User's Manual
and Spare Parts Book

GARUDAN®

GF-1107-147 MH

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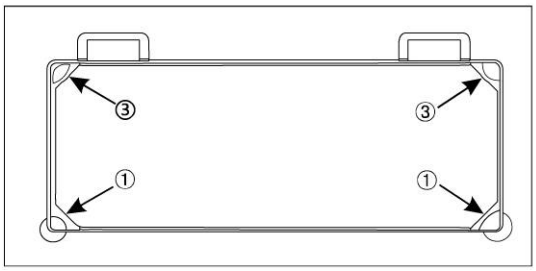
MP02300EN_170818

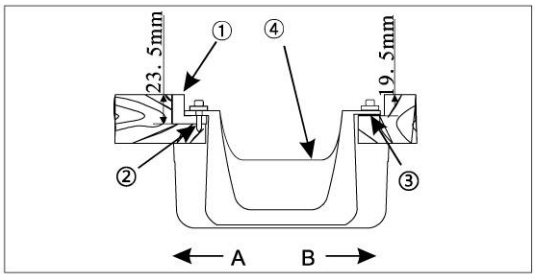
Content

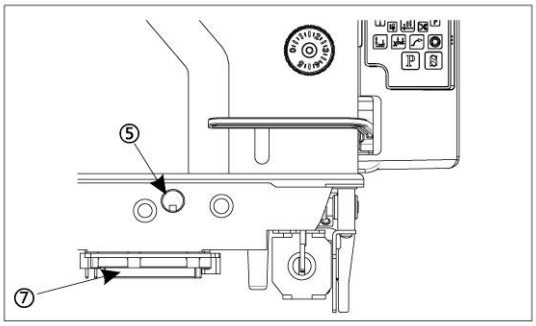
1. Specification

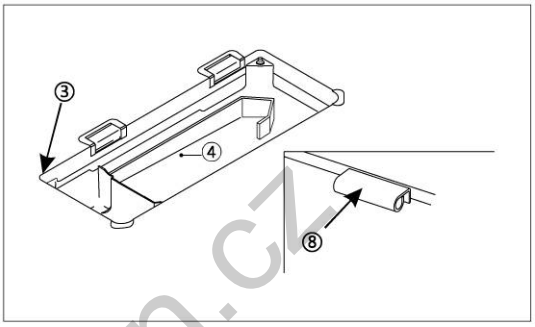
Application	
Sewing speed	3500 rpm
Stitch length	0 ~ 4mm
Needle	DP×5 9 # ~ 18#
Presser foot lift	By hand lifter 8mm（standard） By knee lifter 15mm（max.）
Oil	Hook：White Oil No. 10 Gear Box：Shell Tellus Oil No. 22
Rated power	550W

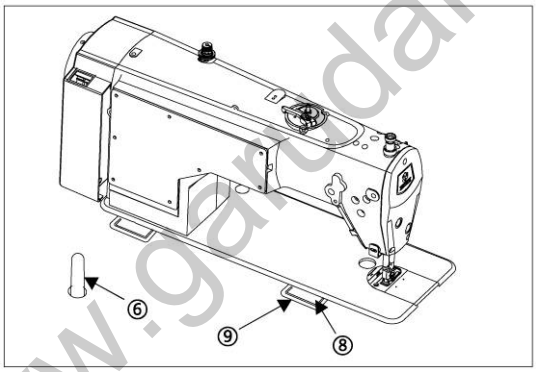
2. Installing the oil pan











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

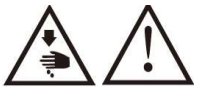
2 Two rubber seats ① for supporting the head portion on the operator side A are fixed on the extended portion of the table by hitting the nails ②, and the other two rubber cushion seats ③ on the hinged side B are fixed by using a rubber- based adhesive. Then, oil pan ④ is placed

3 Remove air vent cap ⑤ attached to the machine bed; (Be sure to attached cap when transporting the machine head in the state that the machine head is removed from the machine table.)

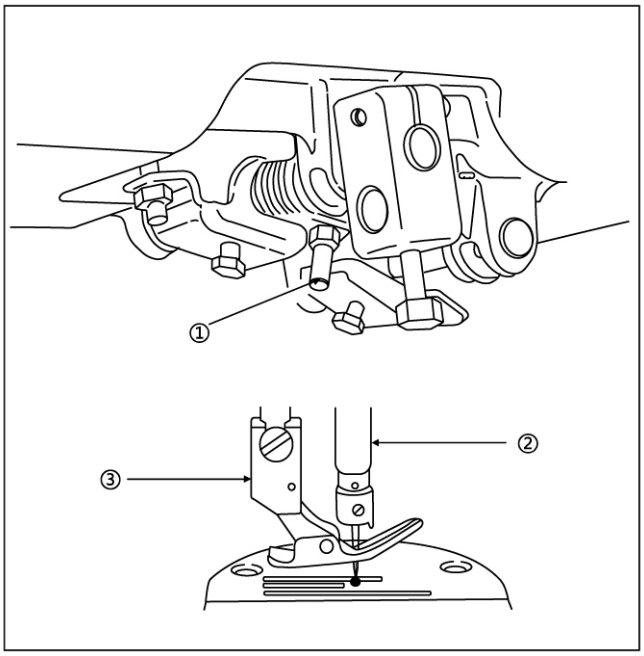
4 Fit hinge ⑧ into the opening in the machine bed, and fit the machine head to table rubber hinge ⑨ before placing the machine head on cushions ③ on the four corners.

Caution: If the sewing machine is operated without removing air vent cap ⑤, oil leakage from gearbox portion ⑦ may occur.

3. Adjusting the height of the knee lifter



Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

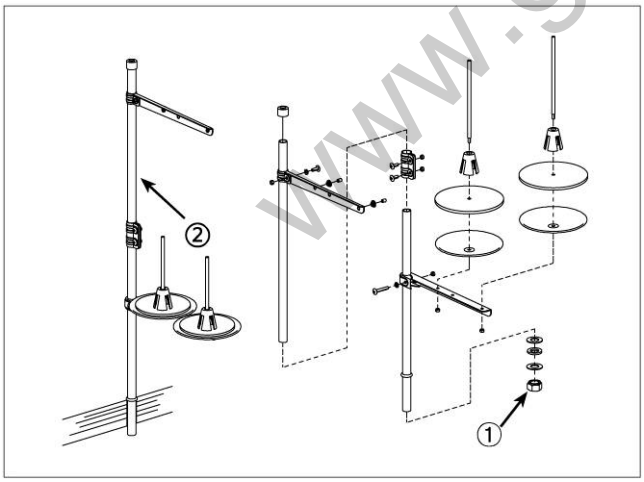


1. The standard height of the presser foot lifted using the knee lifter is 10mm.

2. You can adjust the presser foot lift up to 15mm using knee lifter adjust screw ①.

Caution: Do not operate the sewing machine state that the presser foot ③ is lifter 10mm or more since the needle bar ② in contact with the presser foot ③.

4. Installing the thread stand



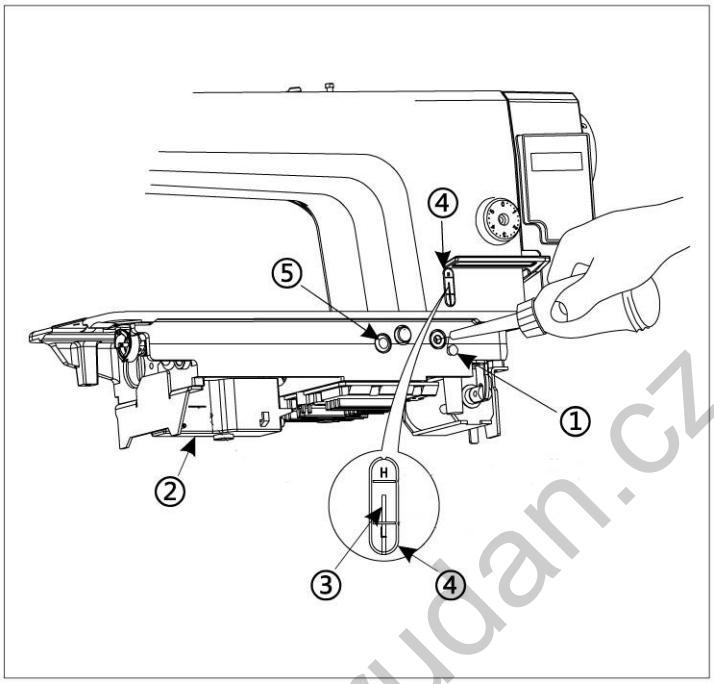
1. Assemble the thread stand unit, and insert it in the machine table.

2. Tighten locknut ① to fix the thread stand.

3. For ceiling wiring, pass the power cord through spool rest rod ②.

5. Lubrication

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



Fill the oil tank with oil for hook lubrication before the sewing machine.

1. Tilt the machine head until it comes in contact with the head support rod.

2. Remove oil hole cap ① and fill the oil tank with ZJ NO. 1 using the oiler supplied with the machine.

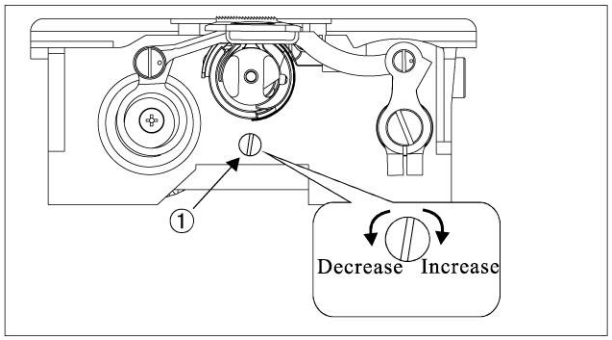
3. The amount of oil should reach up to the engraved maker line of oil tank ②. If the oil is filled excessively, it will leak from the air vent hole in the oil tank or proper lubrication will be not performed. So, be careful.

4. when you operate the sewing machine, refill oil if the top end of oil amount indicating rod ③ comes down to the lower engraved marker line of oil amount indicating rod comes down to the lower engraved marker line of oil amount indicating window④.

Caution: 1.When you use a new sewing machine or a sewing machine after an extended period of disuse, run you machine at 3, 00 to 3, 500rpm for the purpose of break- in. 2. Do not remove rubber plug ③.

6. Adjusting the amount of oil in the hook

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



Adjustment of the amount of oil in the hook is performed with oil amount adjustment screw.

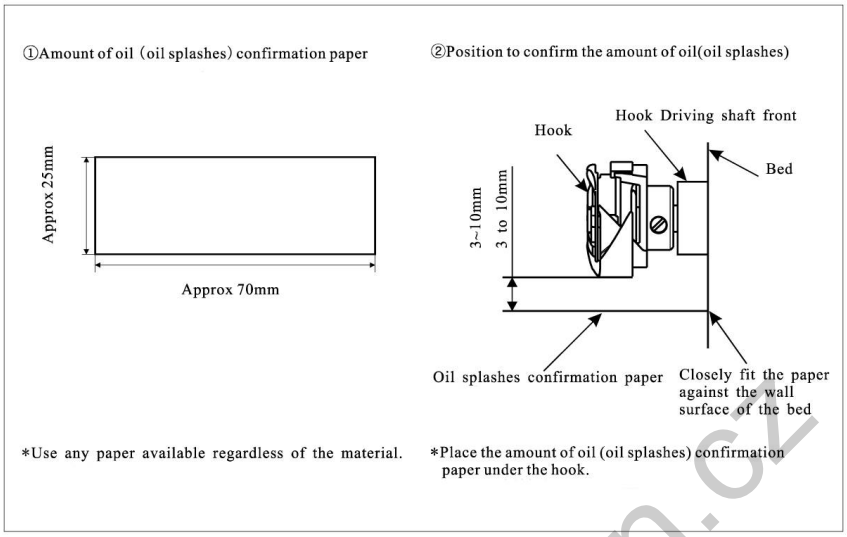
Adjustment procedure:
Tighten (turn clockwise) oil amount adjustment screw ① to increase the amount of oil in the hook, or loosen (turn counterclockwise) to decrease it.

Caution: 1.When using RP hook (hook for dry head) for the SS type, be sure to loosen the oil amount adjustment screw up to the minimum so as to reduce the oil amount in the hook.

2. Never drain the oil in the oil tank even when RP hook (hook for dry head) is used.

7. Adjusting the amount of oil (oil splashes)

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



1. How to confirm the amount of oil (oil splashes)

When carrying out the procedure described below in 2, remove the slide plate and take extreme caution not to allow your fingers to come in contact with the hook.
1) If the machine has not been sufficiently warmed up for operation, make the machine run idle for approximately three minutes. (Moderate intermittent operation)

2) Place the amount of oil (oil splashes) confirmation paper under the hook while the sewing machine is in operation.

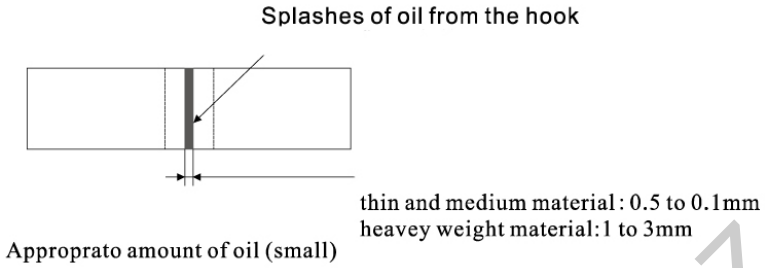
3) Confirm that oil exists in the oil tank.

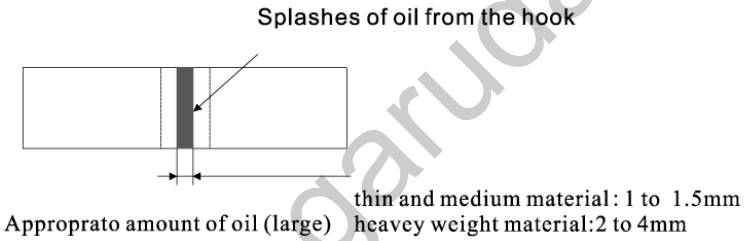
4) Confirmation of the amount of oil should be completed in five seconds. (Check the period of time with a watch.)

2. Sample showing the appropriate amount of oil

1) The amount of oil shown in the samples on the left should be finely adjusted in accordance with sewing processes. Be careful not to excessively increase/ decrease the amount of oil in the hook. (If the amount of oil is too small, the hook will be sized (the hook will be hot). If the amount of oil is too much, the sewing product may be stained with oil.)

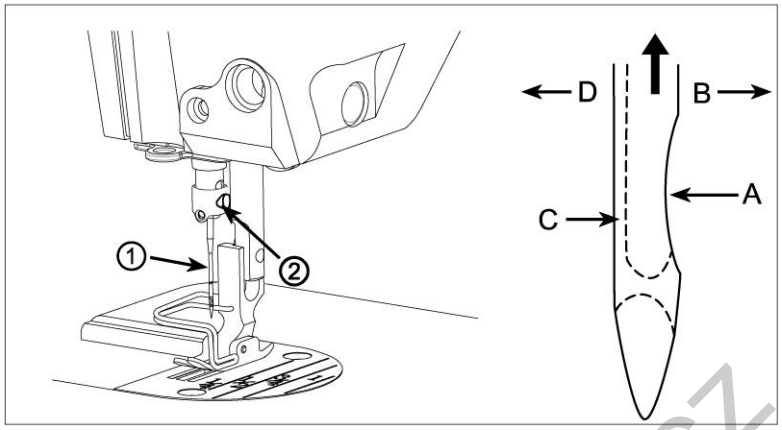
2) Adjust the amount of oil in the hook so that the oil amount (oil slashes) should not change while checking the oil amount three times (on the three sheets of paper).





8. Attaching the needle

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



A needle of DBx1 or DPx5 should be used. Select a proper needle size according to the count of thread and the type of material used.

1. Turn the hand-wheel until the needle bar reaches the highest point of its stroke.

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

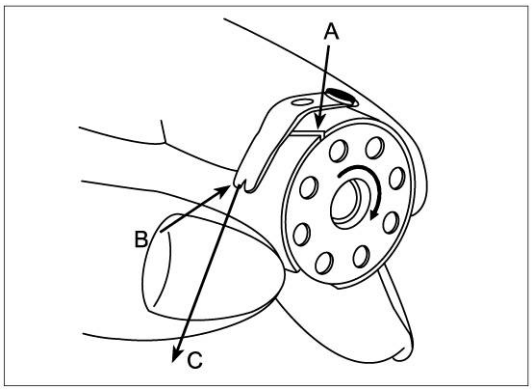
3. Insert the needle fully into the hole in the needle bar in the direction of the arrow until the end of hole is reached.

4. Securely tighten screw②.

5. Check that long groove C of the needle is facing exactly to the left in direction D.

Caution: When filament thread is used, if the indented part of the needle is tilted toward operator`s side, the loop of thread becomes unstable, As a result, hangnail of thread or thread breakage may occur. For the thread that such phenomenon likely to occur, it is effective to attach the needle with its indented part slightly slanting on the rear side.

9. Setting the bobbin into the bobbin case

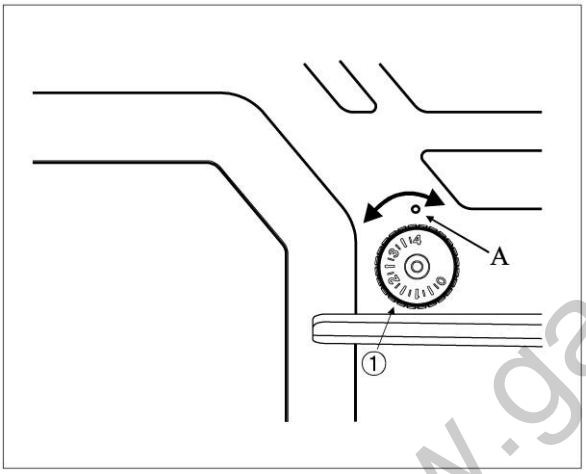


1. Install the bobbin in the bobbin case so that the thread would direction is clockwise.

2. Pass the thread through thread slit A, B so doing, the thread will pass under the tension spring and come out from notch B.

3. Check that the bobbin rotates in the direction of the arrow when thread C is pulled.

10. Adjusting the stitch length



1. Turn stitch length dial ① in the direction of arrow and align the desired number to marker dot A on the machine arm.

2. The dial calibration is in millimeters.

3. When you want to decrease the stitch length, turn stitch length dial ①.

11. Presser foot pressure

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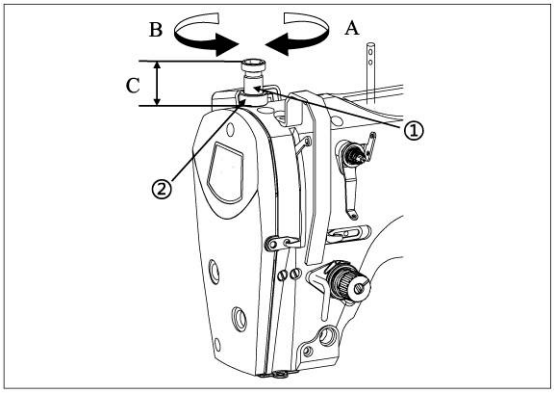


1. Loosen nut ②, as you turn presser spring regulator ① clockwise (in direction A), the presser foot pressure will be increased.

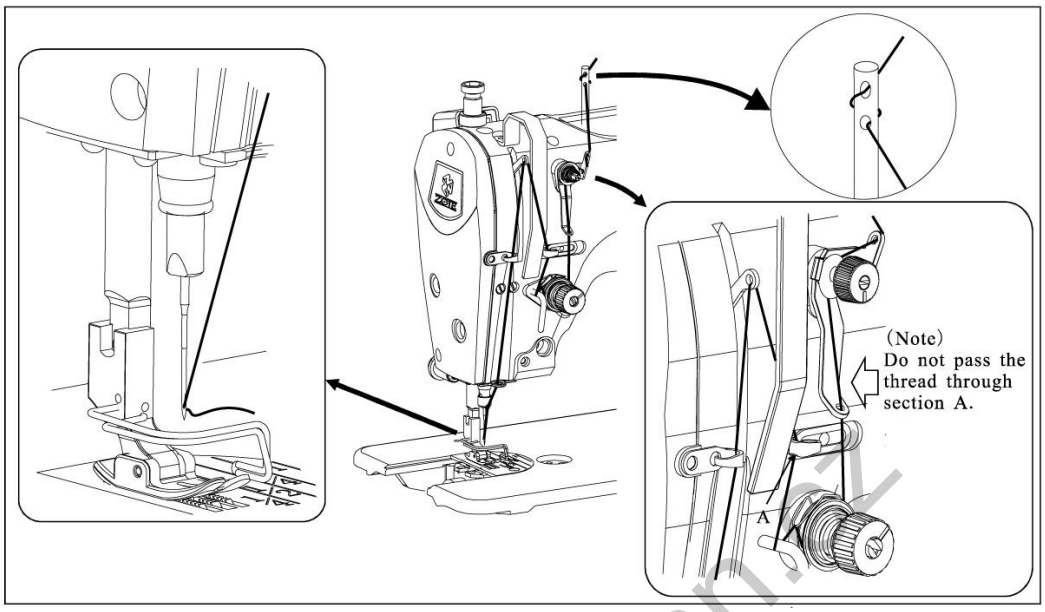
2. As you turn the presser spring regulator counterclockwise (in direction B), the pressure will be decreased.

3. After adjustment, tighten nut ②.

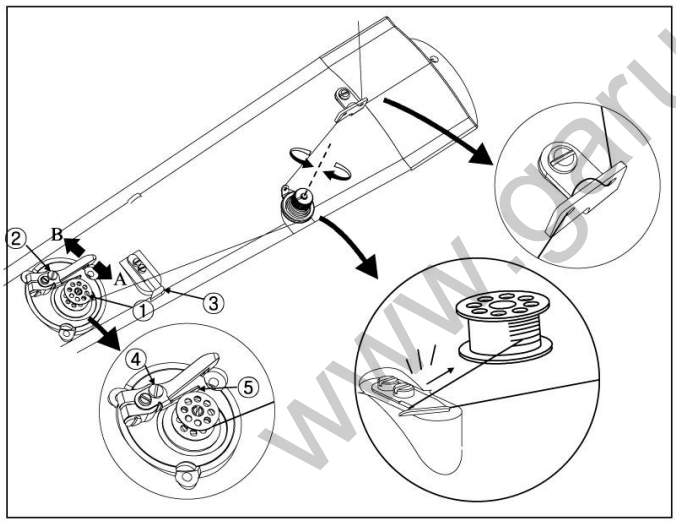
4. For general fabrics, the standard height of the presser foot spring regulator is 32 to 34 mm (4.5Kg).

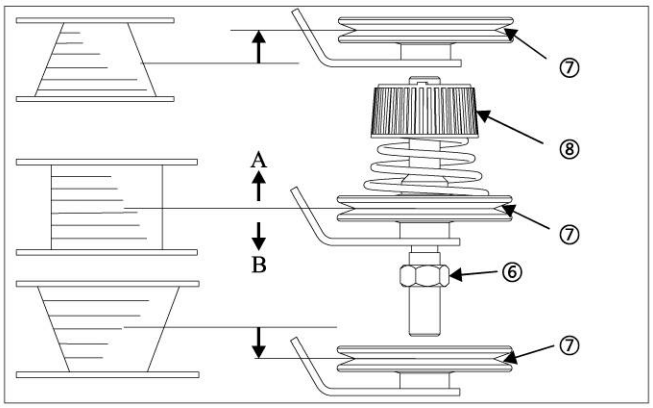
12. Threading the machine head

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



13. Winding the bobbin thread





1. Insert the bobbin deep into the bobbin winder spindle ① until it will go no further.

2. Pass the bobbin thread pulled out from the spool rested on the right side of the thread stand following the order as shown in the figure on the left. Then, wind clockwise the end of the bobbin thread on the bobbin several times.(In case of the aluminum bobbin, after winding clockwise the end of the bobbin thread, wind counterclockwise the thread coming from the bobbin thread tension several times to wind the bobbin thread with ease.)

3. Press the bobbin winder trip latch ② in the direction of A and start the sewing machine.
The bobbin rotates in the direction of C and the bobbin thread is wound up. The bobbin winder spindle ①automatically as soon as the winding is finished.

4. Remove the bobbin and cut the bobbin thread with the thread cut retainer.

5. To adjust the winding amount of the bobbin thread, loosen the setscrew ④ and move the bobbin winder adjusting plate ⑤ to the direction of A or B. Then, tighten the setscrew ④ . To the direction of A: Decrease; to the direction of B: Increase.

6. In case that the bobbin thread is not wound evenly on the bobbin, loosen the nut ⑥ and turn the bobbin thread tension to adjust the height of the thread tension disk ⑦.

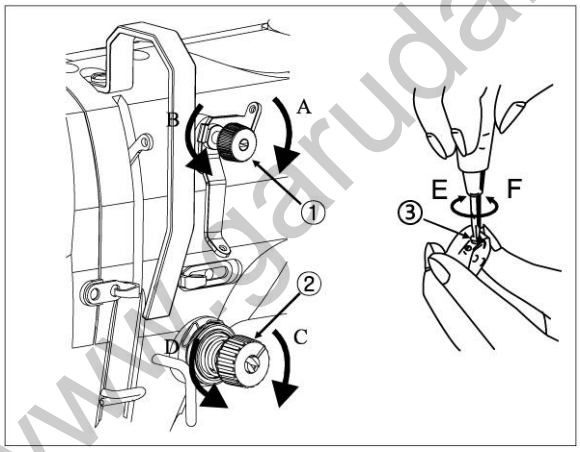
☞ It is the standard that the center of the bobbin is as high as the center of the thread tension disk.

☞ Move the position of the thread tension disk ⑦ to the direction of A as shown in the figure on the left when the winding amount of the bobbin thread on the lower part of the bobbin is excessive and to the direction of B as shown in the figure on the left when the winding amount of the bobbin thread on the upper part of the bobbin is excessive.
After the adjustment, tighten the nut ⑥.

Caution: **1. When winding the bobbin thread, start the winding in the state that the thread between the bobbin and thread tension disk ⑦is tense.**

2. When winding the bobbin thread in the state that wing is not performed, remove the needle thread from the thread path of thread take-up and remove the bobbin from the hook.

14. Thread tension



1. Adjusting the needle thread tension

1) As you turn thread tension nut ①clockwise (in direction A), the thread remaining on the needle after thread trimming will be shorter.

2) As you turn nut ① counterclockwise (in direction B), the thread length will be longer.

3) As you turn thread tension nut ② clockwise (in direction D), the needle thread tension will be increased.

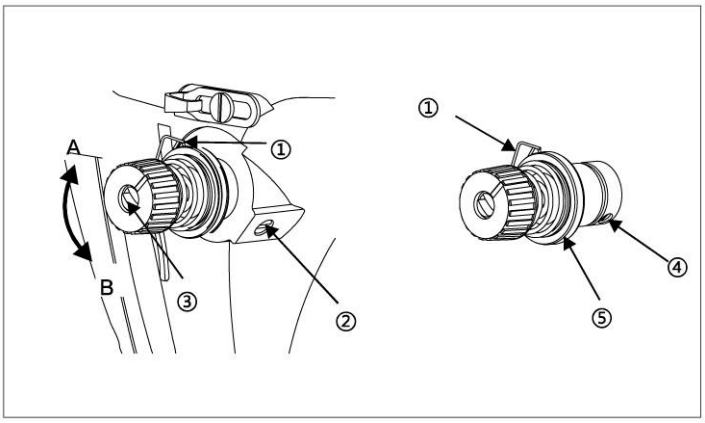
4) As you turn nut ② counterclockwise (in direction D), the needle thread tension will be decreased.

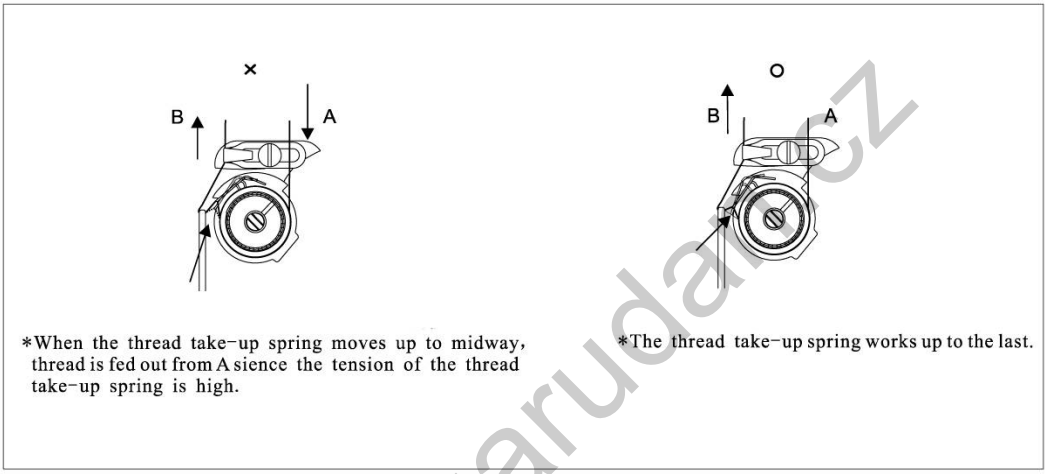
2. Adjusting the bobbin thread tension

1) As you turn tension adjust screw ③ clockwise (in direction E), the bobbin thread tension will be increased.

2) As you turn screw③ counterclockwise (in direction F), the bobbin thread tension will be decrease.

15. Thread take-up spring





1. Changing the stroke of thread take- up spring

1) Loosen setscrew ②.
2) As you turn tension post ③ clockwise (in direction A), the stroke of the thread take-up spring will be increased.
3) As you turn tension post ③ counterclockwise (in direction B), the stroke will be decreased.

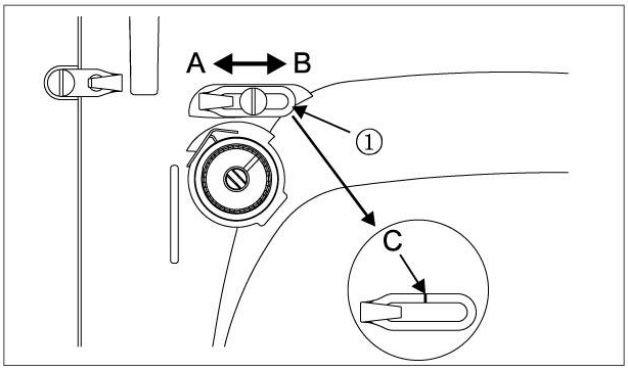
2. Changing the pressure of thread take-up spring

1) Loosen setscrew ② and remove thread tension ⑤.
2) Loosen setscrew ④.
3) As you turn tension post ③ clockwise (in direction A), the pressure will be increased.
4) As you turn tension post ③ counterclockwise (in direction B), the pressure will be decreased.
Usually, upon the machine coming out, all the take-up spring has been adjusted well, only while sew special material thread, it need to be adjusted again. To judge the work of the thread take-up spring, confirm whether or not the thread take-up spring works up to the last before needle thread is pulled out from A when pulling out needle thread in the direction of B after the pressure of the thread take-up spring has been performed. When it does not work up to the last, decrease the pressure of the thread take-up spring. In addition, the stroke of the thread take-up spring is excessively small, the spring does not work properly. For the general fabrics, a stroke of 10 to 13mm in proper.

16. Adjusting the thread take-up stroke

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

1. When sewing heavyweight materials, move thread guide ① to the left (in direction A) to increase the length of thread pulled out by the thread take-up.

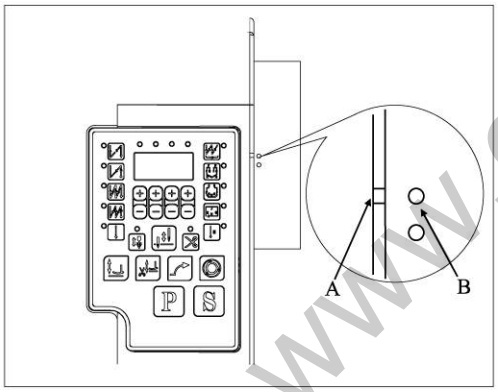


2. When sewing lightweight materials, move thread guide ① to the right (in direction A) to decrease the length of thread pulled out by the thread take-up.

3. Normally, thread guide ① is positioned in a way that marker line C is aligned with the center of the screw.

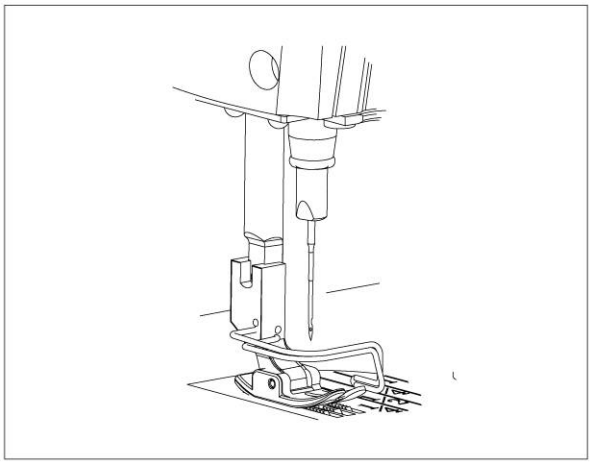
17. Adjusting the needle stop position

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



1. Stop position after thread trimming

1) The standard needle stop position is obtained by aligning marker dot A on the pulley cover with white marker dot B on the hand-wheel.
2) The needle position reference position adjustment (Parameter P-75). Set up the parameter of P-75, changing the datum shift position of machine' nose to adjust the needle position.



2. Lower stop position

The lower needle stop position when the pedal is returned to the neutral position after the front part of the pedal is depressed can be adjusted as follows. (Parameter P-69) Setup the lowest position of needle, from the point of the needle position offset.

18. Oil check and addition

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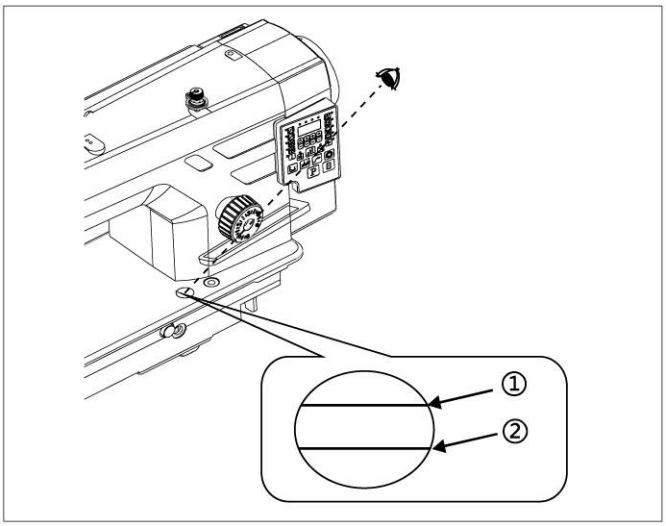
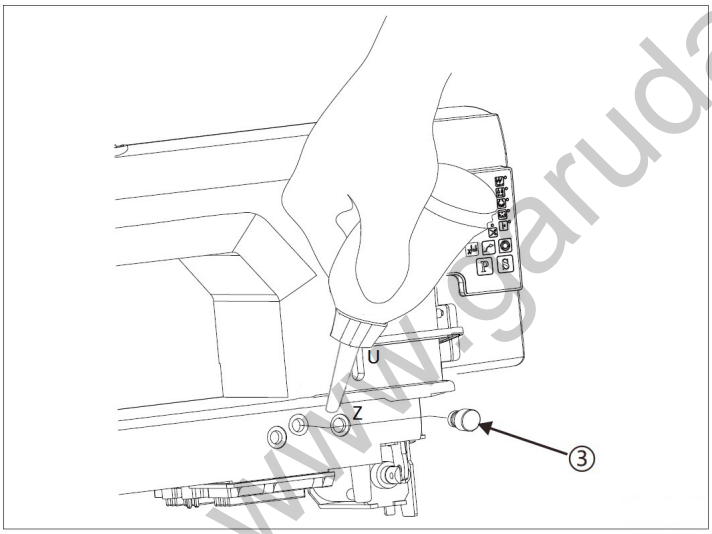




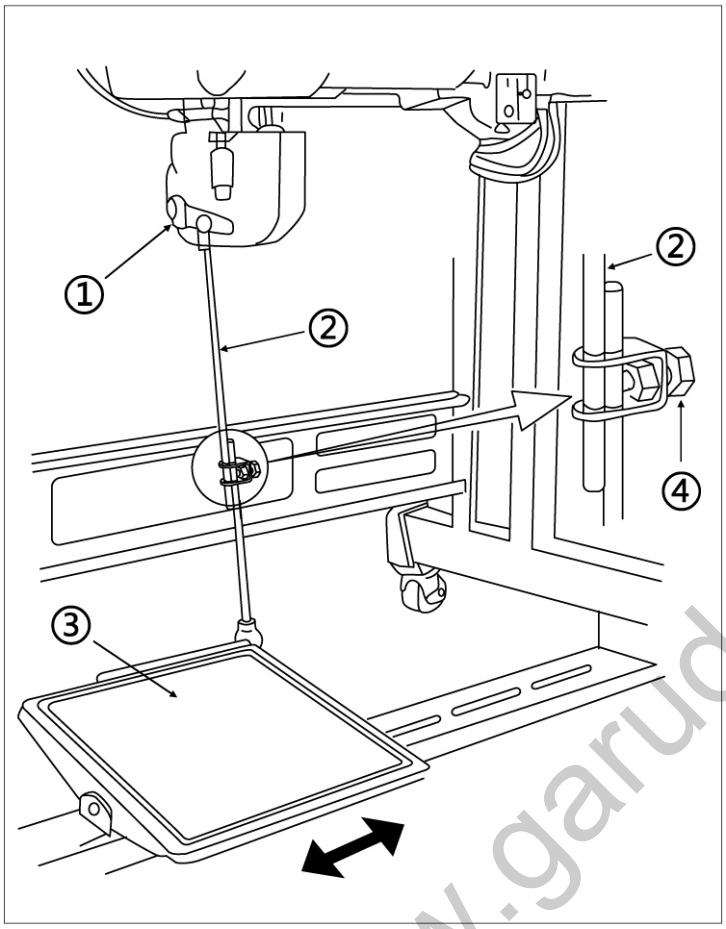
When the sewing machine running, please check lubricating oil of gear box is sufficient or not. Add sufficient oil in time.

1. When you open the new machines, the lubricating oil of gear box is sufficient. While you running the machines, the oil is spent continuously, we can inspect the oil of gear box is sufficient or not through the oil mark on gear box. According to the picture, we can see gear box's oil mark. ①， It means oil is enough and machines can be running safely. ②, It means oil is used out and need to add oil immediately.

2. If the oil is used out, please uncover the rubber plug ③ of gear box(note the picture), then add lubricating oil, it is ok when the oil is up to the scale ① of oil mark.

19. Adjusting of the pedal

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

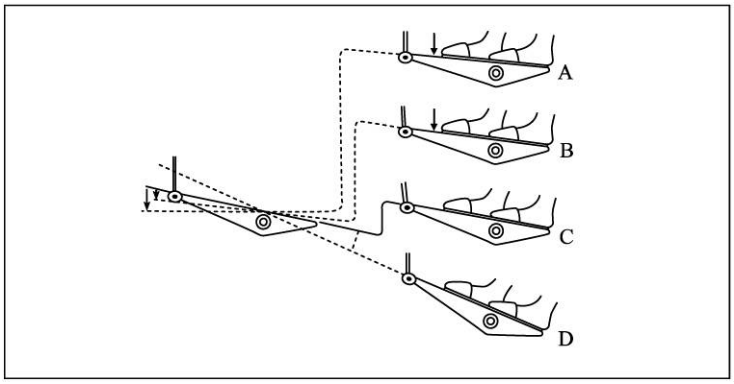


1. Installing the connecting rod Move pedal ③ to the right or left as illustrated by the arrows so that motor control lever ① and connecting rod ② are straighted.

2. Adjusting the pedal angle

1) The pedal tilt can be freely adjusted by changing the length of the connecting rod.
2) Loosen adjust screw ④, and adjust the length of connecting rod ②.

20. Pedal operation



1. The pedal is operated in the following four steps:

1) The machine runs at low sewing speed when you lightly depress the front part of the pedal B.
2) The machine runs at high sewing speed when you further depress the front part of the pedal A.
(If the automatic reverse feed stitching has been preset, the machine runs at high speed after it completes reverse feed stitching.)
3) The machine trims threads when you fully depress the part of the pedal D.

☞ If your machine is provided with the Auto-lifter, an addition step is given between the machine stop and thread-trimming step. The presser foot goes up when you lightly depress the back part of the pedal C, and if you further depress the back part, the thread trimmer is actuated.

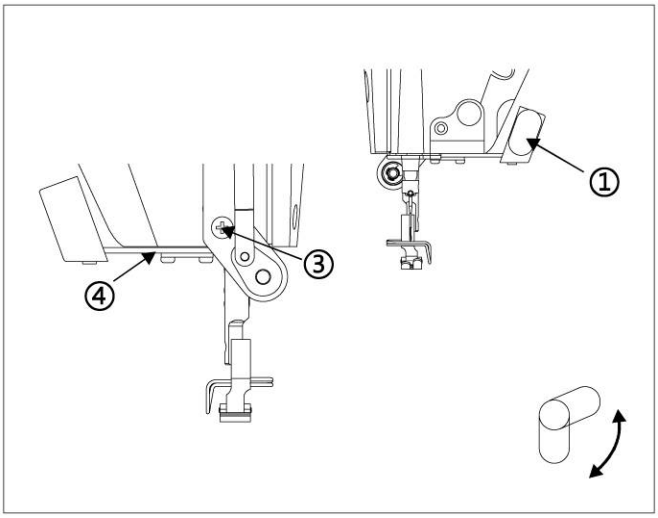
☞If you reset the pedal to its neutral position during the automatic reverse feed stitching at seam start, the machine stops after it completes the reverse feed stitching;

☞The machine will perform normal thread trimming even if you depress the back part of the pedal immediately following high or low speed sewing.

☞The machine will completely perform thread trimming even if you reset the pedal to its neutral position immediately after the machine started thread trimming action.

☞When the machine stops with its needle down, and if you want to bring the needle up, depress the back part of the pedal once.

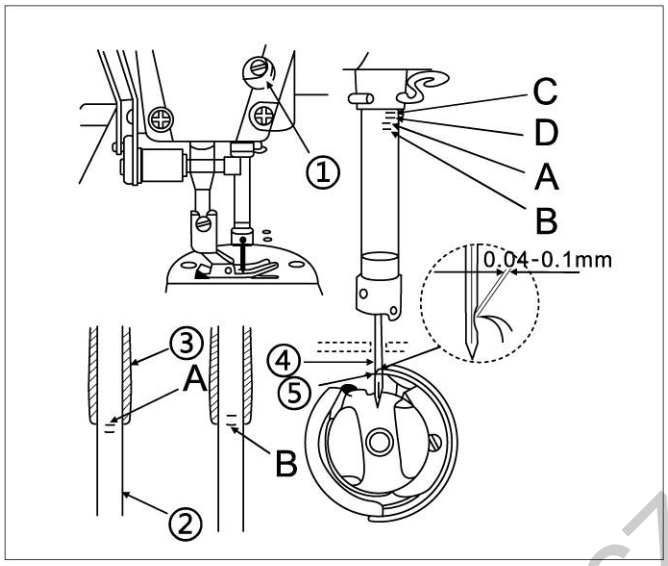
21. One-touch type reverse feed stitching mechanism



1. How to operate

1) The moment switch ① is pressed, the machine performs reverse feed stitching.
2) The machine resumes normal feed stitching the moment the switch lever is released.

22. Needle-to-hook relationship



1. Turn the hand- wheel to bright the needle bar down to the lowest point of its stroke, and loosen setscrew ①.

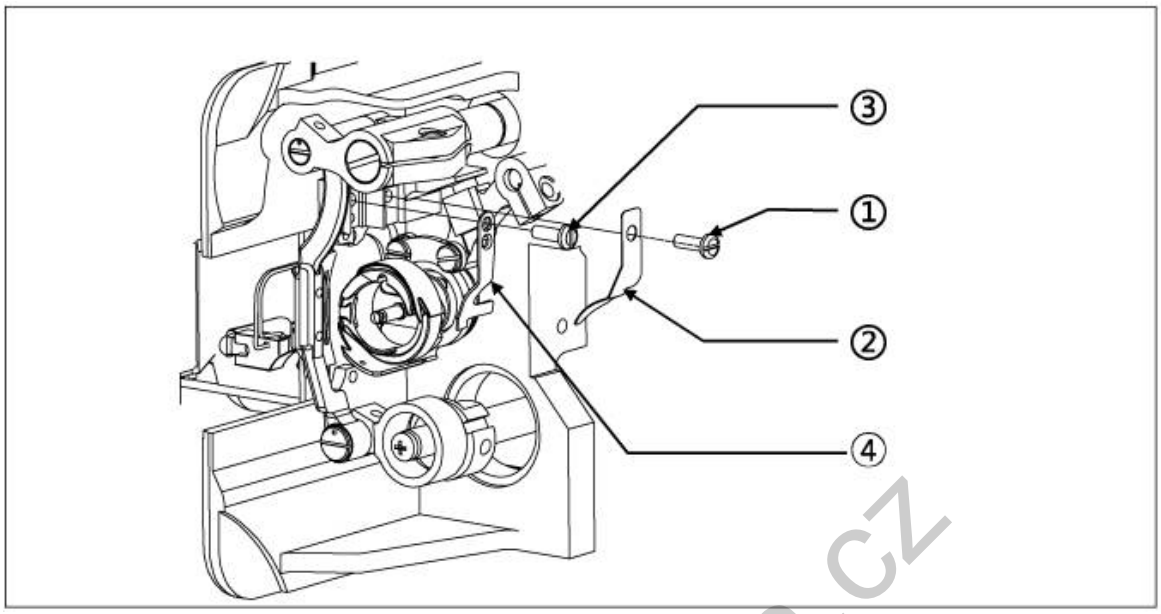
2. Adjusting the needle bar height:
1) While using DB needle, align marker line A with bottom end of needle bar lower bushing ③, then tighten setscrew ①.
2) While using DA needle, align marker line C with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.

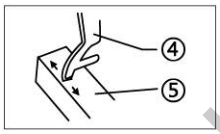
3. Locate the hook position:
1) While using DB needle, loosen the three hook set screw , turn the hand-wheel, and align marker line B on ascending needle bar ② with the bottom end of needle bar lower bushing ③.
2) While using DA needle, loosen the three hook set screw, turn the band-wheel, and align marker line D on ascending needle bar ② with the bottom end of needle bar lower bushing ③.

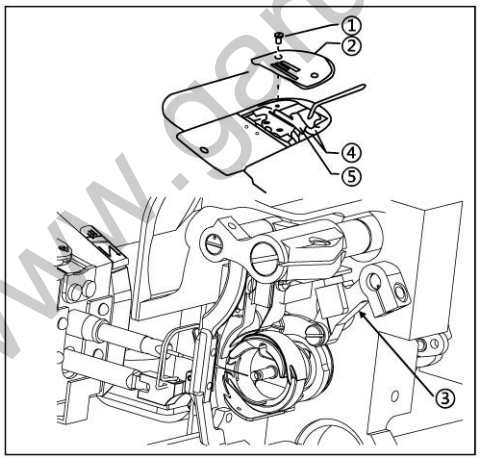
4. After making the adjustments mentioned in the above steps, align hook blade point ⑤ with the center of the needle ④, provide a clearance of 0.04mm to 0.10mm (reference value) between the needle and the hook, then securely tighten setscrews in the hook.

Caution： **1. If the clearance between blade point of hook and the needle is smaller than the specified value, the blade point of hook will be damaged. If the clearance is larger, stitch skip-ping will result.**
2. Use a hook of the same part No. When replacing your hook with a new one.

23. Change of counter knife and moving knife

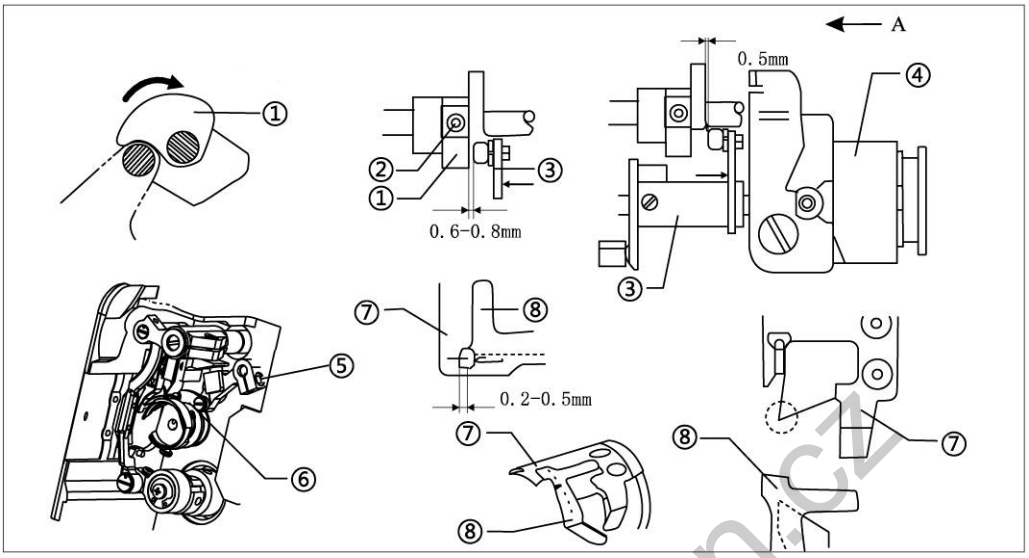






24. Adjustment of trimming system

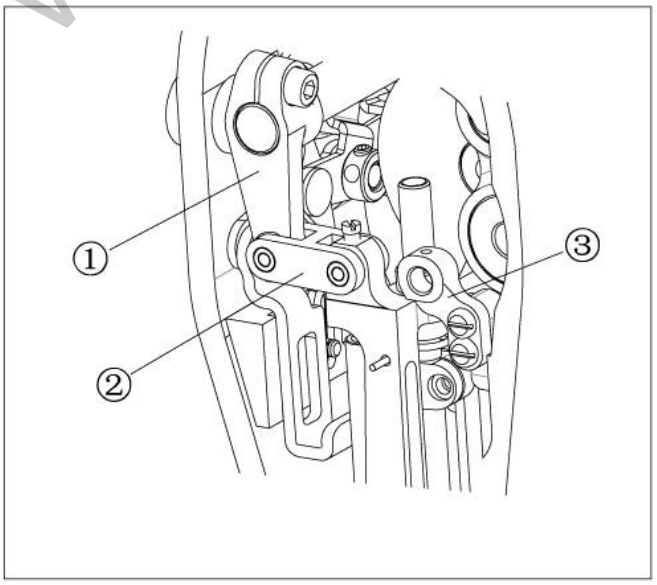
Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



25. Sending to the change

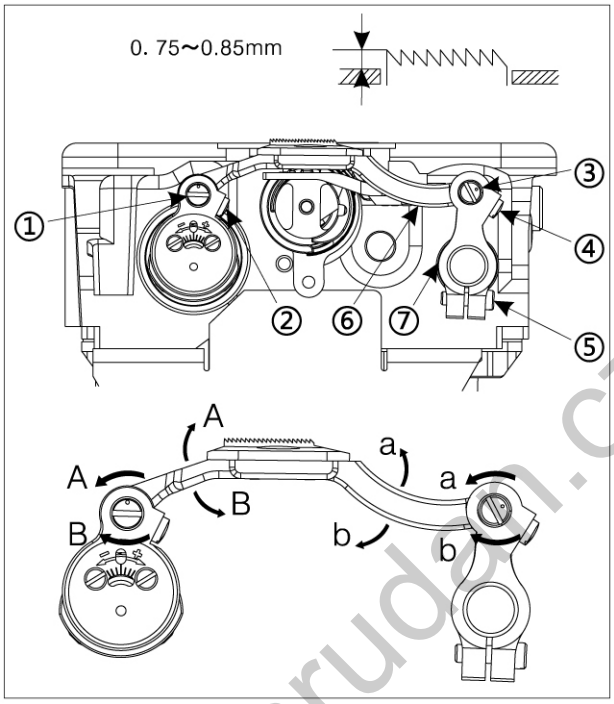
Warning: turn DFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

1) When you use screw to connect needle bar small rod ② with swing front crank shaft ①,the feed way of machine is needle feed.
2) When you use screw to connect needle bar small rod ② with needle bar holder①, the feed way of machine is lower feed



26. Height and tilt of the feed dog

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



Height of the feed dog protrudes from the throat plate surface by 0.75 to 0.85mm (1mm for heavy type), Adjust the height in accordance with the material to be used.

1. Adjusting the height and tilt of the feed dog

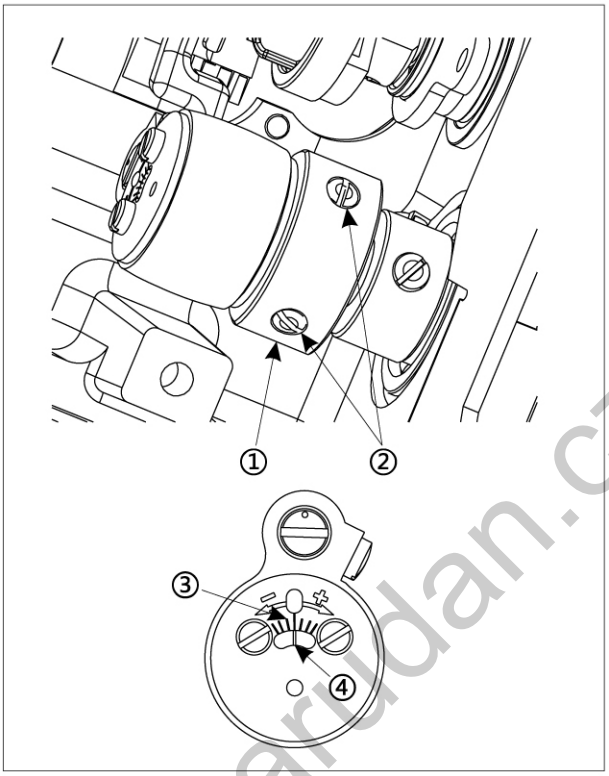
1) Loosen setscrew ② in feed bar driving shaft ① and setscrew ④ in feed bar rocker shaft ③.
2) Height and tilt of the feed dog will change by turning both shafts ①and ③ with a screwdriver.
3) For the relation between the rotating direction of each shaft and tilt of feed bar ⑥, refer to the figure on the left.
4) After the adjustment, securely tighten the setscrews.(Tighten setscrews ② and ④ in the state that shafts ① and ③ are pushed against the hand-wheel side.)

Caution: 1. If the tilt of the feed dog is adjusted with one shaft only, the height of the feed dog changes. Be sure to adjust it with both shafts.

2. Movement position of the feed dog may be shifted depending on the adjusting position of the shaft. At this time, loosen setscrew ⑤ in feed rocker shaft arm ⑦ and adjust the movement position.

27. Adjusting the feed timing

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



The feed timing can be changed by changing the stop position of feed eccentric cam ①.
How to adjust the feed timing

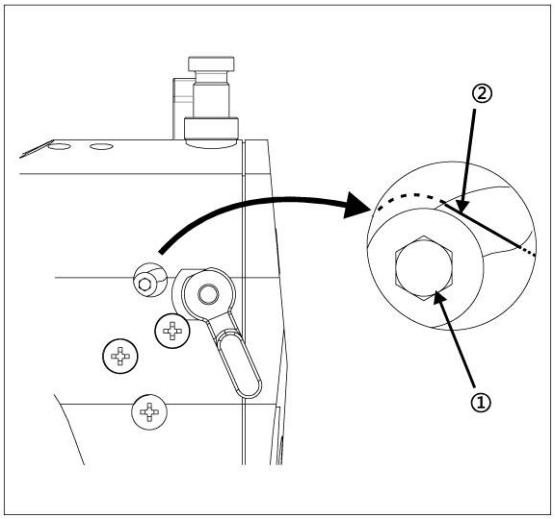
1. Tilt the sewing machine head and loosen two setscrews ② in feed eccentric cam ①.

2. Turn feed eccentric cam ① to change the feed timing.

☞ Turn feed eccentric cam ① in the direction of (+) →Increases the feed timing.

☞ Turn feed eccentric cam ① in the direction of (-)→Decreases the feed timing.

28. Thread tension release releasing mechanism



By means of the thread tension release releasing mechanism, sewing can be performed without slacking the needle thread tension even when the presser foot is lifted during sewing. (Even when the presser foot is slightly lifted at the thick overlapped section by the knee lifter, this mechanism can prevent the thread tension from being changed.)

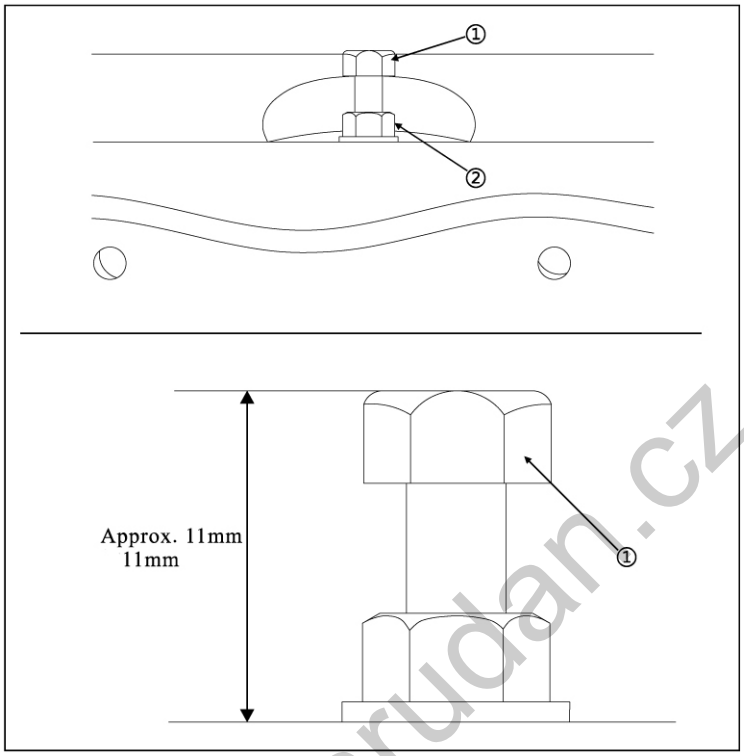
How to release

1) Remove the cap in the machine head and loosen thread tension release changeover screw ① using a hexagon wrench.
2) Fix screw ① on the top of thread tension release changeover plate ②. The thread tension disk does not rise even when the presser foot is lifted, and the needle thread tension is not loosened. (The thread tension disk rises only when thread trimming is performed.)

Caution: Do not use screw ① at any position other than the top or bottom position of the thread tension release changeover plate. The screw has been factory-set to the bottom position at the time of delivery.

29. Micro-lifting mechanism of the presser foot

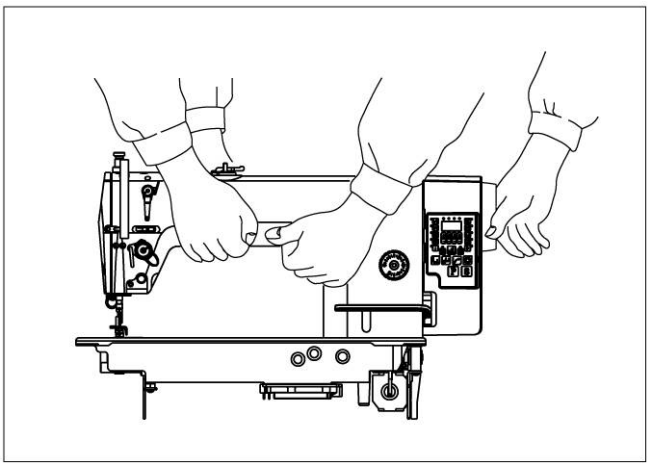
Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



When sewing velvet or the like which is fluffy, slippage of material of damage of material is reduced by using screw ① for presser foot micro-lifting.
Gradually tighten screw ① for presser foot micro-lifting in the state that nut ② is loosened, adjust the presser foot to the position where it is finely lifted until it matches the material, and fix it with nut ②.

Caution: When the presser foot micro-lifting mechanism is not used, adjust the height of screw ① so that it is higher by approximately 11mm than the sewing machine. If the sewing machine is operated in the state that the micro-lifting mechanism is working, sufficient feed force cannot be obtained.

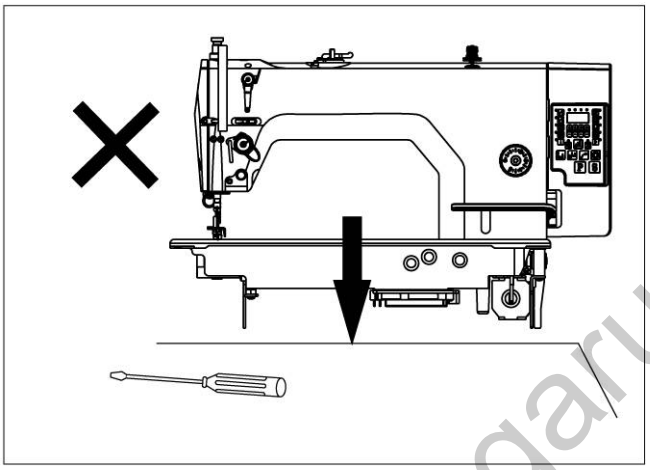
30. Caution when carrying or placing the sewing machine



1. How to carry the sewing machine.

Carry the sewing machine with two person as shown in the figure.

Caution: Do not hold the hand-wheel.



2. Caution when placing the sewing machine.

Do not place any protruding thing such as screwdriver or the like on the place where the sewing machine is set.

Manual for motor

GARUDAN®

GF-1107-147 MH

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Full automatic integrated sewing series manual V1.9

1. Safety instruction

Please read the operation manual and related sewing machinery datasheet carefully before correct use.

1.1 (1) Power voltage and frequence: please refer to motor and control box nameplate.
(2) Interference from electromagnetic wave:please keep far away strong magnetic or high radiation environment in order to avoid obstructions and make to misoperation.
(3) Grounding: to avoid the noise obstructions or leakage of electricity accident(inculding sewing machine,motor,control box and positioner).

1.2 Please make sure power off at least lmin and then can open control box cover, because there are dangerous high voltage.

1.3 Please turn off the power while repairing or wearing needle in order to protect operater’s safty.

1.4 ⚠ Used where potential dangers exist.
⚠ Used where high voltage and electric danger exist.

1.5 Product warranty period of one year on condition that this machine is operated correctly and no man-made damage.

2. System parameter table

A: 587/586 (Full automatic integrated Digital version) **B: 587C/CD** (Full automatic integrated Liquid crystal version)
C: 588 (Full automatic Less oil integrated Digital version) **D: 588C/CD** (Full automatic Less oil integrated Liquid crystal version)
E: 587H/586H (Full automatic Thick material integrated Digital version) **F: 587CH** (Full automatic Thick material integrated Liquid crystal version) **G: 587C/CD** (Full automatic integrated Liquid crystal version Public models) **H: 587CH/CHD** (Full automatic Thick material integrated Liquid crystal version) **I:589(** Full automatic Less oil 9813 Liquid crystal version)
L: 587Y (Fully automatic machine pressure foot built-in) **N: 587YH (**Fully automatic Thick material machine pressure foot built-in**)**

No	Project	Content	Setting range	The default value	model	Level
1	Sewing speed	Set sewing speed	200～5000rpm	3700	ABCDGIL	I
			200～3500rpm	3000	EFHJKN	
2	Soft-start function	1~9: Soft start stitches	1～9	1	All	I
3	Ornamental bartacks	0: Invalid 1: Effective	0/1	0	All	I
4	Fixed-length seam sewing speed	Set fixed-length seam sewing speed	200～4000rpm	3000	ABCDGIJL	I
			200～3500rpm	2500	EFHKN	
5	Simple sewing mode Settings	0: invalid 1: effectively	0/1	0	All	I
9	Back stitch speed limitation	can keep needle from breaking while backstitching	500～1500rpm	800	All	I
19	Solid after before sewing stop	0: unavailable 1: available	0/1	0	All	I
20	Setting of reverse sewing switch function	Reverse sewing switch mode 0: Only reverse sewing 1: Reverse sewing and fill needle 2: Only reverse sewing, standby without operating	0/1/2	0	All	I
21	soft start speed 1	speed of the 1st needle of soft start	100～3000rpm	400	All	I
22	soft start speed 2	speed of the 2nd needle of soft start	100～3000rpm	1000	All	I
23	soft start speed 3	speed of the 3rd~9th needle of soft start	100～3000rpm	1500	All	I
24	Presser foot soft lowering function	0: unavailable 1: available	0/1	0	ABCDEFGHIJK	I
				1	LN	
25	Presser foot lift function	0: unavailable 1: available	0/1	0	ABCDEFGHIJK	I
				1	LN	
27	Power on and positioning	0: unavailable 1: available	0/1	1	All	I
28	signal mode for turn/lift switch	Setting of signal mode of turn/lift switch of machine head 0: always open 1: always close 2:forbid a protection	0/1/2	0	All	I
29	Presser foot soft lowering time	To set presser foot soft lowering time The longer time the lower speed of the presser foot	50～500ms	300	ABCDEFGHIJK	II
			10～500ms	50	LN	
32	Decorative bar-tacking dwell time	To set decorative bar-tacking dwell time	5～500ms	50	ABCDGIJL	I
				100	EFHKN	
34	To select standard bar-tacking pedal speed mode	Standard bar-tacking pedal speed Mode selection 0: Auto bar-tacking speed ; 1: Pedal speed	0/1	0	All	II
35	By-piece rate setting	0: No by-piece function 1~20: Plus 1 to by-piece value for each set thread trimming	0～20	1	All	I
37	Thread wiping operation time	Thread wiping operation time	0～800ms	40	All	II
41	Low speed	The lowest speed of pedal	100～400rpm	200	All	I
42	Pedal curve selection	Pedal speed adjustment 0: normal 1: Slow acceleration 2: Quick acceleration	0/1/2	0	All	I
43	Dial the line that can set	0: unavailable 1: available	0/1	1	All	I
44	thread-cutting speed	thread-cutting speed	100～400rpm	280	All	I
45	Reverse sewing speed limit switch	Reverse sewing speed limit switch processing can prevent reverse sewing needle breakage 0: infinite speed 1: have the speed limit	0/1	0	All	I
46	pressor foot lifting delays sewing	delay with pressor foot lowered	0～800ms	200	ABCDEFGHIJK	II
				100	LN	
47	output time of total pressure of pressor foot lifting	output time of total pressure of pressor foot lifting	0～800ms	150	All	II
48	output duty cycle of pressor foot lifting hold time of pressor foot lifting	output duty cycle of pressor foot lifting forced shut-down after hold time of pressor foot lifting	0～100	30	All	II
				40		
49	output duty cycle of pressor foot lifting	output duty cycle of pressor foot lifting	1～60(s)	12	All	II
50	output time of total pressure of reverse-sewing	output time of total pressure of reverse-sewing	0～800ms	150	All	II
51	output duty cycle of reverse-sewing	output duty cycle of reverse-sewing	0～100	40	ABEFGHJKLN	II
				35	CDI	
52	hold time of reverse-sewing	forced shut-down after hold time of reverse-sewing	1～60(s)	12	All	II
53	starting reinforcing-sewing speed	starting reinforcing-sewing speed	100～3000rpm	1800	ABCDGIL	I
				1200	EFHN	
				500	JK	
54	starting reinforcing-sewing compensation 1	parameter of starting reinforcing-sewing stitch compensation	0～100	30	ABGJL	I
				35	CDI	
				58	EFHNK	
55	starting reinforcing-sewing compensation 2	parameter of starting reinforcing-sewing stitch compensation	0～100	10	ABGJL	I
				24	CDI	
				18	EFHKN	
56	ending reinforcing-sewing speed	ending reinforcing-sewing speed	100～3000rpm	1800	ABCDGIL	I
				1200	EFHN	
				500	JK	
57	ending reinforcing-sewing compensation 1	parameter of ending reinforcing-sewing stitch compensation	0～100	30	ABGJL	I
				35	CDI	
				58	EFHKN	
58	ending reinforcing-sewing compensation 2	parameter of ending reinforcing-sewing stitch compensation	0～100	10	ABGJL	I
				24	CDI	
				18	EFHKN	
59	ending reinforcing-sewing speed	ending reinforcing-sewing speed	100～3000rpm	1800	ABCDGIL	I
				1200	EFHN	
				500	JK	
60	continuous reinforcing-sewing compensation1	parameter of continuous reinforcing-sewing stitch compensation	0～100	30	ABGJL	I
				35	CDI	
				58	EFHKN	
61	continuous reinforcing-sewing compensation2	parameter of continuous reinforcing-sewing stitch compensation	0～100	10	ABGJL	I
				24	CDI	
				18	EFHKN	
62	Pedal travel upon start	Pedal position upon start Travel relative to medium pedal	10～50 (0.1°)	25	All	II
63	Pedal travel upon acceleration	Pedal position upon start acceleration Travel relative to medium pedal	10～100 (0.1°)	50	All	II
64	Pedal travel at highest rotation speed	Pedal position at highest rotating speed Travel relative to medium pedal	10～150 (0.1°)	110	All	II
65	Pedal travel upon presser foot lift	Pedal position upon pedal lift Travel relative to medium pedal	-100～-10 (0.1°)	-30	All	II
66	Pedal travel upon presser foot lowering	Pedal travel from presser foot lowering position to neutral position Travel relative to medium pedal	5～50 (0.1°)	10	All	II
67	Pedal travel 1 upon thread trimming	Pedal position upon start trimming without presser foot function Travel relative to medium pedal	-100～-10 (0.1°)	-30	All	II
68	Pedal travel 2 upon tread trimming	Pedal position upon start thread trimming with presser foot function Travel relative to medium pedal	-100～-10 (0.1°)	-60	All	II
69	Down needle positioning position	To adjust down needle position	120～240	175	ABEFGHJKLN	I
				177	CDI	
70	Reverse needle lift function	Reversal of needle lift function after thread trimming 0: unavailable 1: available	0/1	0	All	I
71	Reversal of needle lift angle	Reversal of needle lift angle	0～45°	20	All	I
72	Thread clamp strength adjustment	Adjust the thread clamp strength size 0: Clip line function is invalid 1~9: Three Intensity Adjustment	0～9	7	All	I
73	Thread pressing actuation angle	Thread pressing actuation angle	10～150°	100	All	I
74	Thread pressing release angle	Thread pressing release angle	160～300°	270	All	I
75	Needle position adjustment	Needle position adjustment	0～240°	105	ABEFGHJK	I
				112	LN	
				165	CDI	
79	return to factory-set parameter	5: restore the current level factory parameters 8: restore the current level and sewing factory parameter set According to S button, select yes, then press the S key execution	0～15	0	All	I
80	highest speed of sewing	highest speed of sewing	300～5000spm	4000	ABCDGIL	II
			300～3500spm	3000	EFHJKN	
83	Aggravating function/ Machine needle emphasis function	Needle wear through cloth when used 0: invalid; 1 ~ 15 strength regulation	0～15	0	ABCDEFGHIJ	II
84	Aggravating function	0: invalid; 1 ~ 15 strength regulation	0～15	0	LN	II
85	Suction angle of shear line	To set suction angle of shear line	150～200	175	All	II
86	Power angle of shear line	To set power angle of shear line	200～300	260	All	II
87	Release angle of shear line	To set release angle of shear line	300～360	340	All	II
88	loosen pressing actuation angle	loosen pressing actuation angle	150～250	180	I	I
89	loosen pressing release angle	loosen pressing release angle	200～360	350	I	I
92	Pedal presser foot lift confirm time	Pedal presser foot lift confirm time	10～300ms	80	All	II
93	The neutral position of the pedal	Trimming the neutral position of the pedal	-15～15(0.1)	0	All	II

3. System Info

Operation panel default mode, press the button at the same time in P made sewing needle trigger select key, enter the system monitoring state through the +-key choose need to look at the project, according to the S button to enter/exit the selected projects such as the need to exit monitoring interface, according to P keys can be.

show frame numbers	Item Name	unit		show frame numbers	Item Name	unit
JJ	Plan number	piece		U6	Motor initial Angle	limit
U1	speed of motor control	rpm		U7	Master control program version/ Head type	/
U2	Motor Current	0.01A		U8	Head type/ Master control program version	/
U3	Motor Voltage	V		U9	Dsp no	/
U4	Pedal voltage	0.01V		vEr	Operation box version of the program	/
U5	Mechanical Angle with	limit		TYPE	Software no	/

4.Operation box use

Function	Button	Described
Starting reinforcing-sewing		Execute starting reinforcing-sewing 2 times, to and fro.
		Execute starting reinforcing-sewing 1 times, to and fro.
ending reinforcing-sewing		Execute ending reinforcing-sewing 2 times, to and fro.
		Execute ending reinforcing-sewing 1 times, to and fro.
free-style sewing		Press treadle ahead for normal sewing, stop in the middle, behind for thread-cutting and thread wiping.
continuous reinforcing-sewing		1、Press treadle ahead for automatic sewing, to and fro, which is set at D and can reach 15times.(F) 2、Continuous reinforcing-sewing is in trigger mode by default, treadle doesn’t need to be kept being pressed, and corresponding trigger light of preset sewing is solid lit. 3、Previous ending reinforcing-sewing setting is invalid if this function is valid.
preset sewing		1.Press treadle ahead to execute sewing times set at E or E, F, G, H. 2.Sewing will stop immediately if treadle is lifted; press treadle again, it will go on with the rest. 3.Ending reinforcing-sewing (if selected), thread-cutting and thread wiping will be automatically executed after sewing is completed.
parameter setting		1.For preset sewing. Trigger treadle and the system will automatically conduct sewing at E, F, G, H sections; the treadle doesn’t need to be kept being pressed. 2.Solid light for continuous reinforcing-sewing mode means that it is trigger mode by default.
thread-cutting		Set or cancel thread-cutting function.
needle-lifting/stitch		Free sewing mode, can be based on the according to the length of time is different, complementary half needle, a needle or continuous feeding half needle.
Needle position		Set the needle position shortcut keys, Key is effective for needle, The cancel key function is set to stop pin。
The middle presser foot		Presser foot to set shortcut keys: set or cancel the presser foot function.
Shear line pressure foot		The shear line and presser foot set shortcut keys: set or cancel trimmer and presser foot function.
Soft start		Soft start to set shortcut keys: set or cancel the pedal soft start function.
Pinnumberset/check choice		1.Implementation of this key, circulating switch display 3 pin number to set the display value upper end:A、B、C、DPeriod of pin number,Light corresponding level; Middleend:E、FPeriod of pin number,Light corresponding level; lower extreme:G、HPeriod of pin number,Light corresponding level; 2.Corresponding to A D period of pin number, can set range 0 ~ 15 needle, B paragraph C pin number, can set range 1 ~ 15 needle, among them, the liquid crystal display A B C D E F on each for 10 11 12 13 14 15 stitches. 3. To take the thread clamp function model, according to the buttons can show long thread clamp strength adjustment (3 bright lights and three, liquid crystal display [7]), again according to the key exit.
parameter setting	P	1.Entering different parameter level On the sewing setting interface, the user can press the button P to enter the Parameter Interface, then the Level I parameters in the parameter list will display. On the sewing setting interface, the user can keep pressing the button for a few seconds to enter the Password Entering Interface. After entering the right maintenance password, then the user can press the button P to enter the Parameter Interface, now the Level I and Level II parameters in the parameter list will display. 2.Password setting On the sewing setting interface, the user can keep pressing the button P for a few seconds to enter the Password Entering Interface, and press the button combination of “burst button + soft start button” to enter the Password Resetting Interface. The three indicators (respectively are Indicator S1, S2 and S3 from left to right/before three lamp, among which one is on) corresponding to the button S indicates the current status. S1 lights up, old password input, ending the key combination trigger key + tangent key, if the correct password into the password reset interface (mistakes have stayed the S1 state), and at the same time S2 light, prompting the input new password and click confirm S3 S key input again when the light is the new password, according to S key after two input if consistent, then set success, return to parameter interfaceIf the new passwords entered are not the same, the Indicator S1 will be on and the LC screen will be reset, and the user shall enter the old password again. If the user presses the button P, the user will be brought back to the interface parameters and no modification will be saved. You can choose from the numbers of 0 to 9 or the letters of A to F for every single character of the password. Please do keep the new password in mind.
Teaching function	T	Set or cancel the teaching function. (for liquid crystal panel)
Sewing set program	P1 ~ P15	The number of needles sewing set，Set up a total of 15 segment needle number P1~PF. (for liquid crystal panel)
Clip the line intensity		Clip the line strength fast set
speed key		Speed down. Keeping pressing to lower speed, the display will automatically switch to speed set. Simple seam, free seam effective. (Application of liquid crystal panel)
		Speed up. Keeping pressing to increase speed, the display will automatically switch to speed set.Simple seam, free seam effective. (Application of liquid crystal panel)

Teaching function:
In the long slot (a, four, program seam) mode, long press "T" one second, you can enter the teaching interface, this interface has buttons: T key, two groups of add-substract key, fill needle key. Role is as follows:
Add-substract key 12: change teaching segments, segment numerical only to accumulate (into the next section teaching automatically save the last needle numerical reduction), ’-’ key is invalid. Note: when the pedal operation, the key is invalid;
Add-substract key 34: modify teaching pin number, to stop running when the adjust pin number. Fill needle keys: press can manually fill needle, needle change.
T: exit show interface, complete the current segment number teaching (section numerical covering the original mode).
After the pedal shear line, will directly from the show and save the needle numerical, before returning to the fixed length of stitch pattern.

5. Error codes

Error Code	Contents	Possible reasons	Checking and treatment
E011 E012 E013 E014	Motor signal error	Motor position sensor signal failure	If electric engine plug is well contacted; if electric engine signal detecting device has been broken; if sewing machine handwheel correctly installed.
E015	Model type error	Unable identify operating box model type	Check operating box
E021 E022 E023	Motor overload	motor stall motor overload	If electric engine plug is well contacted; if machine head or thread-cutting mechanism has been blocked completely;f materials are too thick; Electrical signal detection signal whether the normal.
E101	Hardware drivers fault	Current detection abnormal Driving hardware error	Current detection loop system is working properly;Whether the damage to the device driver.
E111 E112	Voltage too high	High input voltage Brake circuit fault Voltage detection error	System into line voltage is too high; Braking resistance are working properly; System voltage detection circuit are working properly.
E121 E122	Voltage too low	Actual low voltage Voltage detection is wrong	If the voltage on the inlet wire is too low Whether the system voltage detection circuit the normal work.
E131	Current circuit fault	Current detection abnormal	Current detection loop system is working properly.
E133	Oz circuit fault	Oz circuit fault	Oz circuit system is working properly.
E151	Magnet circuit error	Over current magnet circuit	If machine head magnet suffers short circuit Electromagnet circuit is working properly.
E201	over current	Current detection error	Current detection loop system is working properly Electrical signal is normal.
E211 E212	Abnormal motor operation	Current or voltage detection error	If electric engine plug is well contacted; If electric engine signal is matched.
E301	Communication error	Sci circuit error	if operation box plug is well contacted; if operation box components are damaged.
E302	Operation inner failure	Sci circuit error	To check whether the operating box is damaged..
E402	Pedal ID fault	Pedal verification fault	Pedal connection is loosen.
E403	Pedal zero position fault	The pedal zero position over range	The pedal is damaged or it is not under stop state when correction.
E501	Safety switch fault	Safety switch effective	Put down the head or check turned up switch.
P.oFF	Power off Display	Power off	Wait for power supply to resume.
EvaL	Trial expired	Trial expired	Contact the dealer processing

Note: 1. Sewing abnormal action (speed electromagnet work abnormal) : in the control interface view model is correct;
2. Turn up E501 fault when: sure it is normal to switch detection, temporary use can change the P-28 parameters;
3. If the above according to check the project cannot rule out fault, please seek technical support.

6. Accessories

NO	Product name	Amount	Product specification	Confirm	Remarks
1	Electric control box	1			
2	Ball section connecting rod	1			
3	pedal	1	PL-302		with bracket
4	screw	3	M5×25		screw
5	The instructions	1			
6	power cord	1			

Spare Parts List

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GF-1107-147 MH

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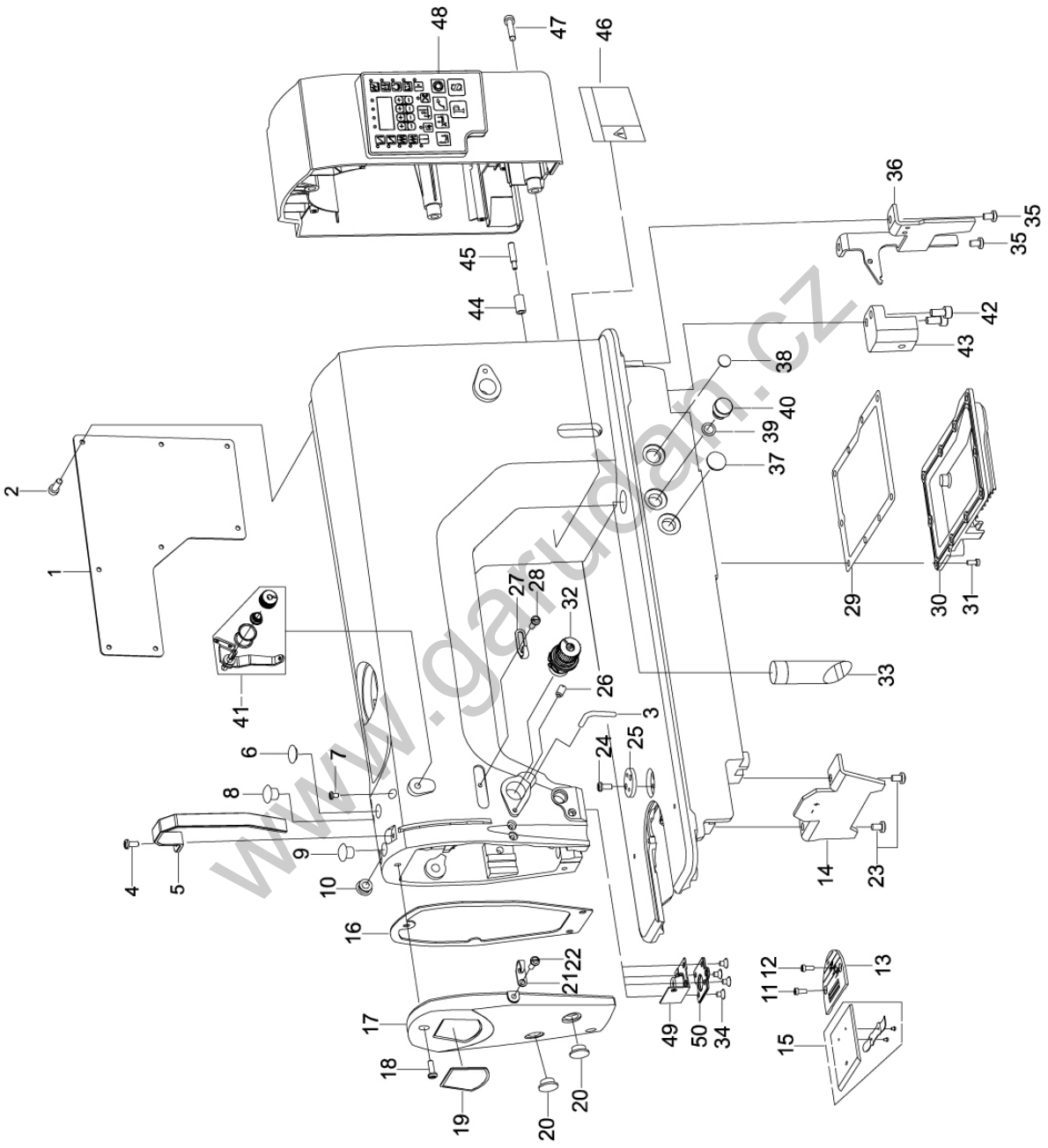
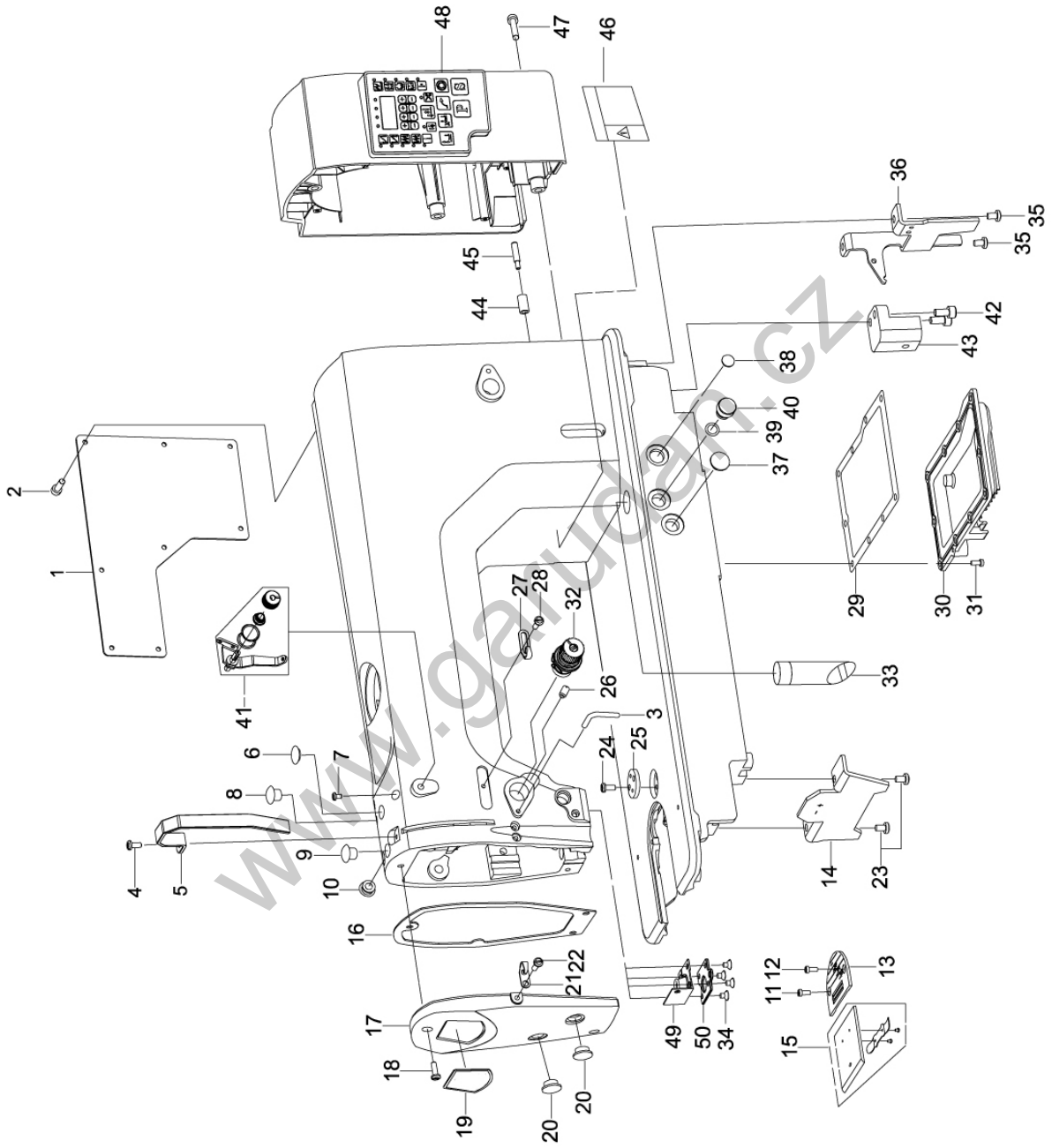
CONTENT

1. MACHINE FRAME & MISCELLANEOUS COVER COMPONENTS (1/2)



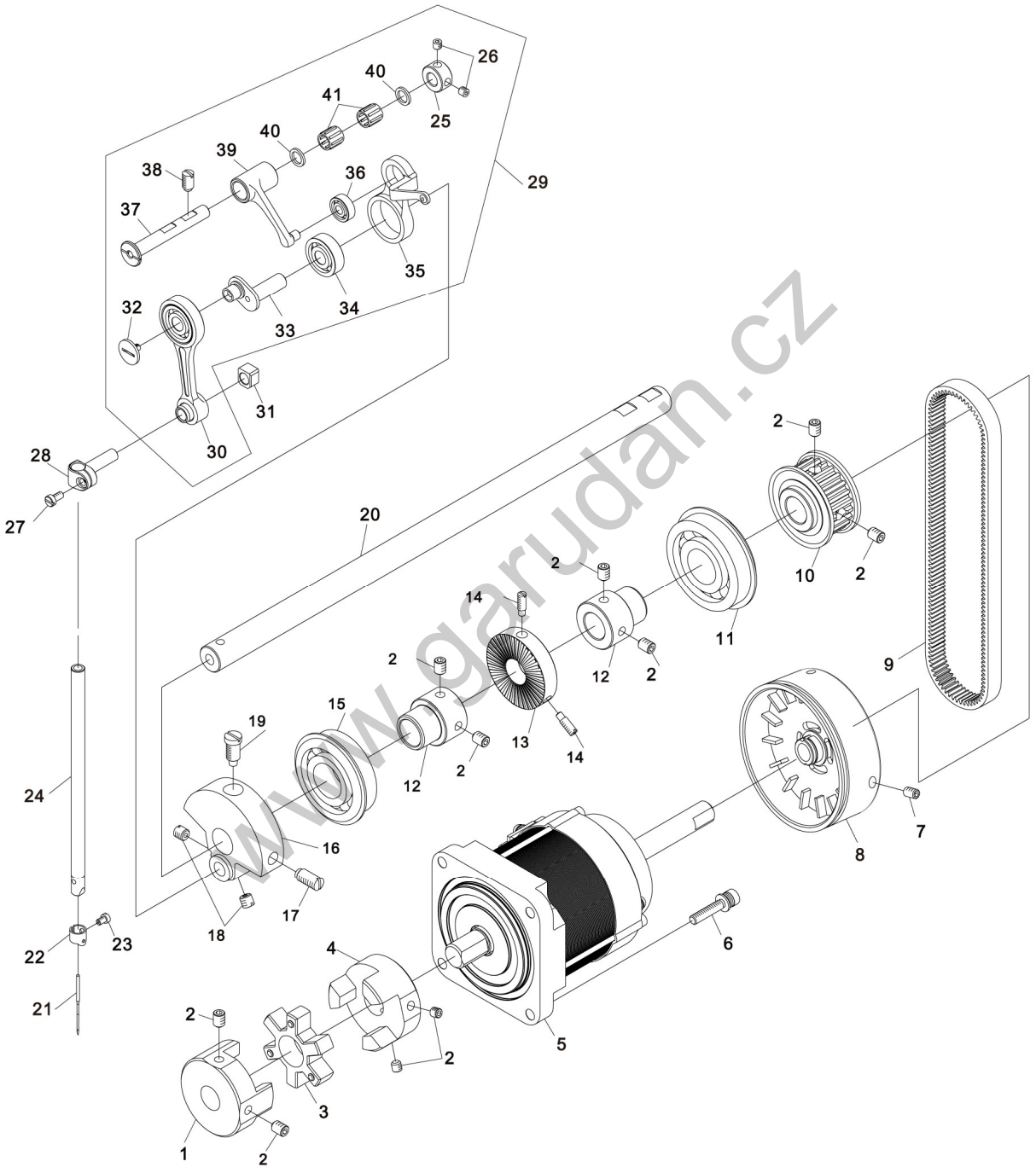
1. MACHINE FRAME & MISCELLANEOUS COVER COMPONENTS (1/2)			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	20003404	Side plate	1
2	10008972	Screw SM3/16"x28 L=10	7
3	10022343	Arm Thread Guide	1
4	10008972	Screw SM3/16"x28 L=10	1
5	20003407	Thread Take- up Lever Cover	1
6	10012147	Rubber Plug	1
7	10013541	Screw SM11/64"x40 L=12	1
8	10008943	Rubber Plug	2
9	10012460	Rubber Plug	2
10	10012128	Rubber Plug	1
11	10009005	Screw SM11/64"x40 L=6.8	1
12	10012463	Screw SM11/64"x40 L=6.8	1
13	10022847	Needle Plate	1
14	10012135	Front Plate	1
15	10013706	Slide Plate ASM	1
16	10022846	Face Plate Packing	1
17	20006907	Pace Plate	1
18	10008972	Screw SM3/16"x28 L=10	3
19	10005468	Face plate Adorning	1
20	10008977	Rubber Plug	2
21	10008937	Arm Thread Guide B	1
22	10008973	Screw SM11/64"x40 L=6	1
23	10012142	Screw SM15/64"x28 L=9	2
24	10004374	Screw SM11/64"x40 L=4.8	2
25	10004373	Ruler Stop Seat	1
26	10010593	Screw SM15/64"x28 L=7.5	1
27	10008940	Arm Thread Guide A	1
28	10008973	Screw SM11/64"x40 L=6	1
29	10012143	Gear Box Packing	1
30	10012145	Gear Box Cover	1
31	10012146	Screw SM3/16"x28 L=15	1 0
32	10013000	Thread Tenston Asm	1
33	10012138	Gear Box Floater	1
34	10011049	Screw M4x8	4
35	10012142	Screw SM15/64x28 L=9	2
36	10012148	Back Plate	1
37	10012128	Rubber Plug	1

1. MACHINE FRAME & MISCELLANEOUS COVER COMPONENTS (2/2)



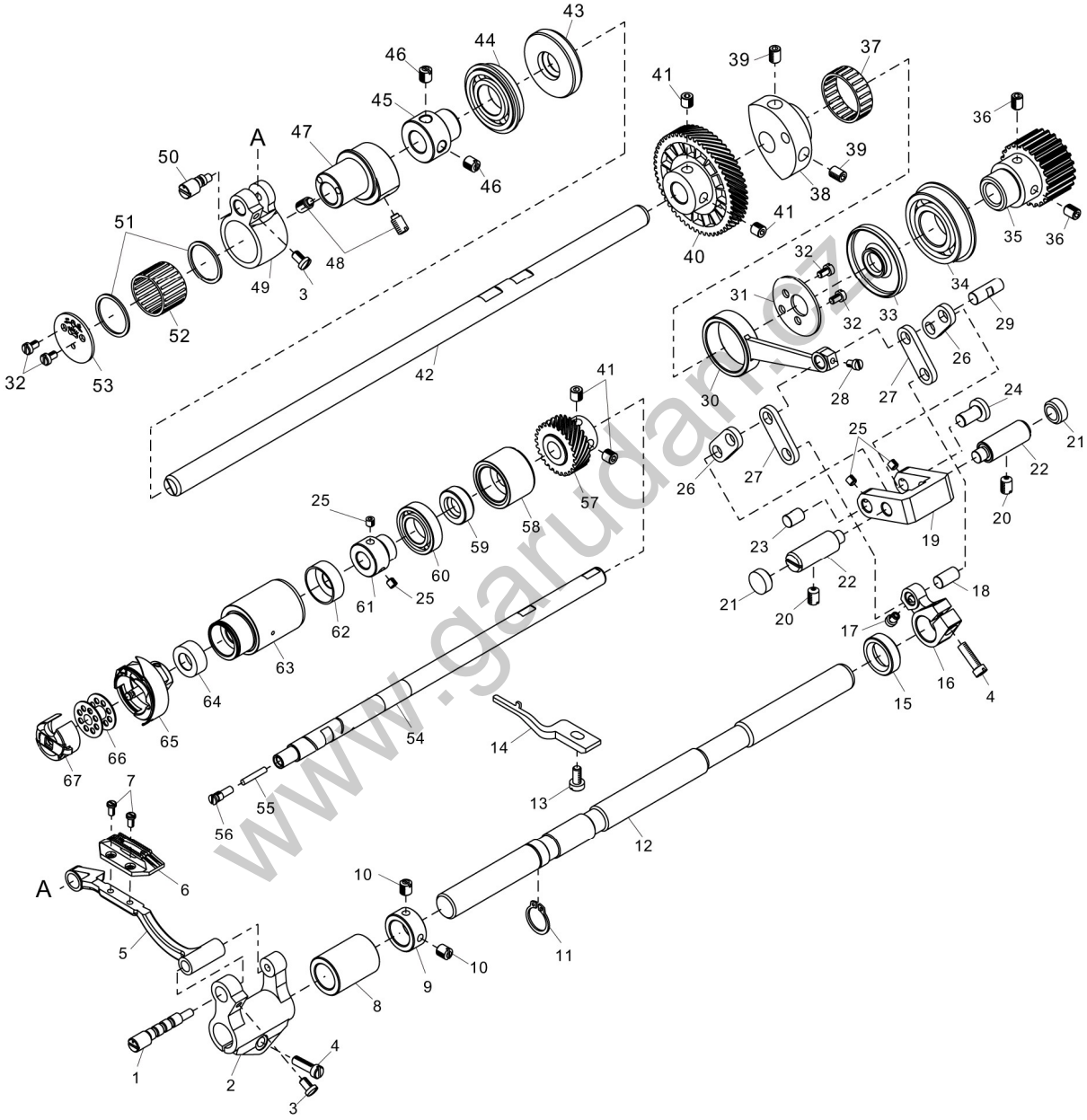
1. MACHINE FRAME & MISCELLANEOUS COVER COMPONENTS (2/2)			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
38	10012136	Rubber Plug	1
39	10012139	Rubber Ring	1
40	10012141	Air-discharging	1
41	10012867	Thread Tension Guide	1
42	10011313	Screw M6x12	2
43	10022344	Revers Feed Solenoid Base	1
44	10013621	Revers Feed Lever Stopper	1
45	10012149	Screw	1
46	10008936	Saftey Label	1
47	10006157	Screw	4
48	10038018	Controll Box	1
49	10022342	Rulley Cover	1
50	10022848	Rlate	1

2. MAIN SHAFT & THREAD TEKE-UP COVER COMPONENTS



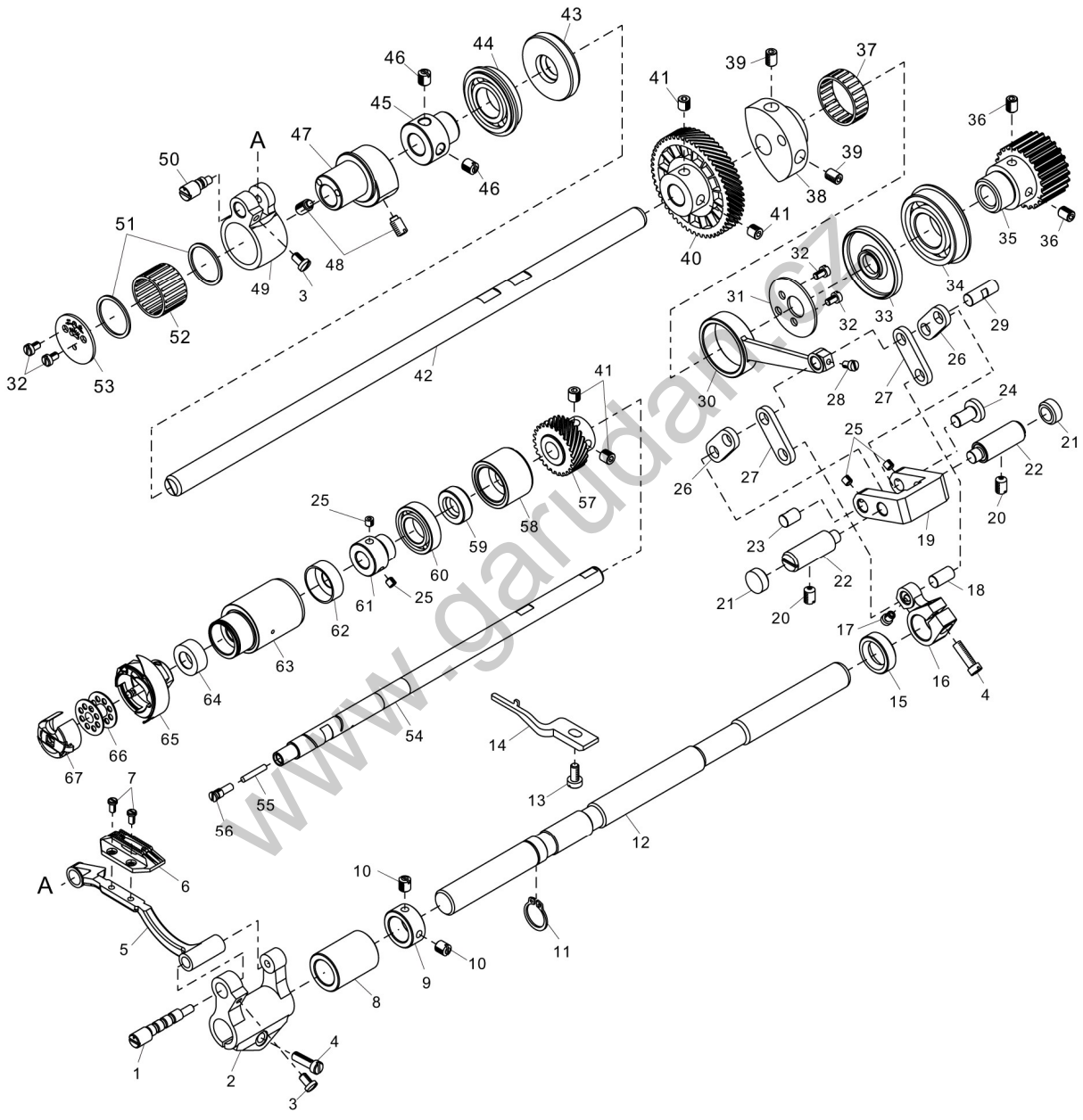
2. MAIN SHAFT & THREAD TEKE-UP COVER COMPONENTS			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10012613	Coupling	1
2	10009187	Screw	10
3	10011227	Rubber ring	1
4	10012615	Coupling	1
5	10038017	Motor	1
6	10006157	Screw ASM.	4
7	10002436	Screw	2
8	20010974	Head wheel ASM.	1
9	10012497	Cog belt	1
10	10006241	Belt pulley	1
11	10025862	Bearing	1
12	10012668	Bearing bush	2
13	10013112	Driving wheel	1
14	10011062	Screw	2
15	10025881	Bearing	1
16	10012607	Crank	1
17	10010082	Screw	1
18	10005020	Screw	2
19	10010545	Screw	1
20	10012663	Main shaft	1
21	10036288	Needle DB×1 14#	1
22	10013181	Thread guide	1
23	10013182	Screw	1
24	10022347	Needle bar ASM.	1
25	10005745	Closing ring	1
26	10013590	Screw	2
27	10030286	Screw	1
28	10010590	Joint pin	1
29	10022346	Thread take-up lever Asm.	1
30	10005785	Connecting rod ASM.	1
31	10010586	Sliding block	1
32	10010537	Screw	1
33	10023444	Crank	1
34	10003607	Bearing	11
35	10005791	Thread take-up lever	1
36	10009784	Bearing	1
37	10005794	Pin	1
38	10010083	Screw	1
39	10005788	Connecting rod	1
40	10005786	Washer	2
41	10005747	Bearing	2

3. HORIZONTAL FEED & VERTICAL FEED AND HOOK DRIVING SHAFT COMPONENTS (1/2)



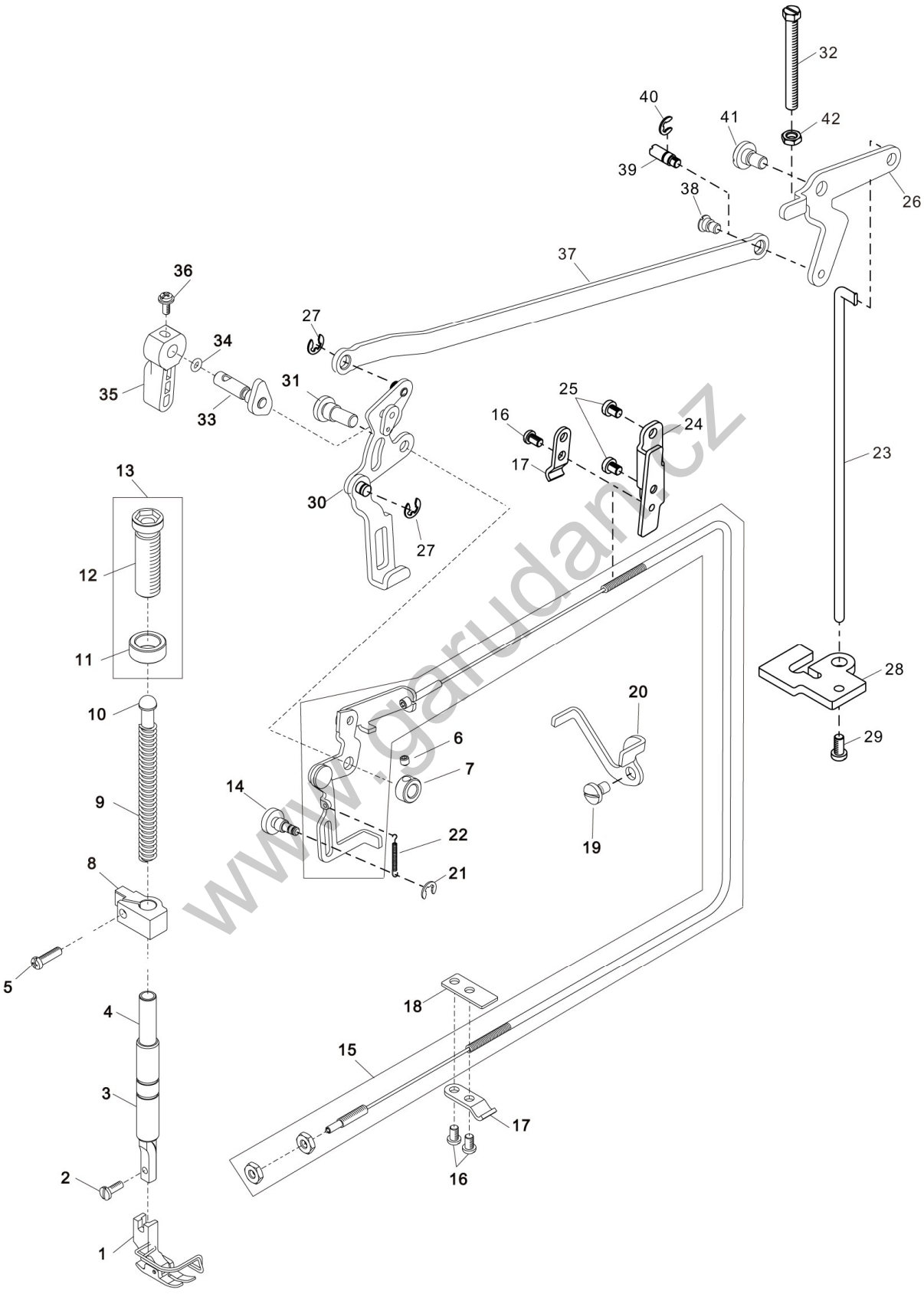
3. HORIZONTAL FEED & VERTICAL FEED AND HOOK DRIVING SHAFT COMPONENTS (1/2)			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10012490	Pin	1
2	10012540	Feed bar driving crank	1
3	10010074	Screw	2
4	10010095	Screw	2
5	10012531	Feed bar ASM.	1
6	10022849	Feed dog	1
7	10010099	Screw	2
8	10013006	Shaft sleeve	1
9	10006134	Closing ring	1
10	10012162	Screw	2
11	10003290	Closing ring	1
12	10032116	Feed rocker shaft	1
13	10010066	Screw	1
14	10031259	Positioning finger	1
15	10012536	Oil seal	1
16	10012492	Crank	1
17	10013015	Screw	1
18	10010096	Pin	1
19	10005746	Feed adjusting	1
20	10010506	Screw	2
21	10012495	Rubber plug	2
22	10012532	Pin	2
23	10010087	Pin	1
24	10012459	Pin	1
25	10013590	Screw	5
26	10010075	Connecting plate	2
27	10012537	Connecting plate	2
28	10010071	Screw	1
29	10010069	Pin	1
30	10005787	Connecting rod	1
31	10005742	Cover plate	1
32	10010643	Screw	4
33	10012538	Oil seal	1
34	10025882	Bearing	1
35	10012535	Gear	1
36	10009187	Screw	2
37	10005792	Bearing	1

3. HORIZONTAL FEED & VERTICAL FEED AND HOOK DRIVING SHAFT COMPONENTS (2/2)



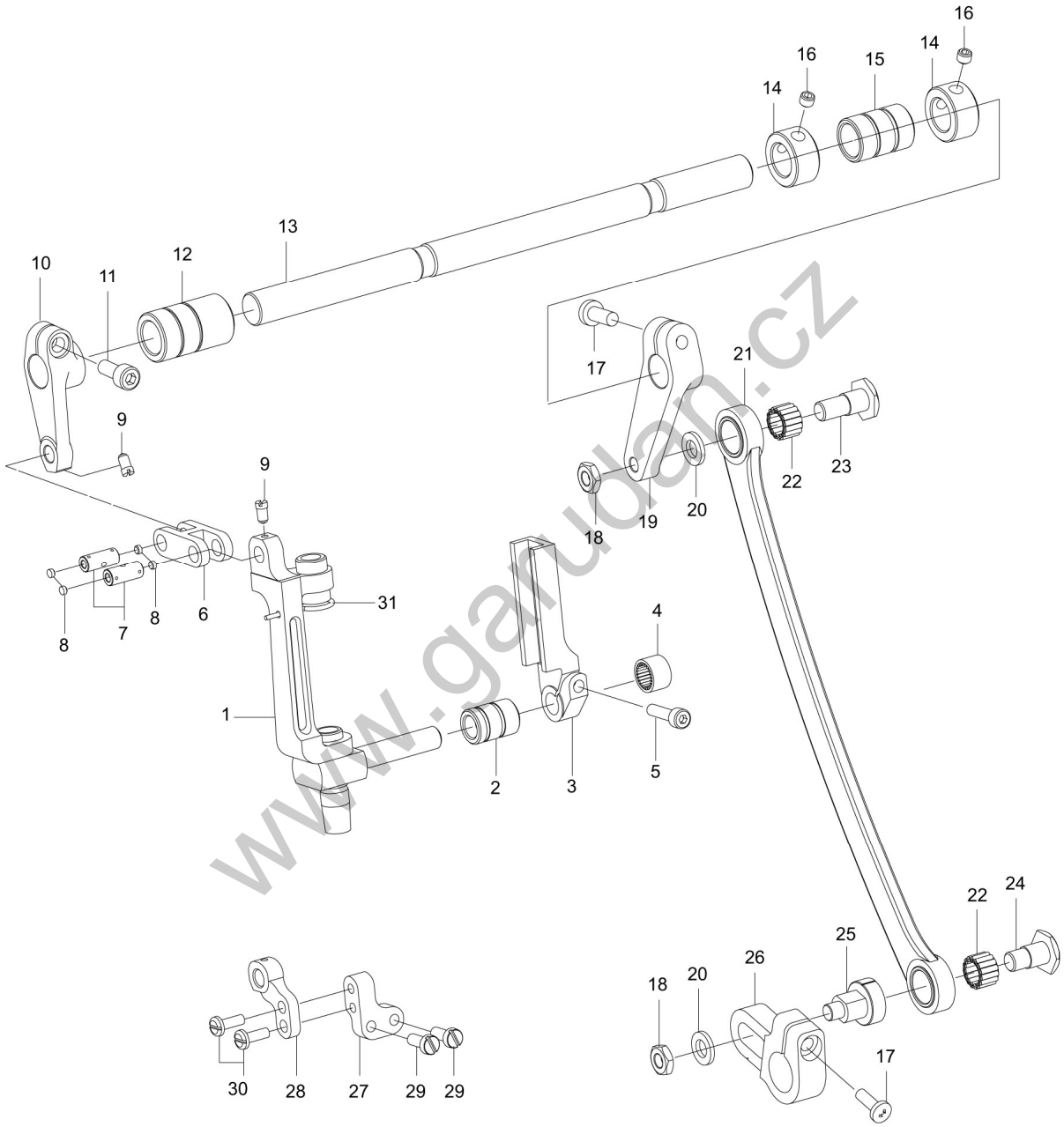
3. HORIZONTAL FEED & VERTICAL FEED AND HOOK DRIVING SHAFT COMPONENTS (2/2)			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
38	10005740	Feed drive eccentric cam	1
39	10010678	Screw	2
40	10012462	Gear	1
41	10008862	Screw	2
42	10012489	Feed driving shaft	1
43	10012533	Oil seal	1
44	10026364	Bearing	1
45	10012501	Bearing bush	1
46	10010065	Screw	2
47	10005750	Cam	1
48	10010083	Screw	2
49	10005789	Crank	1
50	10012498	Pin	1
51	10005790	Closing ring	2
52	10005744	Bearing	1
53	10012503	Cover plate	1
54	10012534	Hook driving shaft	1
55	10010063	Oil wick	1
56	10010064	Screw	1
57	10012554	Gear	1
58	10012678	Shaft sleeve	1
59	10012423	Oil seal	1
60	10026221	Bearing	1
61	10012585	Bearing bush	1
62	10014503	Oil seal	1
63	10014463	Shaft sleeve	1
64	10013029	Oil seal	1
65	10013965	Hook	1
66	10025484	Bobbin	1
67	10006924	Bobbin case	1

4. HANG LIFTER & TENSION RELEASE COMPONENTS



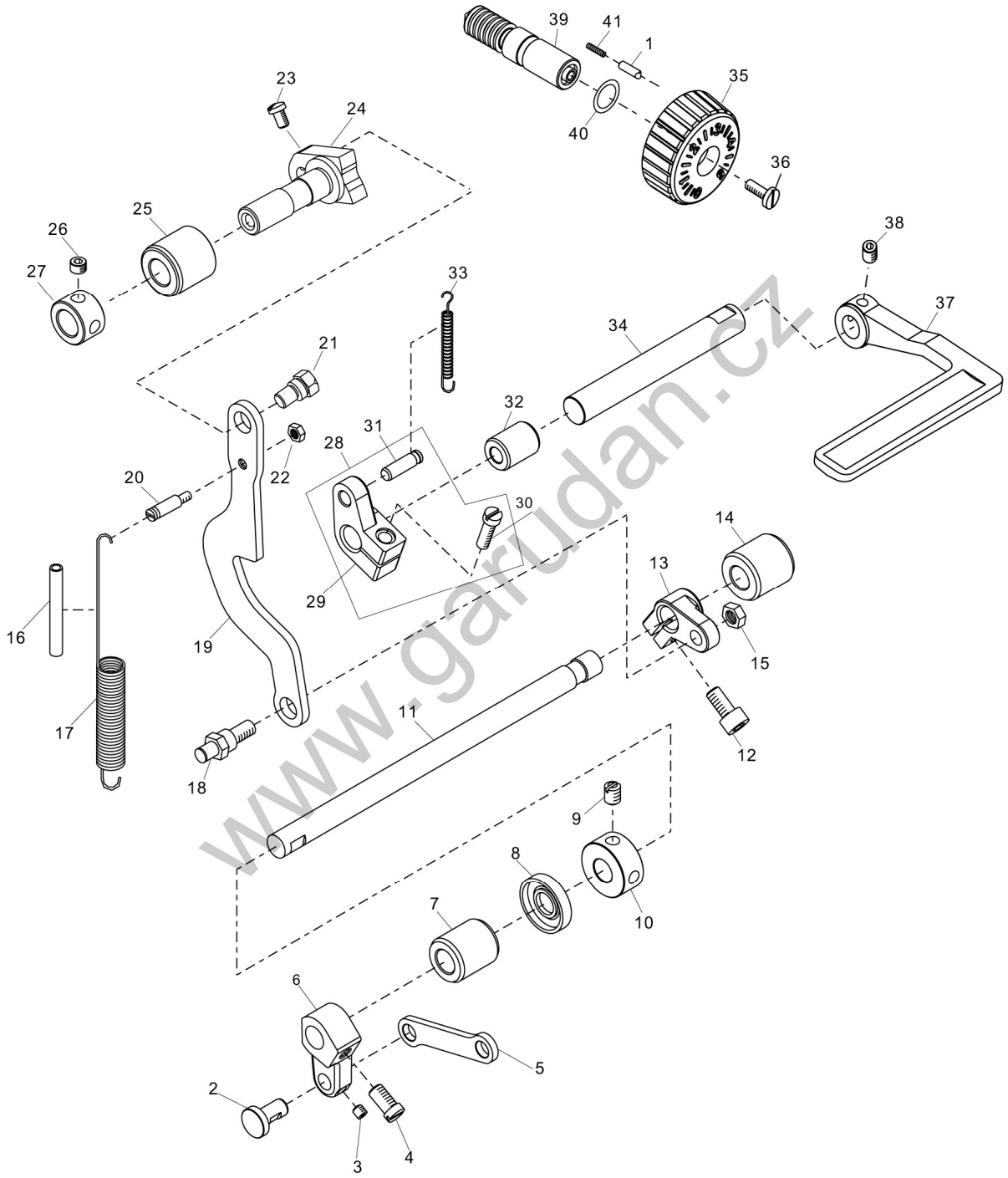
4. HANG LIFTER & TENSION RELEASE COMPONENTS			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10006112	Presser foot ASM.	1
2	10010650	Screw	1
3	10014141	Bearing support	1
4	10013328	Presser bar	1
5	10013567	Screw SM11/64"x 40 L=15.8	1
6	10011887	Screw SM9/64"x 40 L=4	2
7	10013375	Collar	1
8	10022349	Presser guide bar bracket	1
9	10004473	Spring	1
10	10012426	Presser guide bar	1
11	10011023	Nut	1
12	10013325	Screw	1
13	10021342	Screw ASM.	1
14	10022351	Pin	1
15	10022855	Loosing line ASM.	1
16	10012130	Screw	3
17	10012445	Wire holder	2
18	10033588	Base plate	1
19	10012181	Screw	1
20	10022854	Tension Release Return	1
21	10003248	Closing ring	1
22	10022508	Spring	1
23	10030397	Connecting rod vertical	1
24	10005881	Fixing shutter	1
25	10012621	Screw	2
26	10022853	Lifting lever link	1
27	10010649	Closing ring	2
28	10012429	Guide plate	1
29	10012637	Screw	1
30	10005685	Hand lifter link ASM.	1
31	10022350	Pin	1
32	10012633	Screw	1
33	10013809	Hand lifter CAM ASM.	1
34	10010027	O-ring	1
35	10011064	Hand lifter	1
36	10010016	Screw	1
37	10022852	Lifting lever connecting rod	1
38	10005882	Screw	1
39	10013109	Screw	1
40	10013038	Closing ring	1
41	10012430	Screw	1
42	10012625	Nut	1

5. THE NEEDLE BAR SWING COMPONENTS



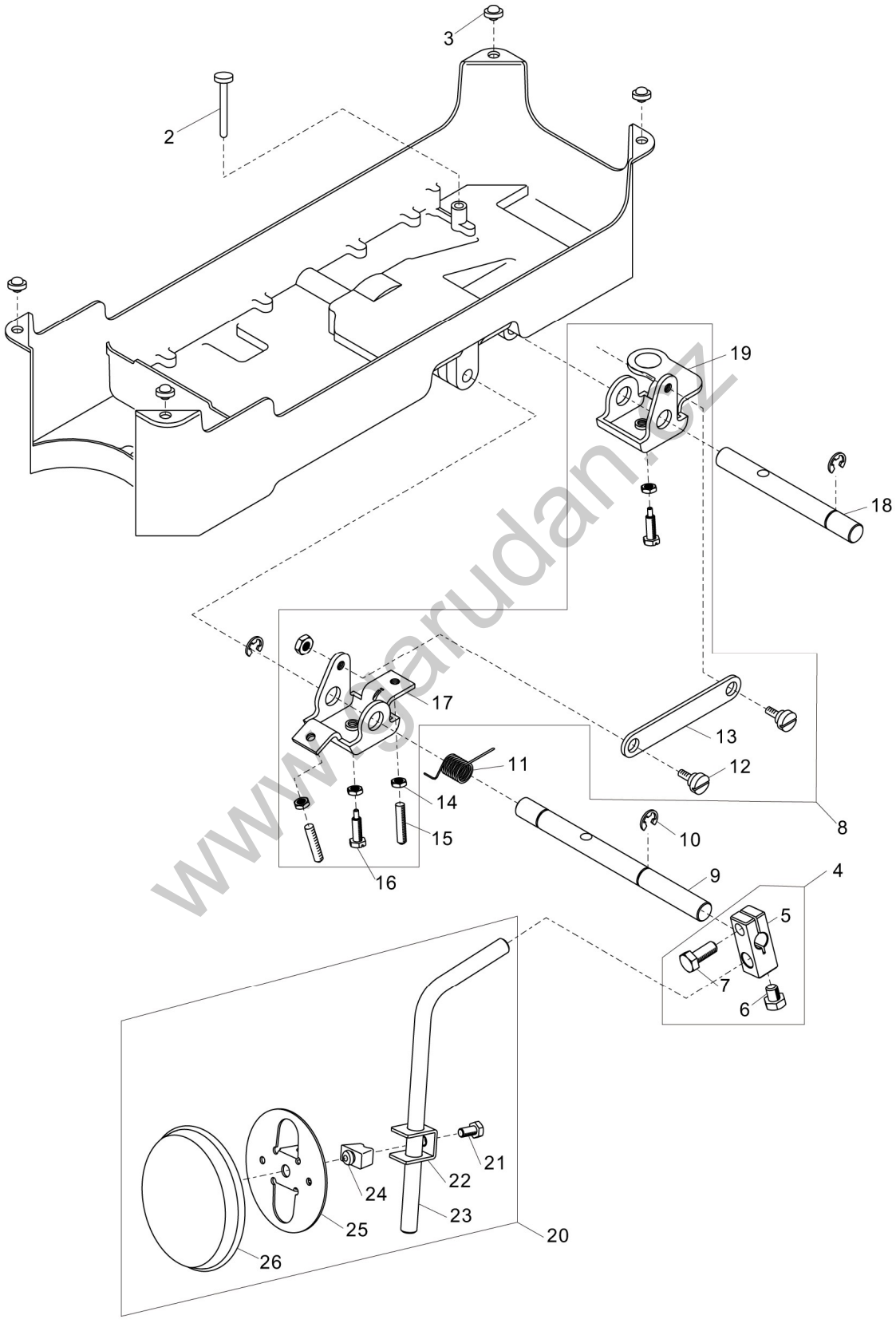
5. THE NEEDLE BAR SWING COMPONENTS			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10022509	Rocking base compl.	1
2	10022340	Bushing	1
3	10023449	Slide block guide	1
4	10003549	Bearing	1
5	10014395	Screw M4×14	1
6	10023454	Driving link	1
7	10022856	Link pin	2
8	10022363	Plug	4
9	10022354	Screw SM9/64”× 40 L=6	2
10	10022355	Driving crank front	1
11	10004611	Screw SM3/16"× 28 L= 12	1
12	10022338	Bushing	1
13	10022356	Needle feed shaft	1
14	10011284	collar	2
15	10022339	Bushing	1
16	10012014	Screw M5×4	2
17	10010030	Screw SM3/16"× 28 L=12	2
18	10012855	Nut M6×3.5	2
19	10022357	Needle feed rod cpmpl	1
20	10022359	Washer	2
21	10022353	Needle feed rod cpmpl	1
22	10014106	Bearing	1
23	10022358	Screw	1
24	10022858	Screw	1
25	10022857	Screw	1
26	10022360	Needle feed arm	1
27	10022362	Guide	1
28	10022361	Guide	1
29	10011794	Screw M4×10	2
30	10012507	Screw M3.5×10	2
31	10008105	Wick	1

6. FEED ADJUST MECHANISM COMPONENTS



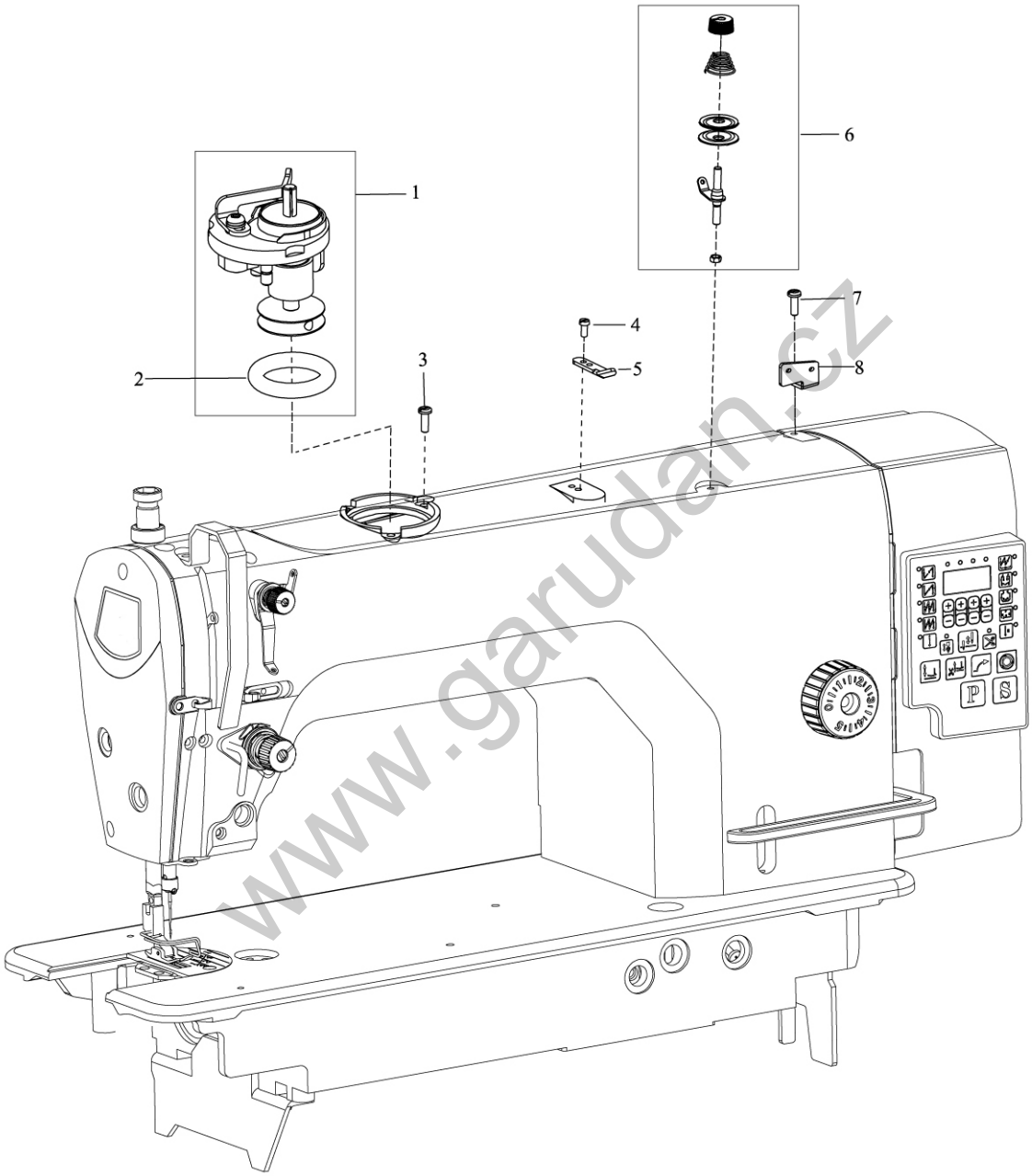
6. FEED ADJUST MECHANISM COMPONENTS			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10013870	Pin	1
2	10012459	Connecting pin	1
3	10013590	Screw	1
4	10010092	Screw	1
5	10012634	Connecting plate	1
6	10012681	Crank	1
7	10012629	Shaft sleeve	1
8	10012622	Oil seal	1
9	10003921	Screw	2
10	10012627	Closing ring	1
11	10013867	Adjusting shaft	1
12	10010095	Screw SM3/16"x 28 L=15.5	1
13	10012424	Crank	1
14	10012586	Shaft sleeve	1
15	10012620	Nut	1
16	10007795	Oil pipe	1
17	10031476	Spring	1
18	10012418	Connecting pin	1
19	10040562	Connecting plate	1
20	10012635	Pin	1
21	10013866	Pin	1
22	10010106	Nut	1
23	10010643	Screw SM9/64"x40 L=6	2
24	10012583	Adjustor	1
25	10012626	Shaft sleeve	1
26	10008862	Screw SM1/4"x40 L=5.8	2
27	10012428	Closing ring	1
28	20000150	Crank ASM.	1
29	10012638	Crank	1
30	10010095	Screw	1
31	10010287	Pin	1
32	10012578	Shaft sleeve	1
33	10012676	Spring	1
34	10012419	Reverse feed shaft	1
35	10014418	Knob	1
36	10010281	Screw SM3/16"x28 L=18	1
37	20003414	Reverse feed spanner	1
38	10009187	Screw	1
39	10010286	Screw bolt	1
40	10010240	O-ring	1
41	10013869	Spring	1

7. PRESSER FOOT COMPONENTS OF OIL PLATE KNEE LIFT



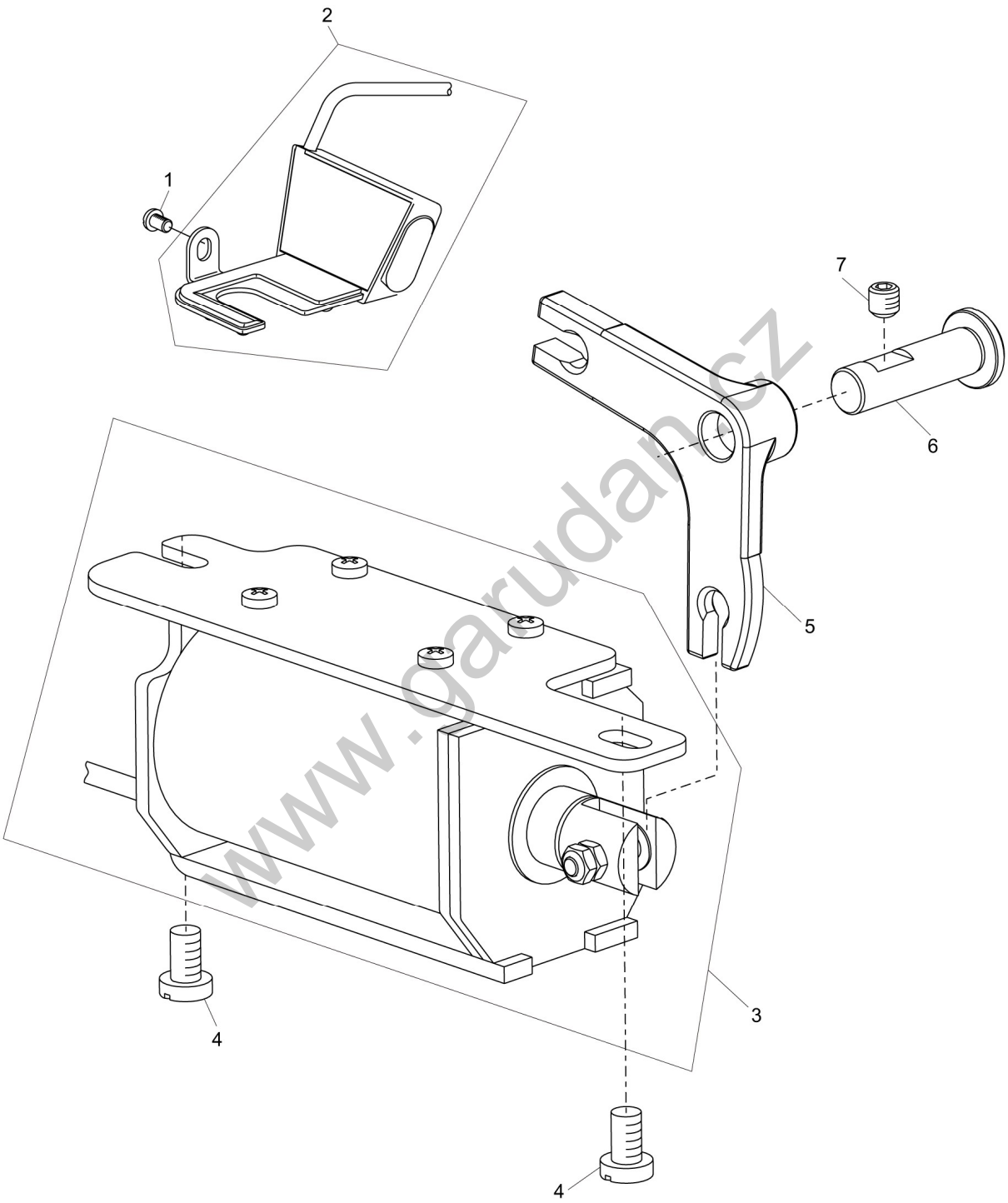
7. PRESSER FOOT COMPONENTS OF OIL PLATE KNEE LIFT			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10012632	Oil reservoir	1
2	10012631	Knee lifter presser rod	1
3	10013102	Head Gasket	4
4	10002562	Bracket ASM.	1
5	10003896	Bracket	1
6	10002610	Screw	1
7	10002613	Screw	1
8	10024632	Connecting Rod ASM.	1
9	10008450	Knee pressing shaft I	1
10	10002559	Snap ring	3
11	10012677	Spring	1
12	10008465	Screw	2
13	10008464	Connecting Plate	1
14	10003890	Nut	6
15	10003895	Screw	2
16	10003898	Screw	2
17	10008463	Connecting Rod I	1
18	10008466	Knne pressing shaft II	1
19	10008383	Connecting Rod II	1
20	10009985	Knee pressing plate ASM.	1
21	10003894	Screw	1
22	10003897	Knee pressing plate holder	1
23	10003901	Knee pressing plater rod	1
24	10003900	Knee pressing plate rubber	1
25	10003891	Knee pressing plate	1
26	10004223	Knee pressing cover	1

8. BOBBIN WINDER COMPONENTS



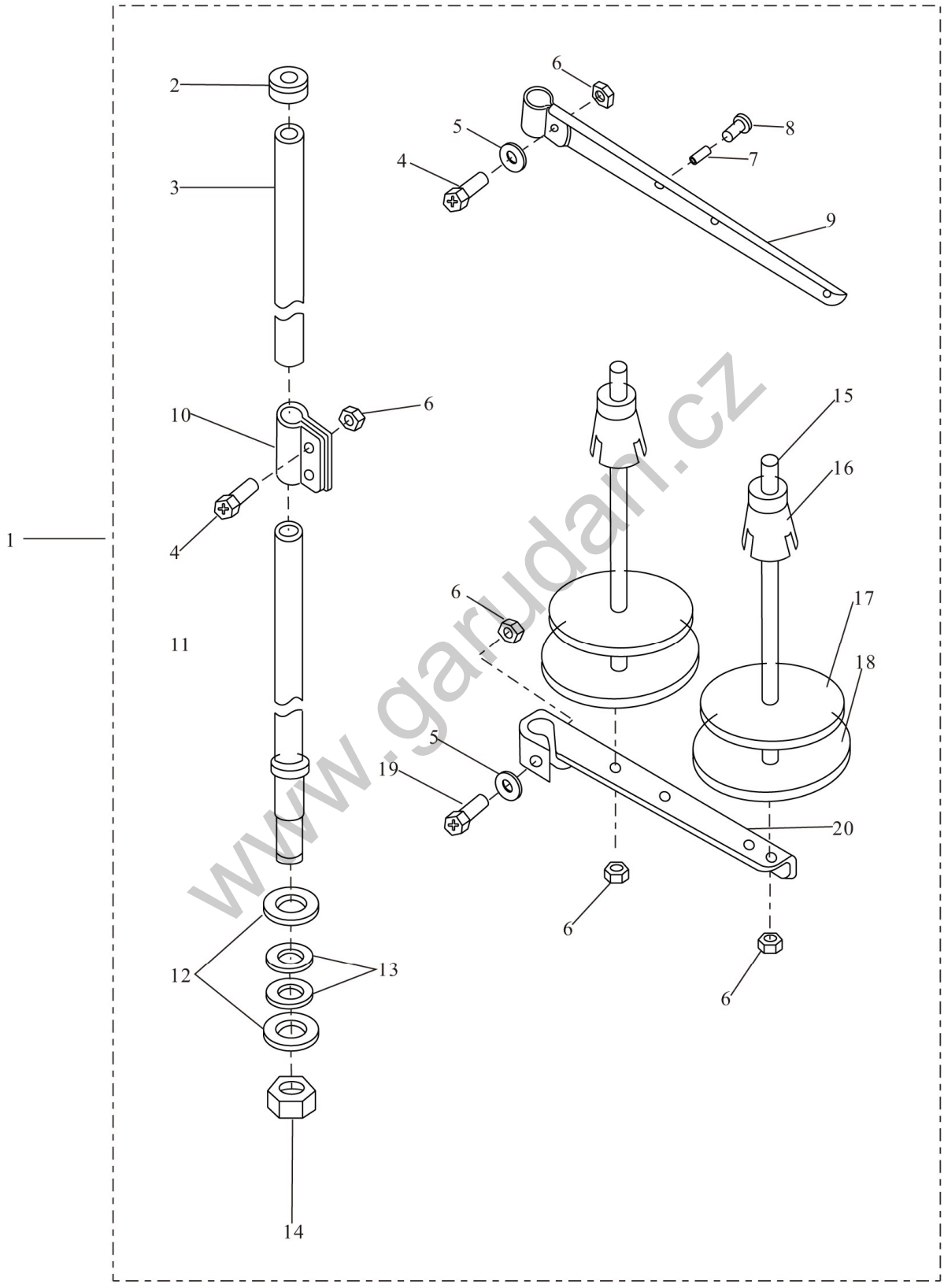
8. BOBBIN WINDER COMPONENTS			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10013875	Bobbin winder ASM.	1
2	10008773	Rubber ring	1
3	10004380	Screw	3
4	10013269	Screw	2
5	10011149	Thread cutter	1
6	10013064	Bobbin thread tension ASM.	1
7	10011158	Screw	1
8	10011200	Thread guide plate	1

9. AUTOMATIC REVERSE FEED COMPONENTS



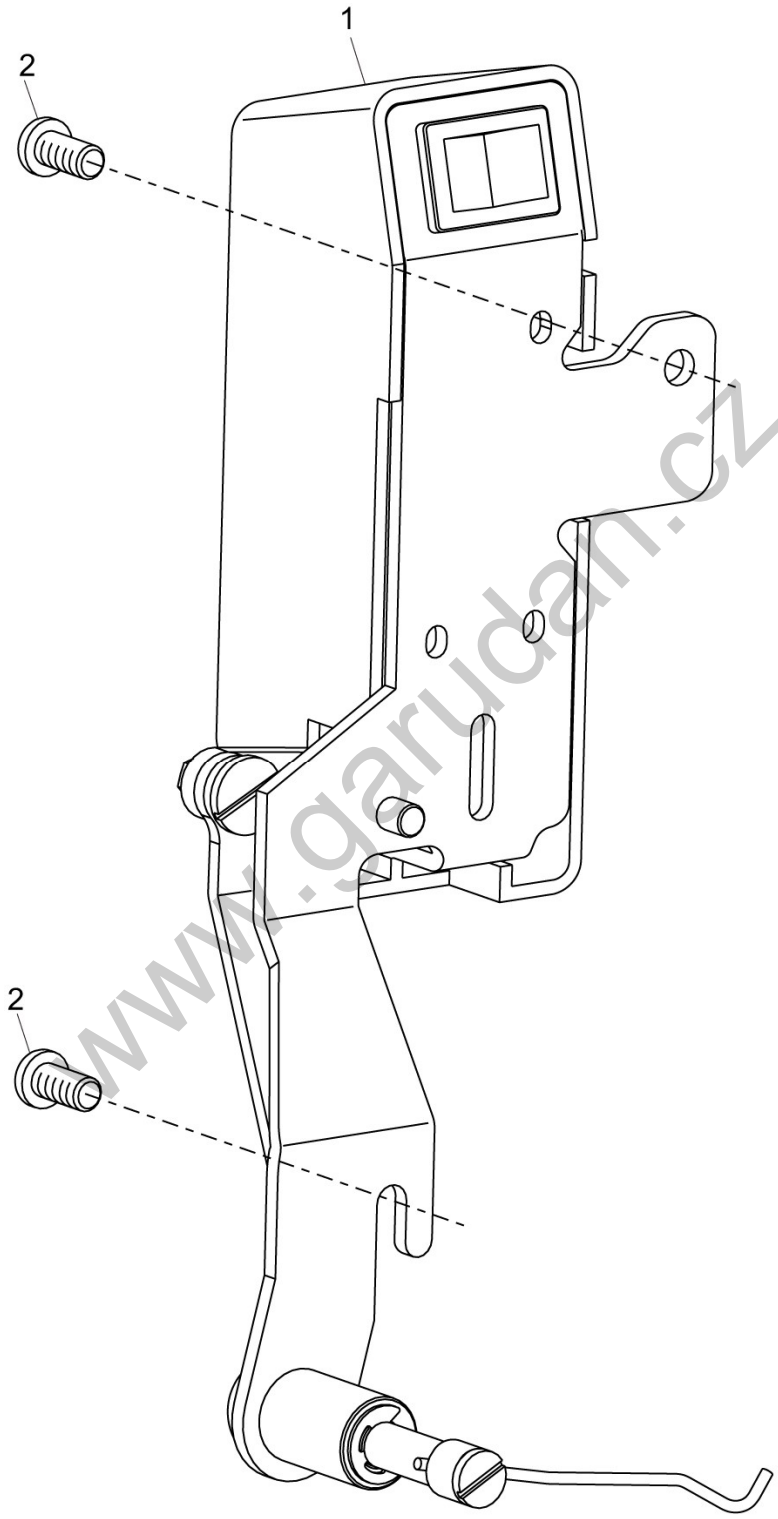
9. AUTOMATIC REVERSE FEED COMPONENTS			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10008934	Screw	1
2	10038021	Option Switch ASM.	1
3	10034506	Electromagnet ASM.	1
4	10012142	Screw	2
5	10012587	Washer	1
6	10012628	Crank Pin	1
7	10013538	Screw	1

10. THREAD STAND COMPONENTS



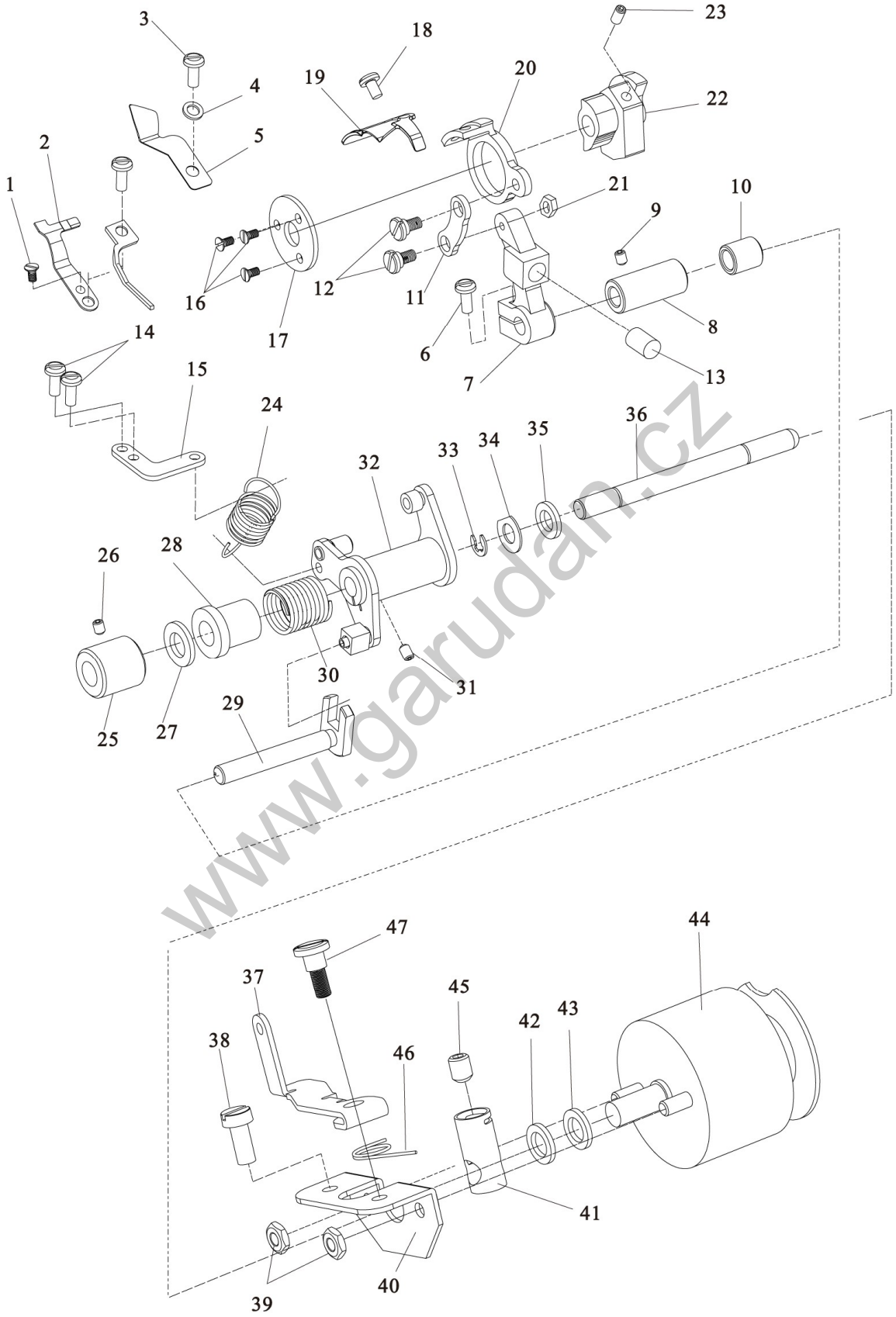
10. THREAD STAND COMPONENTS			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10007130	Thread Stand ASM.	
2	10004282	Column Cap	1
3	10004293	Column Pipe(Upper)	1
4	10003301	Screw M5x14	2
5	10003022	Washer	5
6	10002953	Nut M5	5
7	10004289	Thread Guide Pipe	1
8	10004285	Thread Guide Bushing	1
9	10004298	Thread Hanger(Upper)	1
10	10004286	Column Pipe Connector	1
11	10004291	Column Pipe (Lower)	1
12	10004290	Washer 16×30×1.5	2
13	10004295	Washer 16.5×27.5×3	2
14	10002953	Nut M5	1
15	10004288	Spool	2
16	10004287	Spool Cushion	2
17	10004281	Soft Cushion Of Thread Plate	2
18	10004299	Thread Plate	2
19	10003312	Screw M5x30	1
20	10004284	Thread Hanger(Lower)	1

11. WIPER COMPONENTS



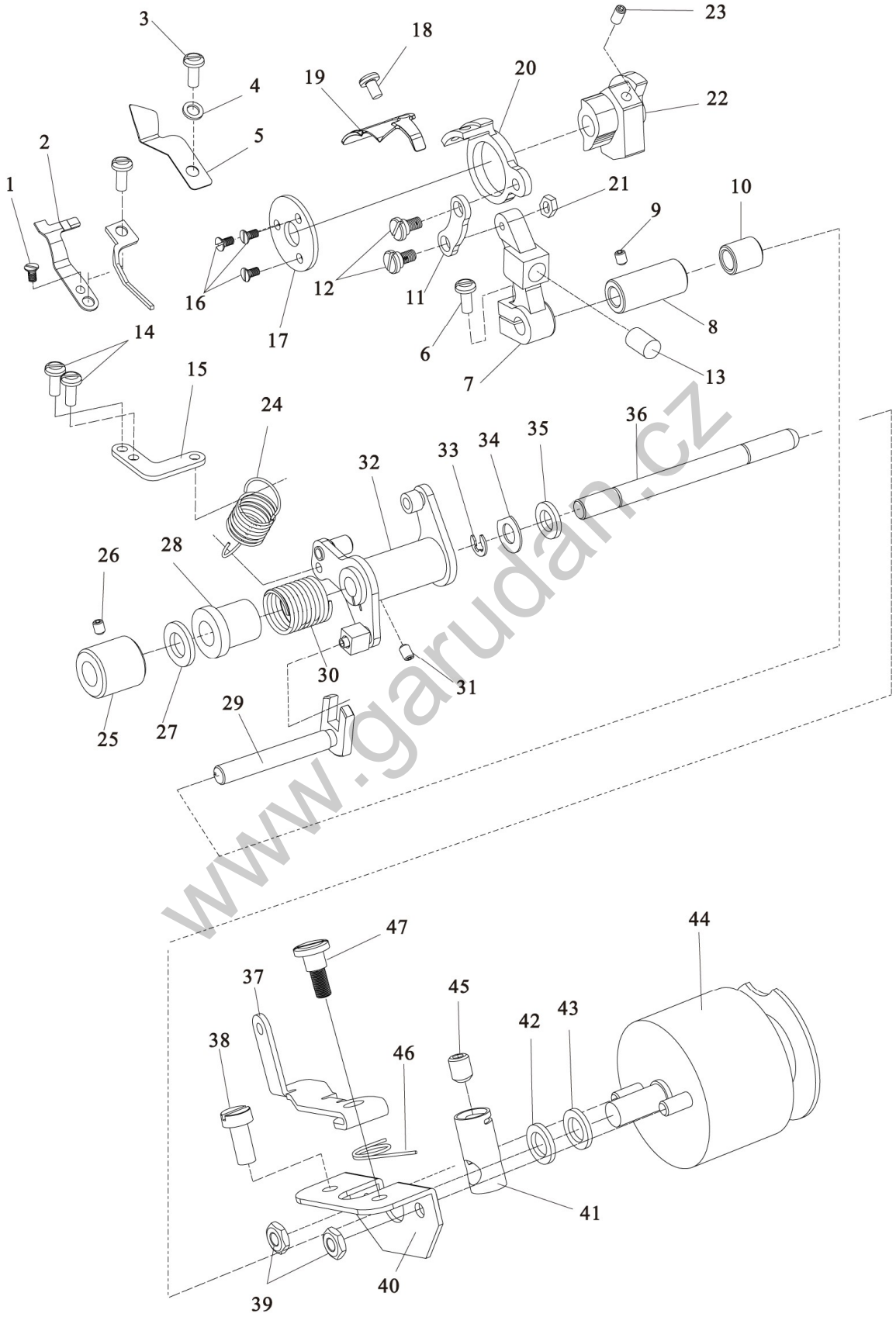
11. WIPER COMPONENTS			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10034507	Wiper ASM.	1
2	10012631	Screw	2

12. THREAD TRIMMER COMPONENTS (ROTATION KNIFE) (1/2)



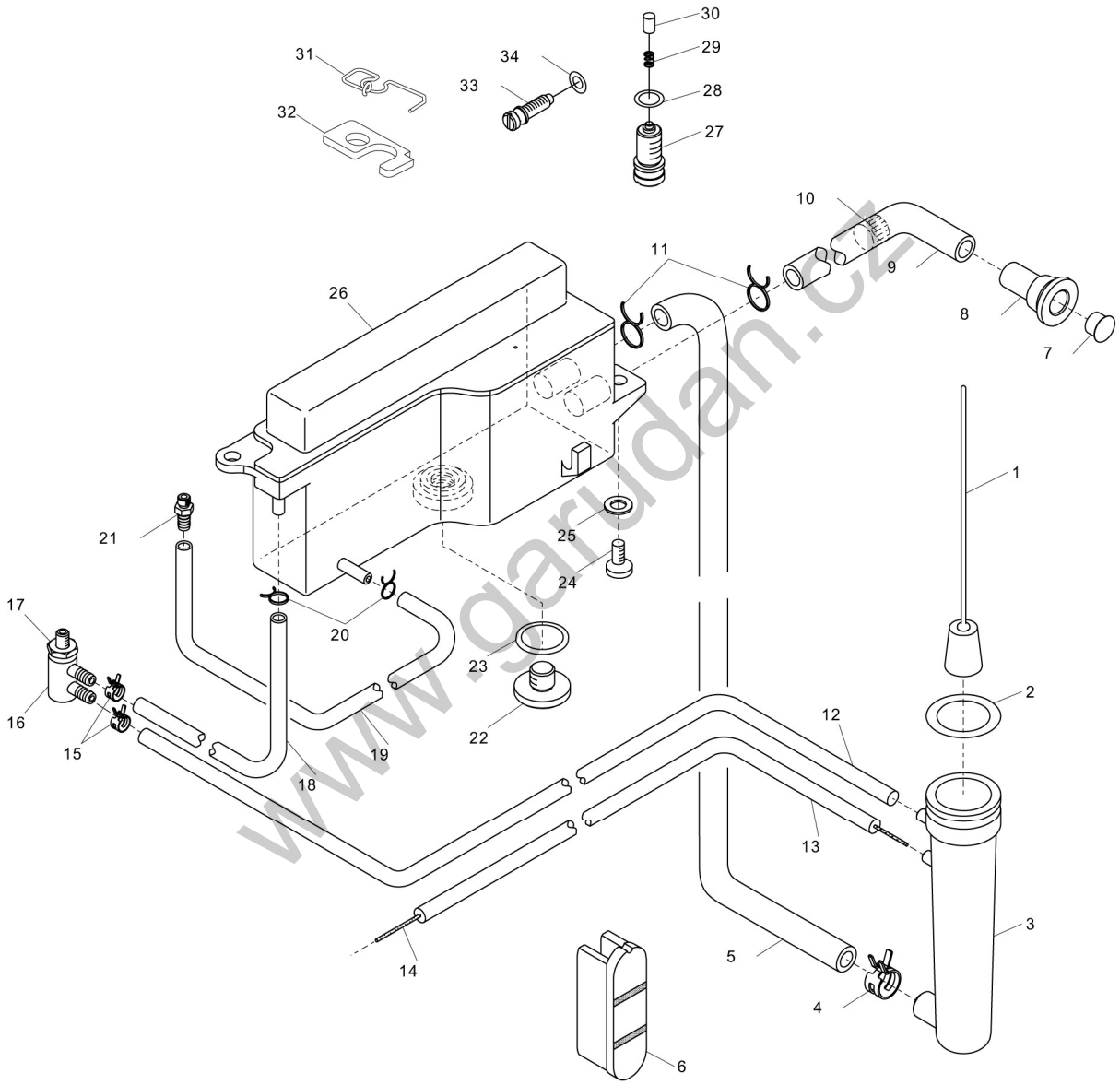
12. THREAD TRIMMER COMPONENTS (ROTATION KNIFE) (1/2)			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10011422	Screw SM 9/6 4"×40 L = 4	1
2	10011421	Fixed Knife	1
3	10011497	Screw SM11/64"×40 L=9	3
4	10013154	Washer	2
5	10011584	Dispart Thread Shuttle	1
6	10013333	Screw SM3/1 6 "×3 2L = 1 4	1
7	10013024	Trimming Crank	2
8	10013013	Bushing	1
9	10012162	Screw M5x5	1
10	10013027	Bushing	1
11	10013044	Knife Shaft Connecting Bar	1
12	10011514	Screw	2
13	10013010	Crank Block	1
14	10010595	Screw M4x7.5	2
15	10013023	Fixed Plate	1
16	10009626	Screw M3x4.35	3
17	10013026	Knife Holder	1
18	10011588	Screw SM1 1/6 4 "×40 L = 4 . 7	2
19	10011494	Round Knife	1
20	10013045	Round Knife Bracket	1
21	10011578	Nut	1
22	10010736	Thread Trimmer Cam	1
23	10013465	Screw SM1/4"×40 L = 1 0	2
24	10013030	Spring	1
25	10014462	Bushing	1
26	10012162	Screw M5x5	1
27	10013008	Washer	1
28	10014196	Spring Cover	1
29	10013007	Trimming Crank Shaft	1
30	10008812	Spring	1
31	10008862	Screw SM1/4 "×40 L = 5 . 8	1
32	10013878	Trimming Cam Crank ASM	1
33	10013038	Washer	1
34	10014460	Washer	1
35	10011650	Washer	1
36	10011697	Trimming Shaft	1
37	10013050	Loosing Plate	1

12. THREAD TRIMMER COMPONENTS (ROTATION KNIFE) (2/2)



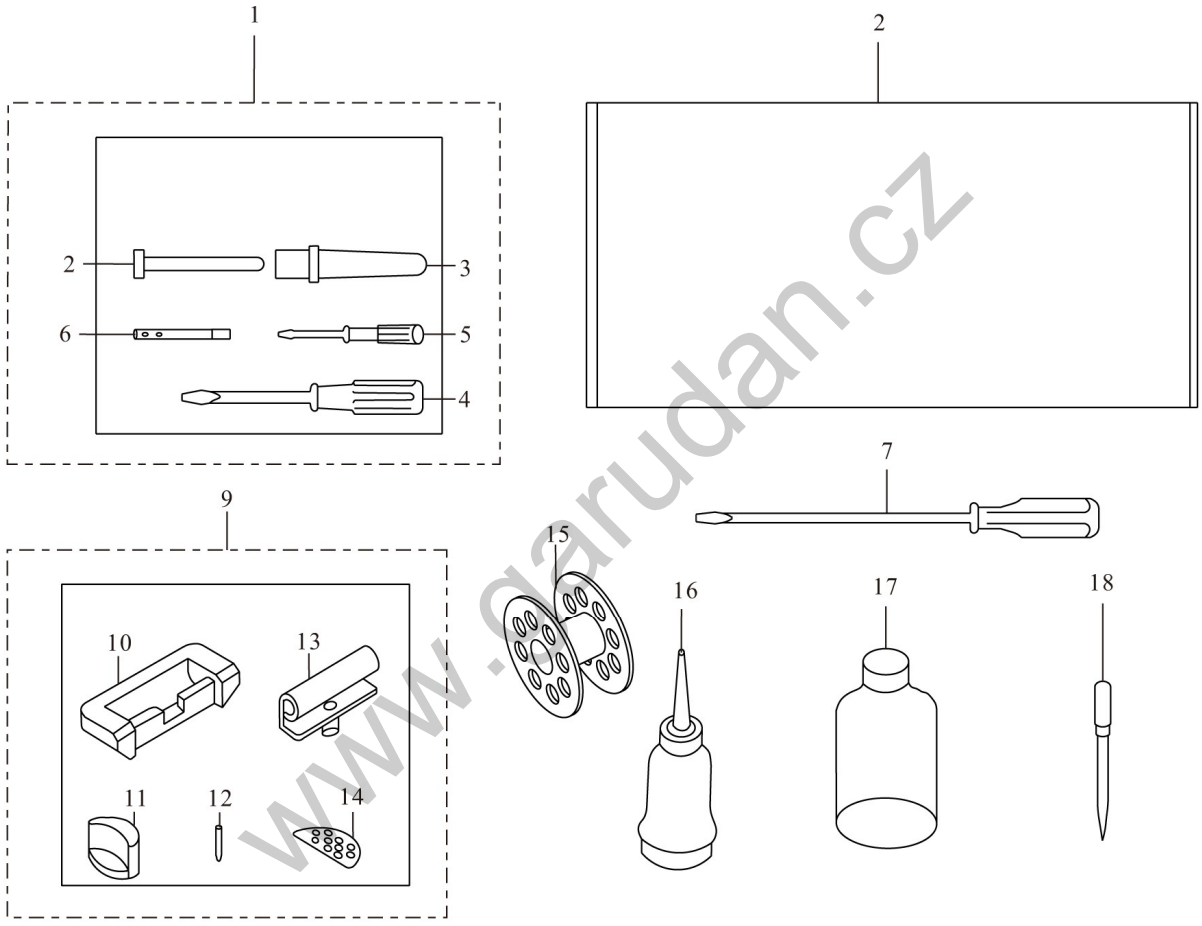
12. THREAD TRIMMER COMPONENTS (ROTATION KNIFE) (2/2)			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
38	10011605	Screw SM1/4"x28 L=12	1
39	10009471	Nut M4	2
40	10006131	Solenoid Base	1
41	10013046	Solenoid Connecting Shaft	1
42	10011845	Washer	1
43	10011606	Washer	1
44	10006137	Thread Trimmer Solenoid	1
45	10013590	Screw SM11/64"x40 L=4	1
46	10008834	Spring	1
47	10012467	Screw	1

13. OIL LUBRICATION COMPONENTS



13. OIL LUBRICATION COMPONENTS			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	10000569	Floater ASM.	1
2	10008777	O-ring	1
3	10008782	Floateer case	1
4	10013048	Pipe stopper	1
5	10007806	Oil pipe	1
6	10008772	Oil sight window	1
7	10008943	Rubber plug	1
8	10008780	Oil inlet	1
9	10007806	Oil pipe	1
10	20007434	Oil filter ASM.	1
11	10008785	Pipe stopper	2
12	10007800	Oil pipe	1
13	10007800	Oil pipe	1
14	10008101	Oil wick	1
15	10012160	Pipe stopper	2
16	10030182	Oil connection ASM.	1
17	10013012	Nut	1
18	10007800	Oil pipe	1
19	10007800	Oil pipe	1
20	10008781	Pipe stopper	2
21	10008779	Oil connection	1
22	10008783	Screw	1
23	10010240	O-ring	1
24	10008972	Screw	2
25	10009469	Washer	2
26	10012669	Oil tank ASM.	1
27	10013025	Screw	1
28	10014461	O-ring	1
29	10014386	Plunger spring	1
30	10012609	Plunger	1
31	10022507	Oil felt presser	1
32	10013020	Oil felt	1
33	10012667	Screw	1
34	10012606	O-ring	1

14. ACCESSORIE PART COMPONENTS



14. ACCESSORIE PART COMPONENTS			
REF. NO	**PART. NO**	**NAME OF THE PART**	**QTY**
1	A	Accessorie Bag Asm A	1
2	10012631	Knee Lifter Presser Rod	1
3	10004514	rame Support Bar	1
4	10010995	Screw Driver,Middle	1
5	10013185	Screw Driver,Small	1
6	10005639	Needle Thread Guide ASM	1
7	10010994	Screw Driver,Large	1
8	10005776	Frame Viinyl Cover	1
9	B	Accessorie Bag ASM B	1
10	10006286	Rubber Cushion	2
11	10013113	Oil Reservior Seat	2
12	10003889	Nail	6
13	10004466	Hinge Compl	2
14	10013101	Oil Reservior Cushion	2
15	10010060	Bobbin	3
16	10013294	Oiler ASM	1
17	10004455	Oil Box	1
18	10034917	Needle 134R Nm110/18	3