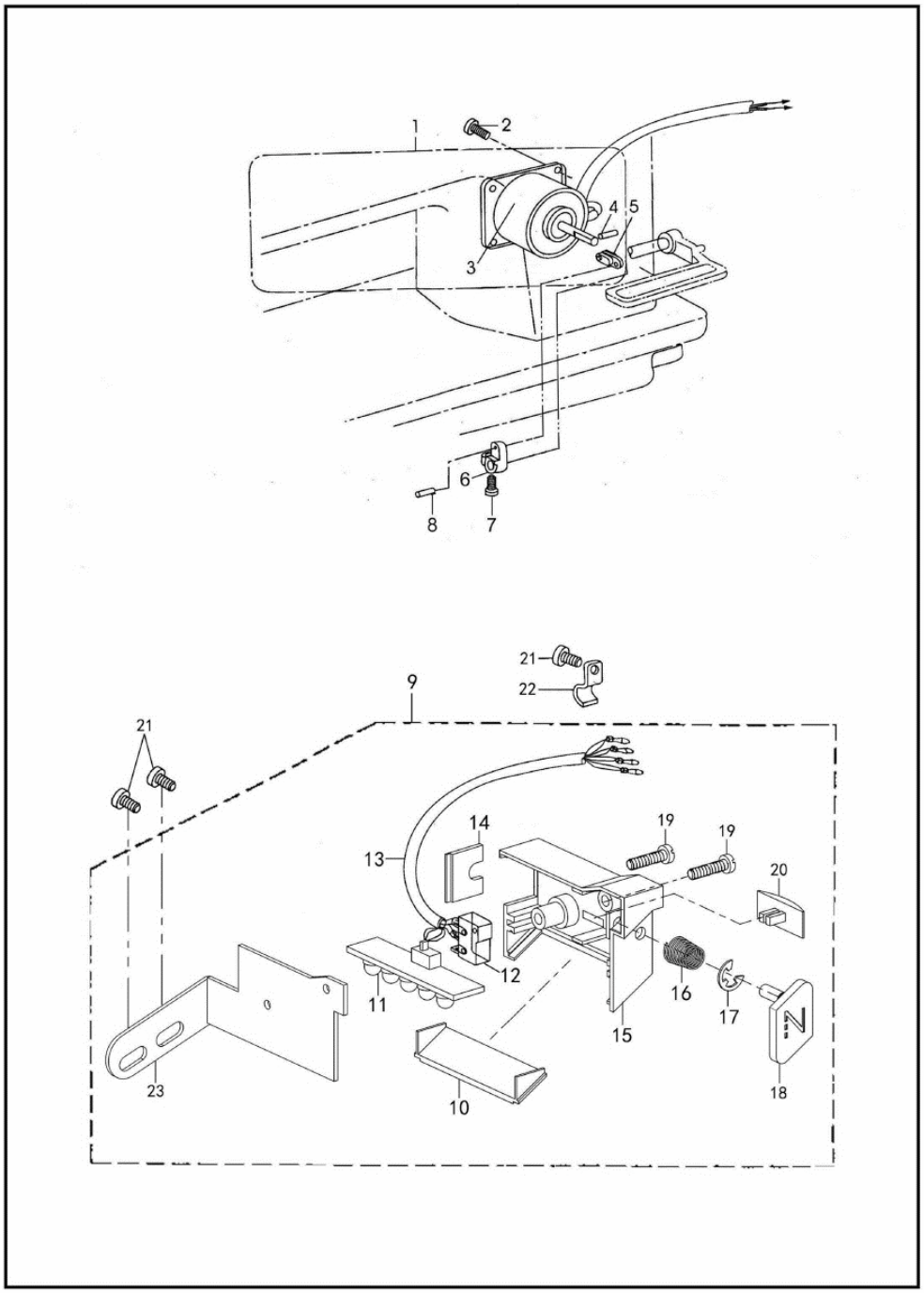
H.12 THREAD TRIMMER MECHANISM (2/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
41	GF3131/G41	Thread shear cam crank		1	
42	GF3131/G42	Spring end cover		1	
43	GF3131/G43	Spring		1	
44	GF3131/G44	Locking plate		1	
45	GF3131/G45	Screw		3	
46	GF3131/G46	Stopper		1	
47	GF3131/G47	Spring		1	
48	GF3131/G48	Screw		2	
49	GF3131/G49	Cam retaining ring		1	
50	GF3131/G50	Washer		1	
51	GF3131/G51	The tangent cam left crank		1	
52	GF3131/G52	Screw		2	
53	GF3131/G53	Roller		2	
54	GF3131/G54	Nut		2	
55	GF3131/G55	Magnetic plug cushion mat		1	
56	GF3131/G56	Sealing washer (big)		1	
57	GF3131/G57	Screw		3	
58	GF3131/G58	Flat gasket		1	
59	GF3131/G59	Sealing washer (small)		1	
60	GF3131/G60	Plug Set		1	
61	GF3131/G61	Line cover		1	
62	GF3131/G62	Screw		4	
63	GF3131/G63	Cushion		1	
64	GF3131/G64	Nut		1	
65	GF3131/G65	Screw		1	

H.13. LUBRICATION



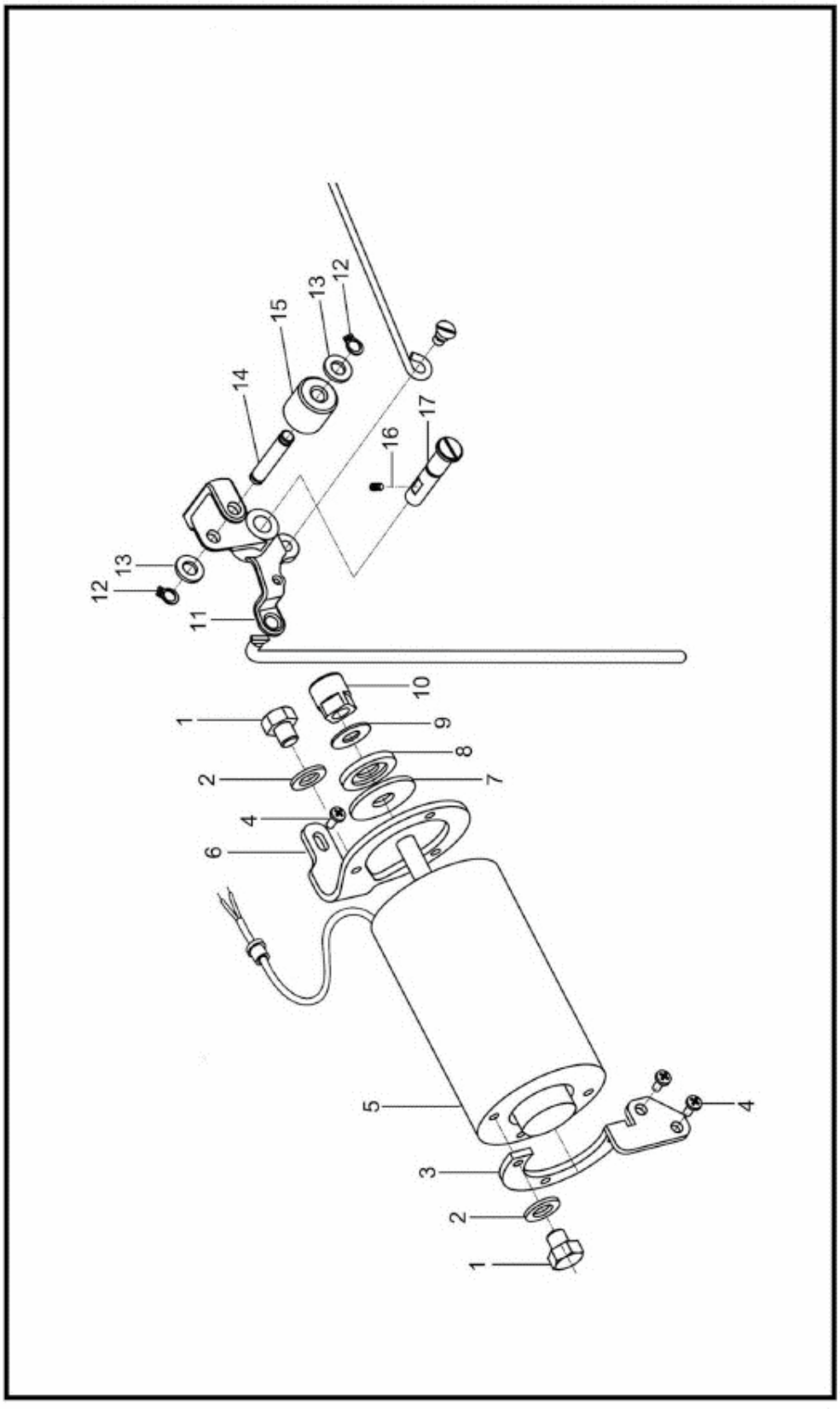
H.13 LUBRICATION					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/H1	Oil pump body		1	
2	GF3131/H2	Big gear for oil pump		1	
3	GF3131/H3	Small gear for oil pump		1	
4	GF3131/H4	Screw		3	
5	GF3131/H5	Oil pump felting plate		1	
6	GF3131/H6	Adjusting plate oil pump		1	
7	GF3131/H7	Oil pump screen complete		1	
8	GF3131/H8	Screw		3	
9	GF3131/H9	Shaft for oil pump		1	
10	GF3131/H10	Screw		2	
11	GF3131/H11	Spring washer		1	
12	GF3131/H12	Screw		2	
13	GF3131/H13	Oil pipe for arm shaft		1	
14	GF3131/H14	Oil return pipe assy		1	
15	GF3131/H15	Oil return pipe clamp		1	
16	GF3131/H16	Screw		1	
17	GF3131/H17	Oil pipe for hook shaft		1	
18	GF3131/H18	Oil wick		1	
19	GF3131/H19	Rubber plug (ø16)		1	
20	GF3131/H20	Rubber plug (ø18)		3	
21	GF3131/H21	Rubber plug (ø8.8)		1	
22	GF3131/H22	Rubber plug (ø27)		1	
23	GF3131/H23	Rubber plug(ø11)		1	
24	GF3131/H24	Oil sight window assy		1	
25	GF3131/H25	Side plate		1	
26	GF3131/H26	Rubber plug (ø25)		1	
27	GF3131/H27	Gasket		1	
28	GF3131/H28	Screw		8	
29	GF3131/H29	Rubber plug (ø8)		6	
30	GF3131/H30	Keep off plate		1	
31	GF3131/H31	Rubber plug (ø5.7)		1	
32	GF3131/H32	Oil wick set plate complete		1	
33	GF3131/H33	Rubber plug (ø11.8)		2	
34	GF3131/H34	Rubber plug (ø10.5)		1	

H.14. REVERSE FEED COMPONENTS



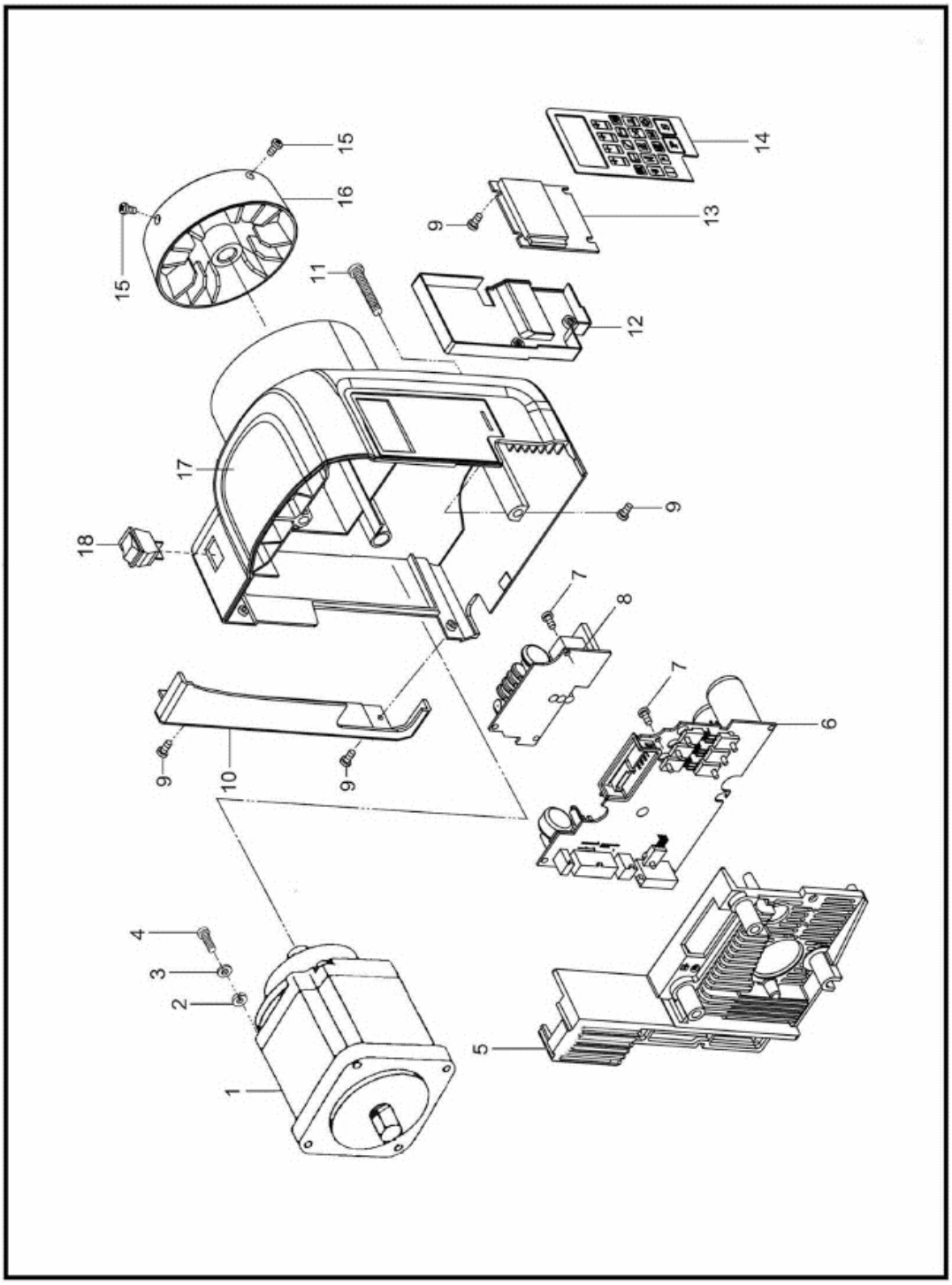
H.14 REVERSE FEED COMPONENTS					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/I1	Reverse feed magnet assy		1	
2	GF3131/I2	Screw		4	
3	GF3131/I3	Reverse feed magnet		1	
4	GF3131/I4	Connecting rod pin		1	
5	GF3131/I5	Connecting rod		2	
6	GF3131/I6	Crank		1	
7	GF3131/I7	Screw		1	
8	GF3131/I8	Crank pin		1	
9	GF5131/I9	Reverse feed switch assy		1	
10	GF3131/I10	Organic glass		1	
11	GF3131/I11	Lamp		1	
12	GF3131/I12	Switch contact member		1	
13	GF3131/I13	Reverse feed switch wire		1	
14	GF3131/I14	Card line board		1	
15	GF3131/I15	Switch Box		1	
16	GF3131/I16	Spring		1	
17	GF3131/I17	E-ring		1	
18	GF3131/I18	Key switch		1	
19	GF3131/I19	Screw		1	
20	GF3131/I20	Light switch		1	
21	GF3131/I21	Screw		3	
22	GF3131/I22	Clamps		1	
23	GF3131/I23	Switch mounting bracket		1	

H.15. INBUILT FOOT LIFT STRUCTURE



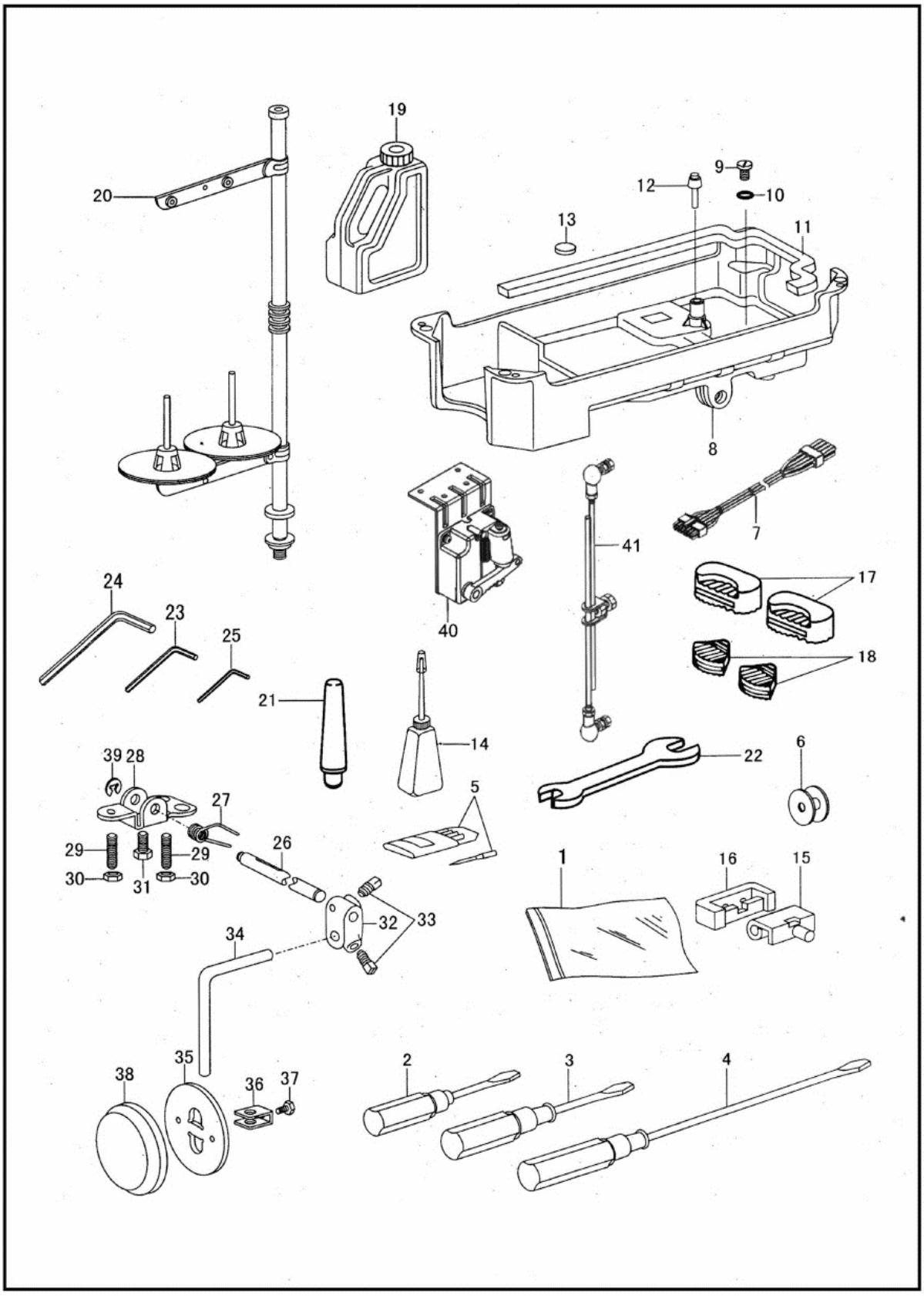
H.15 INBUILT FOOT LIFT STRUCTURE					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/J1	Bolt		6	
2	GF3131/J2	Spring gasket		6	
3	GF3131/J3	Left carriage		1	
4	GF3131/J4	Screw 3/16x28 L=9		3	
5	GF3131/J5	Foot lift electromagnet		1	
6	GF3131/J6	Right carriage		1	
7	GF3131/J7	Rubber cushion A		1	
8	GF3131/J8	Rubber cushion B		1	
9	GF3131/J9	Washer		1	
10	GF3131/J10	Top column		1	
11	GF3131/J11	Auto foot lift after lever		1	
12	GF3131/J12	Retaining ring external		2	
13	GF3131/J13	Washer		2	
14	GF3131/J14	Nylon roller pin		1	
15	GF3131/J15	Nylon rollers		1	
16	GF3131/J16	Set screw		1	
17	GF3131/J17	Lever pin		1	

H.16. IMPACT CONTROLLER SYSTEM



H.16 IMPACT CONTROLLER SYSTEM					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/K1	Motor asm		1	
2	GF3131/K2	Spring gasket		4	
3	GF3131/K3	Gasket		4	
4	GF3131/K4	Socket head screw		4	
5	GF3131/K5	Heat sink		1	
6	GF3131/K6	Circuit board		1	
7	GF3131/K7	Cross recess head screw		7	
8	GF3131/K8	Power panel		1	
9	GF3131/K9	ST2.9x6,5		7	
10	GF3131/K10	Back shroud		1	
11	GF3131/K11	Casing connection screws		4	
12	GF3131/K12	Insulating barrier		1	
13	GF3131/K13	Digital display small plate		1	
14	GF3131/K14	Operating the mask		1	
15	GF3131/K15	Set screw		2	
16	GF3131/K16	Balance wheel		1	
17	GF3131/K17	The motor housings		1	
18	GF3131/K18	Electric control switch		1	

H.17. ACCESSORIES



H.17 ACCESSORIES					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	GF3131/L1	Parts bag		1	
2	GF3131/L2	Screw driver (small)		1	
3	GF3131/L3	Screw driver (middle)		1	
4	GF3131/L4	Screw driver (large)		1	
5	GF3131/L5	Needle		4	
6	GF3131/L6	Bobbin		3	
7	GF3131/L7	The power cord		1	
8	GF3131/L8	Oil reservoir		1	
9	GF3131/L9	Screw		1	
10	GF3131/L10	Washer		1	
11	GF3131/L11	Gasket		2	
12	GF3131/L12	Knee press lifter rod		1	
13	GF3131/L13	Magnet		1	
14	GF3131/L14	Oil pot		1	
15	GF3131/L15	Hinge		2	
16	GF3131/L16	Rubber coat		2	
17	GF3131/L17	Cushion (big)		2	
18	GF3131/L18	Cushion (small)		2	
19	GF3131/L19	Oil tank		1	
20	GF3131/L20	Spool stand complete		1	
21	GF3131/L21	Frame support bar		1	
22	GF3131/L22	Spanner		1	
23	GF3131/L23	2 mm cross screw driver		1	
24	GF3131/L24	3 mm cross screw driver		1	
25	GF3131/L25	2.5 mm cross screw driver		1	
26	GF3131/L26	Hinge pin		1	
27	GF3131/L27	Spring		1	
28	GF3131/L28	Knee lifter stop bracket		1	
29	GF3131/L29	Screw		2	
30	GF3131/L30	Nut		2	
31	GF3131/L31	Screw		1	
32	GF3131/L32	Connector		1	
33	GF3131/L33	Screw		4	
34	GF3131/L34	Bent rod		1	
35	GF3131/L35	Bell		1	
36	GF3131/L36	Bell bracket		1	
37	GF3131/L37	Screw		1	
38	GF3131/L38	Knee pan plate cover		1	
39	GF3131/L39	Split stop ring		1	
40	GF3131/L40	Electric control pedal		1	
41	GF3131/L41	Pedal connecting rod		1	