

User manual

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Content

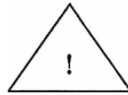
1. Important safety instructions.....	4
2. Installation.....	7
3. Brief introduction of the machine.....	8
4. Installation of the oil tray.....	8
5. Installations of the knee control devices.....	8
6. Installations of the knee control devices.....	9
7. Installation of the head.....	9
8. Lubrication.....	10
9. Run in operation.....	10
10. Adjusting the oil in the pump.....	11
11. Attaching the needle.....	11
12. Setting the bobbin case.....	11
13. Winding the bobbin thread.....	12
14. Threading bottom thread.....	12
15. Threading upper thread.....	13
16. Adjust the stitch length.....	13
17. Stitching and reverse stitching.....	13
18. Adjust the thread tension.....	14
19. Adjust the pressure of presser foot.....	14
20. Adjust the length of the thread after trimming.....	15
21. Adjust thread take-up spring.....	15
22. Adjust the thread hook.....	16
23. Adjust the height of press foot.....	16
24. Adjust the height of the feed dog.....	16
25. Adjust the high of the feed dog.....	17
26. Cleaning.....	18
27. Button display and operating instructions.....	19
28. Comparison table of LCD display fonts and actual fonts. Arabic Numerals:.....	20
29. English Alphabet:.....	20
30. Manually adjust the positioning:.....	21
31. Restore factory settings:.....	21
32. User parameter & technician parameter:.....	22
33. Error Code Table:.....	26
34. Port outline diagram:.....	27

1. IMPORTANT SAFETY INSTRUCTIONS

Safety rules for machines:

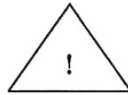
Safety labels in the manual are categorized into danger, warning and caution.
Failure to follow the safety rules may result in physical injuries or mechanical damages.
The safety labels and symbols are defined as follows.

[The meaning of the safety marks]



Danger

Instructions here shall be observed strictly.
Otherwise, the user will be killed or suffer severe physical injuries.



Warning

Instructions here must be observed, or the user could suffer fatal or severe physical injuries.



Caution

Instructions here should be observed, or the user could face physical injuries or mechanical damages.

[The meaning of the safety marks]



This mark means a 'must-not'



This mark means a 'must' for safety



This mark means that an electric shock may be caused if the instruction is not followed properly

1. Machine mobilization:

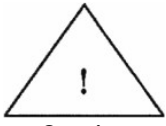
Only personnel with a full understanding of the safety rules should move the machines. The following directions must be observed when delivering the machines.



Danger

- a) At least two or more people should move the machine.
- b) Before delivering the machine, thoroughly wipe off the oil on the machine to prevent accidents.

2. Machine installation:



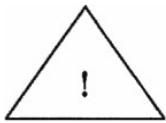
Caution

Physical damages such as functional difficulties or breakdowns may occur depending on installation conditions of the machines. Be sure to heed the following conditions.

- a) Remove the packing from top to bottom
- b) Install a climate controller and clean it regularly to prevent dust and moisture build-up from contaminating and corroding the machines
- c) Keep the machines away from direct sunlight.
- d) Keep a minimum distance of 50 cm between the machine at both sides and backside and the wall to secure sufficient space for repair.
- e) Do not operate the machine near areas with danger of explosion. Refrain from running the machine in the vicinity of risky places, e.g., where a large quantity of aerosol-spraying products or oxygen are handled, unless specific guarantees are given otherwise for the operation of the machine to prevent explosion at such places.
- f) The user should install an illuminator in the work area for the machine not come supplied with any lighting apparatus due to the specific features of the machine.

[Note] Details of the machine installation are laid out in section 2) Installation.

3. Troubleshooting:



Danger

When the machine is in need repair, only our authorized service technicians must handle it.

- a) Before cleaning and repairing the machine, shut off the power supply and wait four minutes for the machine to discharge completely.
- b) Not part of the machine or specifications may be modified without prior consultation with our company. Any such modification could risk safe operation of the machine.
- c) In case of repair, replace only with original Garudan parts from Anita.
- d) After repair, put safety covers back on the machine.

4. Machine operation:

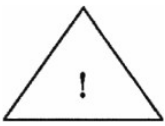


Caution

GF-3131 series are intended to be used for industrial purposes for sewing textiles and other similar materials. Carefully study the following instructions before operating the machine.

- a) Read the manual thoroughly and understand the instructions fully before use.
- b) Put on proper safety garments.
- c) While the machine is in motion, keep your hands or any part of your body away from moving parts, e.g., needle, hook, thread take-up spring and pulley, etc.
- d) Do not remove any form of safety covers while the machine is in use.
- e) Be sure to connect the ground (earth) wire.

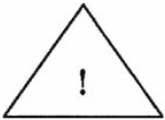
- f) Before opening electric boxes such as the control box, shut down the power supply and make sure the power switch is in "off" mode.
- g) Stop the machine before threading the needle or checking after sewing work is finished.
- h) Never turn the power switch on with the pedal down.
- i) Do not use the machine if the cooling fan is clogged. Clean the air filter embedded in the control box at least once a week.
- j) Keep the machine away from strong electromagnetic fields such as high-frequency welding machines



Caution

Always start the machine with safety covers in place since fingers or hands could be injured or cut off by the belt. Turn off the power switch when conducting a regular check on the machine.

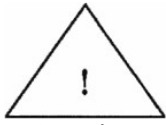
5. Safety device:



Caution

- a) Safety label: Safety instructions for machine operations
- b) Thread take-up spring cover: A device designed to prevent the human body from coming in contact with the thread take-up spring
- c) Belt cover: A device intended to avoid potential risks of getting hands, feet or clothes jammed by the belt
- d) Finger guard: A device built to keep fingers away from the needle

2. INSTALLATION



Warning

Before operation:

- The machine must be installed by a trained technician only.
- Any electrical wiring must be performed by a qualified technician or agent.
- The machines weigh over 33kg. As such, two or more people should carry out the installation.
- Plug in only after the installation is complete. If the operator mistakenly steps down on the pedal with the plug in, the machine will start automatically and can cause physical injuries.
- Connect the ground (earth) wire. An unstable connection may result in an electric shock or a malfunction.
- Use both hands when bending the machine backward or returning it the normal position. Using only one hand can lead to physical injuries due to the weight of the machine.

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3. BRIEF INTRODUCTION OF THE MACHINE

Direct drive heavy duty computer controlled top and bottom feed auto trimmer lockstitch machine with single straight needle. It adopts link take-up to feed, link thread takes -up structure, rotating hook to form stitch 301. The machine adopts the auto-lubrication oil pump. Free and smooth operation, low noise, little vibration, applied to sewing leather, canvas, heavy duty decoration, ribbon type fabric, such as bag, tents, sofa etc. It is precise with functions of computer-controlled thread trimmer, needle stitch count and positioned.



Figure 1

4. INSTALLATION OF THE OIL TRAY

- Insert the anti-vibration gasket (2) into front angle of the oil tray (1). See Fig.1.
- Insert the anti-vibration gasket (3) two into behind angle of the oil tray (1).
- Insert the oil tray (4) into the table groove horizontally.
- Put the two cover chain bushes (5) into the table groove.

5. INSTALLATIONS OF THE KNEE CONTROL DEVICES

Insert the knee control block (1), hand bar and joint into the chains (2) then tighten the screws (3) lightly. See Fig.2.

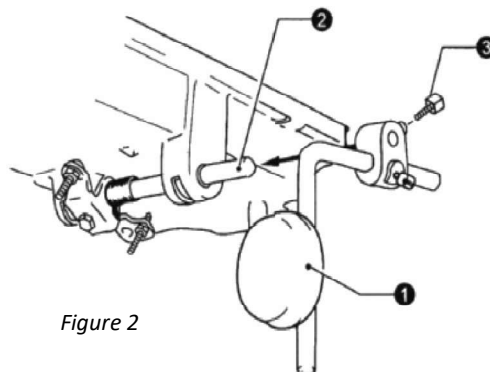


Figure 2

6. INSTALLATIONS OF THE KNEE CONTROL DEVICES

- Turn the presser foot lift spanner (1), to let the presser foot (1) down totally. See Fig.3.
- Release the screw (3).
- Tighten the screw (6), and adjust the knee control limited frame, make it turn 2mm.
- Tighten the screw (3), Release the screw (7).
- Turn the screw (8), and make the distance between the end of the screw and the limited frame is 8 mm.
- By turning the screw (8), and operating the knee control block, it can adjust the distance between bottom of the presser foot and needle plate within 13 mm.
- Finish the adjustment, then tighten the screw (7).

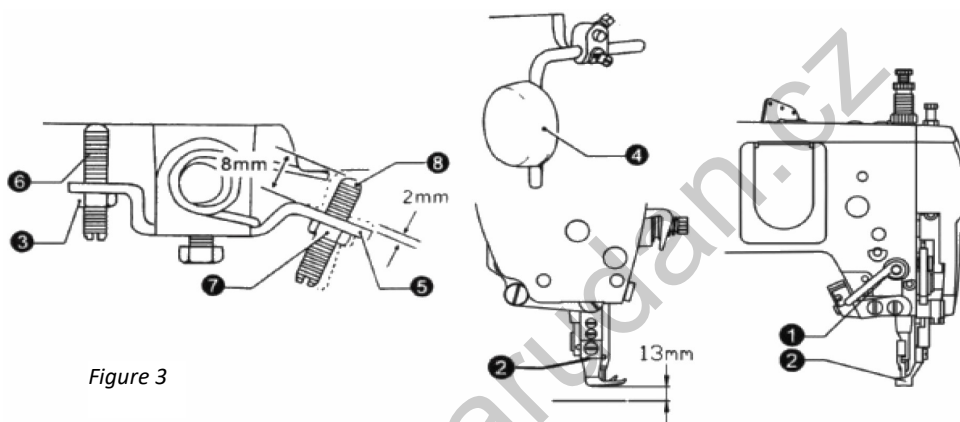


Figure 3

7. INSTALLATION OF THE HEAD

- Insert knee control to lift the top bar (1). See Fig.4.
- Put the two cover chains (2) into the two table holes.
- The chains hookup the bushes on the table. Put the head into the table groove stably.
- Insert the head support bar (5) into the hole.

Remarks:

Make sure to insert the head support bar into the hole.

Suppose the support bar doesn't reach the lowest place, it will be dangerous when put the machine.

And the machine may topple and fall.

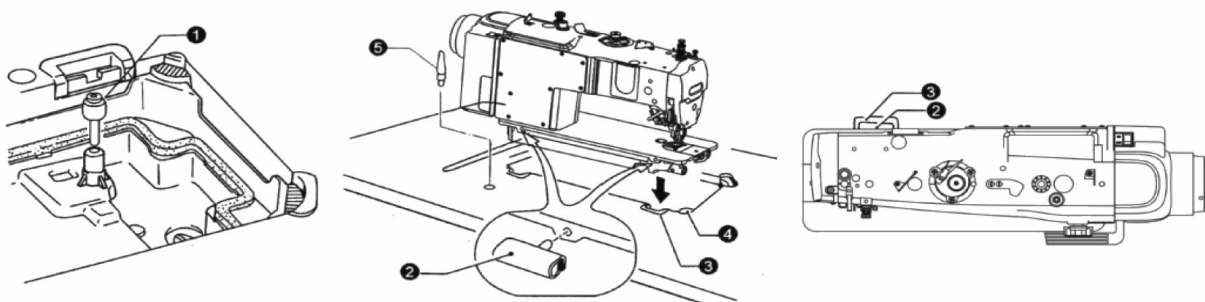


Figure 4

8. LUBRICATION

- Oil amount:

Oil amount must be oiled according to the mark of drip pan. Mark (A) is the highest situation. Mark (B) is the lowest situation. Note that oil amount couldn't be lower than mark (B). Otherwise all parts of machine will appear heat and dead point for not gaining oil. See Fig. 5.

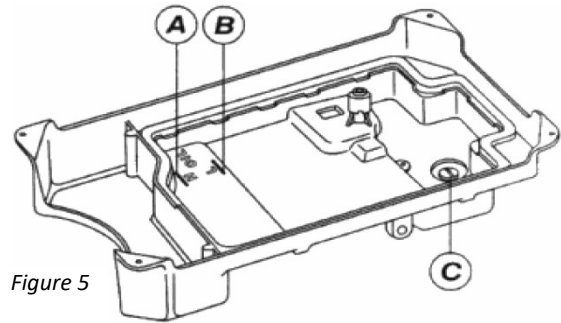


Figure 5

- Oiling:

Always use only NO.18 special machine oil for high speed sewing. Be sure to replenish oil to line (A) before starting operation,

- Replacing oil:

- To replace oil remove screw (C) to drain oil after completely draining off oil.
- To clean the oil tray and to securely tighten screw (C) then to fill the tray with fresh oil.

9. RUN IN OPERATION

At the beginning of using the new machine or shelved for a long time, first to un load the upper rubber plug (A) and panel. According to the position of the graphic refueling fully, and then put panel, lift the presser foot and run the machine with for low speed (1000-1500/min) and watch the injection situation of oil window (C). See Fig. 6.

Aller normal lubrication also needs to remain 30 minutes at low speed running test, then gradually increase sewing speed. After about a month of using, the machine has fully run, then according to the nature of the work to increase the speed of a certain gap.

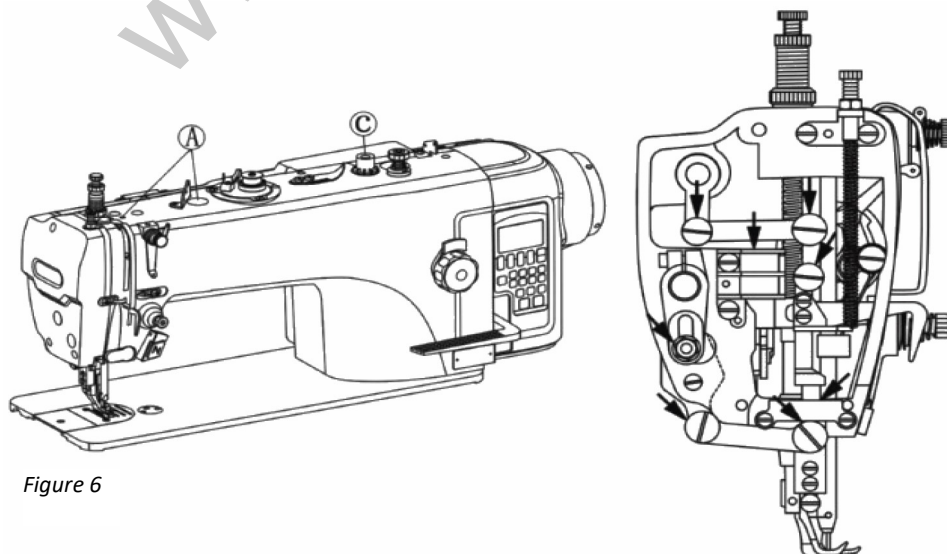


Figure 6

10. ADJUSTING THE OIL IN THE PUMP

When it's running at low speed, observe the oil window. If you don't see the oil spraying, please turn the oil-supplied regulating plate (1) and cover the oil hole (2). See Fig. 7.

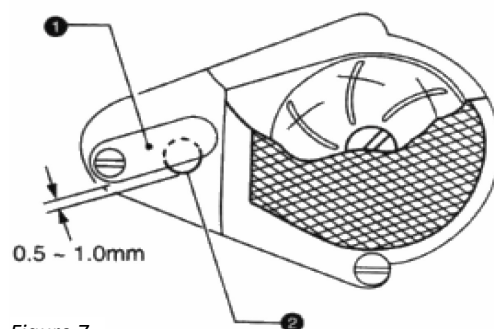


Figure 7

11. ATTACHING THE NEEDLE

- Turn the upper wheel and make it at the top place. See Fig. 8.
- Loosen the screw (2).
- Insert the needle (3) into the bottom (till touch the bottom), and make sure the long groove left, then tighten the screw (2).

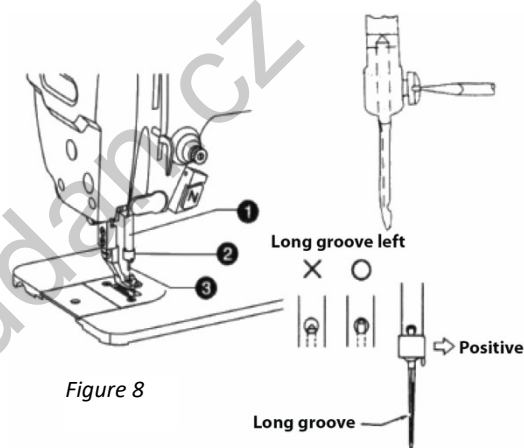


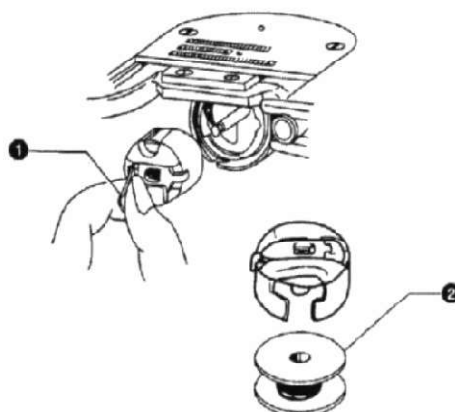
Figure 8

12. SETTING THE BOBBIN CASE

The needle should at the top place when install the bobbin case. First pull the bobbin cover (1), then put the bobbin core into the hook. Please make sure the batter board match with the locating slot when you put the bobbin core. See Fig. 9

Please make sure to open the bobbin door when you replace the bobbin core. Then hold the bobbin door and replace the bobbin core slowly. So that can make the bobbin bush tight the bobbin core. And will not drop

Figure 9



13. WINDING THE BOBBIN THREAD

- Turn on the power. Insert the bobbin core into the bottom of bobbin winder. See Fig. (10).
- According to the arrow direction. Please winder the thread on the bobbin core for several circles.
- Turn the winder spanner (3). Lift the presser foot.
- Push the pedal down, and it will winder the thread automatically.
- The winder spanner (3) will recover automatically when the bobbin thread is full.

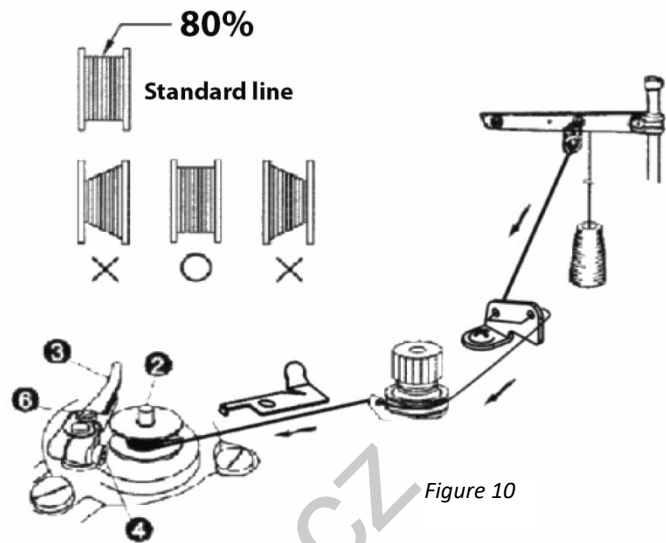


Figure 10

* If the bobbin thread in misalignments. You can loosen the screw (4) and move the winder spanner (3) please to adjust.

* The winder thread amount can be adjusted by the screw (6).

Remarks: The suitable winder thread amount is 80 % around the bobbin core horizontally.

14. THREADING BOTTOM THREAD

- Turn the hand wheel till the needle up to the highest position. See Fig. (11).
- The bobbin thread should be right twisting. Then put the bobbin into the bobbin case.
- Holding thread end embed the bobbin in the set of open slots (1), after the top of the spindle skin (2) spring fork intermediate outlet head (3).
- The bobbin should be clockwise when the bobbin thread is draw up.
- To pry the bobbin covered (4) put the bobbin sets into the hook (add note when the bobbin case the positioning plate is on the positioning groove on the shaft and bobbin core is consistent).

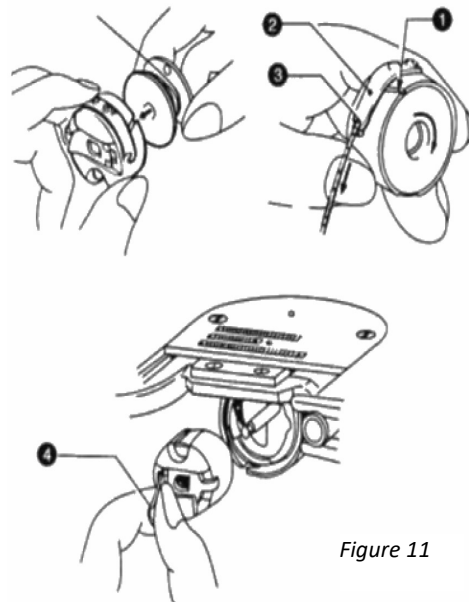


Figure 11

15. THREADING UPPER THREAD

Before wear line please let take-up, lever rose to the highest position, so easy to thread and can prevent the start sewing line fall from the pinhole. See Fig. (12).

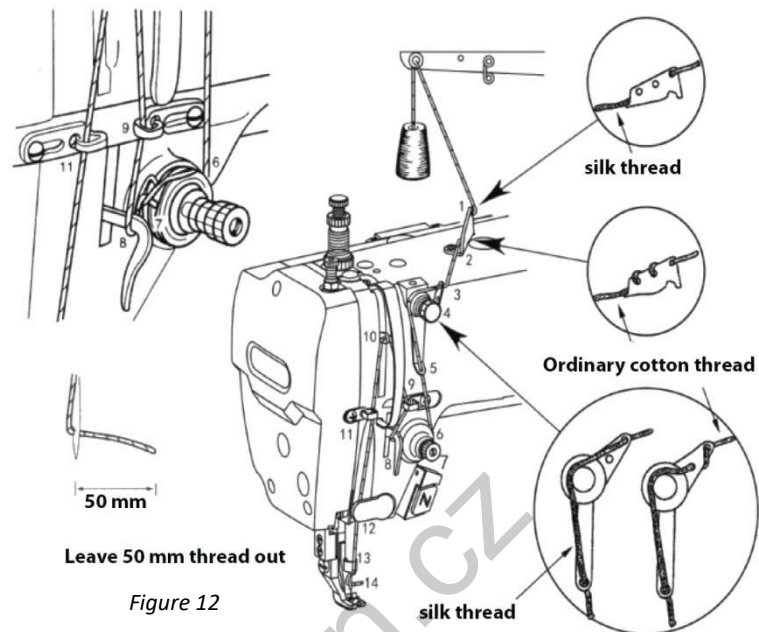


Figure 12

16. ADJUST THE STITCH LENGTH

Push the button (2) of needle gauge, rotate the dial (1). Make sure the number (2) on the dial (1) align to the vertical line of the button. See Fig. (13).

* The greater the number. the bigger the stitch length.

* Please put the reverse spanner (3) down at the half place when the NO on the dial (1) turns from big to small. It will be much easier.

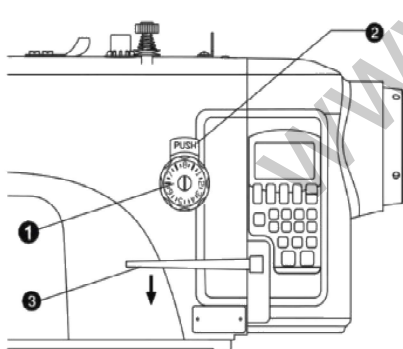


Figure 14

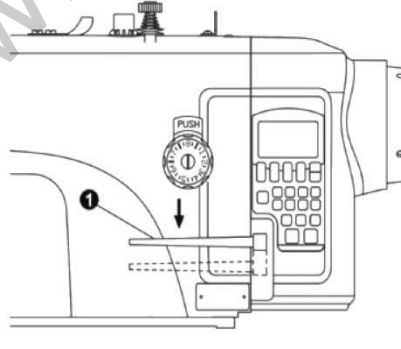
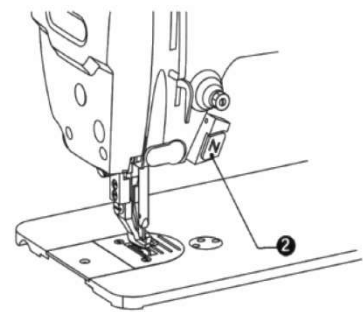


Figure 13

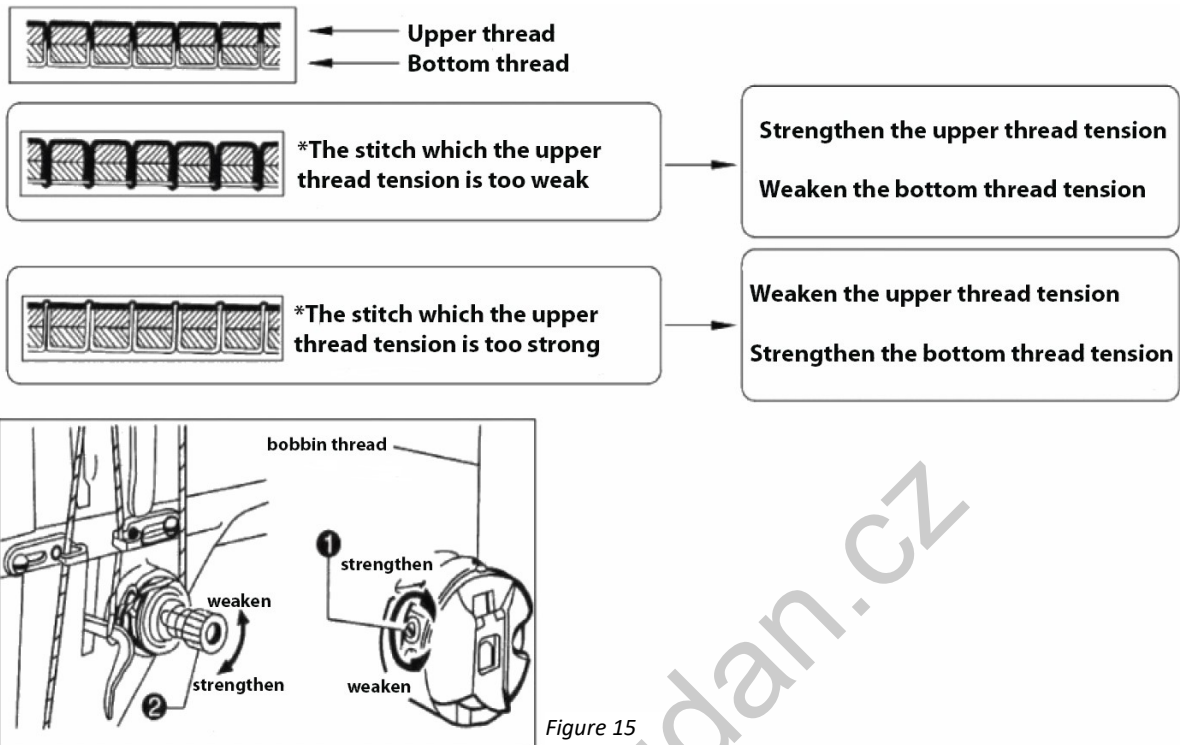


17. STITCHING AND REVERSE STITCHING

- Press the power button.
- Push the pedal down and begin to sew.

During the process of normal sewing, when you press the reverse spanner (1) or press the auto-reverse button (2), the machine will begin to back stitch. When you lose it, the machine will feed normally. See Fig. (14).

18. ADJUST THE THREAD TENSION



Bottom thread tension:

Adjust the bobbin thread tension by turning screw (1). Pinch the thread lift the bobbin case. It can use when bobbin case fall freely and slowly. See Fig. (15).

Upper thread tension:

Finished to adjust the bobbin thread tension then adjust the upper thread tension will appear the normal stitch.

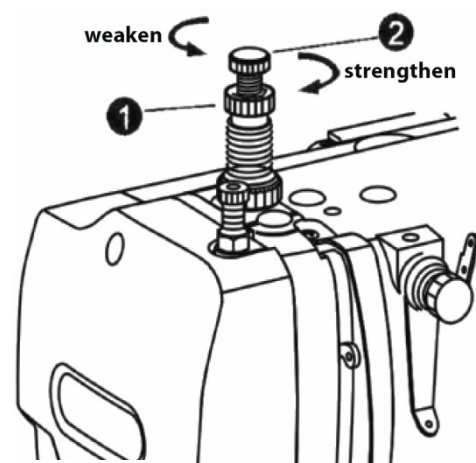
- Put down presser foot
- Adjust thread tension nut (2).

19. ADJUST THE PRESSURE OF PRESSER FOOT

- Loosen the presser spring regulator and lock nut. (1). See Fig. (16).
- Turning the presser spring regulator (2) to adjust pressure of presser foot. Turning presser spring regulator (2) to pressure under the pressure is not enough.

* In ensuring sewing material does not slip, the pressure of the presser foot as much as possible weaker.

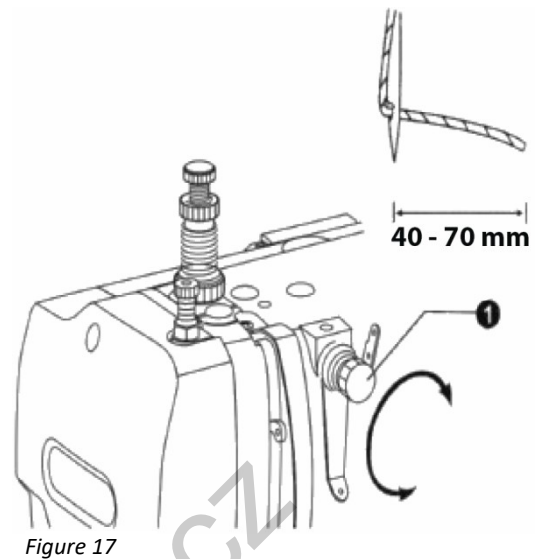
- Tighten the presser spring regulator and lock nut (1).



20. ADJUST THE LENGTH OF THE THREAD AFTER TRIMMING

By turning a small thread clamp nut (1). To adjust. See Fig. (17).

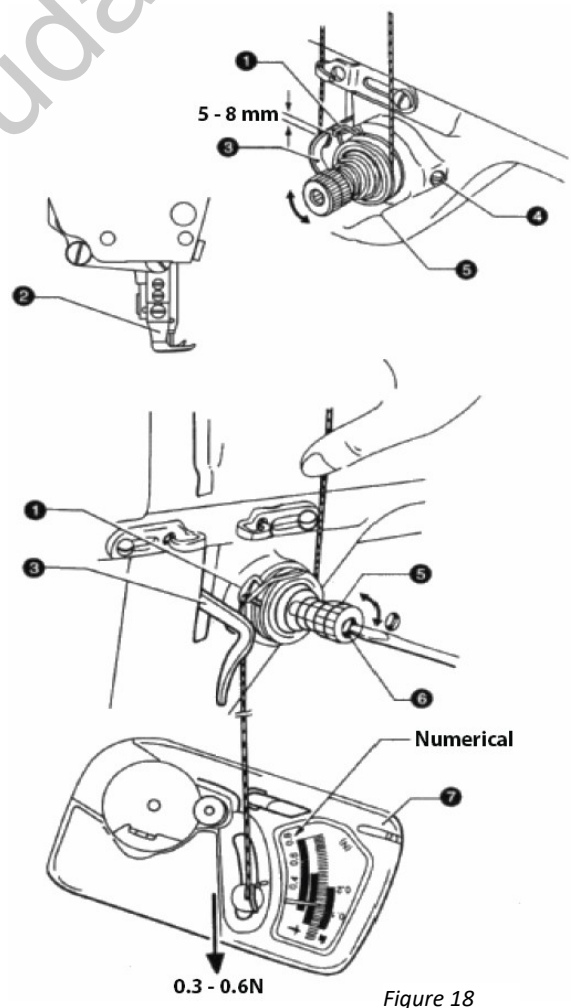
- When the shear line, the line is loose, line only small thread clamp device provided by the tension.
- The length of the standard surface lines head for 40-70 mm.
- If small clip line nut (1) and tighten the thread of the line length is short.
- If the thread clamp nut (1) to relax, the thread or the line length is long.



21. ADJUST THREAD TAKE-UP SPRING

Pick wire spring standard mainly as follows: When the presser foot (2) down, big hook line (3) to pick line on the upper surface of the spring (1) 5-8 mm. See Fig. (18).

- Put down the presser foot (2). Loosen the set screw (4).
- Turn the clip line components (5) to adjust the position of the wire spring.
- Tighten the set screw (4).
- Pull line thread clamp device (5), a little finger to hold.
- Face line down, make pick wire spring (1) and big line hook (3) on the surface, is determined to pick the strength of wire spring.
- Open to insert thread clamp screw grow (6), by taking turns to adjust the strength of the wire spring (1).



Notice:

When using a force-measuring device aim (7) please read the number on the red line.

22. ADJUST THE THREAD HOOK

Casing thread (1) hook screw (2) is the standard location in chassis line adjusting the center of the range. See Fig. (19).

By moving to loosen the screw (2), the first to adjust the position.

When sewing thick, to check the chassis line moves to the left (line force will push big).

When sewing thin material. to check the chassis line moves to the right (pick line force will be weakened).

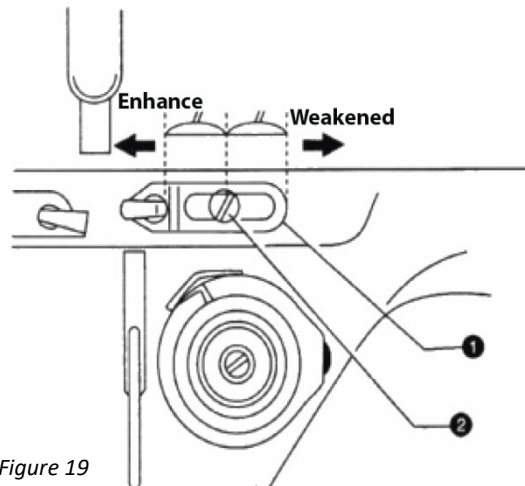


Figure 19

23. ADJUST THE HEIGHT OF PRESS FOOT

When using presser foot wrench (2) ascension presser foot (1), the standard of the presser foot hoisting height is 6 mm. See Fig. (20).

- Loosen the presser foot the adjustable screw (3) presser bar and presser foot (1) up.
- In the presser foot (1) gauge block of 6 mm thick.
- To loosen screw height of presser foot (1) up and down (4).
- Tighten down the screw (4).

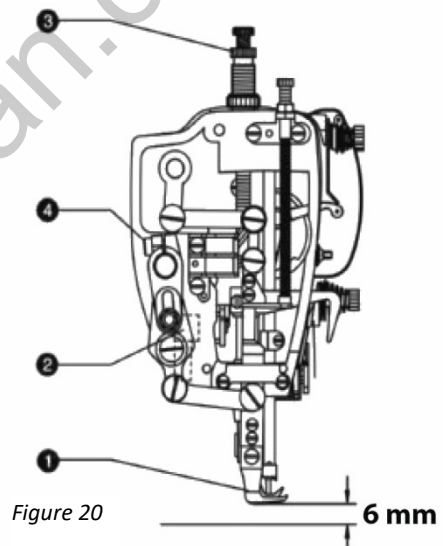


Figure 20

24. ADJUST THE HEIGHT OF THE FEED DOG

- Maximum stitch, the largest feed (1) needle plate above the 1.2 MM standard.
- Loosen the screw (2) rotation carried the angle of the forks (3), feed dog height can be adjusted. See Fig. (21).

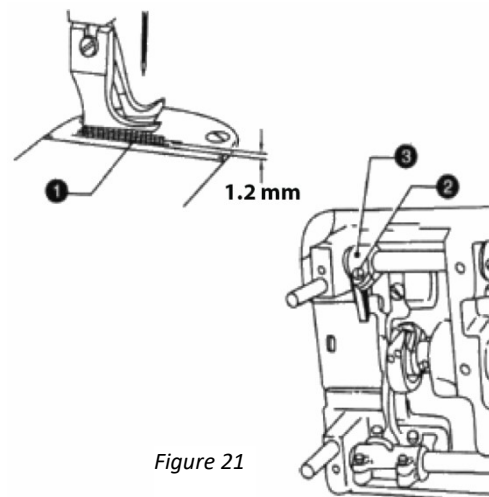


Figure 21

25. ADJUST THE HIGH OF THE FEED DOG

Feed dog standard angle is: when the feed dog higher than needle plate and in the highest position. Braces concave point (5) on the crank eccentric shaft tags in a horizontal position. See Fig. (22).

- Turn the wheel make the feed dog to needle plate and in the highest position Loosen.
- Loosen the braces crank shaft screw (7).
- According to the standard of the feed dog angle position.

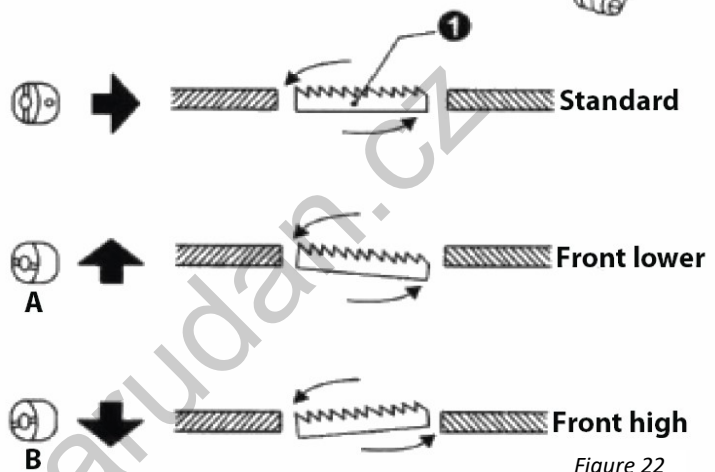
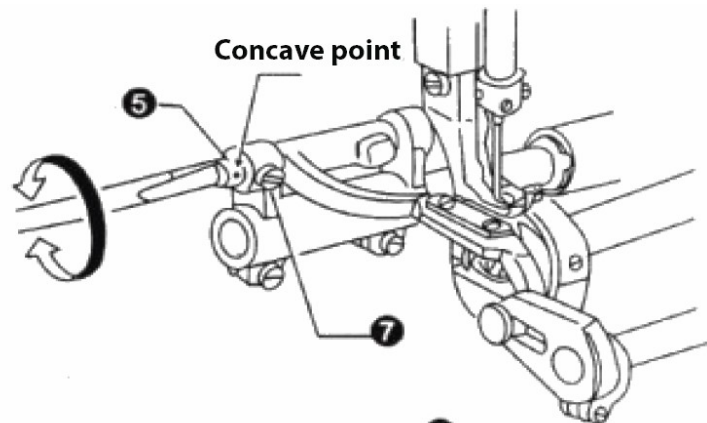


Figure 22

Make the concave point mark 90° rotation adjustment.

* Feed dog in front of the lower. can prevent the fabric wrinkling (picture A).

* Feed dog in front of the drive up, can prevent the cloth running deviation (picture B).

- Tighten braces crank shaft screw (7).

After the feed dog angle adjustment, to adjust the Hight of the dog is necessary.

26. CLEANING

Lift the pressure foot. Rive the two screws (1), then unload the needle plate (2). See Fig. (23).

1. Use the soft hairbrush to clean the feed dog.
2. Install the needle plate (2) and tighten the two screws (1).
3. Turning the upper wheel, observe the needle fall into the needle plate hole or not.
 - If the needle is not fall into the center, Inspect the needle is bend or not.
 - Loosen the two screws (1), then reinstall the needle plate (2).
4. Turning the upper wheel make the needle rise to the Exceed needle plate, then observe the needlepoint is contusion or not if contusion need to replace the needle.
5. Lay down the machine body. Unload the bobbin case (4).
6. Use the soft cloth to clean the hook dust, inspect the hook is damaged or not.
7. Make the bobbin out of the bobbin in case, then use the cloth to clean the bobbin case.
8. Put the bobbin into the bobbin case, then put the bobbin case into the hook.
9. Cleaning the dust of the oil pump screen (A).

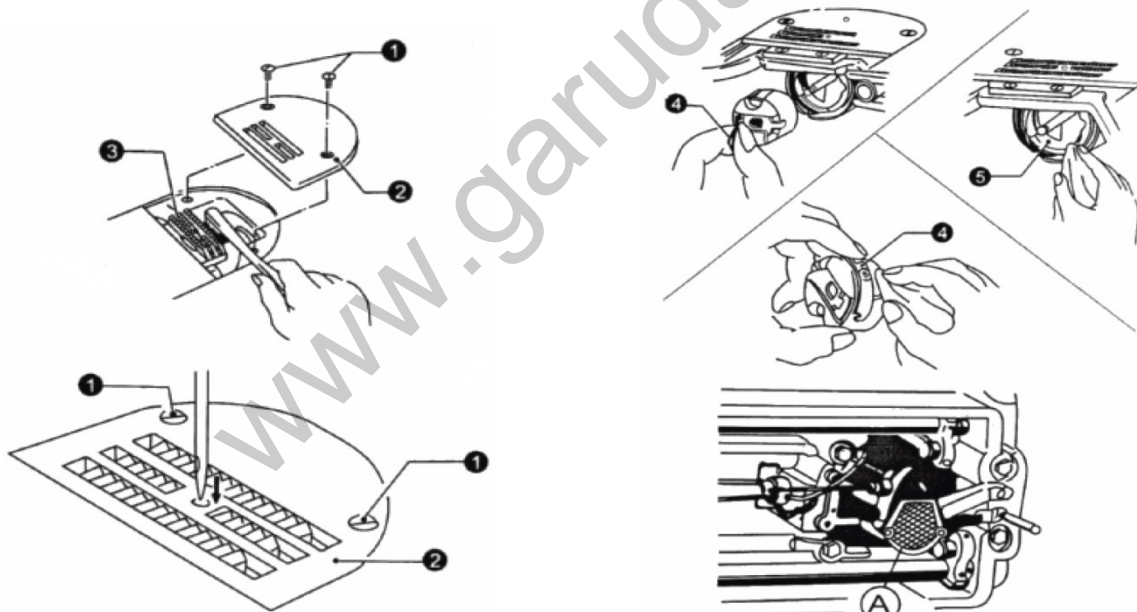
























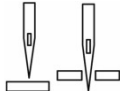









Figure 23











27. BUTTON DISPLAY AND OPERATING INSTRUCTIONS

Name	Key	Indicate	Icons
Start/End Back-Tacking Selection		Execution starting back seam B segment or execution starting back seam (A, B segment) 1 Execution starting back seam (A, B segment) 2 times.	
		Execution terminates back seam C segment or execution terminates back seam (C, D segment) 1 Execution terminates back seam (C, D segment) 2 times.	
Freedom sewing shortcuts		As the treadle is toed down, machine will start sewing. Once the treadle returns to neutral, machine will stop immediately. As the treadle is heeled back, machine will automatically start trimming cycle.	
Continuous back seam shortcuts		Once the treadle is toed down, all the seams of Bar-Tacking will be completed with D times, and then the thread will automatically be trimmed. Note: When the Bar-Tacking Sewing starts, will not stop until the trimming cycle finished, except for treadle heeled back to cancel the action.	
Some fixed stitch shortcuts		As the treadle is toed down, Constant-Stitch Sewing E, F, G or H performs section by section. Once the treadle returns to neutral intermediately in any section, machine will stop immediately. When the treadle is toed down again, the balance stitches of E, F, G or H goes on. The key adjustable	
Multi-set stitch shortcuts		four, seven-segment, eight, and other multi-sew sewing patterns. When the display P1 ~ PF press [S] key to confirm the changes multistage sewing patterns P1 ~ PF is appropriate to modify the number of segment, the latter two is to modify the segment pin number.	
Enter and determine/save button		Enter parameter values such items and their contents chase after adjustment, need to press the [S] key to save the confirmation. Note: The parameters are saved directly by the [S] key.	
Mention needles/fill needle key		Continuous back seam except, any kind of sewing stop, click for lifting the needle or forward fill half needle. Any kind of sewn termination is not tangent, click for lifting the needle or forward fill half needle.	
Automatically trigger button		1. In Free sewing: One touch of this key makes beep sound without any function also LED does not light up. 2. In Constant-Stitch Sewing: One shot to the pedal, stitches number of E, F, G or H will be automatically performed. Toe down the pedal again and again to finish the rest sections until it finish pattern.	
Tangent line function keys		1. Set or cancel the use of the tangent function. 2. The corresponding icon is not lit, turn off the corresponding functions.	
Function key enter parameter area		Under normal mode, press the [P] key to enter the user parameter mode. Press and hold the [P] key to boot into parameter mode Technician.	
Set value increment/parameter increment key		1. A, B, C, D, E, F, G, H section, increase the number of setting stitch. 2. Increase the parameter in Parameter selection. 3. Increase the setting value in Parameter value.	
Set value decrement/decrement key parameters		1. A, B, C, D, E, F, G, H decrease the number of setting stitch. 2. Decrease the parameter in Parameter selection. 3. Decrease the setting value in Parameter value.	



























Needle stop up and down keys		<p>1.  LED ON indicate stopping machine at the upper stop needle position.</p> <p>2.  LED ON indicate stopping machine at the lower stop needle position.</p>	
------------------------------	---	---	---

Name	Key	Indicate
Presser foot shortcuts		<p>1.  LED ON = Presser Foot automatically goes up after trimming.</p> <p>2.  LED ON = Presser Foot automatically goes up after motor stops.</p> <p>3. Two icons are both LED ON = Presser Foot automatically goes up after trimming and motor stops.</p> <p>4. Two icons are both LED OFF = Presser Foot is inactive.</p>
Slow play seam shortcuts		<p>1. The corresponding icon lights slow starting sewing open.</p> <p>2. The corresponding icon is not lit, no slow-starting sewing function.</p>
Clamp function keys		<p>1. The corresponding icon lights thread nipper function is turned on.</p> <p>2. The corresponding icon is not lit, no thread nipper function.</p>
Maximum speed setting key	 	<p>Speed up key: the speed should not lower than the value set by technician.</p> <p>Slow down key: the minimum speed is 200 r/m.</p>

28. COMPARISON TABLE OF LCD DISPLAY FONTS AND ACTUAL FONTS. ARABIC NUMERALS:

0	1	2	3	4	5	6	7	8	9
									

29. ENGLISH ALPHABET:

A	B	C	D	E	F	G	H	I	J
									
K	L	M	N	O	P	Q	R	S	T
									
U	V	W	X	Y	Z				
									

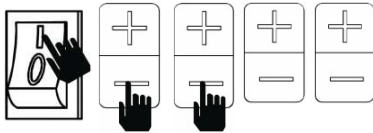
30. MANUALLY ADJUST THE POSITIONING:



Press and hold the [S] key to boot into the needle position P72 term correction parameters.

Enter the parameter content, the hand wheel adjustment supreme needle position (parameter will chase with the hand wheel position), the [S] key to save the parameters (after saving, under the needle position will be automatically adjusted accordingly), the key [P] to exit without saving the parameters.

31. RESTORE FACTORY SETTINGS:



Hold down the left two [-] key to boot



Double-click the [S] key to confirm it, shutdown restart

32. USER PARAMETER & TECHNICIAN PARAMETER:

Parameter	Parameter Function	Range	Default	Key	Description
In the normal screen, press [P]					
P01	Maximum Sewing Speed (r/S)	100-3700	3700	+/-	Maximum speed of machine sewing
P02	Speed Curve Adjustment (%)	1-100	80	+/-	The Lager the value, the faster to increase speed
P03	Needle UP/DOWN	UP/DN	DN	+/-	UP: Needle Stops at Up Position DN: Needle Stops at Down Position
P04	Start Back-Tacking Speed (r/S)	200-3200	1800	+/-	Start Back-Tacking Speed Adjustment
P05	End Back-Tacking Speed (r/S)	200-3200	1800	+/-	End Back-Tacking Speed Adjustment
P06	Bar-Tacking Speed (r/S)	200-3200	1800	+/-	Repeat Bar-Tacking Speed Adjustment
P07	Soft Start Speed (r/S)	200-1500	400	+/-	Soft Start Speed Adjustment
P08	Stitch Numbers for Soft Start	0-99	2	+/-	Soft Start Stitches Setting (one unit = half stitch)
P09	Automatic Constant-Stitch Sewing Speed (r/S)	200-4000	3700	+/-	Constant Stitch sewing speed [034.SMP] is set at A (or when one shot signal is active)
P10	Automatic End Back-Tacking Sewing (Can invalidate the stitch correction function)	ON/OFF	ON	+/-	The Stitch-Correction is valid in sewing stop. Note: Valid only when the [0.11.RVM] must set on B ON: Invalid (Constant-Stitch sewing, it can automatic continue action as CD function) OFF: Valid (Can't continue execute CD function)
P11	Back-Tacking Mode Selection	J/B	J	+/-	J: JUKI Mode (it will active when machine is stopped or running) B: BROTHER Mode (it will active only the machine is running)
P12	Start Back-Tacking Mode Selection	A/M	A	+/-	A: One shot to pedal, it will automatic execute Start Back-Tacking. M: Pedal-controlled and motor can stop arbitrarily.
P13	Mode Selection at the end Back-Tacking	CON/STP	CON	+/-	CON: At the end of Start Back-Tacking, machine continues sewing if pedal pressed or START signal on (standing operation) STP: At the end of Start Back-Tacking, machine stop
P14	Soft Start	ON/OFF	ON	+/-	ON: Slow start feature is turned on OFF: Slow start function off
P18	Stitch Balance for Start Back-Tacking 1	0-200	131	+/-	0 → 200 Action gradually lag
P19	Stitch Balance for Start Back-Tacking 2	0-200	158	+/-	
P20	Mode Selection for End Back-Tacking	A/M	A	+/-	A: Pedal full heeling, it will automatic execute end Back-Tacking M: Pedal-controlled and motor can stop arbitrarily
P21	End Back-Tacking Function Selection	ON/OFF	ON	+/-	ON: Termination feature is turned back seam OFF: End back seam is off Quick Setup from the front, where the setting is valid

Parameter	Parameter Function	Range	Default	Key	Description
P22	Setting Stitches C of End Back-Tacking			+/-	[End Back-Tacking] C, D segment pin count set Quick Setup from the front, where the setting is invalid
P23	Setting Stitches D of End Back-Tacking			+/-	
P24	Anti-pedaling pedals points; voltage	0-1000	110	+/-	
P25	Stitch Balance for End Back-Tacking 3	0-200 0-200	131	+/-	0 → 200 Action gradually lag
P26	Stitch Balance for End Back-Tacking 4		158	+/-	
P27	Adding 1 Stitch to C Segment of End Back-Tacking	0-1	0	+/-	1: Thin materials 0: Thick materials
P28	Mode Selection for Bar-Tacking	A/M	A	+/-	Bar-Tacking, reverse solenoid action: A: One shot to pedal, it will automatic execute Bar-Tacking M: Pedal-controlled and motor can stop arbitrarily
P32	Stitch Balance for Bar-Tacking 5	0-200	131	+/-	0 → 200 Action gradually lag
P33	Stitch Balance for Bar-Tacking 6		158	+/-	
P34	Mode Selection for Constant-Stitch Sewing	A/M	A	+/-	A: One shot to pedal, it will automatic execute Constant-Stitch M: Pedal-controlled and motor can stop arbitrarily)
P37	Wiper Function Selection P1 of Constant-Stitch Sewing	0-11	8	+/-	0: NO Action 1: Wiper Action 2-11: Thread Clamp action and the pressure gradually increased
P38	Trimmer Function Selection	ON/OFF	ON	+/-	ON: Trimmer Valid OFF: Trimmer Invalid
P39	Presser Foot UP/Down a intermediate stop	UP/DN	DN	+/-	UP: Presser foot goes up automatically DN: Presser foot keeps down (Controlled by heeling pedal)
P40	Presser Foot UP/Down after Trimming	UP/DN	DN	+/-	UP: Presser foot goes up automatically DN: Presser foot keeps down (Controlled by heeling pedal)
P41	Display the sewing finished quantity		0	+/-	Counting the finished-sewing quantity
P42	Information Display		N-01	+/-	NO1 Electrically controlled version serial number NO2 Selected needle cassette version NO3 Speed NO4 Pedals AD NO5 Positioning angle (0—359) NO6 Under the positioning angle NO7 Bus voltage AD
P43	Setting Direction of Motor Rotation	CCW/WC	CCW	+/-	CW: Clockwise CCW: Counter Clockwise

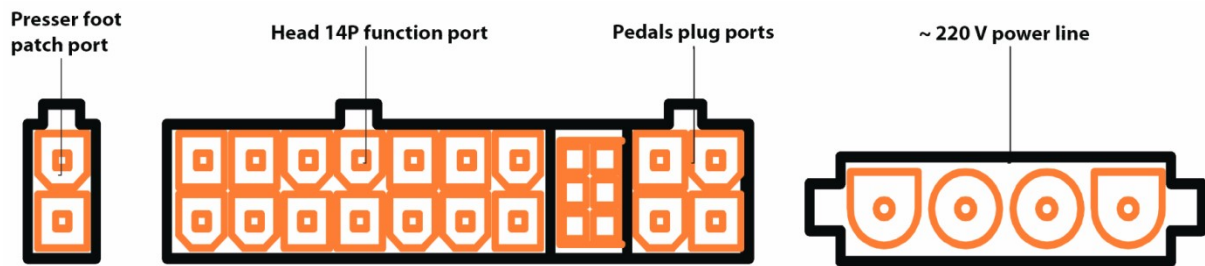
Parameter	Parameter Function	Range	Default	Key	Description
Please contact the ANITA B Service Center to enter service settings					
P44	Brake force	0-31	16	+/-	Efforts to stop the machine when selecting
P45	Back-seam operation duty cycle (%)	10-90	30	+/-	Back-seam action to periodic power output
P46	Motor stops with a reverse angle after trimming	ON/OFF	OFF	+/-	ON: It will automatic as reverse function after trimming (angle adjustment according to the parameter [047.TR8] OFF: No Function
P47	Adjustment of reverse angle after trimming	50-200	160	+/-	Adjusting at reverse direction after trimming
P48	Low (Positioning) Speed (r/S)	100-500	210	+/-	Setting Positioning Speed
P49	Trimming Speed (r/S)	100-500	250	+/-	Adjusting trimming speed
P50	The time of Foot lifting	10-990	250	+/-	Adjustment of foot lifting action
P51	Duty-Cycle Setting for Foot Lifter (%)	10-90	30	+/-	Adjustment for Duty-Cycle of Foot Lifter / Back-Tacking (Fine tuning can reduce the over heating)
P52	The time of Foot down	10-990	120	+/-	Adjustment of foot down action
P53	Cancel foot Lifting when Half-Heeling the Pedal	ON/OFF	OFF	+/-	ON: Pedal half heeling without foot lifting function OFF: Pedal half heeling with foot lifting function
P54	Trimming Time (ms)	10-990	200	+/-	Trimming sequence time setting
P55	Setting Wiper Timing	10-990	380	+/-	Wiper sequence setting
P56	Needles Goes Up Automatically as Power turned on	ON/OFF	ON	+/-	ON: Power turned on, needle goes up position automatically OFF: No Function
P57	Protection time for lift lifter (S)	1-120	10	+/-	It will automatic come down when foot lifter keep lift over the setting time
P58	Up 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 Position Adjustment	0-1439	750	+/-	Down Position Adjustment The needle will advance stop when the value decreased The Needle will delay stop when the value increased
P60	Testing Speed (r/S)	100-3700	2000	+/-	Setting testing Speed
P61	Testing A		OFF	+/-	Option of Testing A, after setting press [060.TV] to set the speed keep running.
P62	Testing B		OFF	+/-	Option of Testing B, after setting press [060.TV] to set the speed execute the cycle of Start-Sewing-Stop-Trimming
P63	Testing C		OFF	+/-	Option of Testing C, after setting press [060.TV] to set the speed execute the cycle of Start-Sewing-Stop without positioning function
P64	Running Time of Testing B and C	1-250	20	+/-	Setting running time of testing B and C
P65	Stop Time of Testing B and C	1-250	20	+/-	Setting stop time of testing B and C

P66	Machine Protection Switch Testing	0-2	1	+/-	O: Disable 1: Testing zero signal 2: Testing positive signal
P67	Trimming Protection Switch Testing	ON/OFF	OFF	+/-	OFF: Disable ON: Enable
P69	Backstitch release buffer (ms)	0-500	5	+/-	Slow release delay factor
P71	Presser foot release buffer (ms)	0-500	5	+/-	Efforts to case foot pressure release time
P72	The needle position correction			+/-	
P73	Under needle position correction			+/-	
P76	Backstitch output of full time (ms)	250-990	250	+/-	
P77	Freedom sew back seam even terminate pause time (ms)	20-200	75	+/-	
P78	The thread Clamp release angle	1-990	100	+/-	The Positioning angle of starting clamp
P79	Clamp start action angle	1-990	270	+/-	The positioning angle of release

33. ERROR CODE TABLE:

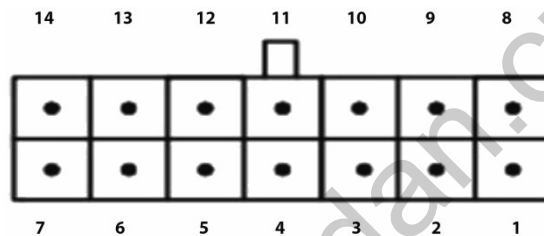
Error Code	Problem	Strategies
E1	Power Module is faulty Abnormal over current or voltage Resistor is damage or F1 fuse is blown	System will be shut down until the power
E2	1) When power on, detected main voltage too low 2) Connect the wrong voltage, too low	Moto and machine will be shutting down Please check the AC power. (Too low) Please check the main pc board
E3	Operation Box linked to CPU interface had communication error	Motor and machine will be shutting down Please check the operation box
E5	The connection of the Foot Pedal error	Motor and machine will be shutting down Please check the connection of the Foot Pedal or the problem of it
E7	a) Bad connection at the motor connector b) Machine locked or object stuck in the motor pulley	Motor and machine will be shutting down Please check the motor connectors, synchronizer situation and machine situation
E8	Manual Back-Tacking lasts for 15 sec	Motor and machine will be shutting down until the power resets on
E9	Synchronizer signal error	Check the upper and lower positioning signal is normal; no locator mode automatically and the tangent; thread wiper; the positioning and all fixed stitch sewing style features also invalid Motor cannot operate normally. (Please check the positioning signal abnormalities)
E12	Power is turned on without the synchronizer signal	Motor still can run, but it automatically starts the clutch mode. All constant-stitch sewing pattern and trimmer/wiper function is invalid Please check the synchronizer
E13	Overheat Protection f or Power Module	Please check the connection between power module and heat sink
E14	Encoder signal error	Please check the encoder signal or change the encoder
E15	Abnormal over current protection for Power Module	System will be shut down until the power resets on Please check the power board in detail
E17	Trimmer switch error	Please check the trimmer switch whether turn in the correct position

34. PORT OUTLINE DIAGRAM:



The name of each port

14P function port table:



- trimming solenoid: 1, 8
- clamp, dial line solenoid: 2, 9
- clothing lights: 4 (signal ground), 11 (+5v)
- backstitch manually switch: 5 (sensor signal), 12 (signal ground)
- backstitch solenoid: 6, 13
- complement Needle switch: 7 (sensor signal), 14 (signal ground)

Spare Parts List



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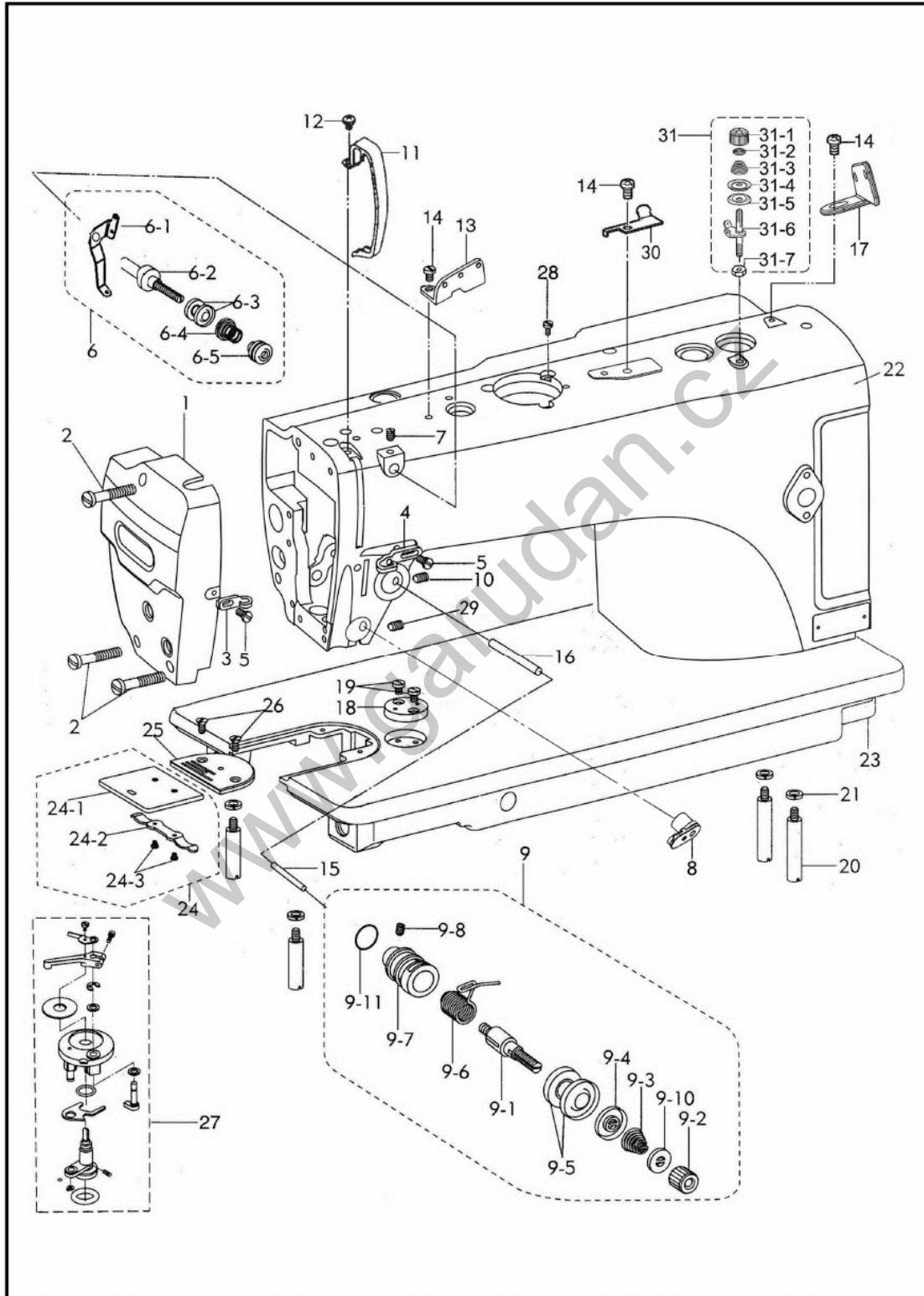
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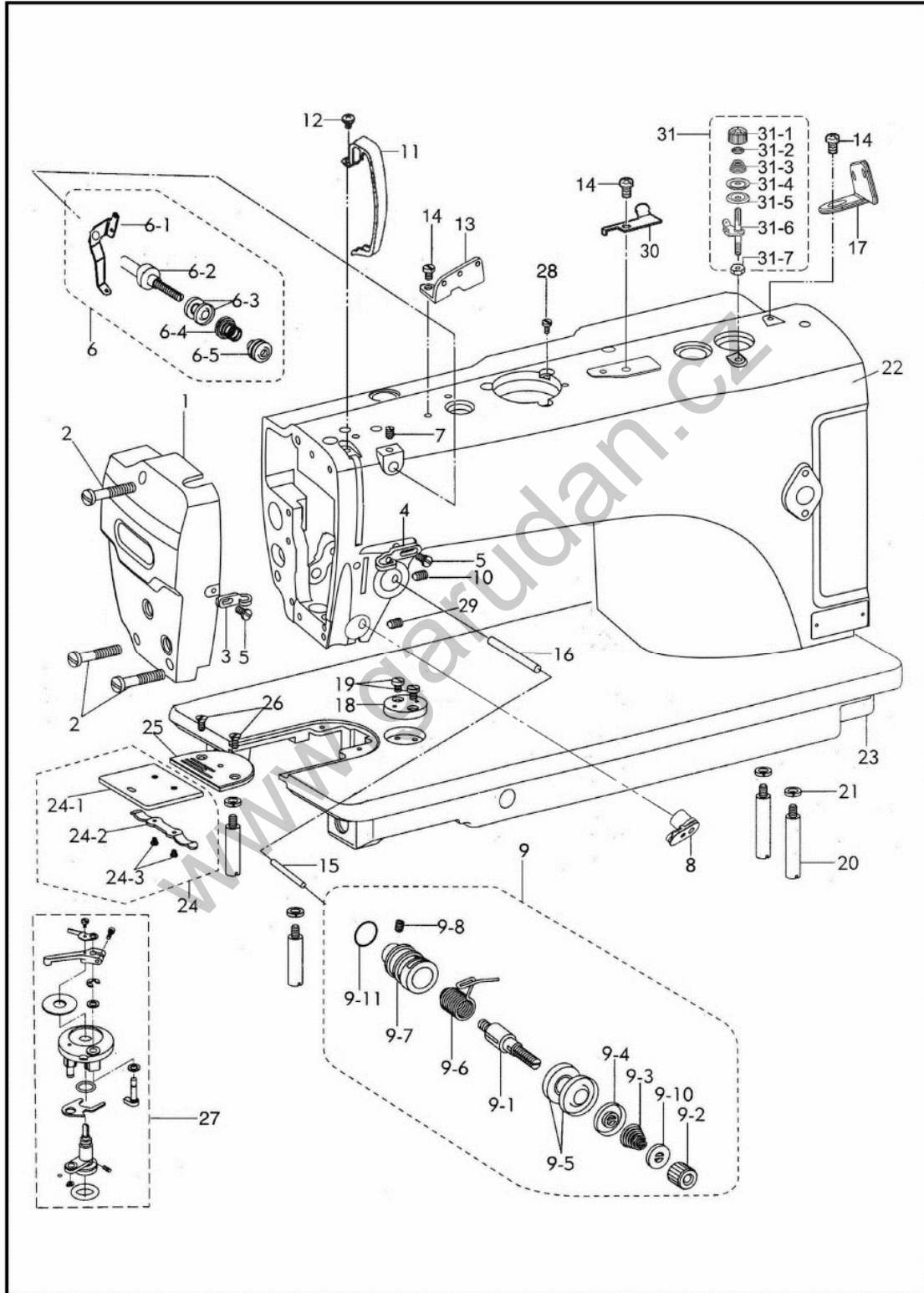
A. Arm Mechanism (1/2)	4
A. Arm Mechanism (2/2)	6
B. Needle Bar and Thread Take-up Mechanism (1/2)	8
B. Needle Bar and Thread Take-up Mechanism (2/2)	10
C. Feed Mechanism Components (1/2)	12
C. Feed Mechanism Components (2/2)	14
D. Feed Mechanism (1/2)	16
D. Feed Mechanism (2/2)	18
E. Presser Foot Mechanism	20
F. Rotary Hook Mechanism	22
G. Thread Trimmer Mechanism (1/2)	24
G. Thread Trimmer Mechanism (2/2)	26
H. Lubrication	28
I. Reverse Feed Components	30
J. Inbuilt Foot Lift Structure	32
K. Impact Controller System	34
L. Accessories	36

A. ARM MECHANISM (1/2)



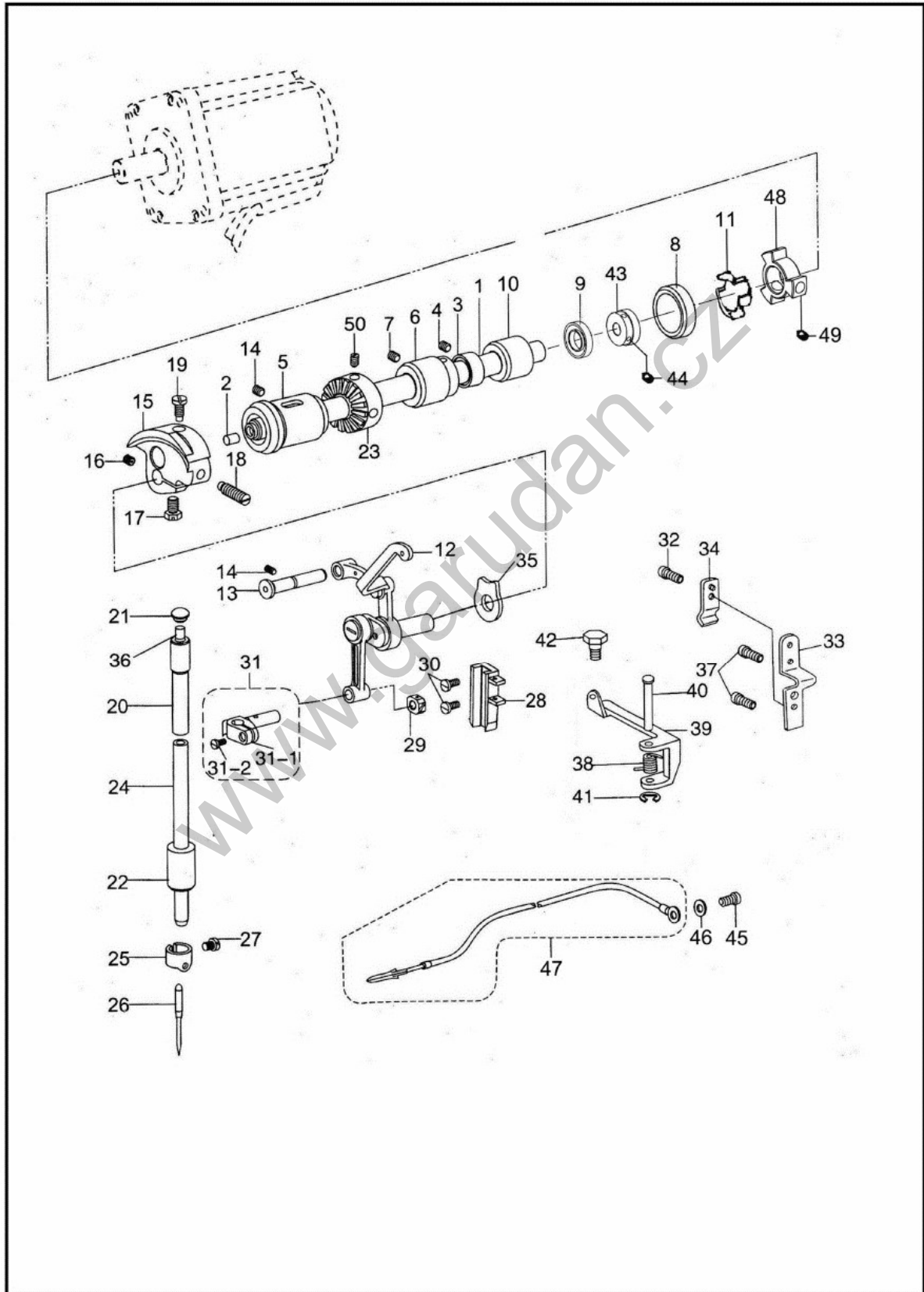
A. ARM MECHANISM (1/2)					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
1	A1	Face plate		1	
2	A2	Face plate screw		3	
3	A3	Face plate thread guide		1	
4	A4	Thread guide		1	
5	A5	Face plate thread guide screw		2	
6	A6	Bobbin thread tension assy		1	
7	A6-1	Bobbin thread tension rod		1	
8	A6-2	Screw type tension rod		1	
9	A6-3	Disc for pretension		2	
10	A6-4	Spring for pretension		1	
11	A6-5	Nut type tension stud		1	
12	A7	Screw		1	
13	A8	Electronic thread clamp device		1	
14	A9	Thread tension assy		1	
15	A9-1	Thread tension screw		1	
16	A9-2	Tension devices net assy		1	
17	A9-3	Tension devices spring		1	
18	A9-4	Thread tension plate		1	
19	A9-5	Tension device plate		2	
20	A9-6	Thread take-up spring		1	
21	A9-7	Thread tension regulation holder		1	
22	A9-8	Screw		1	
24	A9-10	Thread tension net stop plate		1	
25	A9-11	O-ring		1	
26	A10	Screw		1	
27	A11	Thread take-up lever cover		1	
28	A12	Screw		1	
29	A13	Three holes thread guide plate		1	
30	A14	Screw		3	
31	A15	Thread tension pin		1	
32	A16	Thread release pin		1	
33	A17	Two holes thread guide plate		2	
34	A18	Cloth guide plate		1	
35	A19	Set screw		2	
36	A20	Bed screw stud		4	
37	A21	Spring washer		4	
38	A22	Arm		1	
39	A23	Bed		1	
40	A24	Slide plate assy		1	
41	A24-1	Slide plate		1	

A. ARM MECHANISM (2/2)



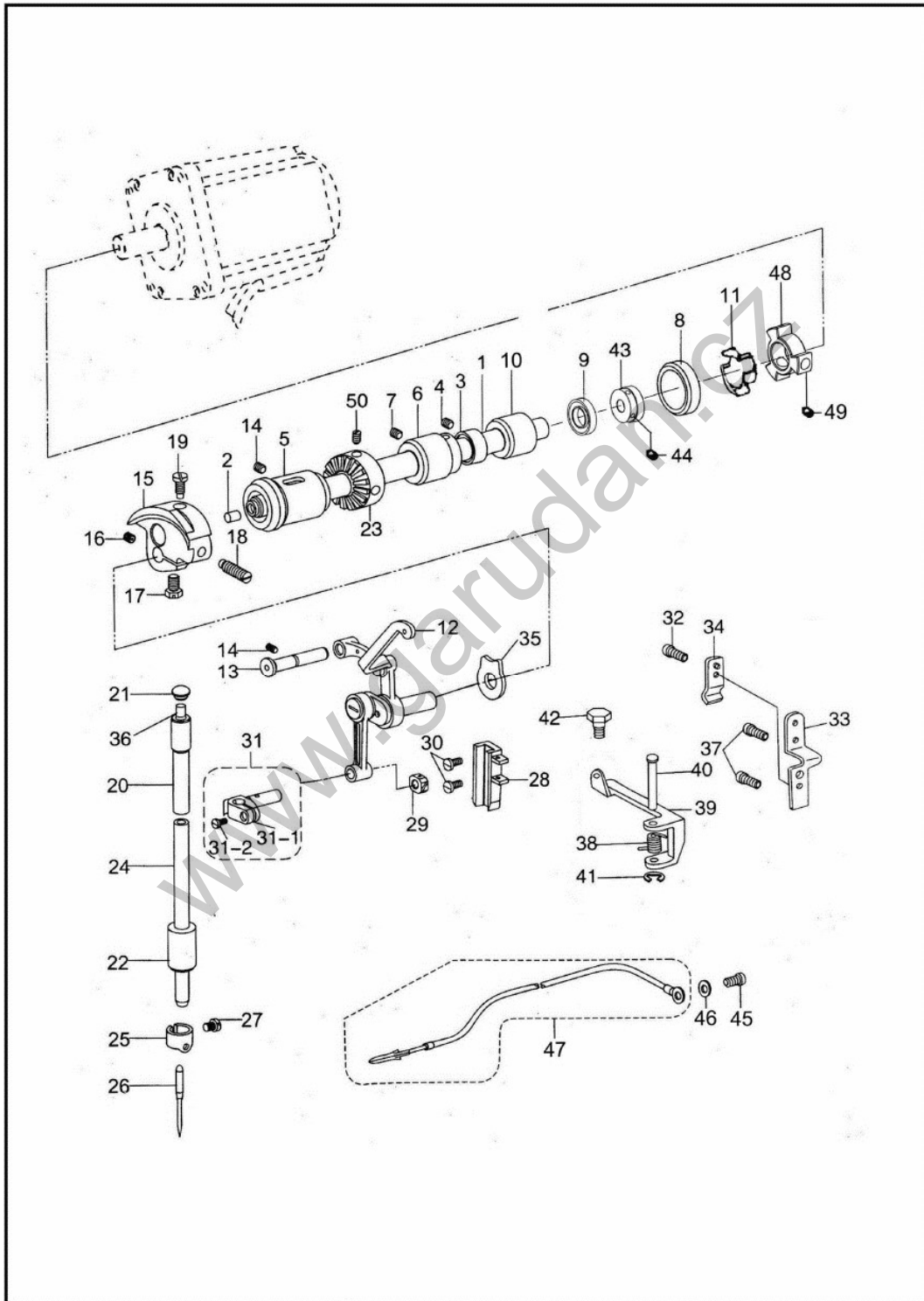
A. ARM MECHANISM (2/2)					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
42	A24-2	Slide plate spring		1	
43	A24-3	Slide plate screw		2	
44	A25	Needle plate		1	
45	A26	Needle plate screw		2	
46	A27	Bobbin winder unit		1	
47	A28	Screw		3	
48	A29	Screw		1	
49	A30	Knife		1	
50	A31	Bobbin thread tension assy		1	
51	A31-1	Tension nut		1	
52	A31-2	Washer		1	
53	A31-3	Tension spring		2	
54	A31-4	Disc tension		1	
55	A31-5	Disc tension		1	
56	A31-6	Thread tension guide		1	
57	A31-7	Nut		1	

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



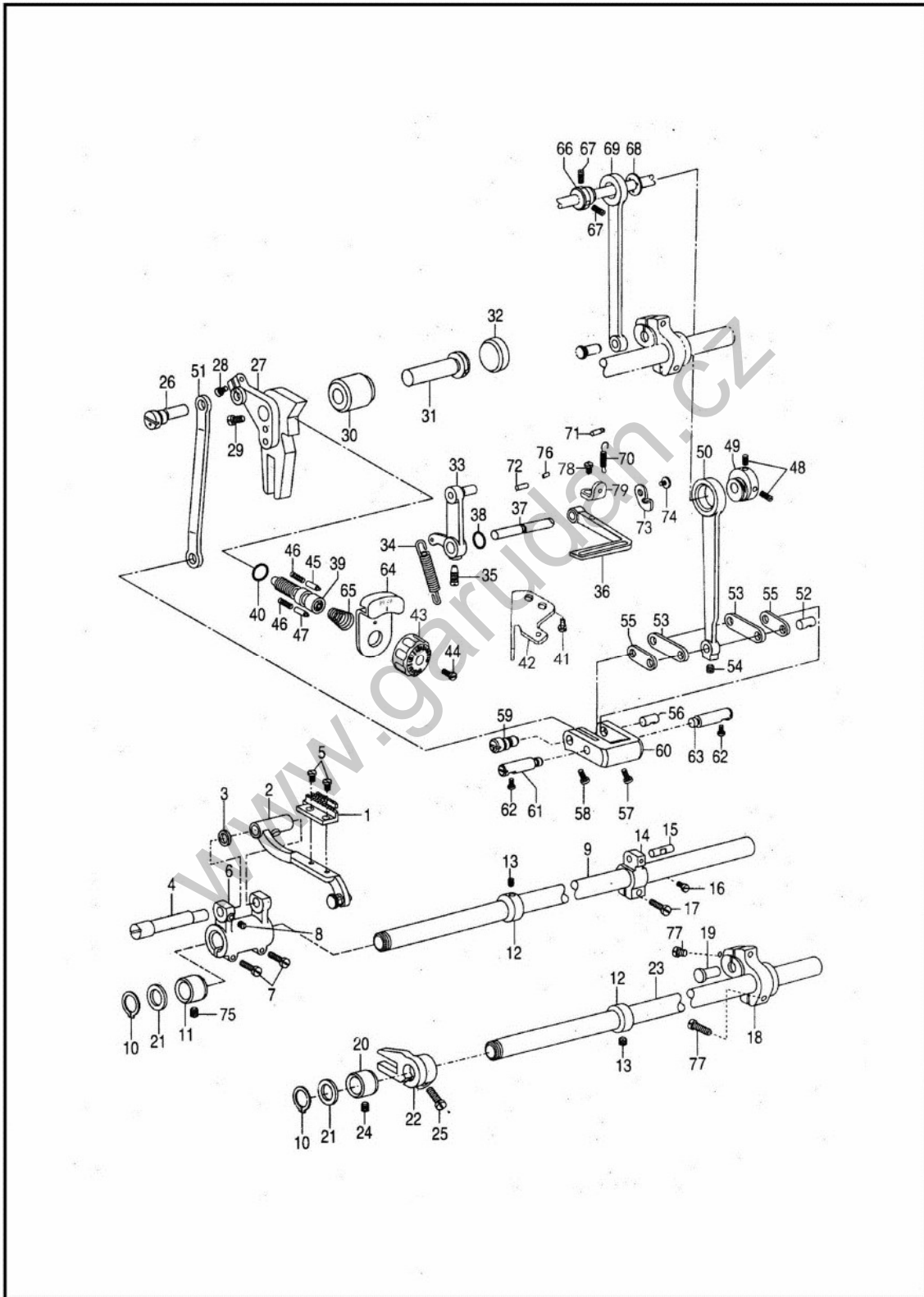
B. NEEDLE BAR AND THREAD TAKE-UP MECHANISM (1/2)					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
1	B1	Arm shaft		1	
2	B2	Rubber plug		1	
3	B3	Collar for arm shaft		1	
4	B4	Set screw		2	
5	B5	Arm shaft bushing (left)		1	
6	B6	Arm shaft bushing (middle)		1	
7	B7	Set screw		1	
8	B8	Needle bearing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

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



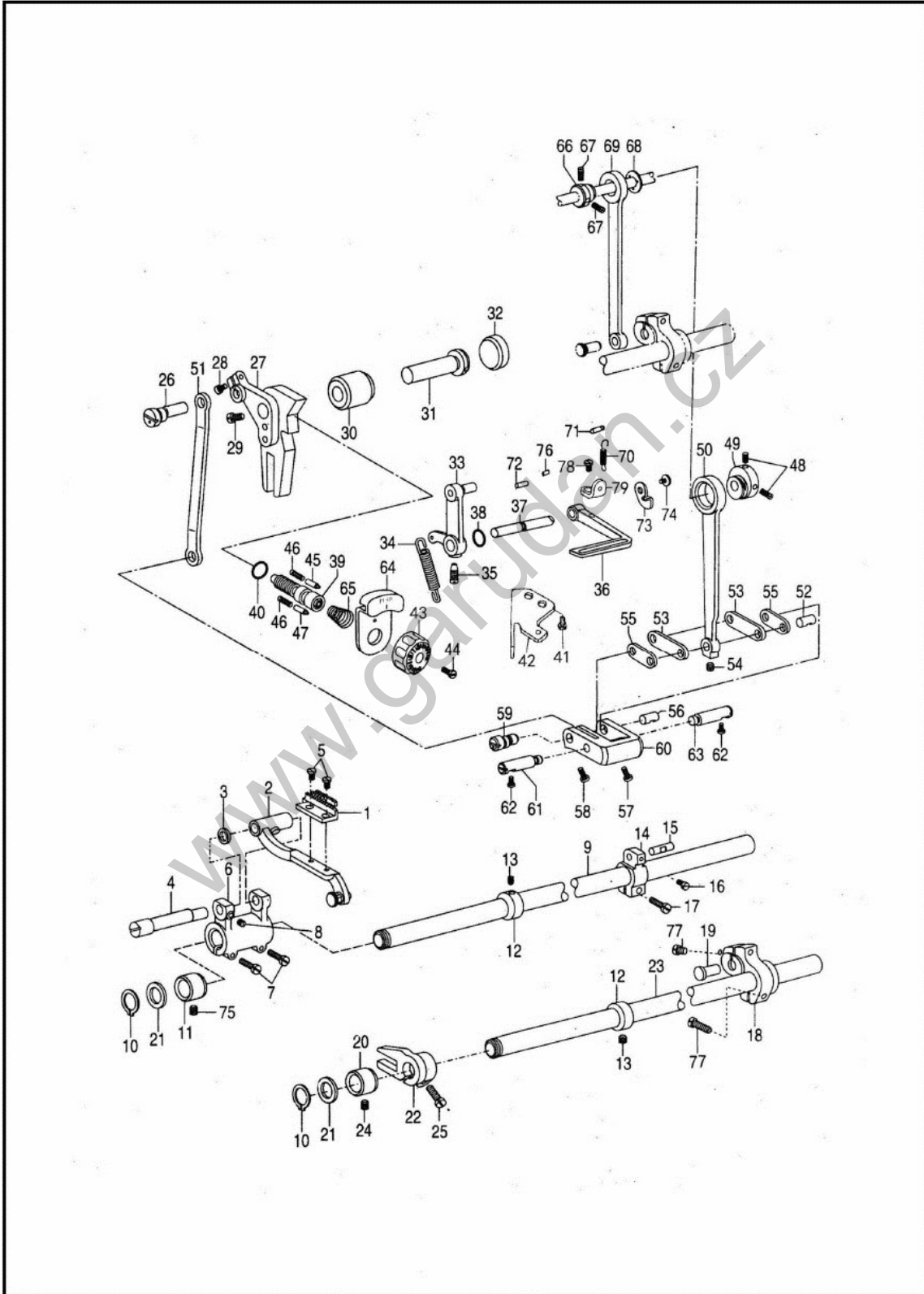
B. NEEDLE BAR AND THREAD TAKE-UP MECHANISM (2/2)					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
41	B39	Loose thread hinge		1	
42	B40	Pin		1	
43	B41	Retaining ring		1	
44	B42	Screw		1	
45	B43	Connect block		1	
46	B44	Screw		2	
47	B45	Screw		1	
48	B46	Washer		1	
49	B47	Ground wire assy		1	
50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

C. FEED MECHANISM COMPONENTS (1/2)



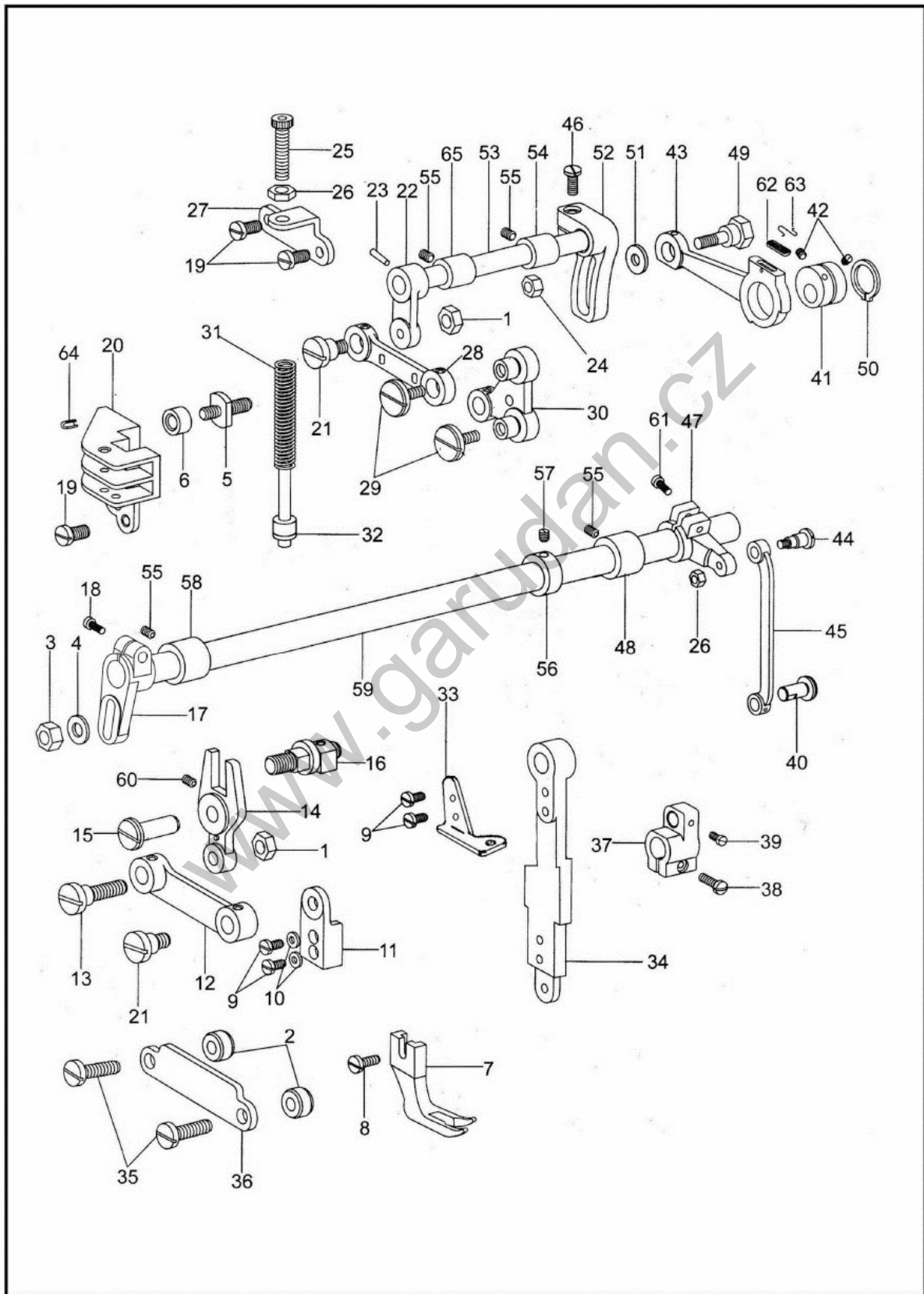
C. FEED MECHANISM COMPONENTS (1/2)					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
1	C1	Feed dog		1	
2	C2	Feed bar assembly		1	
3	C3	Washer		1	
4	C4	Shaft for feed bar		1	
5	C5	Screw		2	
6	C6	Feed rock crank		1	
7	C7	Screw		2	
8	C8	Screw		1	
9	C9	Feed rock shaft		1	
10	C10	Type stop ring		2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

C. FEED MECHANISM COMPONENTS (2/2)



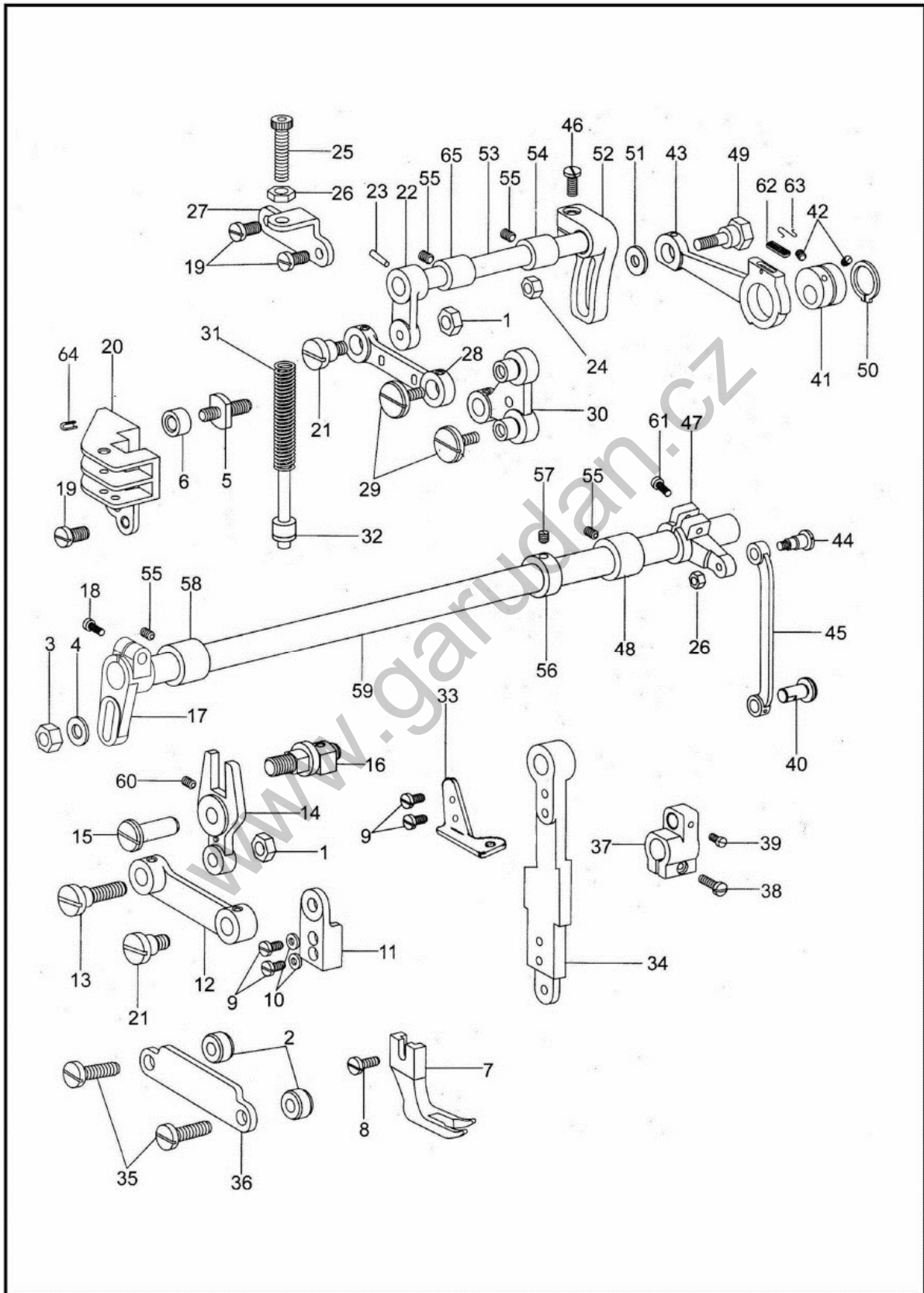
C. FEED MECHANISM COMPONENTS (2/2)					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
41	C41	Screw		2	
42	C42	Spring stand		1	
43	C43	Dial face		1	
44	C44	Screw		1	
45	C45	Stopper pin		1	
46	C46	Spring for stopper pin		2	
47	C47	Dial stopper pin		1	
48	C48	Screw		3	
49	C49	Feed shaft connecting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

D. FEED MECHANISM (1/2)



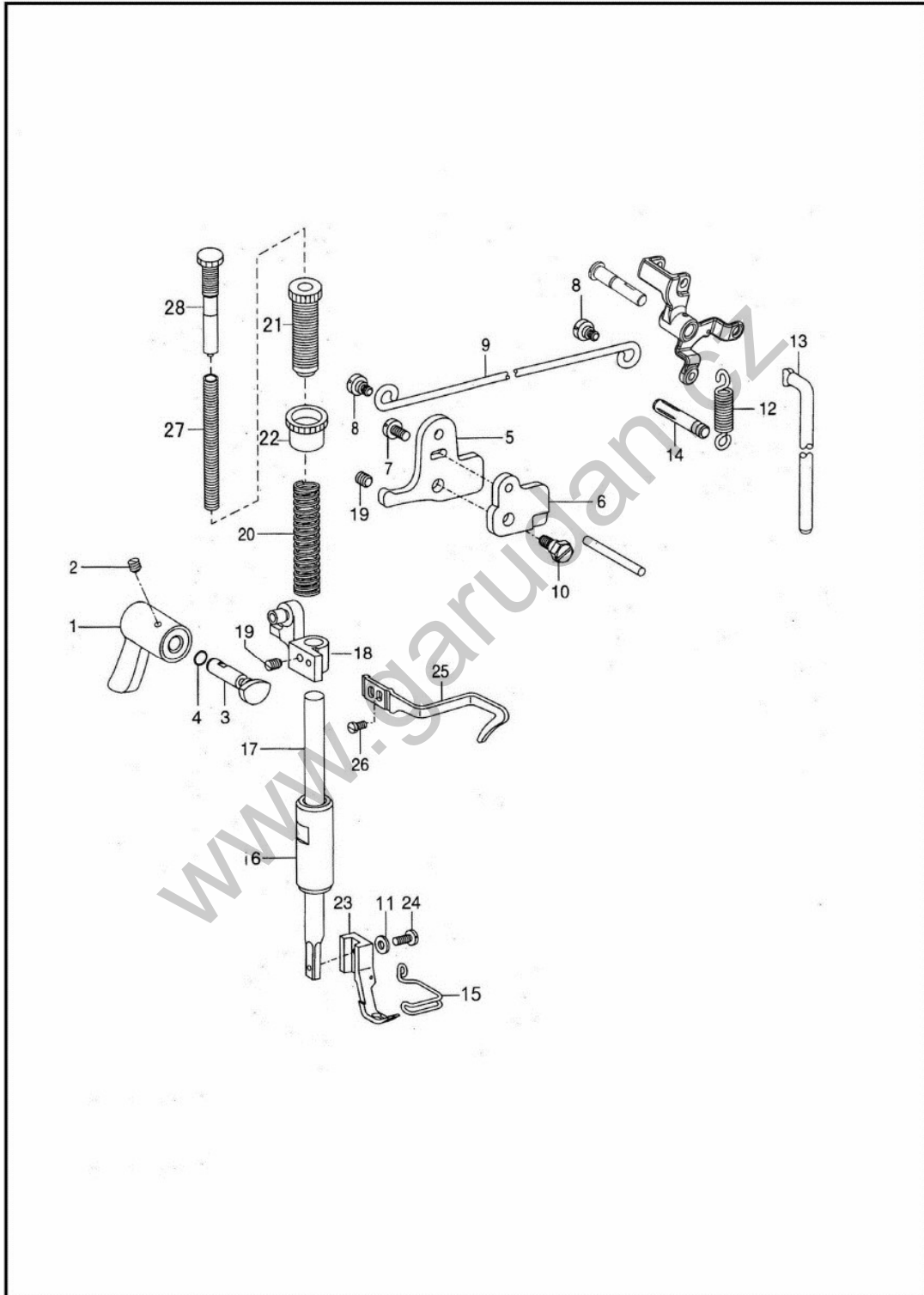
D. FEED MECHANISM (1/2)					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
1	D1	Nut		2	
2	D2	Spacer		2	
3	D3	Nut		1	
4	D4	Washer		1	
5	D5	Guide shaft		1	
6	D6	Needle of bearing		1	
7	D7	Working foot		1	
8	D8	Screw		1	
9	D9	Screw		4	
10	D10	Spacer		2	
11	D11	Holder for walking foot bar		1	
12	D12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

D. FEED MECHANISM (2/2)



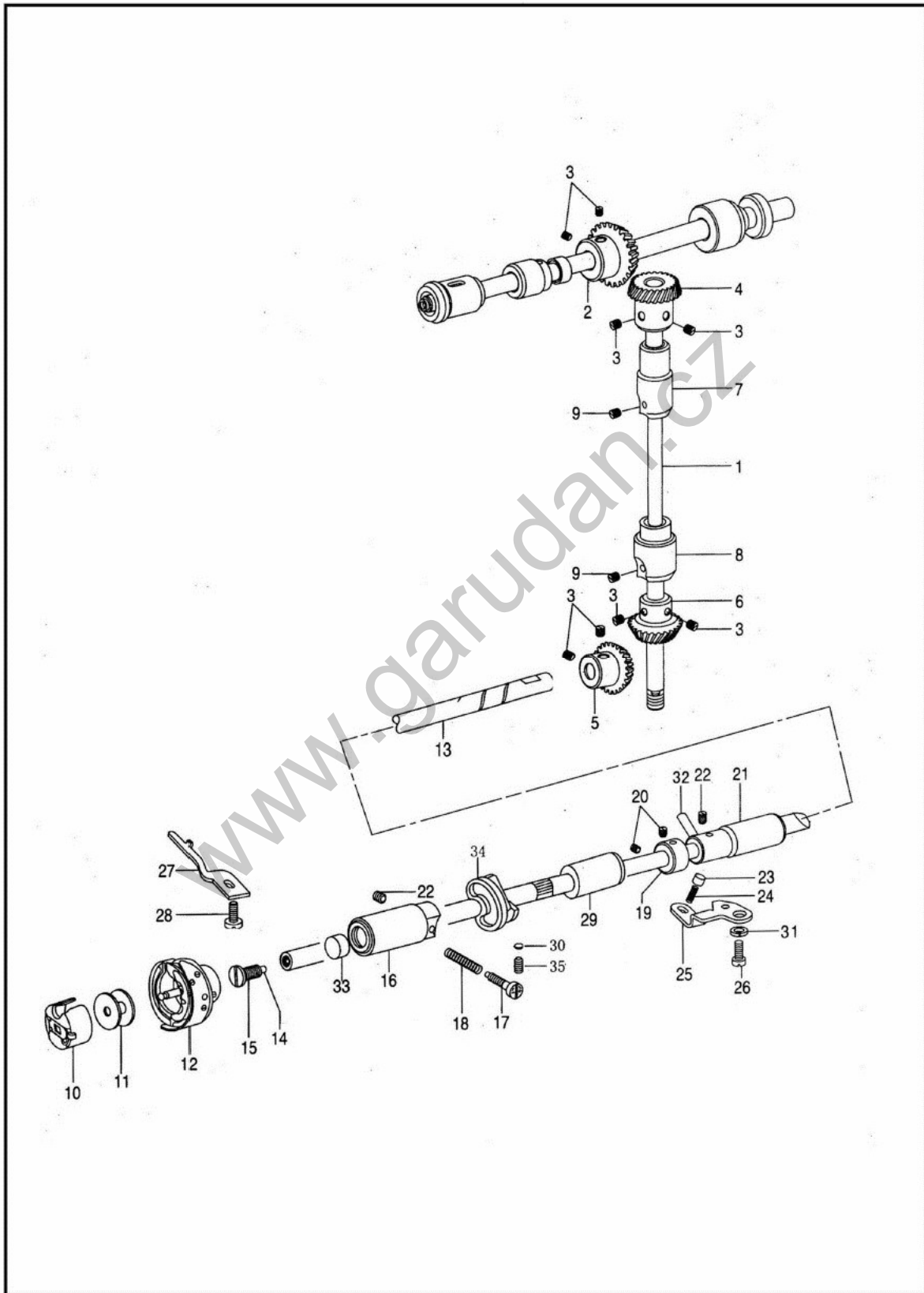
D. FEED MECHANISM (2/2)					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
41	D41	Eccentric cam		1	
42	D42	Screw		2	
43	D43	Link complete		1	
44	D44	Screw		1	
45	D45	Link		1	
46	D46	Screw		1	
47	D47	Pear crank		1	
48	D48	Rear bushing		1	
49	D49	Screw		1	
50	D50	Split ring		1	
51	D51	Washer		1	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

E. PRESSER FOOT MECHANISM



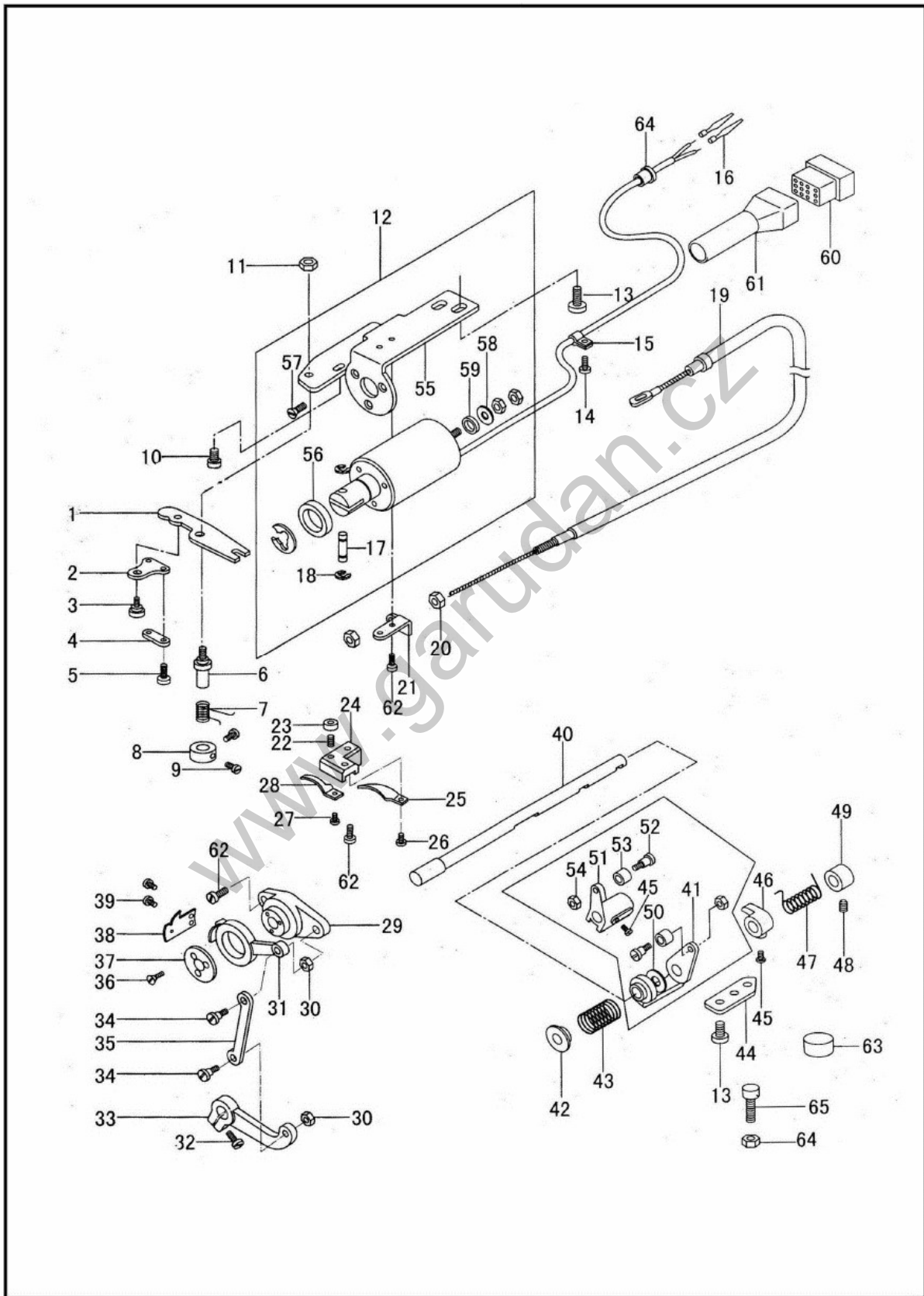
E. PRESSER FOOT MECHANISM					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
1	E1	Presser bar lifter		1	
2	E2	Set screw		1	
3	E3	Presser bar lifting cam		1	
4	E4	O-ring		1	
5	E5	Scar		1	
6	E6	Tension releasing cam		1	
7	E7	Scar		1	
8	E8	Hinge screw		2	
9	E9	Knee lifter rod		1	
10	E10	Bolt		1	
11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

F. ROTARY HOOK MECHANISM



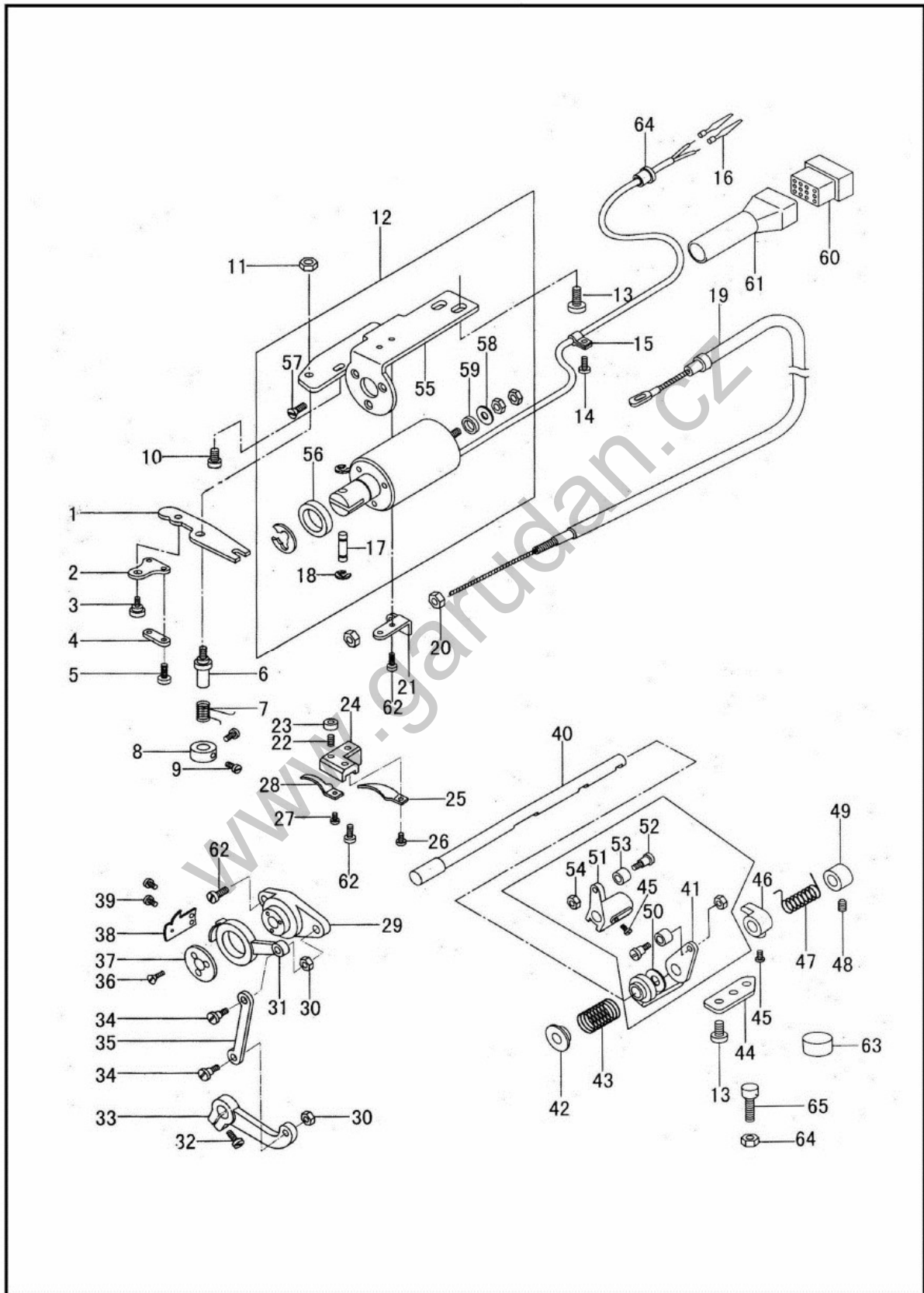
F. ROTARY HOOK MECHANISM					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
1	F1	Vertical shaft		1	
2	F2	Bevel gear for arm shaft		1	
3	F3	Set screw		8	
4	F4	Bevel gear for vertical shaft (upper)		1	
5	F5	Bevel gear for hook shaft		1	
6	F6	Bevel gear for vertical shaft (lower)		1	
7	F7	Vertical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

G. THREAD TRIMMER MECHANISM (1/2)



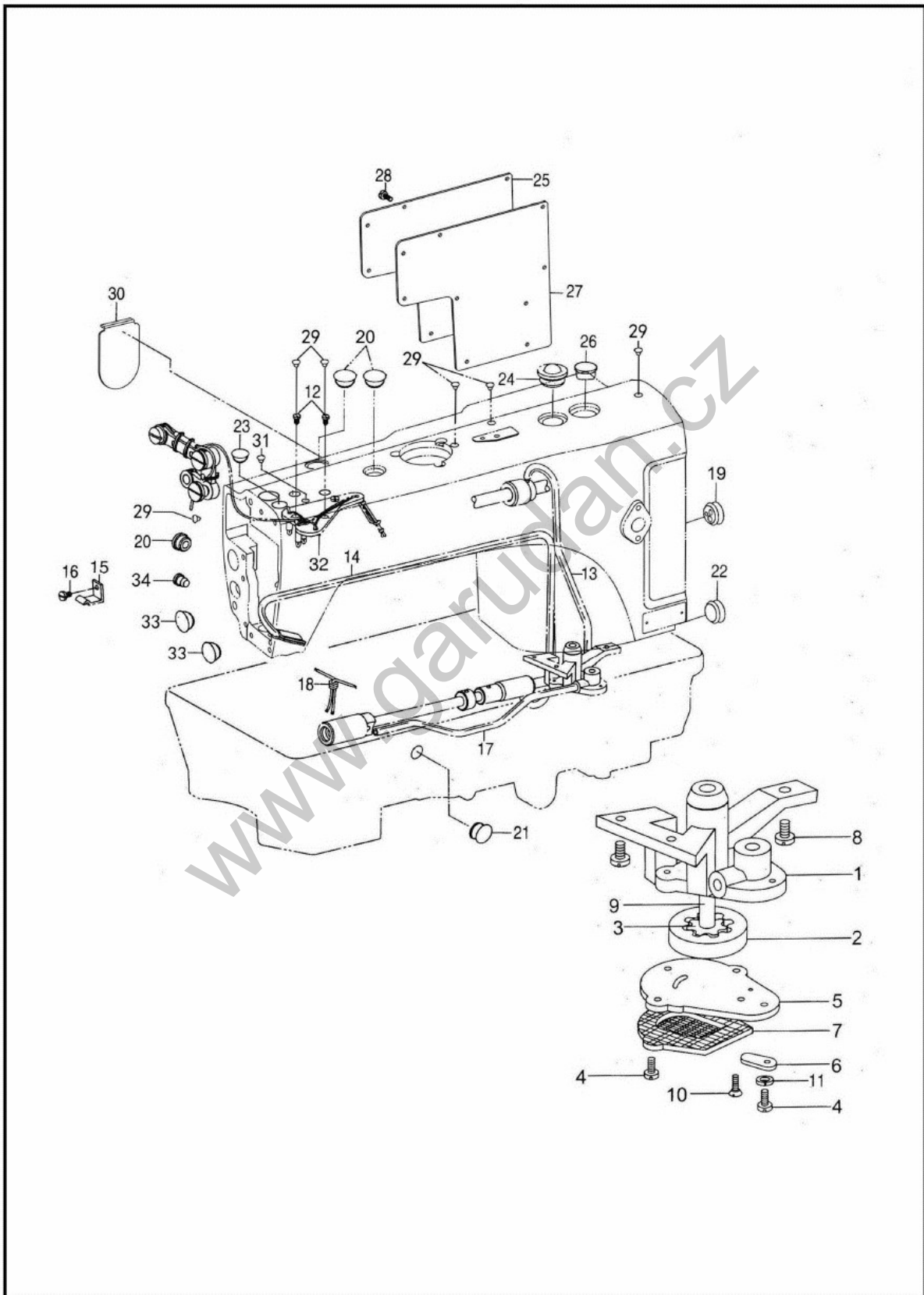
G. THREAD TRIMMER MECHANISM (1/2)					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
1	G1	Drive plate		1	
2	G2	Flexible support plate		1	
3	G3	Screw		1	
4	G4	Flexible connecting plate		1	
5	G5	Screw		1	
6	G6	Drive plate shaft		1	
7	G7	Drive plate spring		1	
8	G8	Drive plate Shaft locking ring	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

G. THREAD TRIMMER MECHANISM (2/2)



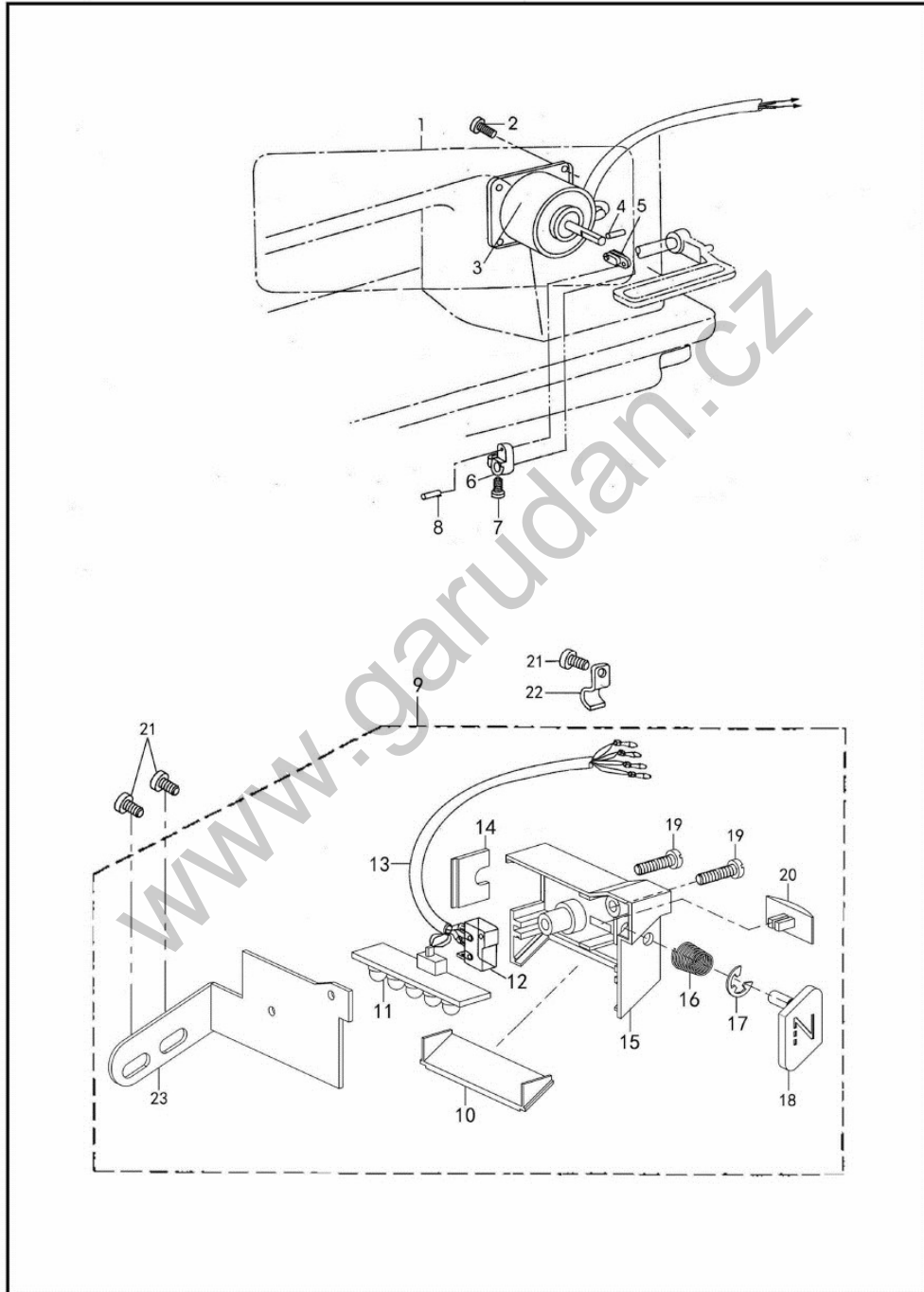
G. THREAD TRIMMER MECHANISM (2/2)					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
41	G41	Thread shear cam crank		1	
42	G42	Spring end cover		1	
43	G43	Spring		1	
44	G44	Locking plate		1	
45	G45	Screw		3	
46	G46	Stopper		1	
47	G47	Spring		1	
48	G48	Screw		2	
49	G49	Cam retaining ring		1	
50	G50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

H. LUBRICATION



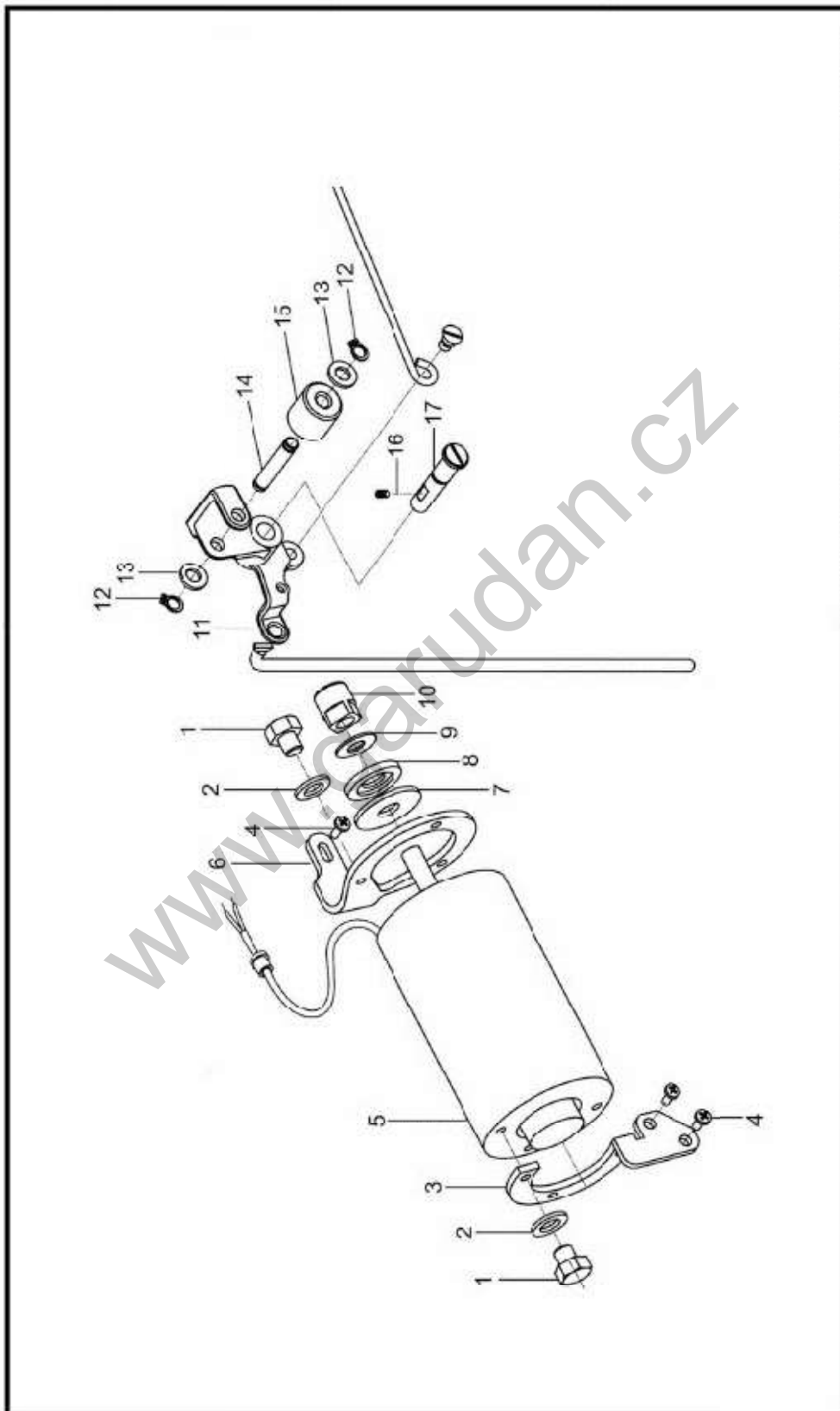
H. LUBRICATION					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
1	H1	Oil pump body		1	
2	H2	Big gear for oil pump		1	
3	H3	Small gear for oil pump		1	
4	H4	Screw		3	
5	H5	Oil pump felting plate		1	
6	H6	Adjusting plate oil pump		1	
7	H7	Oil pump screen complete		1	
8	H8	Screw		3	
9	H9	Shaft for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

I. REVERSE FEED COMPONENTS



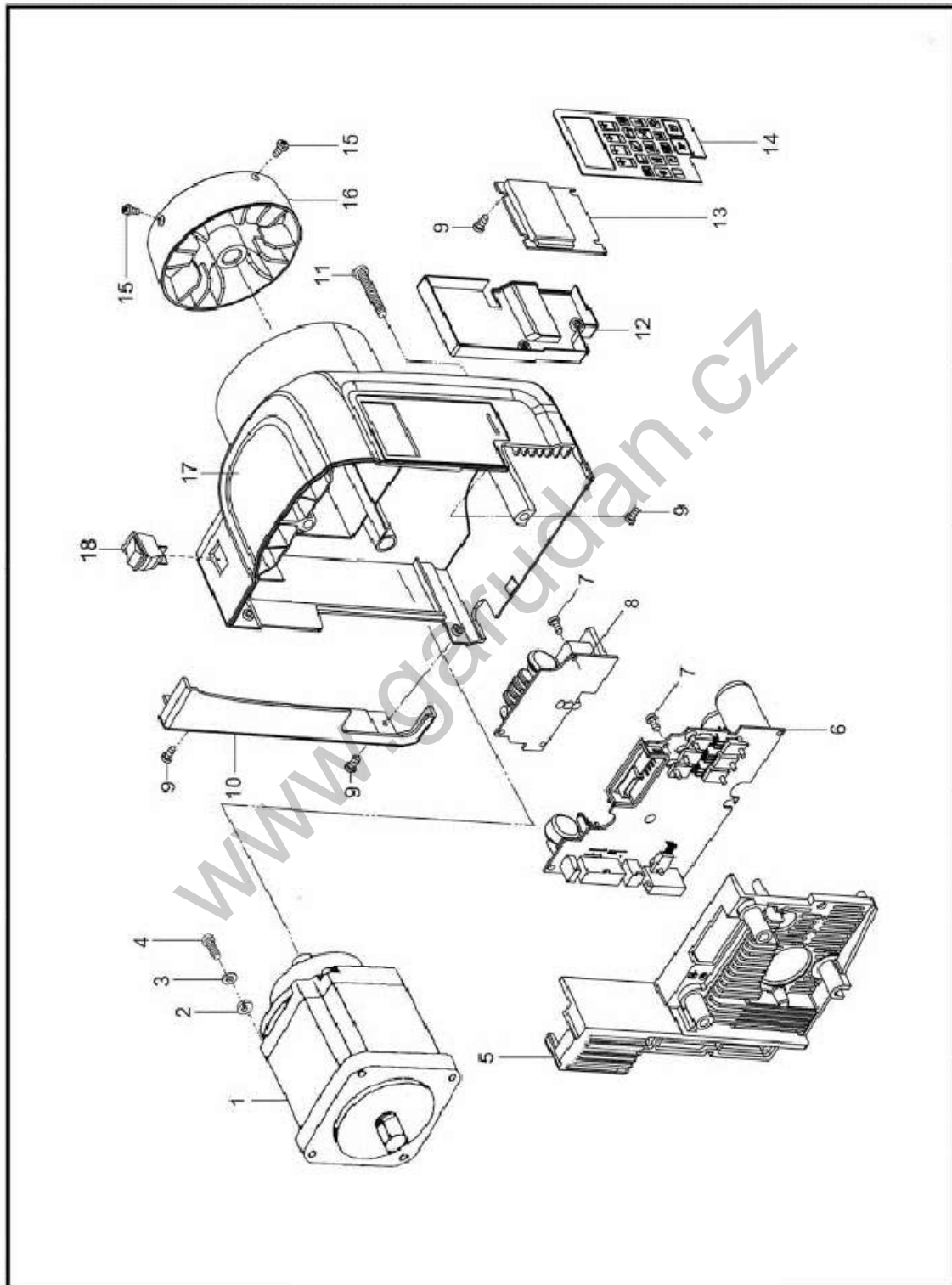
I. REVERSE FEED COMPONENTS					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
1	I1	Reverse feed magnet assy		1	
2	I2	Screw		4	
3	I3	Reverse feed magnet		1	
4	I4	Connecting rod pin		1	
5	I5	Connecting rod		2	
6	I6	Crank		1	
7	I7	Screw		1	
8	I8	Crank pin		1	
9	I9	Reverse feed switch assy		1	
10	I10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

J. INBUILT FOOT LIFT STRUCTURE



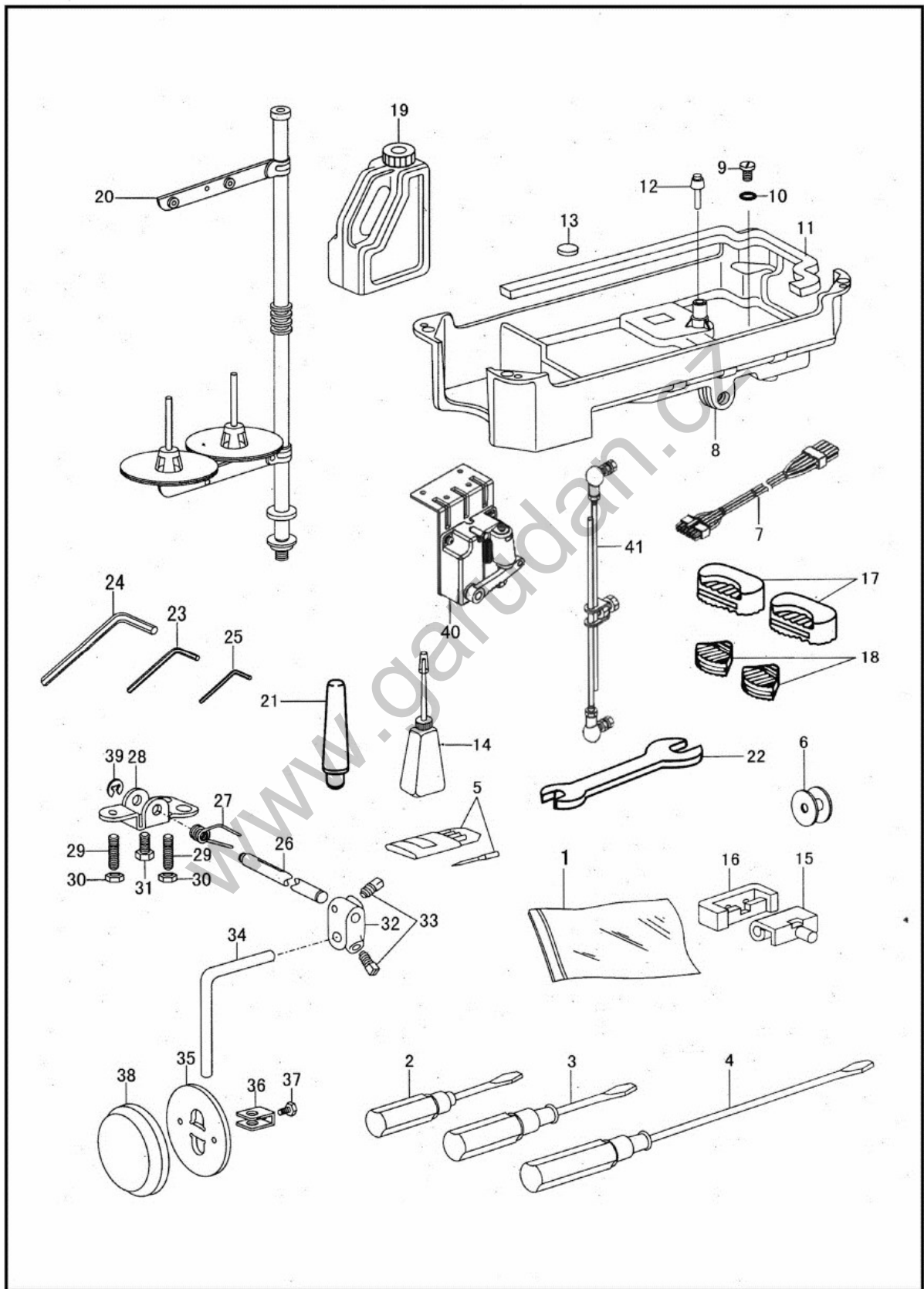
J. INBUILT FOOT LIFT STRUCTURE					
Ref.No	Parts No.	Name of parts	Description	Qty	Note
1	J1	Bolt		6	
2	J2	Spring gasket		6	
3	J3	Left carriage		1	
4	J4	Screw 3/16x28 L=9		3	
5	J5	Foot lift electromagnet		1	
6	J6	Right carriage		1	
7	J7	Rubber cushion A		1	
8	J8	Rubber cushion B		1	
9	J9	Washer		1	
10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

K. IMPACT CONTROLLER SYSTEM



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

L. ACCESSORIES



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