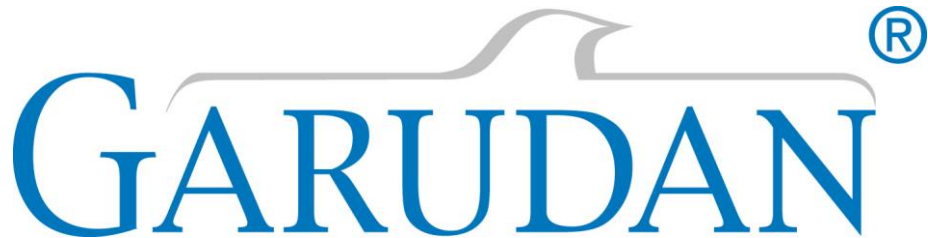


User Manual



GF-2131-443 MH/L34

GF-2131-447 MH/L34

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1) SPECIFICATION

Machine model	Material use	Speed	Stitch length	Needle system	Presser foot stroke (hand/knee)
GF-2131-443 MH/L34	Medium	2.500	8mm	135x17(90-160)	6/16 mm
GF-2131-447 MH/L34	Medium	2.500	8mm	135x17(90-160)	6/16 mm

Weight of machine head: 52 kg

Dimensions of machine head: 660x560x490 mm

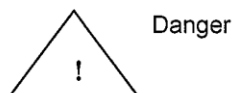
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2) SAFETY PRECAUTIONS

Safety rules for machines

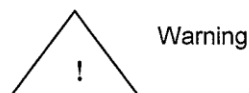
Safety labels in the manual are categorized into danger, warning and caution.
Failure to follow the safety rules may result in physical injuries or mechanical damages.
The safety labels and symbols are defined as follows.

[The meaning of the safety marks]



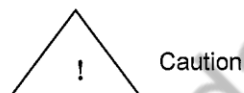
Danger

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.

1-1) 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.

1-2) Machine installation:

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



Caution

- 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 50cm 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 quarantees 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.

1-3) Troubleshooting: When the machine is in need of repair, only our authorized service technicians must handle it.



Danger

- a. Before cleaning and repairing the machine, shut off the power supply and wait four minutes for the machine to discharge completely.
- b. No 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.

1-4) Machine operation: GF-115 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.



Caution

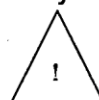
- a. Read the manual thoroughly and understand the instructions fully before use.
- b. Put on proper safety garments.
- c. While the machine is in motion, keep your hands or any part of your body away from moving parts, e.g., needle, hook, thread take-up spring and pulley, etc.
- d. Do not remove any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

1-5) 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

3) BEFORE OPERATION



Warning

- ⇒ 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 33 kg. 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 to the normal position.
Using only one hand can lead to physical injuries due to the weight of the machine.

4) INSTALLATION

4.1 Installing the knee lifter

Fully draw out the knee lifter shafts (2) towards you. Then install it on the sewing machine. Attach driving arm (1) to respective shafts (2). Connect right and left driving arms (1) together with link (3). Install knee lifter lever (4) to driving arm (1) on the left side. See fig.1

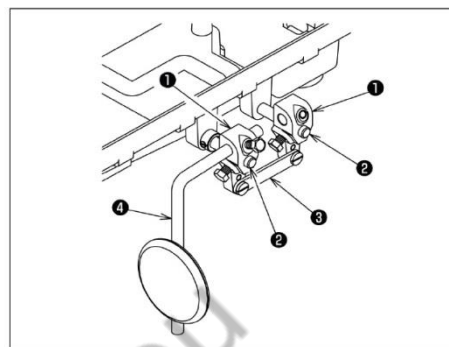


Fig.1

4.2 Installing the waste oil receiver

Fold mounting section (A) of waste oil receiver bracket (1) at a right angle. See fig.2

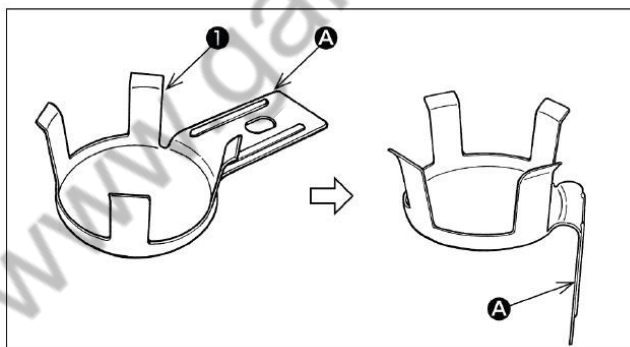


Fig.2

Remove one lateral bracing strut setscrew (2). Insert folded mounting section (A) of waste oil receiver bracket (1) into the section between strut (3) and lateral bracing strut (4). Tighten lateral bracing strut (4) and waste oil receiver bracket (1) with lateral bracing strut setscrew (2) together. Place waste oil receiver (5) on waste oil receiver bracket (1). Insert tube (7) coming from oil pan (6) into waste oil receiver (5). Adjust the length of tube (7) according to the distance between oil pan (6) and waste oil receiver (5). See fig.3

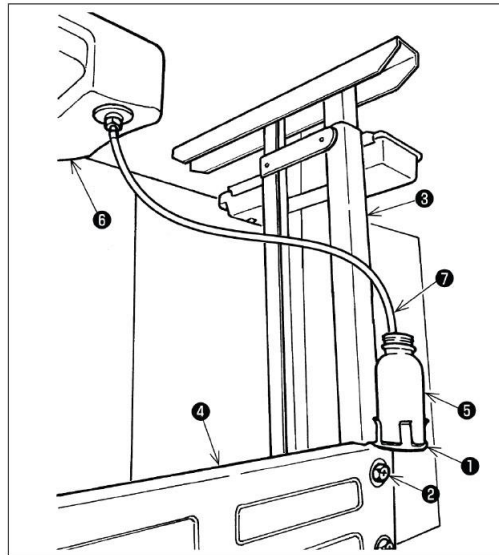


Fig.3

4.3 Lubrication

Fill the oil tank with oil up to line „H“ (1). Carry out periodical inspection while the sewing machine is in use to check the oil quantity. If the oil surface level is below line „L“ (2), add oil until the oil surface reaches line „H“ (2), see fig.4. Use „spindle oil“.

Run the sewing machine to check how oil splashes on oil sight glass (1). See fig.5.

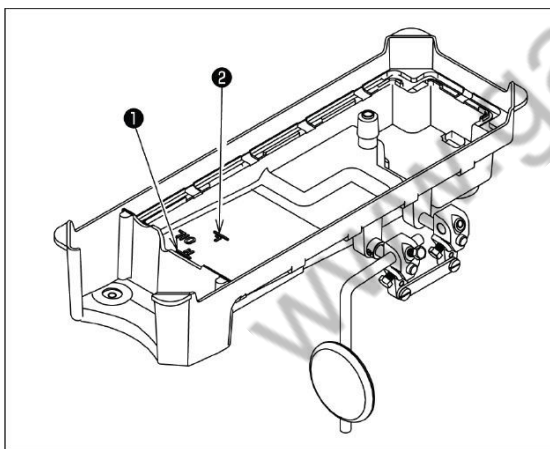


Fig.4

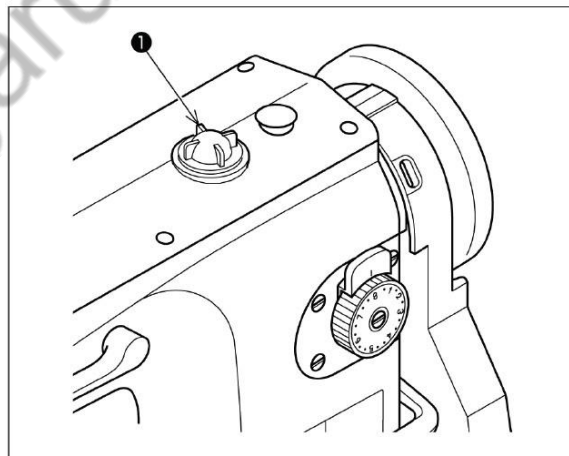


Fig.5

4.4 Adjusting amount of oil in the hook

Turn screw (1) to adjust the oil quantity. Turning screw (1) in the „+“ direction increases the oil quantity, or in the „-“ direction decreases it. See fig.6. After adjusting the oil quantity with the screw, run the sewing machine idle for 30 seconds or more. Then, check the oil being splashed from the hook.

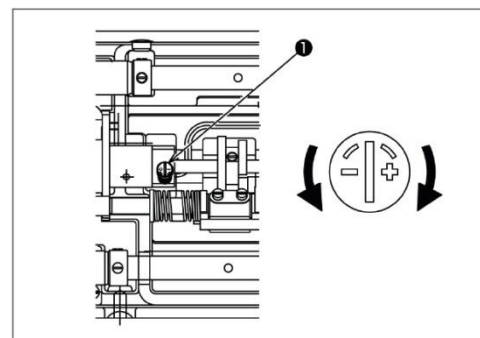


Fig.6

4.5 Adjusting the oil in the pump

In the standard state, bypass hole (2) is fully closed with the adjusting plate (1). The wider bypass hole (2) is opened, the less the oil quantity becomes. See fig.7.

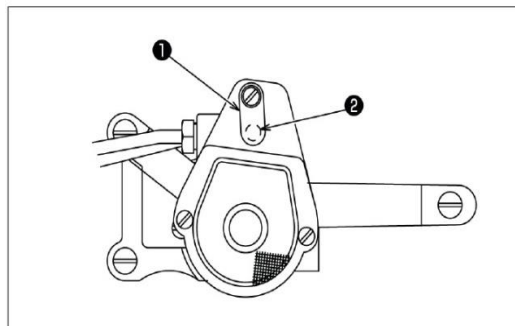


Fig.7

4.6 Installing the synchronizer

Screw whirl stop (5) into the tapped hole in the arm in the fig.8 and fix it with nut (6).

Determine upper and lower stop position of the needle by adjusting the angle of the synchronizer (see more details in operation manual of the servomotor).

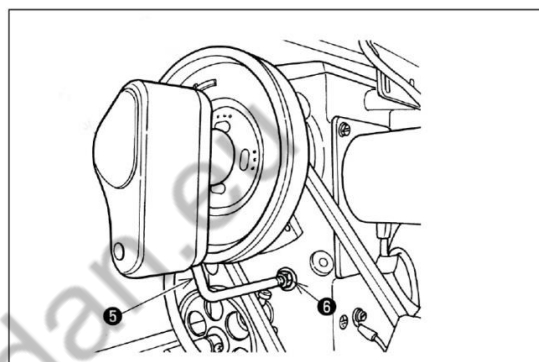


Fig.8

4.7 Installing the belt cover and the bobbin winder

Bore wood-screw guide halls A,B,C,D in the table-top. Fit belt cover struts (1) and (2) in tapped holes in the machine arm. Adjust position of bobbin winder (3) and fix it in guide holes A and B with wood screws. Temporarily fix belt cover C (4) in guide holes C and D. Mount belt cover A (5) and belt cover B (6) to struts (1) and (2). Adjust the position of belt cover C (4) and fix it with the wood screw. See fig.9

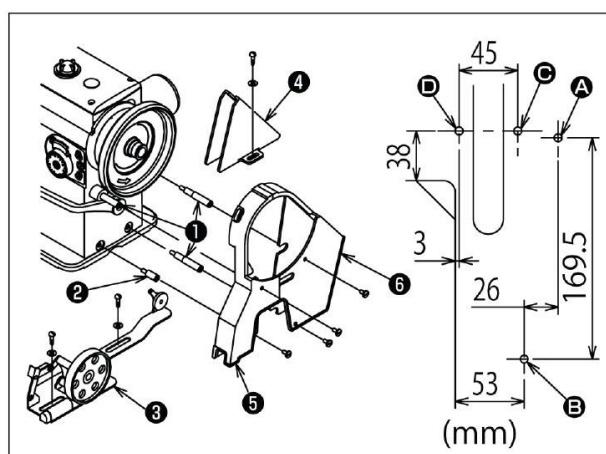


Fig.9

5) HOW TO ADJUST AND USE THE SEWING MACHINE

5.1 Attaching the needle

Turn off the power before starting to work.

The standard needle is 135x17 (DPx17). By special order, machine can also be equipped with needle bar for needle 134R.

Turn the hand wheel to move the needle bar up to its highest position. Loosen needle clamping screw (2) and hold needle (1) so that long groove A in needle (1) faces exactly to the left. Insert the needle into the needle (1) bar until it will go no further. Securely tighten the needle clamping screw. See fig.10.

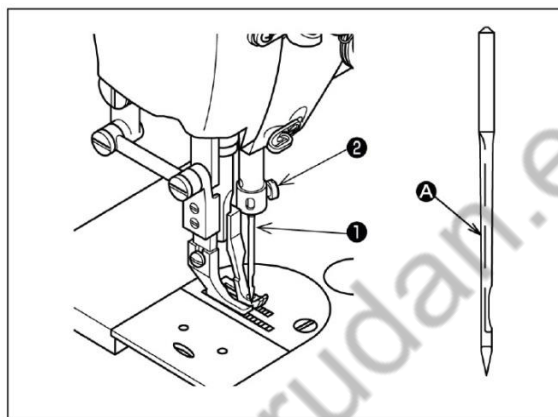


Fig.10

5.2 Threading the machine head

Bring the thread take-up lever to its highest position. Thread the machine head according to the numbers in the fig.11 in the numerical order.

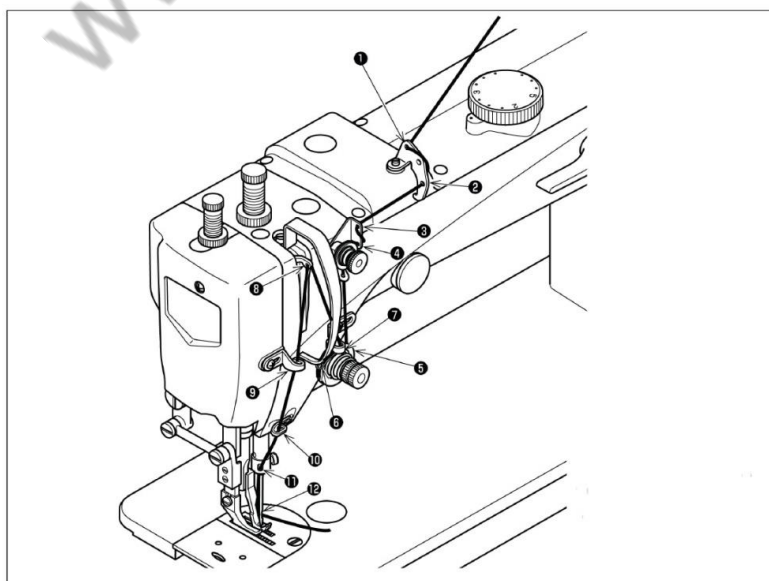


Fig.11

5.3. Adjusting the stitch length and reverse-feed stitching

To change the stitch length, press push lever (1) and turn stitch dial (2). For reverse stitching push reverse feed lever (3) down. The machine performs reverse feed stitching as long as the lever is held depressed. Release the lever and the machine will immediately resume the forward stitching mode. See fig.12.

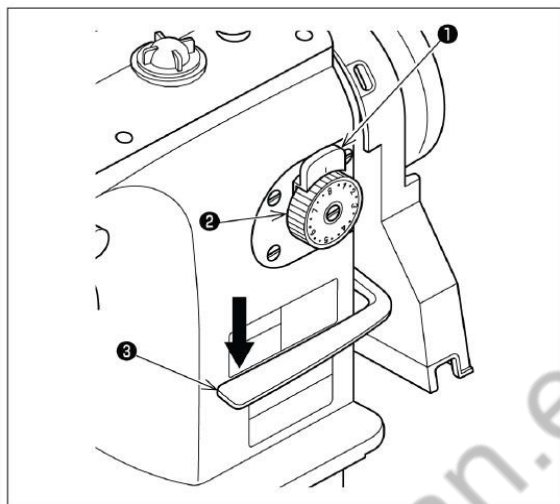


Fig.12

5.4. Inserting the bobbin thread

Inert the bobbin thread with thread (1) into the bobbin case (2) to allow bobbin to turn in the direction of the arrow when drawing bobbin thread. See fig.13.

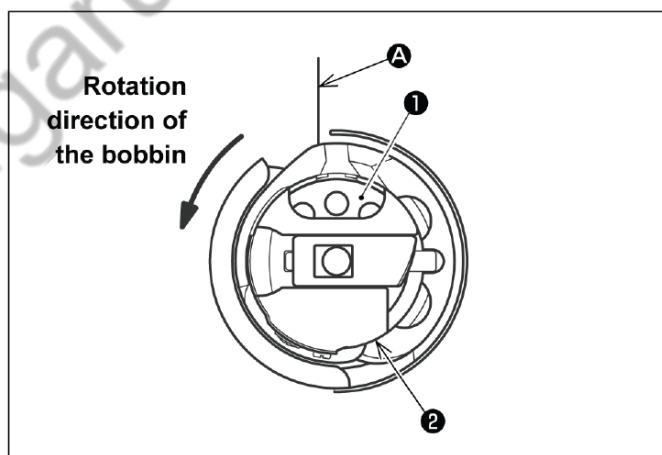


Fig.13

5.5 Thread tension

A. Adjustment of upper thread tension

Turn tension nut (1) towards (A) to increase the needle thread tension, or towards (B) to decrease it.

B. Adjustment of bobbin thread tension

Turn the tension screw (2) towards (A) to increase the bobbin thread tension, or towards (B) to decrease it. See fig.14.

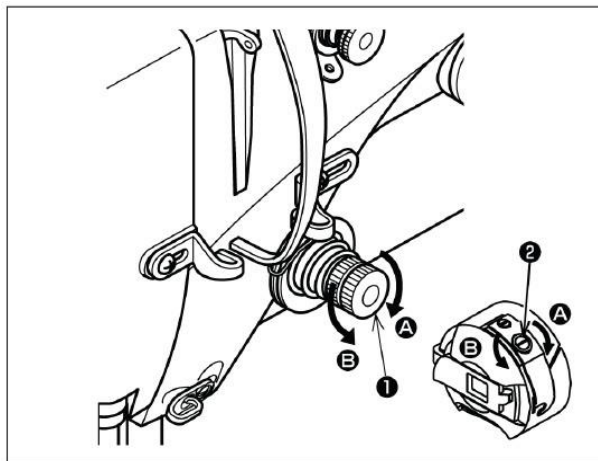


Fig.14

5.6 Presser foot pressure

Adjust the presser foot pressure according to the sewing product. The pressure of the presser foot (1) and that of the walking foot (2) can be adjusted separately. Use the machine with the minimum pressure which is necessary. See fig.15.

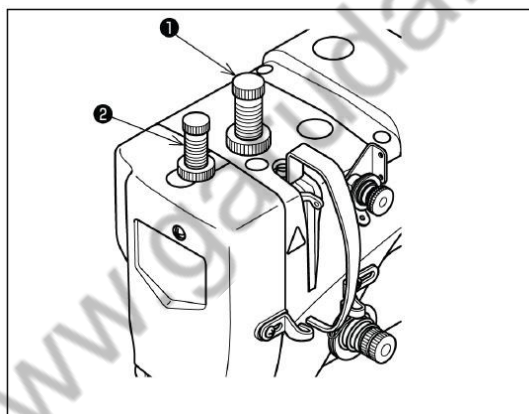


Fig.15

5.7 Hand lifter

Turning presser bar lifting lever (1) in the direction of arrow (A) lifts the presser bar. See fig.16.

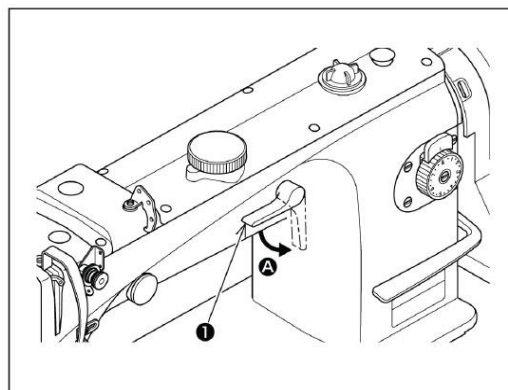


Fig.16

5.8 Height of the feed dog

Feed dog (1) is factory adjusted to jut out 1 mm from the surface of throat plate (2). When the feed dog height needs to be adjusted according to the sewing specifications or after the feed dog is replaced, do as follows: Loosen screw (3) and move feed bar (4) up and down to adjust the height of the feed dog. Then firmly tighten the clamping screw. See fig.17.

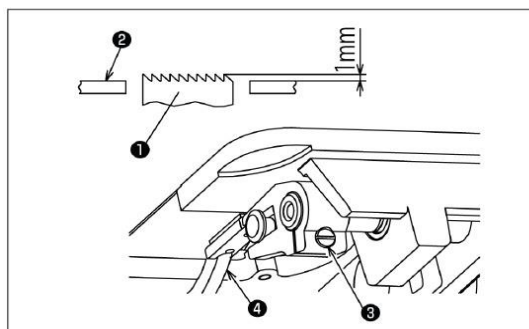


Fig.17

5.9 Adjusting the inclination of the feed dog

The feed dog has been factory-adjusted so that it is levelled (horizontal state). Adjust the inclination of the feed dog according to the sewing conditions. Loosen feed rock shaft crank setscrew (1). Turn the eccentric shaft in direction „A“ (to lower the front section) or direction „B“ (to raise the front section) while pressing the slot in eccentric shaft (2) with a screwdriver. After the adjustment, firmly tighten feed rock shaft crank setscrew (1). See fig.18.

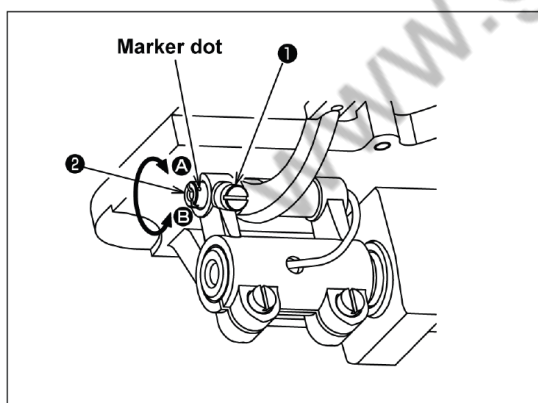





Fig.18

Position of marker dot on eccentric shaft	Feed dog
⊕ Standard	 Standard
⊕ Directly above	
⊕ Directly below	

5.10 Adjusting the stitch length for forward and reverse stitching

Loosen four mounting base setscrews (1). Turning stitch adjusting pin (2) in direction (A) increases the stitch length for forward stitching. Turning stitch adjusting pin (2) in direction (B) decreases the stitch length for reverse stitching. After the adjustment, firmly tighten the four mounting base setscrews See fig.19.

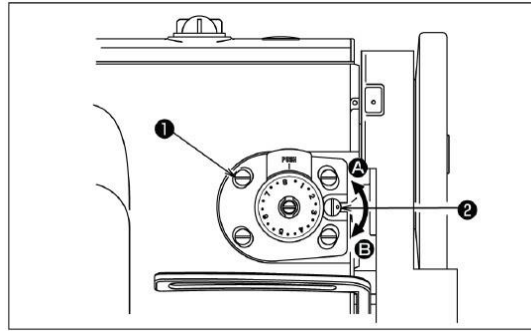


Fig.19

5.11 Adjusting the walking foot and presser foot

A. Amount of the alternating vertical movement of the walking foot and presser foot

Amount of the alternating vertical movement of the walking foot and presser foot is to be adjusted with alternating vertical movement dial (1) on the top cover. Align the number on the alternating vertical movement dial with marker dot (2) on the top cover. The number on the alternating vertical movement dial indicates the lift amount of the walking foot and presser foot when the vertical movement amount of the walking foot and that of the presser foot are adjusted equally. In the case the vertical movement amount of the walking foot and that of the presser foot are adjusted equally, the lift amount can be adjusted from 2.0 to 5.0mm with the alternating vertical movement dial. See fig. 20.

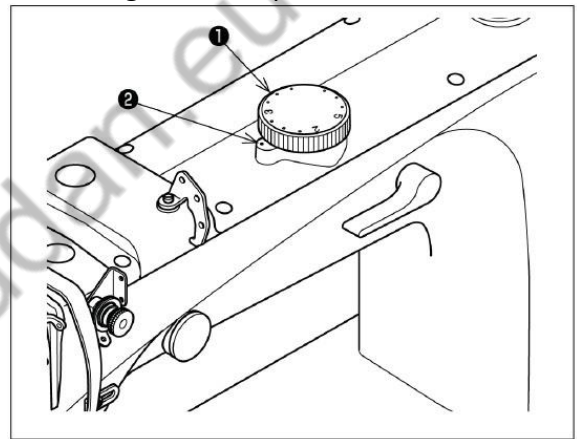


Fig.20

B. To change the balance of the alternating vertical movement between the walking foot and presser foot

The vertical movement amount of the walking foot and that of the presser foot are equal as standard. It is possible to slightly reduce vertical movement amount of the presser foot according to the product. If it is needed to increase the vertical movement amount of the walking foot and decrease that of the presser foot. Remove rubber plug (1) of the top cover. Turn handwheel until the presser foot goes up from the throat plate and stop there. Loosen walking bar adjusting lever clamping screw (2). Since the presser foot comes down to the surface of the throat plate by the spring force, re-tighten walking bar adjusting lever clamping screw (2) at that position. See fig.21.

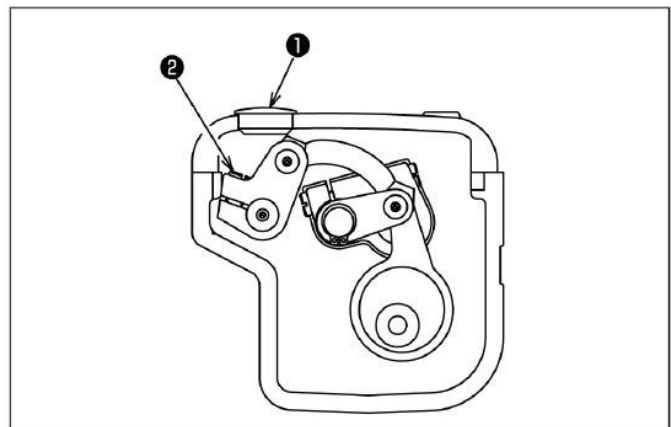


Fig. 21

C. Adjusting the feed pitch of the walking foot

Top feed amount has been adjusted to 1:1 with respect to the bottom feed amount. However, it is possible to change the top feed amount with respect to the bottom feed amount according to sewing conditions. Loosen nut (1). Adjust the position of the block up and down.

Upper position = feed pitch, small (A)

Lower position = feed pitch, large (B) See Fig.22.

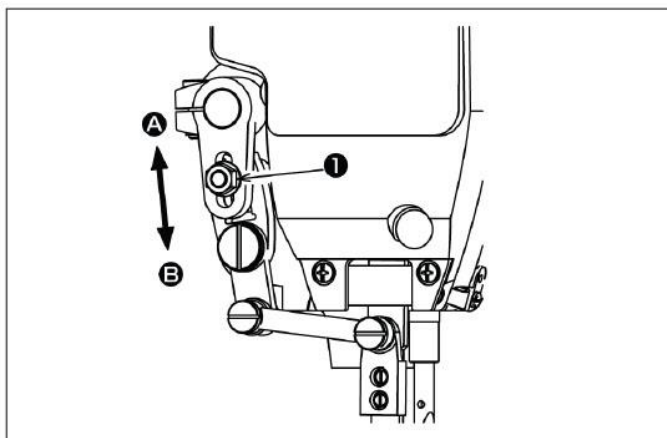


Fig.22

5.12 Needle to hook relationship

1) Positioning of needle bar

Tighten needle bar connection screw (3) in needle bar connection (2) so that the marker line of the needle bar aligns with the bottom end of needle bar lower bushing (1) at the lowest position of the needle bar. Fourth line „A“ from the bottom is for 134R needle, second line „C“ from the bottom is for 135x17 (DPx17) needle. See fig.23.

2) Position of needle and hook

Adjust so that the specified market line (third line „B“ from the bottom is for 134R needle, line „D“ at the bottom is for 135x17 needle) on the ascending needle bar aligns with the bottom end of lower bushing (1). Further adjust to make hook point (4) nearly meet the centre of needle (5) and adjust the clearance between needle (5) and hook point (4) to 0.02 to 0.07mm. Then tighten hook screw (6). To adjust the hook remove the throat plate first. Loosen hook setscrew (6) with a screwdriver and adjust the hook position from the throat plate side. See fig.23.

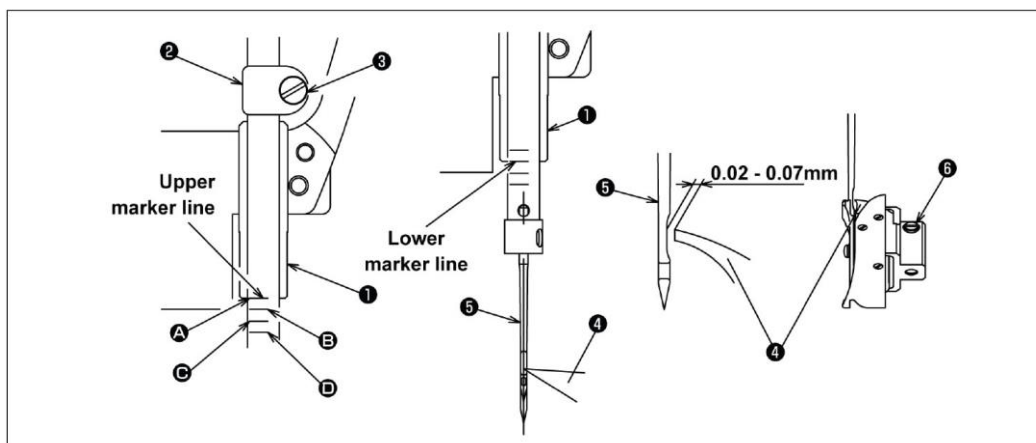


Fig.23

5.13 Feed timing

Position between feed dog and needle can be adjusted by turning the cam (4). Set the upper stop position of needle by turning the hand wheel. Set the cam so that after setting the presser foot pressure the screw (2) on the cam (1) is in the axis of the shaft (3) and simultaneously side edge of the screw (5) should be levelled with this axis. See fig.24.

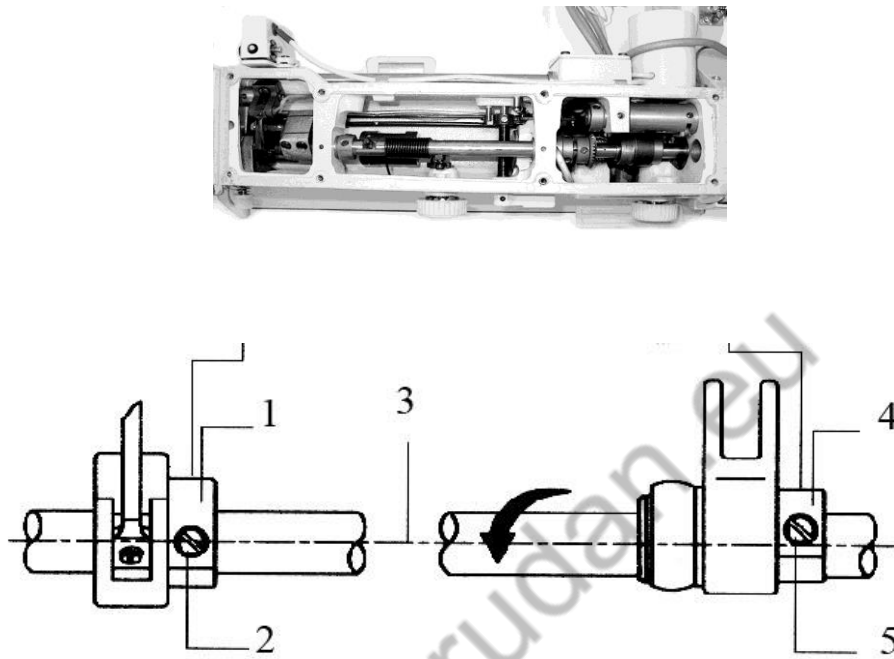


Fig.24

5.14 Adjusting counter knife and movable knife

The standard position of the thread trimmer and that of the counter knife are as shown in the figure 25. If the dimension in the figure is larger than 0.3mm, a three-thread trimming error can occur causing slip-off of the needle thread after thread trimming. On the other hand, if the dimension is excessively small, a thread trimming error can be caused.

Adjusting the counter knife:

Adjust the counter knife by moving counter knife blade (1) or knife mounting base (2) in the direction „A“ or „B“. See figure 26.

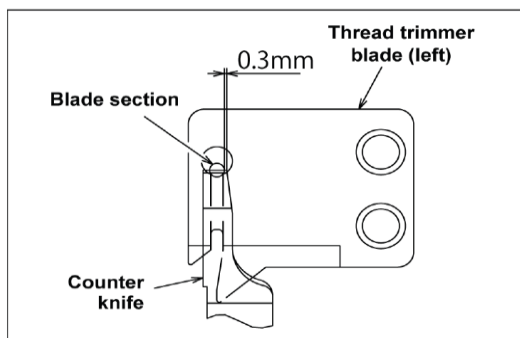


Fig.25

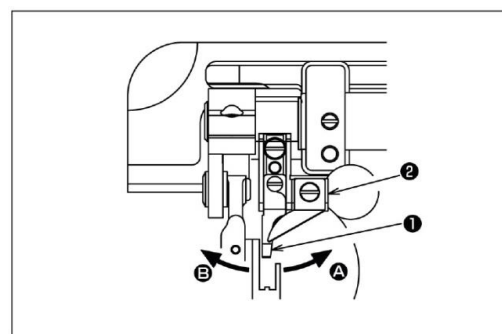


Fig.26

5.15 Position between counter knife and movable knife

The standard positioning of the thread trimmer (left) (1) and counter knife (1) is as illustrated in the figure 27. The thread trimmer (left) (1) should be 9mm and the counter knife (2) should be 5mm away from the center of the needle (3).

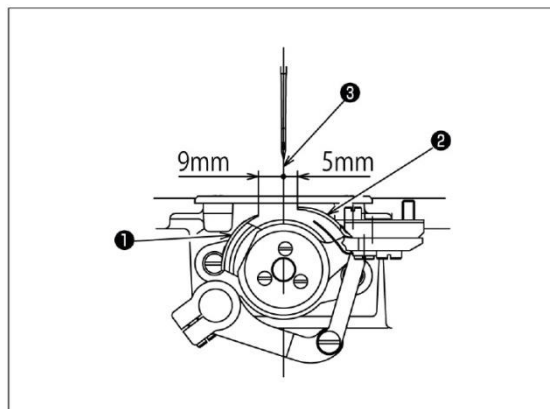


Fig.27

5.16 Adjusting the thread trimming cam

Standard position of the thread trimming cam is obtained when green marker dot (1) on the handwheel aligns with marker dot (2) on the machine arm in the case the thread trimmer is located as its initial position and thread trimming cam (3) comes in contact with cam roller (4). Loosen thread trimming cam setscrew (5) and carry out adjustment. See figure 28.

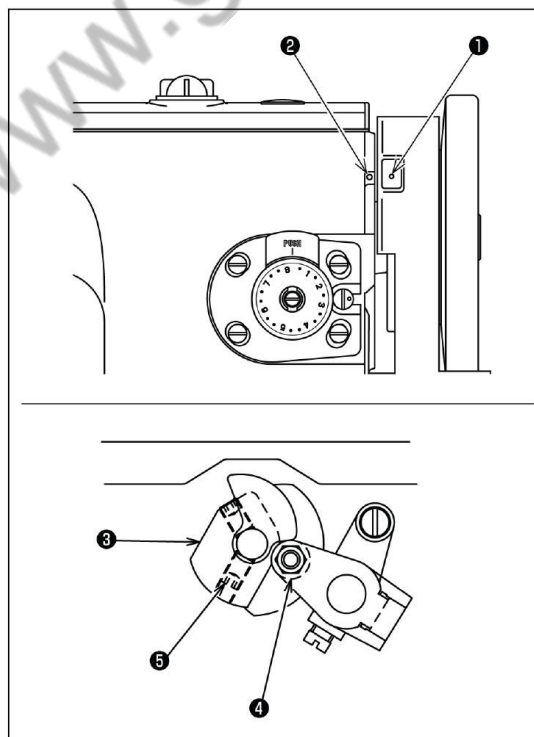


Fig.28

5.17 Adjusting the amount of mesh of the movable knife blades

When knife (1) reaches its travel end, the standard depth of mesh between knife (1) and counter knife (2) is 1,5~2 mm.

Turn the handwheel by hand and move the knife (1) upward. Loosen driving arm clamping screw (3). Manually adjust the knife mounting base (4). Securely tighten driving arm clamping screw (3). See fig.29.

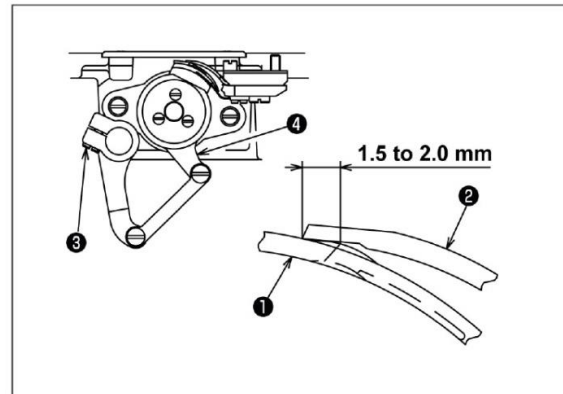


Fig.29

5.18 Adjusting the counter knife pressure

Loosen locknut (1) of knife pressure regulating screw (2). Turning screw (2) in direction of „A“ lowers the blade tip to increase the knife pressure. Then tighten the nut. As the thread thickness increases, the knife pressure should be increased. However, it is necessary to minimize the knife pressure as long as the thread is trimmed by turning the screw in direction of „B“. See fig.30.

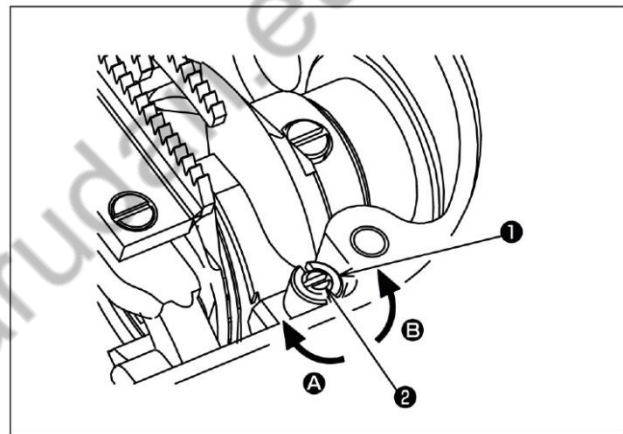


Fig.30

5.19 Adjusting auxiliary thread tension

Adjust auxiliary thread tension with auxiliary thread tension nut (1).

Direction „A“ to increase the tension. The remaining length of the needle thread after thread trimming is shortened.

Direction „B“ to decrease the tension. The remaining length of the needle thread after thread trimming is lengthened.

See fig.31.

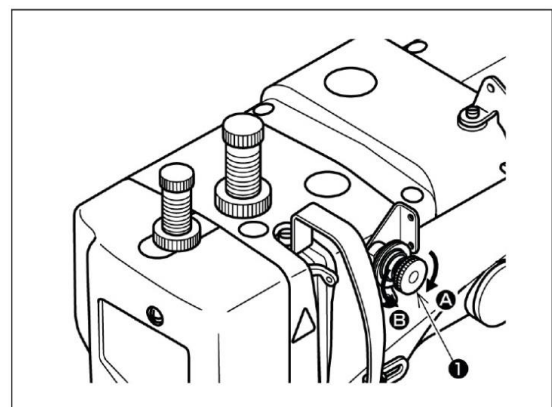


Fig.31

5.20 Reverse stitching

The sewing machine immediately is brought into the reverse feed mode and starts reverse stitching only by pressing switch (1). Reverse stitching can be carried out as long as the switch is held pressed. The sewing machine is brought into the normal feed mode by releasing the switch. See fig.33.

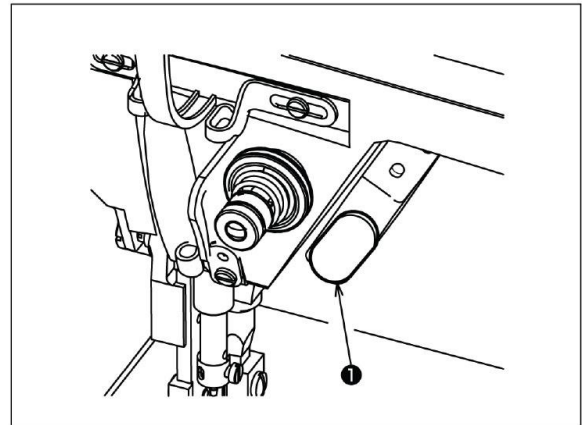



Fig.33

6) TROUBLESHOOTING

Trouble	Cause	Corrective measure
1. Thread breakage. (Thread is untwisted or scraped.) (Needle thread remains on the wrong side of the material by 2 to 3 cm.)	① Thread path, needle tip, hook blade tip or bobbin case positioning finger has flaws. ② The needle thread tension is excessive. ③ The needle comes in contact with the hook point. ④ Hook is not lubricated properly. ⑤ Needle thread tension is too low. ⑥ Thread take-up spring is too tight and its stroke is too small. ⑦ The timing between the needle and hook is too early or too late.	<ul style="list-style-type: none"> Remove the scratches on the hook point using a fine emery paper. Finish the bobbin case positioning finger by buffing. Adjust the needle thread tension properly. Refer to "5.12 Needle-to-hook relationship" Increase the amount of oil supplied to the hook according to "4.4 Adjusting the amount of oil in the hook" Adjust the needle thread tension. Reduce the tension of the spring and increase the stroke. Refer to "5.12 Needle-to-hook relationship"
2. Stitch skipping.	① The clearance between the needle and the hook point is too large. ② The timing between the needle and hook is too early or too late. ③ The pressure of the presser foot is too low. ④ The clearance provided between the top end of the needle eyelet and the hook blade point is not correct. ⑤ The needle number selected is improper. ⑥ When using synthetic thread and thin thread.	<ul style="list-style-type: none"> Refer to "5.12 Needle-to-hook relationship" Refer to "5.12 Needle-to-hook relationship" Tighten the pressure regulator. Refer to "5.12 Needle-to-hook relationship" Replace the needle with one which is one count thicker. Wind the needle thread on the needle. 
3. Loose stitches.	① Bobbin thread does not pass through the forked end of the tension spring on the bobbin case. ② Thread path has rough surface. ③ Bobbin does not spin smoothly. ④ Bobbin thread tension is too low. ⑤ Bobbin is wound too tightly. ⑥ The needle thread cannot be pulled up when sewing heavy-weight materials such as tent fabrics.	<ul style="list-style-type: none"> Properly thread the bobbin case. Grind it using a fine emery paper or buff it up. Replace the bobbin or the bobbin case. Decrease the bobbin thread tension. Increase the bobbin thread tension. Retard the feed timing. Refer to "5.13 Feed timing"
4. Needle thread slips out of the needle eyelet simultaneously with thread trimming.	① Auxiliary thread tension is too high. ② Thread trimming timing is too early. ③ Returning force of the thread take-up spring is too strong.	<ul style="list-style-type: none"> Decrease the auxiliary thread tension. Refer to "5.16 Adjusting the thread trimming cam" Refer to "5.2 Threading the machine head" Replace the take-up thread guide.
5. Needle thread cannot be trimmed. (Bobbin thread can be trimmed.)	① Last stitch skips. (Clearance between the needle and the hook is too large)	<ul style="list-style-type: none"> Refer to "5.12 Needle-to-hook relationship"
6. Neither the needle thread nor the bobbin thread are trimmed.	① Thread trimming timing is not correct. ② Thread trimmer blade breakage ③ Knife pressure is inadequate. ④ Initial position of the thread trimmer is faulty. ⑤ Thread trimmer fails to operate. ⑥ Thread trimming solenoid fails to operate.	<ul style="list-style-type: none"> Refer to "5.16 Adjusting the thread trimming cam" Replace the thread trimmer blade with a new one. Increase the knife pressure. Refer to "5.16 Adjusting the thread trimming cam" Manual check is necessary. The motor solenoid operation needs to be checked.
7. Thread is not trimmed sharply.	① Thread trimming timing is not correct. ② Knife pressure is inadequate. ③ The blade is not sharp.	<ul style="list-style-type: none"> Refer to "5.16 Adjusting the thread trimming cam" Increase the knife pressure. Replace the thread trimmer blade with a new one.

Katalog náhradních dílů
Spare Parts List



GF-2131-443 MH/L34
GF-2131-447 MH/L34

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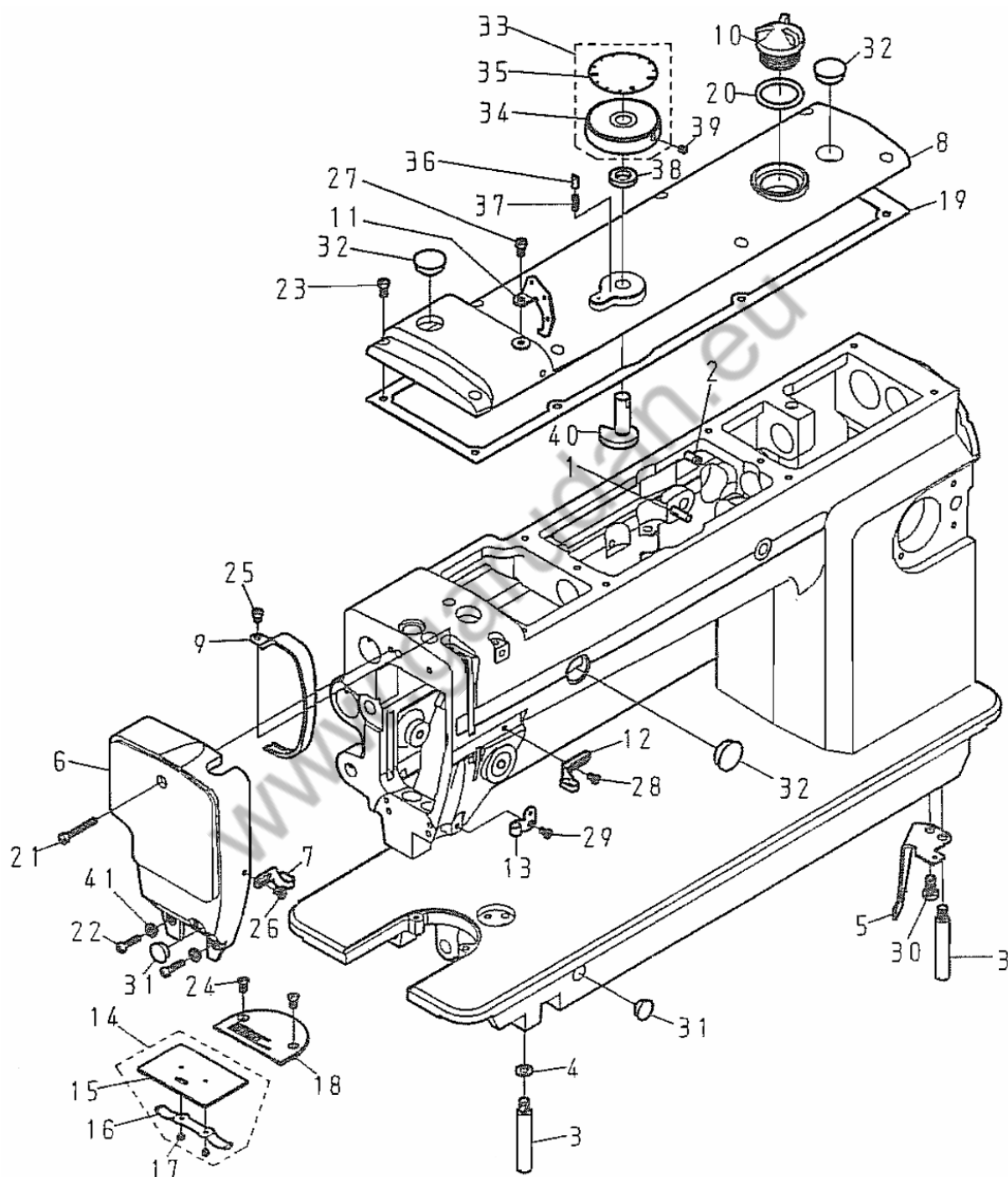
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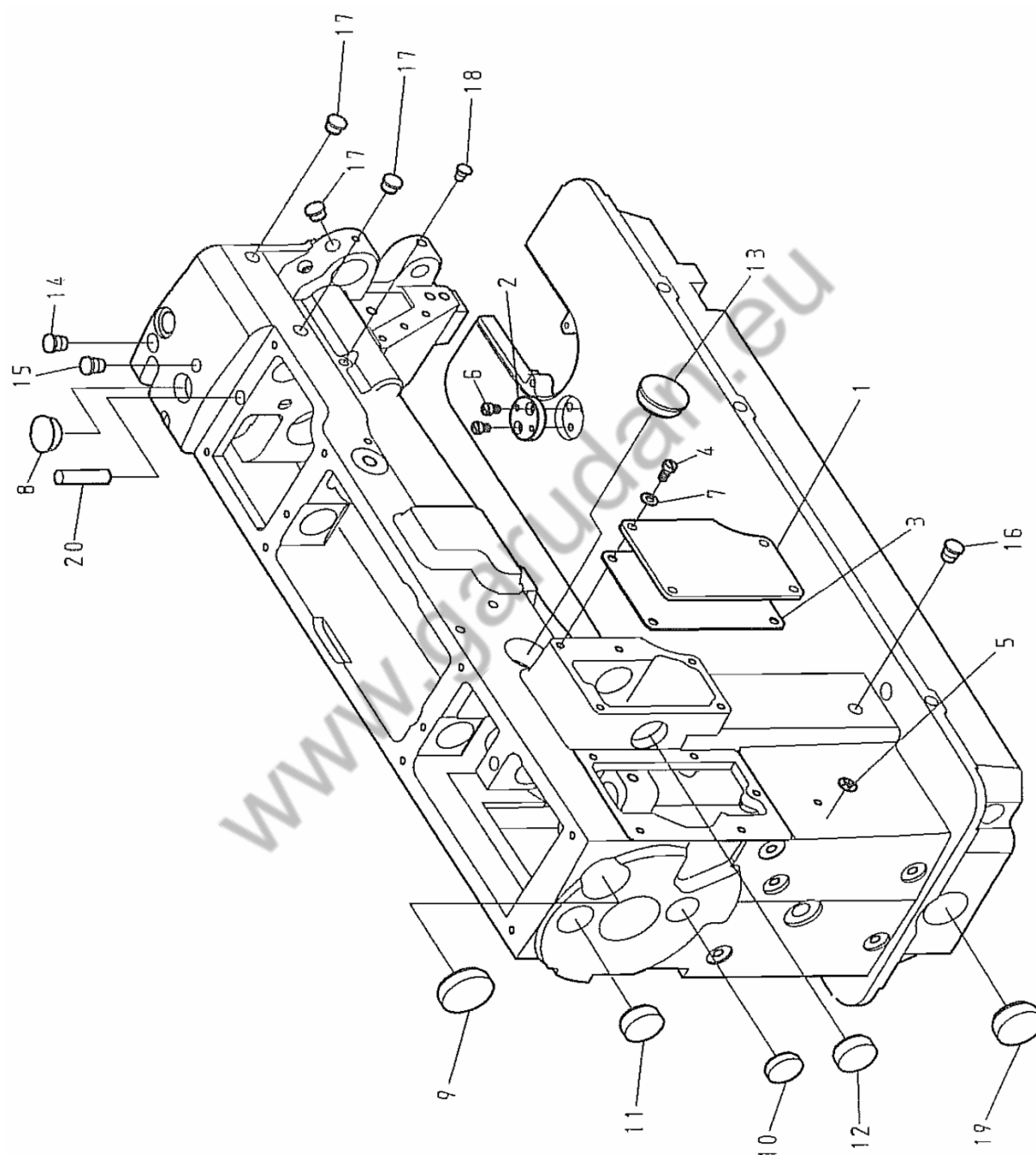
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A. FRAME & MISCELLANEOUS COVER COMPONENTS 1

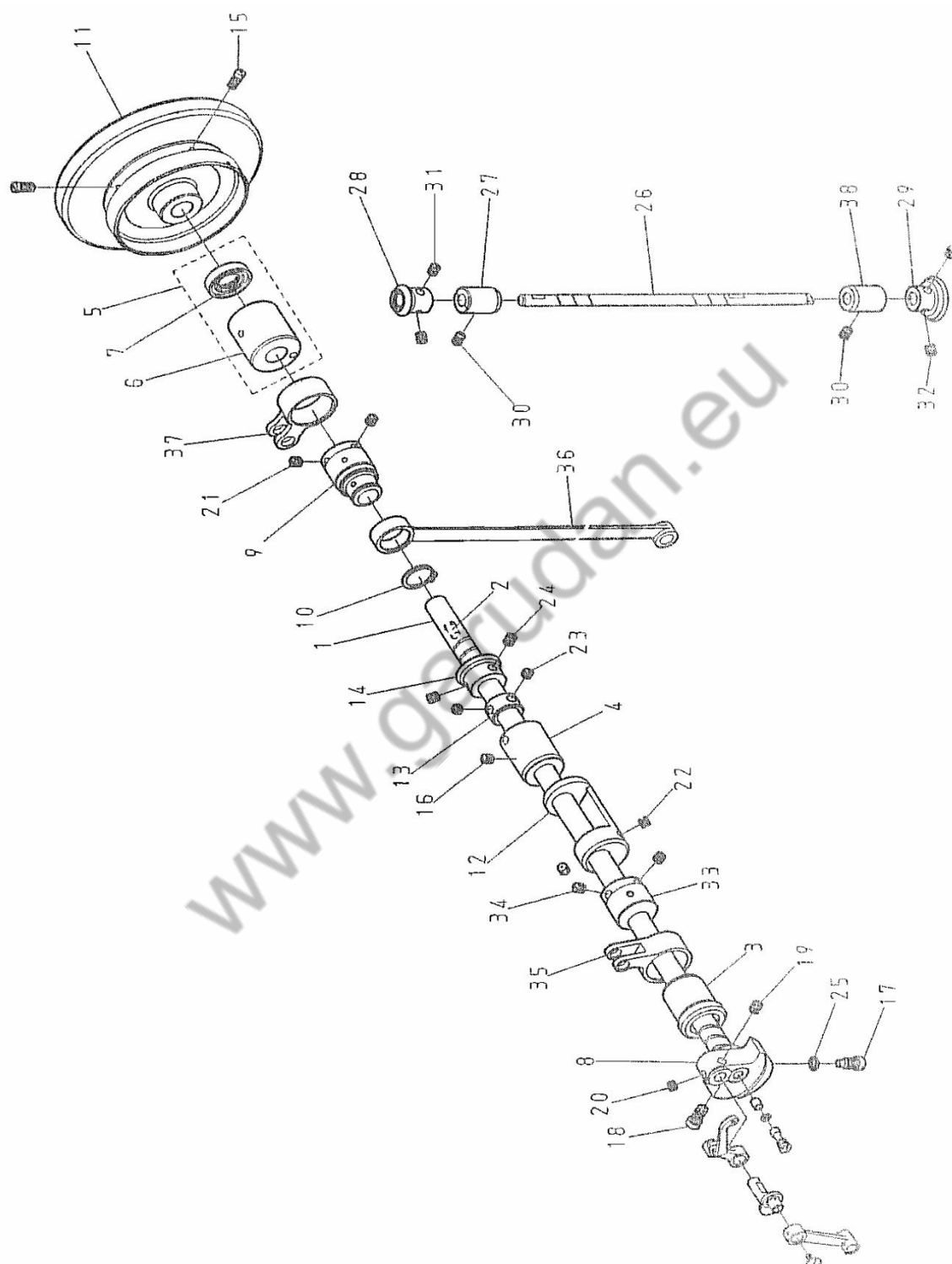


A. FRAME & MISCELLANEOUS COVER COMPONENTS 1						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	YA050300	Stopper Pin		1	1	
2	EJ4434-2A	Spring Suspension		1	1	
3	6120110700	Bed Screw Stud		3	3	
4	WA069007	Washer	11x1,6 d=6,1	2	2	
5	6120163600	Spring Suspension		1	1	
6	6120111000	Face Plate		1	1	
7	E1053-0A	Thread Guide		1	1	
8	612011501	Top Cover		1	1	
9	E1063-0A	Thread Take-up lever Cover		1	1	
10	EH1371-0A	Oil Sight Window		1	1	
11	6120313400	Thread Guide (Upper)		1	1	
12	E1052-0A	Thread Guide (Center)		1	1	
13	A1055-0A	Thread Guide (Lower)		1	1	
14	6120111605	Slide Plate Asm.		1	1	
15	6120111600	Slide Plate Asm.		(1)	(1)	
16	E4085-0A	Slide Plate Spring		(1)	(1)	
17	ZSB06004	Screw	3/32-56 L=2,2	(2)	(2)	
18	E6050-0A	Throat Plate		1	1	
19	6120114200	Packing		1	1	
20	OPP02550	O-rings	25,5	1	1	
21	ZMB04002	Screw	M4x0,7 L=28	1	1	
22	ZMB04031	Screw	M4x0,7 L=20	2	2	
23	ZSB11010	Screw	11/64-40 L=14	8	8	
24	ZSC11016	Screw	11/64-40 L=8,3	2	2	
25	ZSB11021	Screw	11/64-40 L=5,5	1	1	
26	ZSB09016	Screw	9/64-40 L=6	1	1	
27	ZSB11012	Screw	11/64-40 L=8	1	1	
28	ZSB09016	Screw	9/64-40 L=6	1	1	
29	ZSB09016	Screw	9/64-40 L=6	1	1	
30	ZSB15018	Screw	15/64-28 L=12	1	1	
31	A1013-1A	Rubber Plug		2	2	
32	A1013-0B	Rubber Plug		3	3	
33	6120149106	Dial Asm.		1	1	
34	6120149101	Dial Asm.		(1)	(1)	
35	612014910B	Dial plate		(1)	(1)	
36	6120149201	Stopper Pin		1	1	
37	6120149500	Spring Suspension		1	1	
38	8110149201	Spacer		1	1	
39	ZMH04003	Screw	M4x0,7 L=5	1	1	
40	6120149001	Vertical Adjusting Cam		1	1	
41	WA059002	Spacer		2	2	

A. FRAME & MISCELLANEOUS COVER COMPONENTS 2

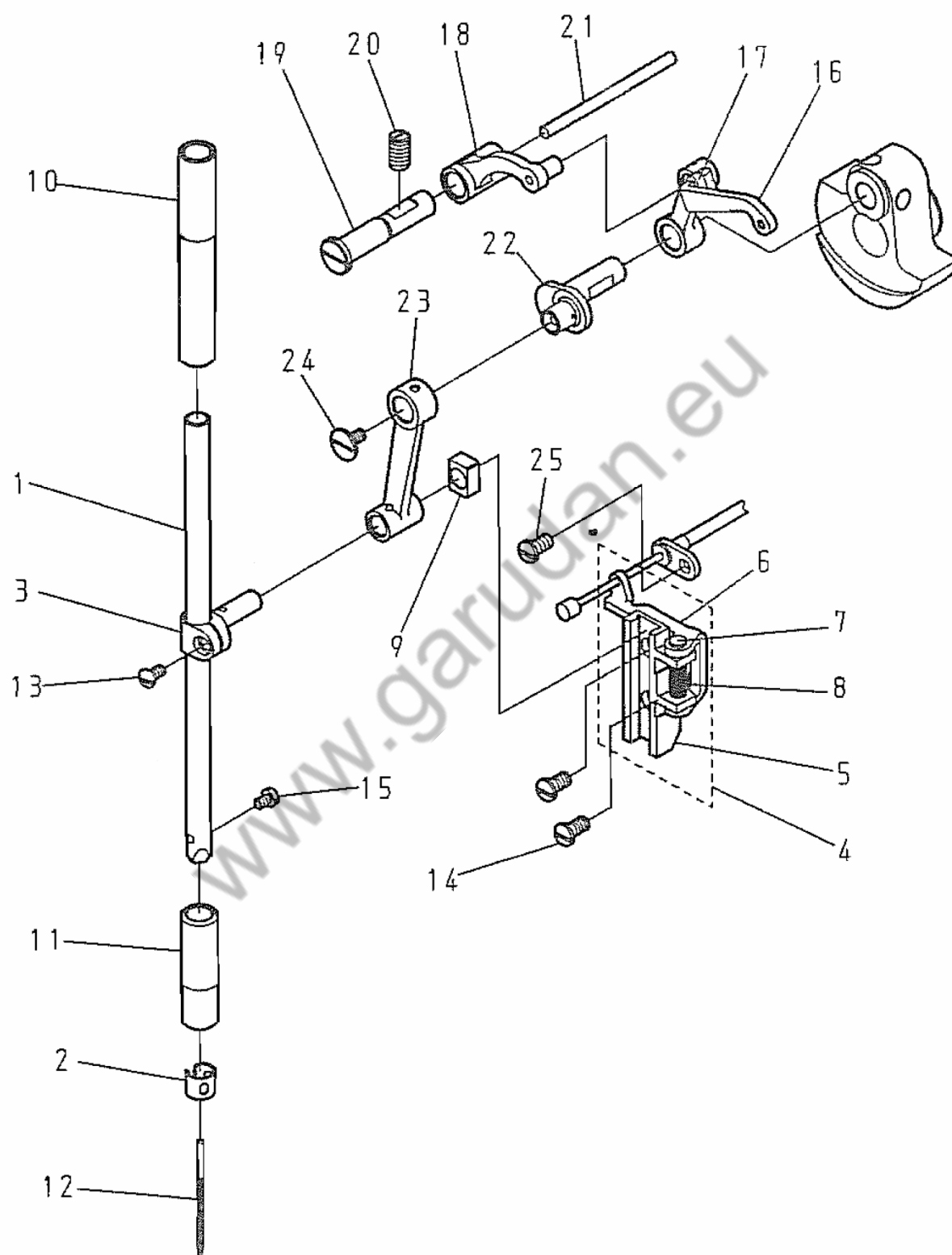
A. FRAME & MISCELLANEOUS COVER COMPONENTS 2						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120111100	Side Cover		1	1	
2	E4086-0A	Scale Base Plate		1	1	
3	6120114300	Packing		1	1	
4	ZSB11011	Screw	11/64-40 L=9	4	4	
5	WARN000500	Grand Mark		1	1	
6	ZSB11021	Screw	11/64-40 L=5,5	2	2	
7	WA049003	Washer	9x0,8	4	4	
8	A1013-0A	Rubber Plug		1	1	
9	6120117000	Rubber Plug		1	1	
10	6120117100	Rubber Plug		1	1	
11	6120117200	Rubber Plug		1	1	
12	6120117200	Rubber Plug		1	1	
13	6120117300	Rubber Plug		1	1	
14	6120117400	Rubber Plug		1	1	
15	6120117400	Rubber Plug		1	1	
16	6120117400	Rubber Plug		1	1	
17	6120117700	Rubber Plug		3	3	
18	6120117600	Rubber Plug		1	1	
19	6120117500	Rubber Plug		1	1	
20	XB108005	Felt		1	1	

B. MAIN SHAFT & UPRIGHT SHAFT COMPONENTS



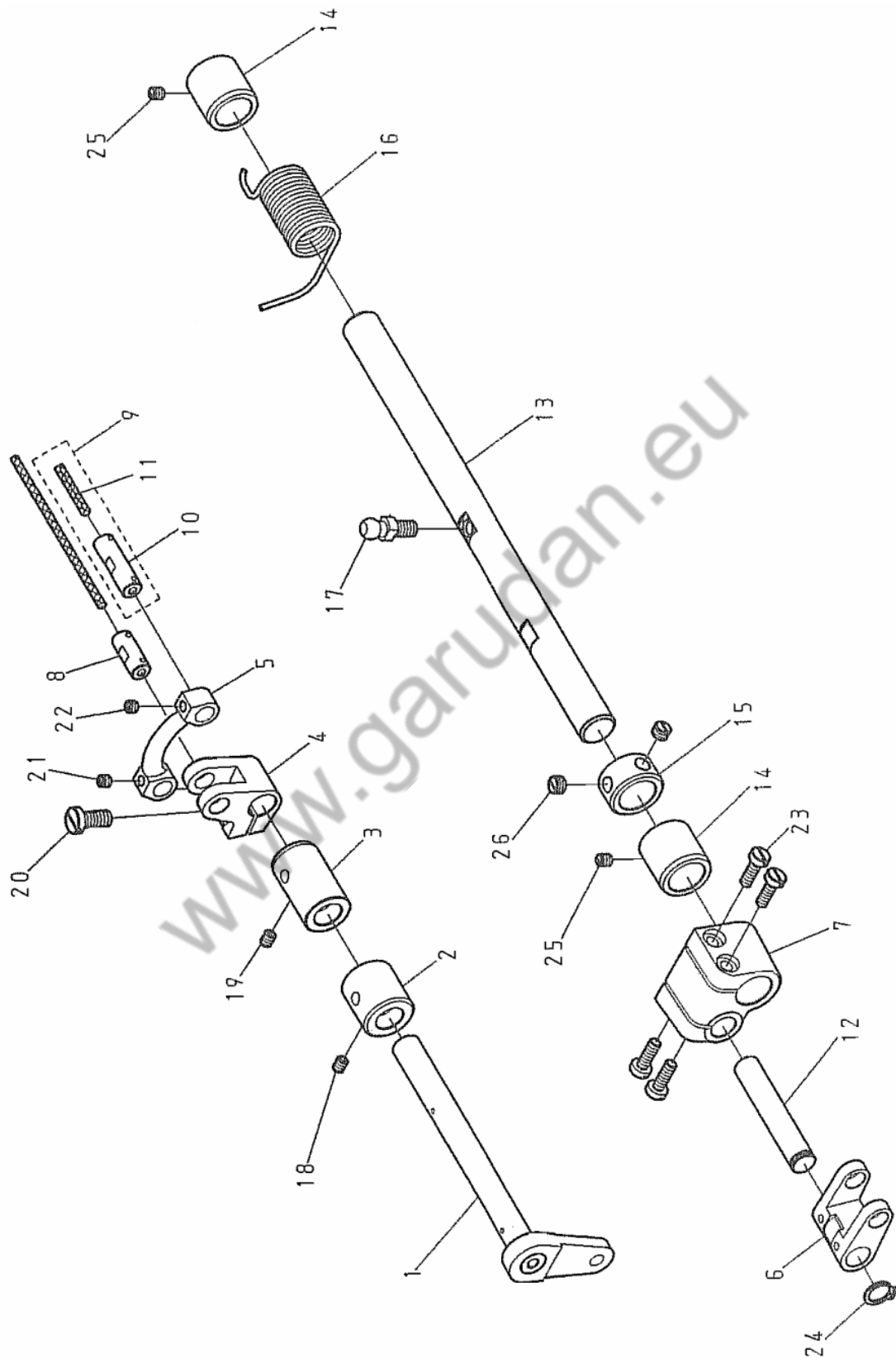
B. MAIN SHAFT & UPRIGHT SHAFT COMPONENTS						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120120100	Main Shaft		1	1	
2	6120120600	Cap		1	1	
3	6120120200	Main Shaft Bushing Front		1	1	
4	6120120300	Main Shaft Bushing Center		1	1	
5	6120120405	Main Shaft Bushing Rear Asm.		1	1	
6	6120120400	Main Shaft Bushing Rear		(1)	(1)	
7	CASCA0566E	Oil Seal		(1)	(1)	
8	6120120800	Counterweight		1	1	
9	6120122000	Feed Cam		1	1	
10	RB200200	Retaining Rings-C Type 20		1	1	
11	6120122300	Hand Wheel		1	1	
12	6120120900	Balance Weight		1	1	
13	E4044-0A	Thrust Collar		1	1	
14	A1108-0A	Bevel Gear Large		1	1	
15	ZSB15026	Screw	15/64-28 L=18	2	2	
16	ZSA15028	Screw	15/64-28 L=7	1	1	
17	ZSB18009	Screw	9/32-28 L9,8	1	1	
18	ZSB18004	Screw	9/32-28 L=12	1	1	
19	ZSA16011	Screw	1/4-40 L=7	1	1	
20	ZSA16010	Screw	1/4-40 L=4,5	1	1	
21	ZSA16025	Screw	1/4-40 L=6	2	2	
22	ZSA16025	Screw	1/4-40 L=6	2	2	
23	ZSA16010	Screw	1/4-40 L=4,5	2	2	
24	ZSA15011	Screw	1/4-40 L=7	2	2	
25	OPP00600	O-rings	Ø6	1	1	
26	6120132000	Upright Shaft		1	1	
27	6120132100	Upright Shaft Bushing		1	1	
28	A1109-0A	Bevel Gear Small		1	1	
29	A4020-0A	Bevel Gear Large		1	1	
30	ZSA15017	Screw	15/64-28 L=8,5	2	2	
31	ZSA16011	Screw	1/4-40 L=7	2	2	
32	ZSA16011	Screw	1/4-40 L=7	2	2	
33	6120144400	Driving Cam		1	1	
34	ZSA16025	Screw	1/4-40 L=6	2	2	
35	6120144500	Connecting Rod		1	1	
36	6120170100	Feed Rod		1	1	
37	6120167400	Reverse Sawing Crank		1	1	
38	A1113-0A	Upright Shaft Bushing		1	1	

C. NEEDLE BAR & THREAD TAKE-UP LEVER COMPONENTS



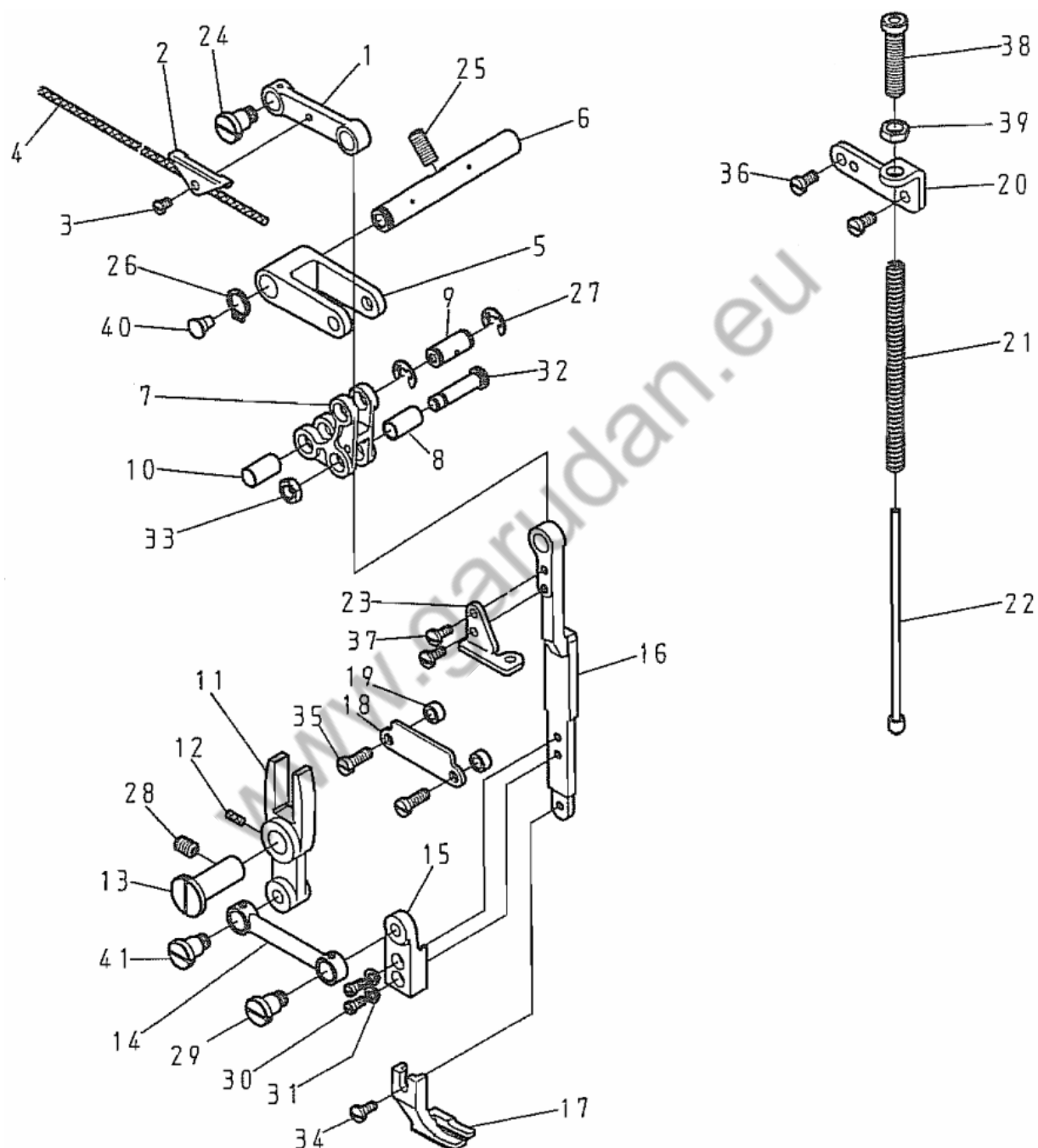
C. NEEDLE BAR & THREAD TAKE-UP LEVER COMPONENTS						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120140100	Needle Bar		1	1	
2	6120140700	Needle Bar Thread Guide		1	1	
3	E1074-0A	Needle Bar Connection		1	1	
4	E1089-2A	Needle Bar Connecting Link Guide Asm.		0	1	
5	E1081-2A	Needle Bar Connecting Link Guide		1	(1)	
6	E1088-2A	Thread Releasing Plate		0	(1)	
7	E1087-2A	Tension Releasing Pin		0	(1)	
8	E1085-2A	Spring		0	(1)	
9	A1082-0A	Slide Block		1	1	
10	A1071-0A	Needle Br Bushing Upper		1	1	
11	6120140500	Needle Bar Bushing Lower		1	1	
12	INDP x 17-22	Needle	DP x 17-22	1	1	
13	ZSB09019	Screw	9/64-40 L=6	1	1	
14	ZSB11024	Screw	11/64-40 L=8	2	2	
15	ZSB08010	Screw	1/8-44 L=4,6	1	1	
16	E1065-1A	Thread Take-up Lever		1	1	
17	6120190500	Oil Guard Rubber		1	1	
18	E1064-0A	Thread Take-up Lever Link		1	1	
19	6120192100	Thread Take-up Lever Link Pin		1	1	
20	ZSA15020	Screw	15/64-28 L=11	1	1	
21	XB104002	Felt		1	1	
22	6120121304	Needle Bar Crank Shaft		1	1	
23	E1067-0A	Needle Bar Crank Rod		1	1	
24	ZSK09001	Screw	9/64-40 L=6	1	1	
25	ZSB11024	Screw		0	1	

D. UPPER FEED MECHANISM COMPONENTS 1

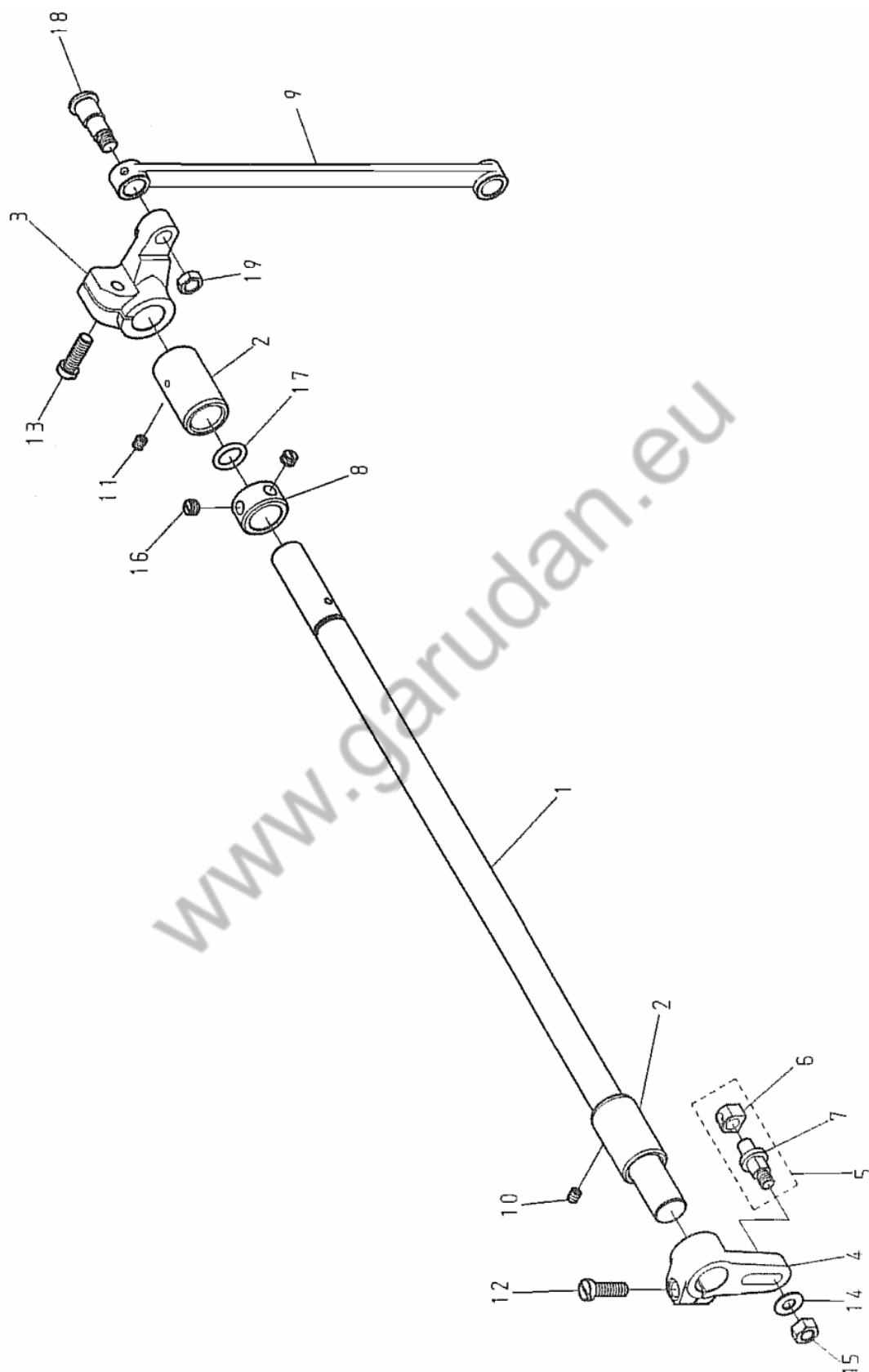


D. UPPER FEED MECHANISM COMPONENTS 1						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120144804	Feed Rocker Shaft Com.		1	1	
2	6120144900	Bushing Front		1	1	
3	6120145000	Bushing Rear		1	1	
4	6120144700	Driving Shaft Arm. Front		1	1	
5	6120143300	Upper Feed Link A		1	1	
6	6120143400	Upper Feed Link B		1	1	
7	6120147000	Driving Shaft Rod. Front		1	1	
8	6120147100	Shaft A		1	1	
9	6120147205	Shaft B Asm.		1	1	
10	6120147200	Shaft B Asm.		(1)	(1)	
11	XA200055	Oil Wick		(1)	(1)	
12	6120147300	Shaft C		1	1	
13	6120147400	Shaft		1	1	
14	6120160600	Bushing		2	2	
15	E4044-0A	Thrust Collar		1	1	
16	6120147500	Spring		1	1	
17	6120147600	Pin		1	1	
18	ZSA11005	Screw	11/64-40 L=5,5	1	1	
19	ZSA11005	Screw	11/64-40 L=5,5	1	1	
20	ZSB15032	Screw	15/64-28 L=14	1	1	
21	ZSA11017	Screw	11/64-40 L=4	1	1	
22	ZSA11017	Screw	11/64-40 L=4	1	1	
23	ZSB12012	Screw	3/16-28 L=15	4	4	
24	RB200100	Retaining Rings-C Type 10		1	1	
25	ZSA11005	Screw	11/64-40 L=5,5	1	1	
26	ZSA16010	Screw	1/4-40 L=4,5	2	2	

D. UPPER FEED MECHANISM COMPONENTS 2

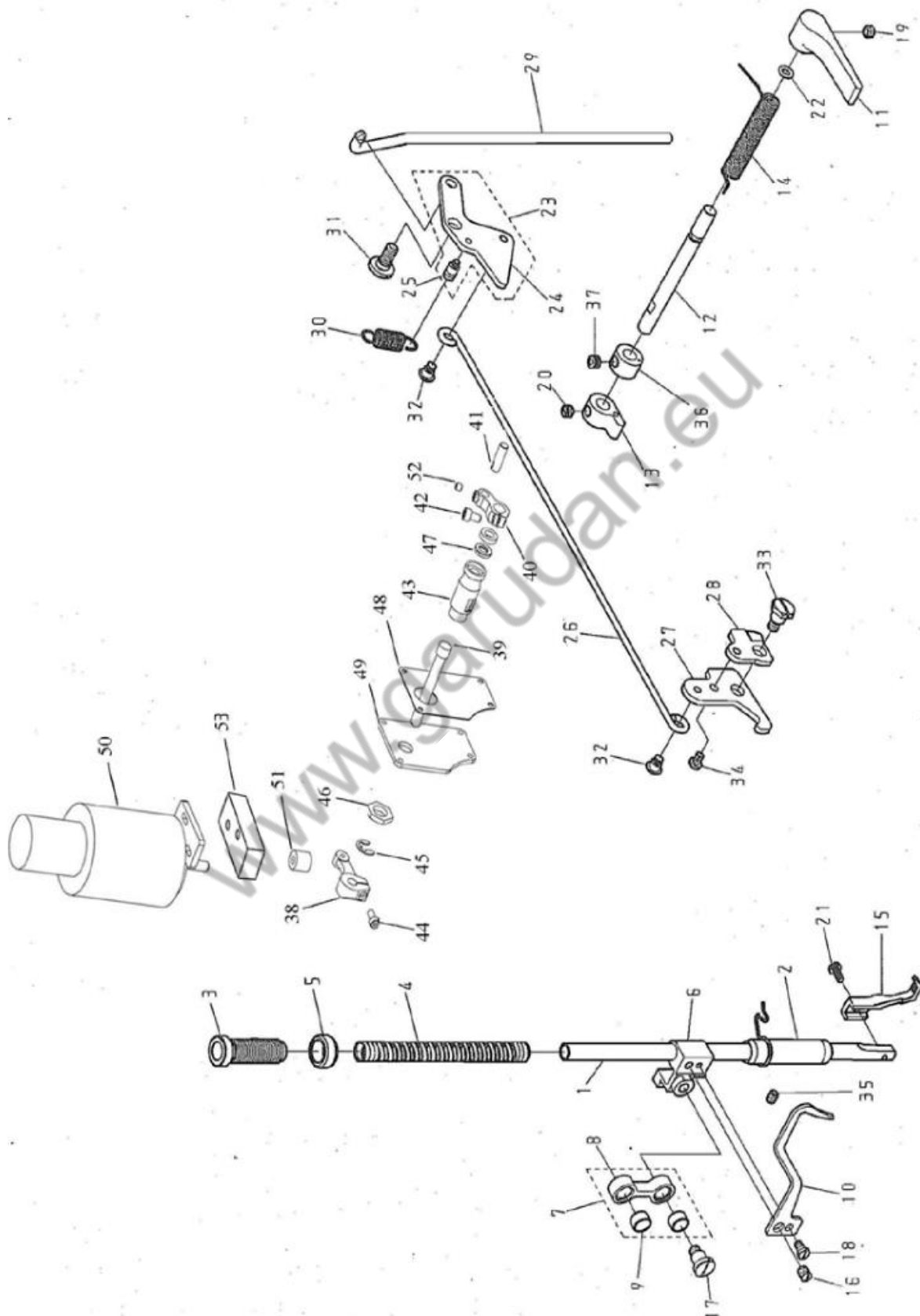


D. UPPER FEED MECHANISM COMPONENTS 2						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120145100	Rod		1	1	
2	6120353100	Holder		1	1	
3	ZSB09005	Screw	9/64-40 L=5	1	1	
4	XA200400	Oil Wick		1	1	
5	6120147700	Bell Crank Link		1	1	
6	6120147800	Bell Crank Shaft		1	1	
7	6120143600	Bell Crank		1	1	
8	6120147900	Bushing		1	1	
9	6120148000	Pin A		1	1	
10	6120148100	Pin B		1	1	
11	6120148200	Slide fork		1	1	
12	XA300004	Oil Wick		1	1	
13	6120148300	Slide fork Pin		1	1	
14	6120143100	Rod		1	1	
15	6100148400	Feed Arm		1	1	
16	6100143200	Walking Foot Guide Link		1	1	
17	E1235-0A	Walking Foot (standard)		1	1	
18	6120148600	Supporting Plate		1	1	
19	6120148500	Washer		2	2	
20	6120144000	Presser Regulating Bracket		1	1	
21	6120144200	Spring		1	1	
22	6120144105	Spring Guide Bar Asm.		1	1	
23	6120144300	Prop Up Plate		1	1	
24	ZSG16002	Hinge Screw	1/4-40 D=8 L=7	1	1	
25	ZSA15024	Screw	15/64-28 L=14	1	1	
26	RB200100	Retaining Rings-C	Type 10	1	1	
27	RE000060	Retaining Rings-E	Type 6	2	2	
28	ZSA15017	Screw	15/64-28 L=8,5	1	1	
29	ZSG16002	Hinge Screw	1/4-40 D=6 L=7	1	1	
30	ZSB09022	Screw	9/64-40 L=8	2	2	
31	WB31001	Spring Lock Washers	Ø3,6	2	2	
32	ZSG15056	Screw	15/64-28 L=25	1	1	
33	ZSL15002	Nut	15/64-28	1	1	
34	ZSB09017	Screw	9/64-40 L=8	1	1	
35	ZSB11017	Screw	11/64-40 L=12	2	2	
36	ZSB11015	Screw	11/64-40 L=8,5	2	2	
37	ZSB09017	Screw	9/64-40 L=8	2	2	
38	ZSF18001	Screw	9/32-28 L=31	1	1	
39	ZSL18002	Nut	9/32-28	1	1	
40	6120117600	Rubber Plug		1	1	
41	ZSG16035	Hinge Screw	1/4-40	1	1	

D. UPPER FEED MECHANISM COMPONENTS 3

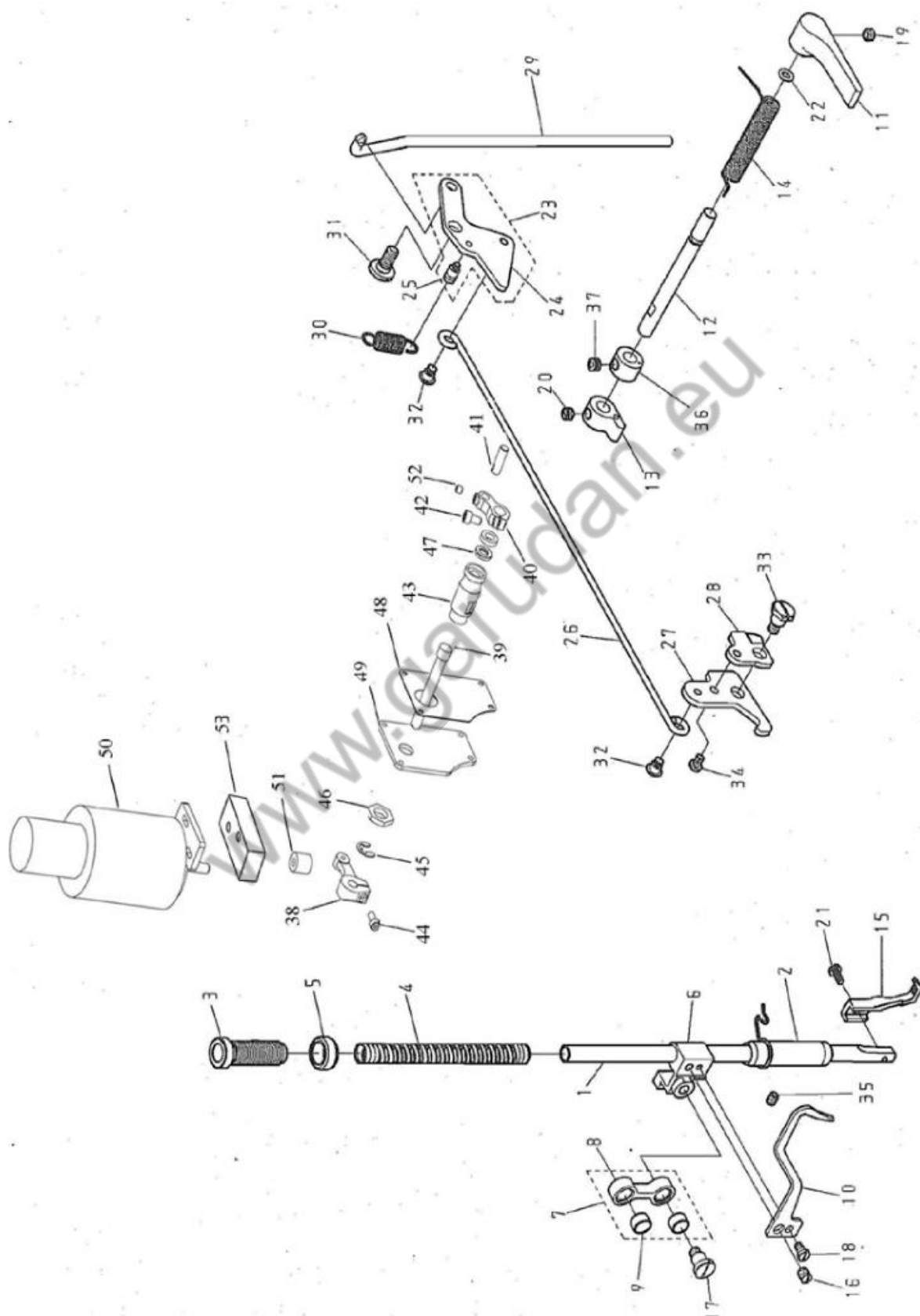
D. UPPER FEED MECHANISM COMPONENTS 3						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120142100	Driving Shaft		1	1	
2	6120142200	Bushing		2	2	
3	6120142400	Driving Shaft Rod. Rear		1	1	
4	6120142300	Driving Shaft Rod. Front		1	1	
5	E1432-1A	Slide Block Asm.		1	1	
6	E1433-0A	Slide block		(1)	(1)	
7	E1434-1A	Stud		(1)	(1)	
8	E4044-0A	Thrust Collar		1	1	
9	6120142000	Feed Drive Connecting Link		1	1	
10	ZSA11005	Screw	11/64-40 L=5,5	1	1	
11	ZSA11005	Screw	11/64-40 L=5,5	1	1	
12	ZSB15014	Screw	15/64-28 L=18	1	1	
13	ZSB15014	Screw	15/64-28 L=18	1	1	
14	WA069001	Washer	Ø13x1 d=6,2	1	1	
15	TSL16003	Nut	1/4-24	1	1	
16	ZSA16010	Screw	1/4-40 L=4,5	2	2	
17	OPP01080	O-rings	Ø11	1	1	
18	ZSK18026	Hinge Screw	9/32-28	1	1	
19	ZSL18001	Nut	9/32-28	1	2	

E. PRESSURE BAR & KNEE LIFTER COMPONENTS (1/2)



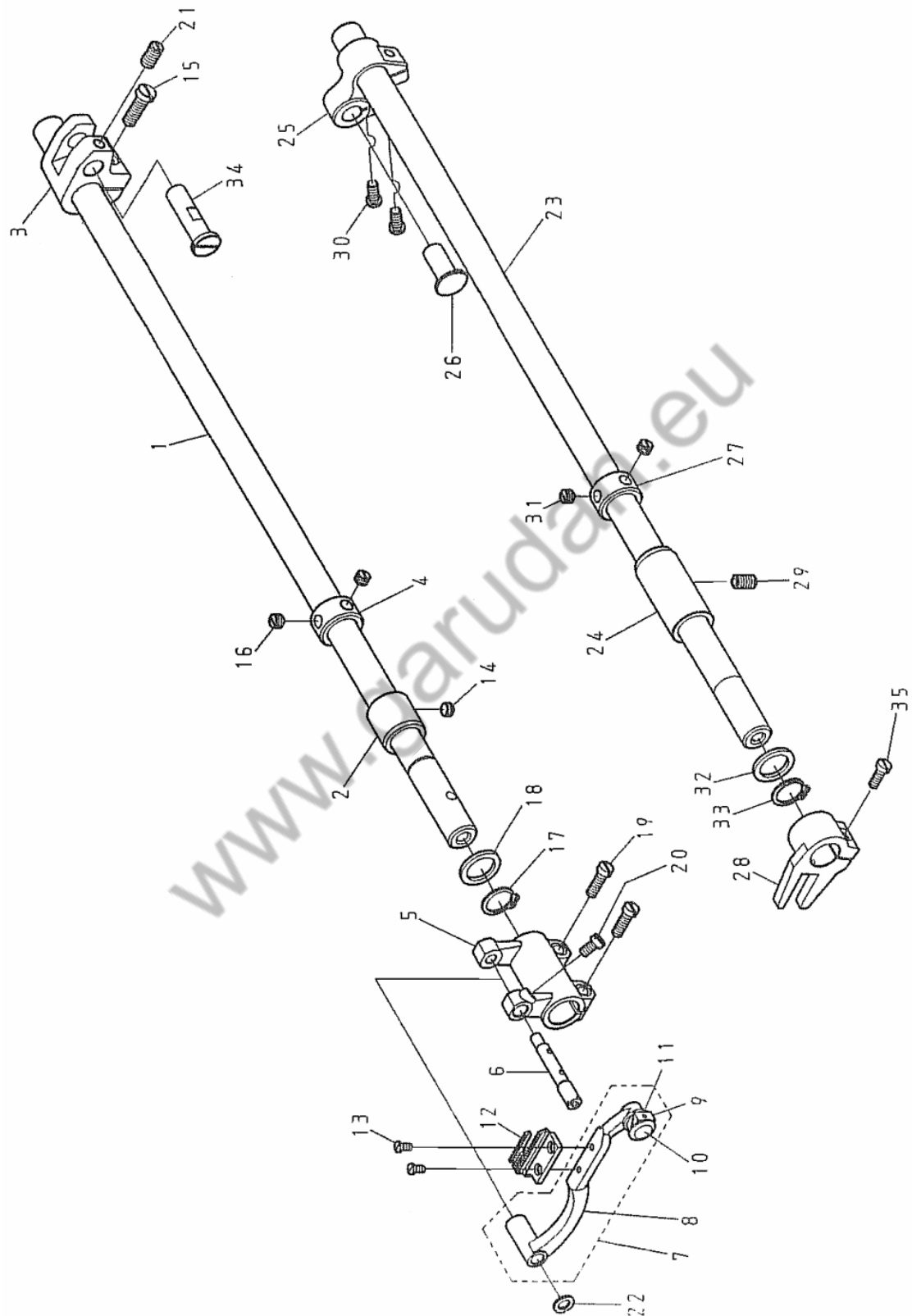
E. PRESSURE BAR & KNEE LIFTER COMPONENTS (1/2)						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120150100	Presser Bar		1	1	
2	6120150200	Presser Bar Bushing		1	1	
3	ZSF32001	Screw		1	1	
4	6120140400	Presser Spring		1	1	
5	ZSN32001	Nut		1	1	
6	6120150500	Presser Bar Guide Bracket		1	1	
7	6120152105	Presser Bar Guide Bracket Rink Asm.		1	1	
8	6120152100	Presser Bar Guide Bracket Rink		(1)	(1)	
9	6120152200	Bushing		(2)	(2)	
10	6120113300	Thread Guide		1	1	
11	6120150800	Hand lifter Lever		1	1	
12	6120150900	Presser Bar Lifting Pin		1	1	
13	6120150700	Hand lifter Cam		1	1	
14	6120151101	Spring		1	1	
15	E1237-2A	Presser foot		1	1	
16	ZSA15028	Screw	15/64-28 L=7	1	1	
17	ZSG16002	Hinge Screw	1/4-40 D=8 L=7	1	1	
18	ZSB11022	Screw	11/64-40 L=7	1	1	
19	ZSA15021	Screw	15/64-28 L=4,5	1	1	
20	ZSA15021	Screw	15/64-28 L=4,5	1	1	
21	ZSB09017	Screw	9/64-40 L=8	1	1	
22	OPP00500	O-rings	Ø5	1	1	
23	6120340104	Presser Bar Lifting Link. Com.		1	1	
24	6120340100	Presser Bar Lifting Link. Com.		(1)	(1)	
25	6120341300	Spring Hook		(1)	(1)	
26	6120340400	Slide Connecting Bar		1	1	
27	6120344000	Thread Releasing Plate A		1	1	
28	6120344100	Thread Releasing Plate B		1	1	
29	6120343000	Lifting Lever Connecting Rod.		1	1	
30	H1405-0A	Spring		1	1	
31	ZSG16005	Hinge Screw	1/4-24 D=8 L=3,4	1	1	
32	ZSG12029	Hinge Screw	3/16-28 D=6 L=3,5	2	2	
33	ZSG16057	Hinge Screw	15/64-28 D=8 L=6,4	1	1	
34	ZSB11035	Screw	11/84-40 L=6	1	1	
35	ZSA11016	Screw	11/64-40 L=10	1	1	
36	8610151800	Thrust Collar		1	1	
37	ZSH16005	Screw	1/4-40 L=4,5	1	1	
38	61202831T0	Crank		0	1	
39	61042834T0	Axis		0	1	

E. PRESSURE BAR & KNEE LIFTER COMPONENTS (2/2)



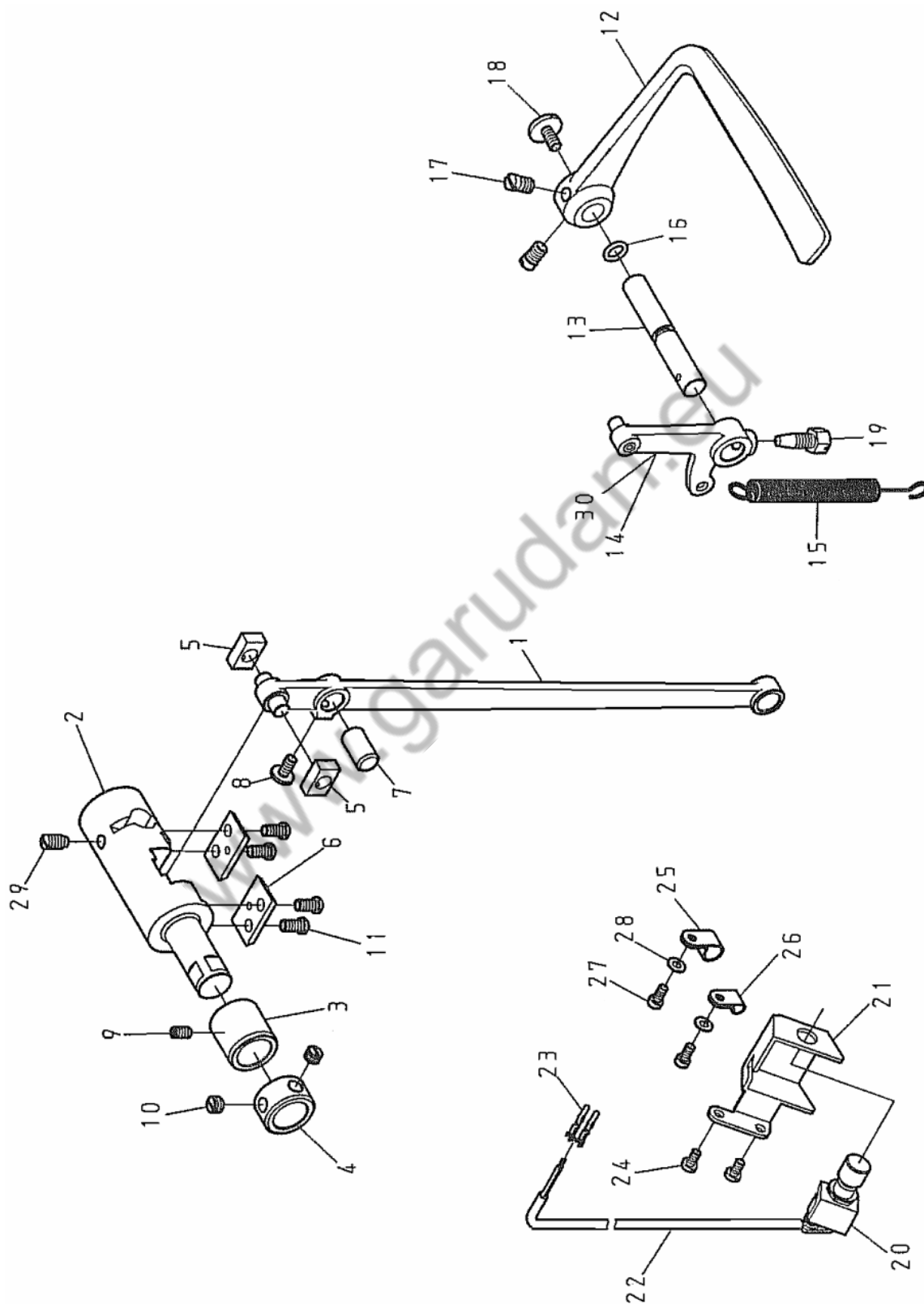
E. PRESSURE BAR & KNEE LIFTER COMPONENTS (2/2)						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
40	LM5602-0A	Feed tooth crank		0	1	
41	LM5662-0A	Rear connecting pin		0	1	
42	ZMJ06002	Screw		0	1	
43	61042835T0	Shaft screw		0	1	
44	ZMJ05002	Screw		0	1	
45	RE000070	E-ring		0	1	
46	ZML16005	Nut		0	1	
47	OAGM091603	Oil seal		0	1	
48	61041143T0	Cover plate		0	1	
49	61041111T0	Back cover		0	1	
50	FG8101-0B	Presser foot solenoid		0	1	
51	GF-2131-001-01	Buffer		0	1	
52	610354200	Screw		0	1	
53	GF-2131-001-02	Washer plate		0	1	

F. LOWER FEED MECHANISM COMPONENTS



F. LOWER FEED MECHANISM COMPONENTS						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120160400	Feed Rocker Shaft		1	1	
2	6120160600	Bushing Front		1	1	
3	6120160800	Feed Rocker Shaft Crank		1	1	
4	E4044-0A	Thrust Collar		1	1	
5	6120160500	Feed Bar Rod.		1	1	
6	6120164900	Feed Bar Shaft		1	1	
7	6120160105	Feed Bar Asm.		1	1	
8	6120160100	Feed Bar		(1)	(1)	
9	A4038-0A	Square Block		(1)	(1)	
10	A4037-0A	Shaft		(1)	(1)	
11	A4039-0A	Washer	Ø13x1,5 d=6,1	(1)	(1)	
12	E6051-0A	Feed dog		1	1	
13	ZSB08001	Screw	1/8-44 L=6	2	2	
14	ZSA15013	Screw	15/64-28 L=4	1	1	
15	ZSB15014	Screw	15/64-28 L=18	1	1	
16	ZSA16010	Screw	1/4-40 L=4,5	2	2	
17	RB200150	Retaining Rings-C	Type 15	1	1	
18	WA150006	Washer	Ø20,5x1,9 d=14,8	1	1	
19	ZSB12012	Screw	3/16-28 L=15	2	2	
20	ZSB11012	Screw	11/64-40 L5,5	1	1	
21	ZSA15020	Screw	15/64-28 L=11	1	1	
22	WH206002	Washer	Ø10x1,2 d=6,2	1	1	
23	6120170300	Feed Lifting Rock Shaft		1	1	
24	EJ4041-0A	Bushing Front		1	1	
25	6120170500	Feed Lifting Rock Link		1	1	
26	6120170700	Feed Rod Shaft		1	1	
27	E4044-0A	Thrust Collar		1	1	
28	6120170800	Feed Bar Forked Connection		1	1	
29	ZSA15020	Screw	15/64-28 L=11	1	1	
30	ZSB12015	Screw	3/16-28 L=12	2	2	
31	ZSA16010	Screw	1/4-40 L=4,5	2	2	
32	WA150006	Washer	Ø20,5x1,9 d=14,8	1	1	
33	RB200150	Retaining Rings-C	Type 15	1	1	
34	6120167600	Horizontal Feed Rod Shaft		1	1	
35	ZSB11017	Screw	11/64-40 L=12	1	1	

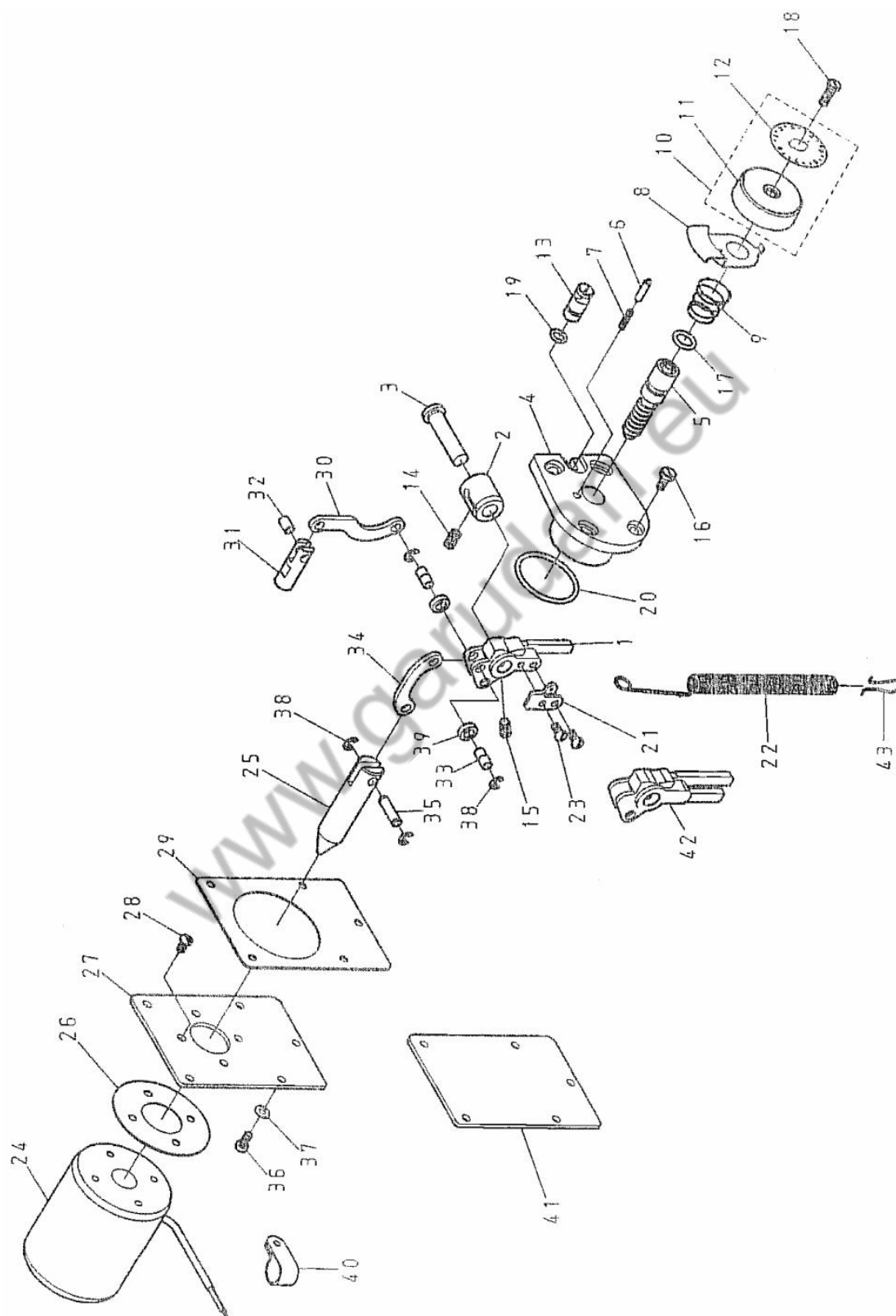
G. FEED ADJUSTMENT MECHANISM COMPONENTS 1



G. FEED ADJUSTMENT MECHANISM COMPONENTS 1

Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120160904	Horizontal Feed Rod Com		1	1	
2	6120167000	Reverse Block		1	1	
3	6120160600	Bushing		1	1	
4	6120167200	Thrust Collar		1	1	
5	EJ4152-0A	Square Block		2	2	
6	EJ4153-0A	Guide Plate		2	2	
7	6120167500	Fin		1	1	
8	ZSB11007	Screw	11/64-40 L=7	1	1	
9	ZSA11007	Screw	11/64-40 L=7	1	1	
10	ZSA16010	Screw	1/4-40 L=4,5	2	2	
11	ZSB11018	Screw	11/64-40 L=9	4	4	
12	A1160-0A	Lever		1	1	
13	6120161800	Lever Shaft		1	1	
14	A1162-1A	Reverse Feed Crank Asm.		0	1	
15	6120163500	Spring		1	1	
16	OPP00680	O-rings	Ø7	1	1	
17	ZSB15019	Screw	15/64-28 L=9	2	2	
18	ZSB12011	Screw	3/16-28 L=10	1	1	
19	ZSD15003	Screw	15/64-28 L=16,5	1	1	
20	6120280100	Back Touch Switch		0	1	
21	6120280200	Switch Cover		0	1	
22	VWO23113	2-C Cable		0	1	
23	VJ032118	Pin Terminal		0	2	
24	ZSB11032	Screw	11/64-40 L=7,8	0	2	
25	RU20UC-2	Cord Holder		0	1	
26	RU20UC05	Cord Holder		0	1	
27	ZSB11011	Screw	11/64-40 L=9	0	2	
28	WA049003	Washer	Ø9x0,8 d=4,6	0	2	
29	ZSA15037	Screw	15/64-28 L=10,5	1	1	
30	A1162-0A	Reverse Feed Crank Asm.		1	0	

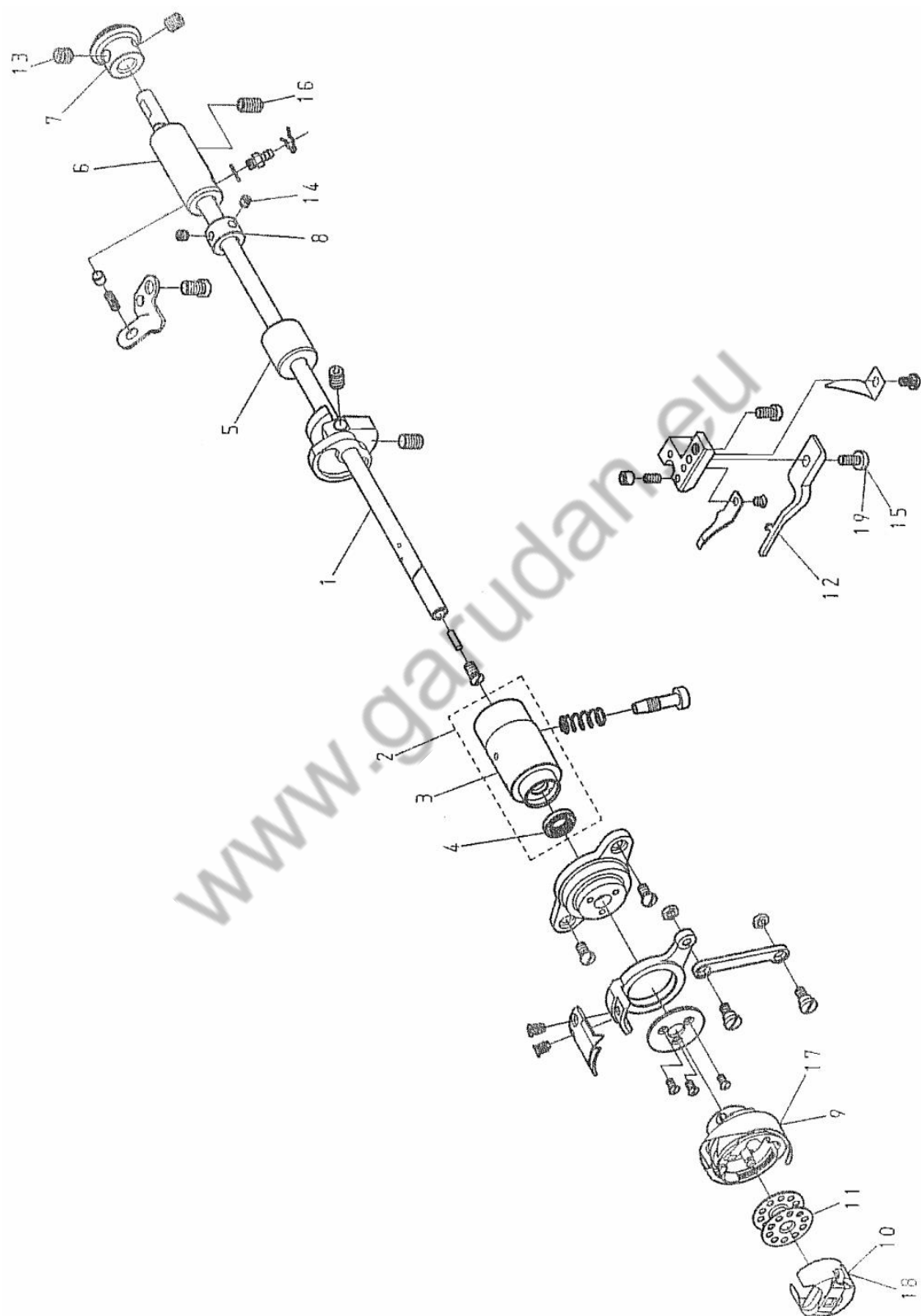
G. FEED ADJUSTMENT MECHANISM COMPONENTS 2



G. FEED ADJUSTMENT MECHANISM COMPONENTS 2

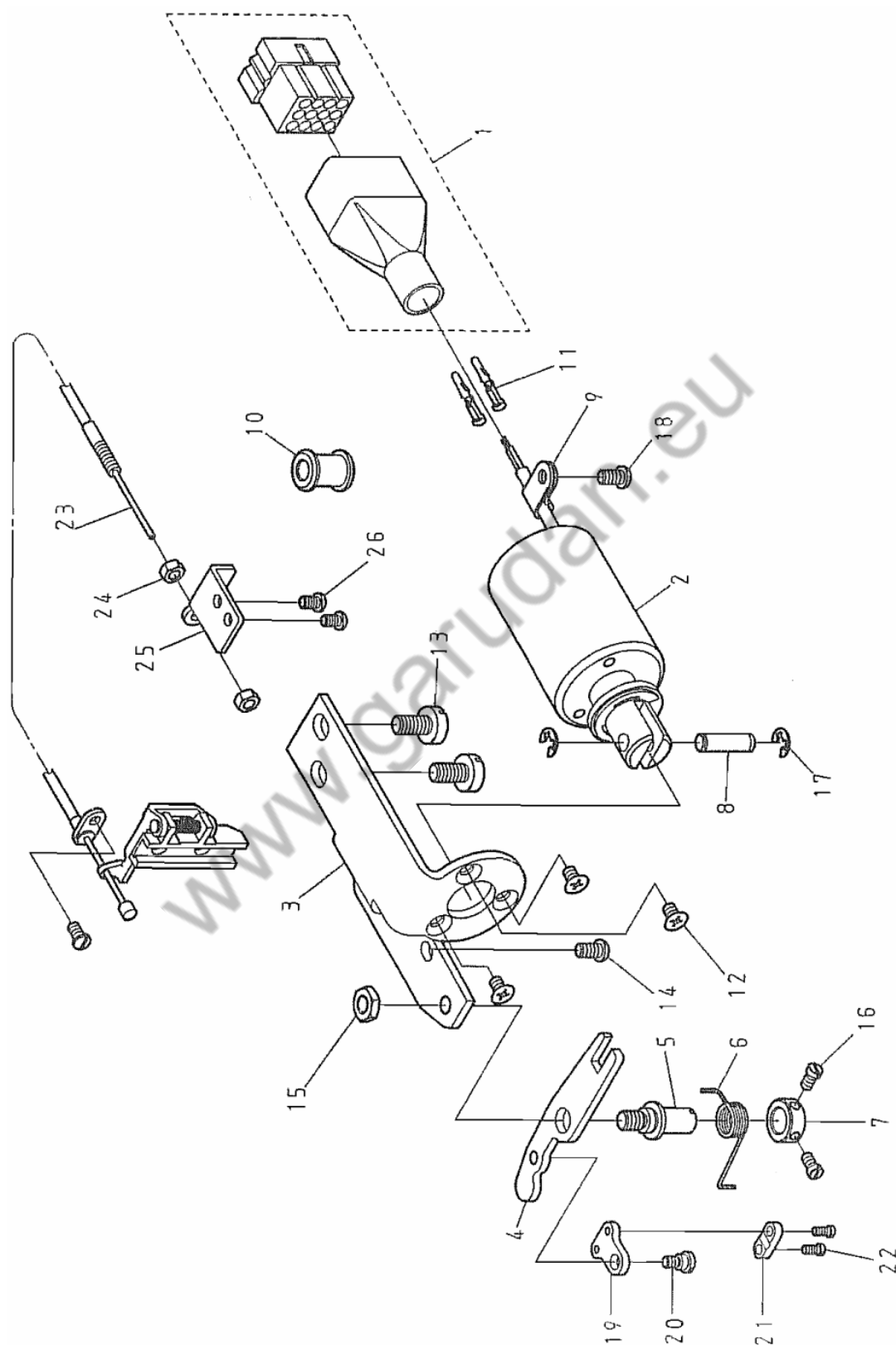
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120161100	Feed Regulator		0	1	
2	6120162800	Bushing		1	1	
3	6120161500	Feed Regulator Shaft		1	1	
4	6120162200	Stitch Dial Base		1	1	
5	6120164300	Feed Regulating Screw		1	1	
6	E1171-2A	Pin		1	1	
7	E1158-0A	Spring		1	1	
8	E1173-2A	Stopper Pin Releasing lever		1	1	
9	E1174-2A	Spring		1	1	
10	6120164005	Dial Asm.		1	1	
11	E1172-2A	Dial Asm.		(1)	(1)	
12	6120164100	Dial plate		(1)	(1)	
13	6120164400	Eccentric Pin		1	1	
14	ZSA15020	Screw	15/64-28 L=11	1	1	
15	ZSB15006	Screw	15/64-28 L=8,5	1	1	
16	ZSB11026	Screw	11/64-40 L=10	4	4	
17	OP00100A	O-rings	Ø10	1	1	
18	ZSB12017	Screw	3/16-28 L=15	1	1	
19	OPP00680	O-rings	Ø7	1	1	
20	OPP03550	O-rings	Ø35,5	1	1	
21	6220161300	Bracket		0	1	
22	6120161201	Spring		0	1	
23	ZSB11024	Screw	11/64-40 L=8	0	2	
24	E1701-2A	Reverse Feed Solenoid		0	1	
25	E1703-2A	Core		0	1	
26	E1702-2A	Packing		0	1	
27	6120168000	Arm Side Cover		0	1	
28	ZSB11024	Screw	11/64-40 L=8	0	4	
29	6120168100	Packing		1	1	
30	6120168200	Feed Connecting Link		1	1	
31	6120168300	Set Pin		1	1	
32	6120168400	Pin		1	1	
33	6120168500	Pin		1	2	
34	6120168600	Feed Connecting Link		0	1	
35	E4414-2A	Pin		0	1	
36	ZSB11017	Screw	11/64-40 L=12	5	5	
37	WA049003	Washer	Ø9x0,8 d=4,5	5	5	
38	RE000040	E-Shaped Snap Rings	4mm	1	4	
39	WA060013	Washer	Ø11x3,5 d=6	1	2	
40	RU20UC-3	Cord Holder		0	1	
41	6120111200	Arm Side Cover		1	0	
42	6120165300	Feed Regulator		1	0	
43	6120161202	Spring Holder		0	1	

H. HOOK DRIVE SHAFT COMPONENTS



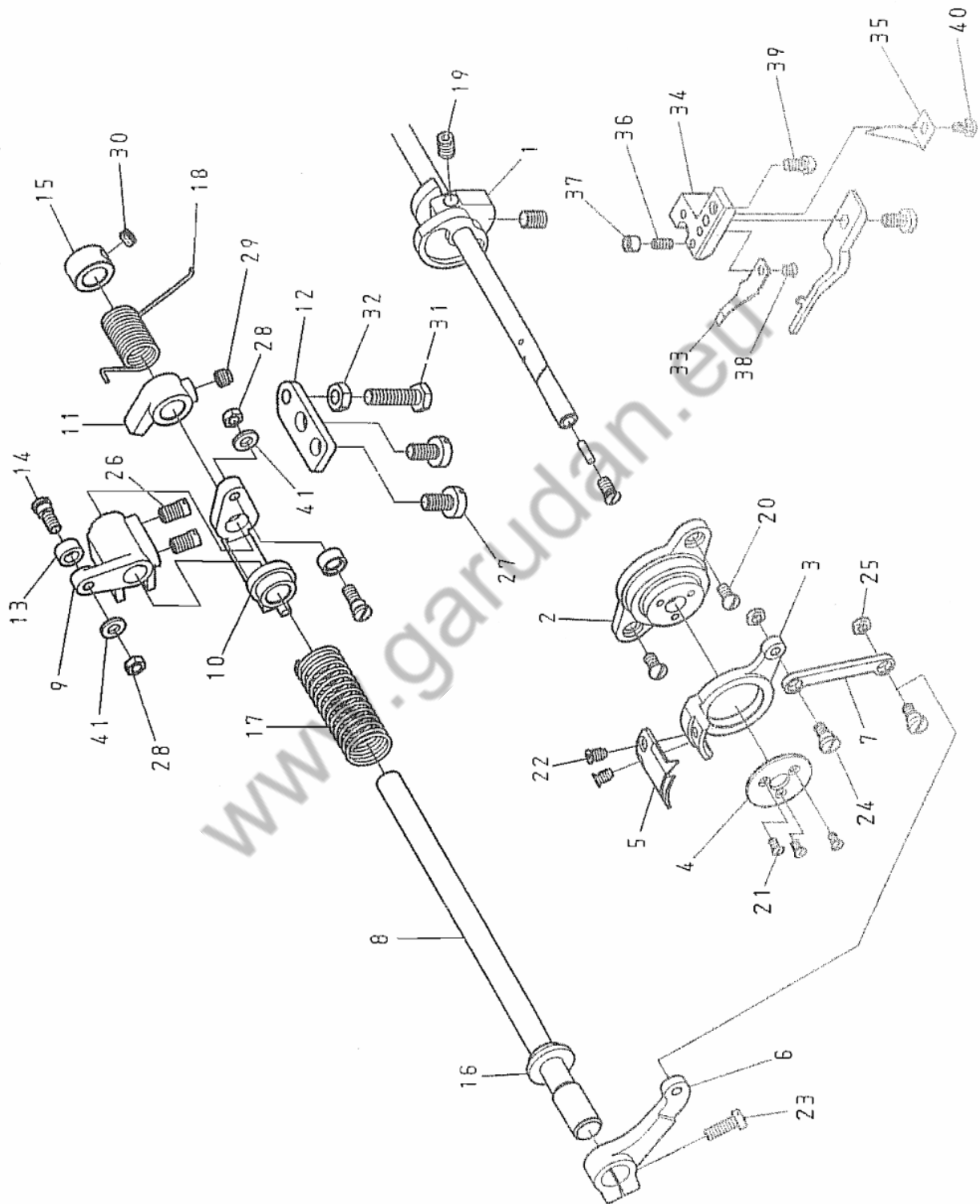
H. HOOK DRIVE SHAFT COMPONENTS						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120180100	Hook Driving Shaft		1	1	
2	6120180305	Bushing, Front Asm.		1	1	
3	6120180300	Bushing, Front		(1)	(1)	
4	OAVCBG1406E0	Oil Seal		(1)	(1)	
5	6120180400	Bushing, Center		1	1	
6	6120180500	Bushing, Rear		1	1	
7	A4021-0A	Screw Gear, Back		1	1	
8	E4014-0A	Thrust Collar		1	1	
9	E6100-2A	Hook Driving Shaft		0	1	
10	E6105-2A	Bobbin Case		0	1	
11	E7006-1B	Bobbin (Steel)		1	0	
11	07-025A-64L7	Bobbin (Aluminium)		0	1	
12	E6016-0A	Bobbin Case Positioning Finger		1	1	
13	ZSA16011	Screw	1/4-40 L=7	2	2	
14	ZSA11011	Screw	11/64-40 L=4,5	2	2	
15	ZSB11026	Screw	11/64-40 L=10	0	1	
16	ZSA15020	Screw	15/64-28 L=11	1	1	
17	E6100-1A	Hook Driving Shaft		1	0	
18	E6105-1A	Bobbin Case		1	0	
19	ZSB11092	Screw	11/64-40 L=15	1	0	

I. THREAD TRIMMER COMPONENTS 1



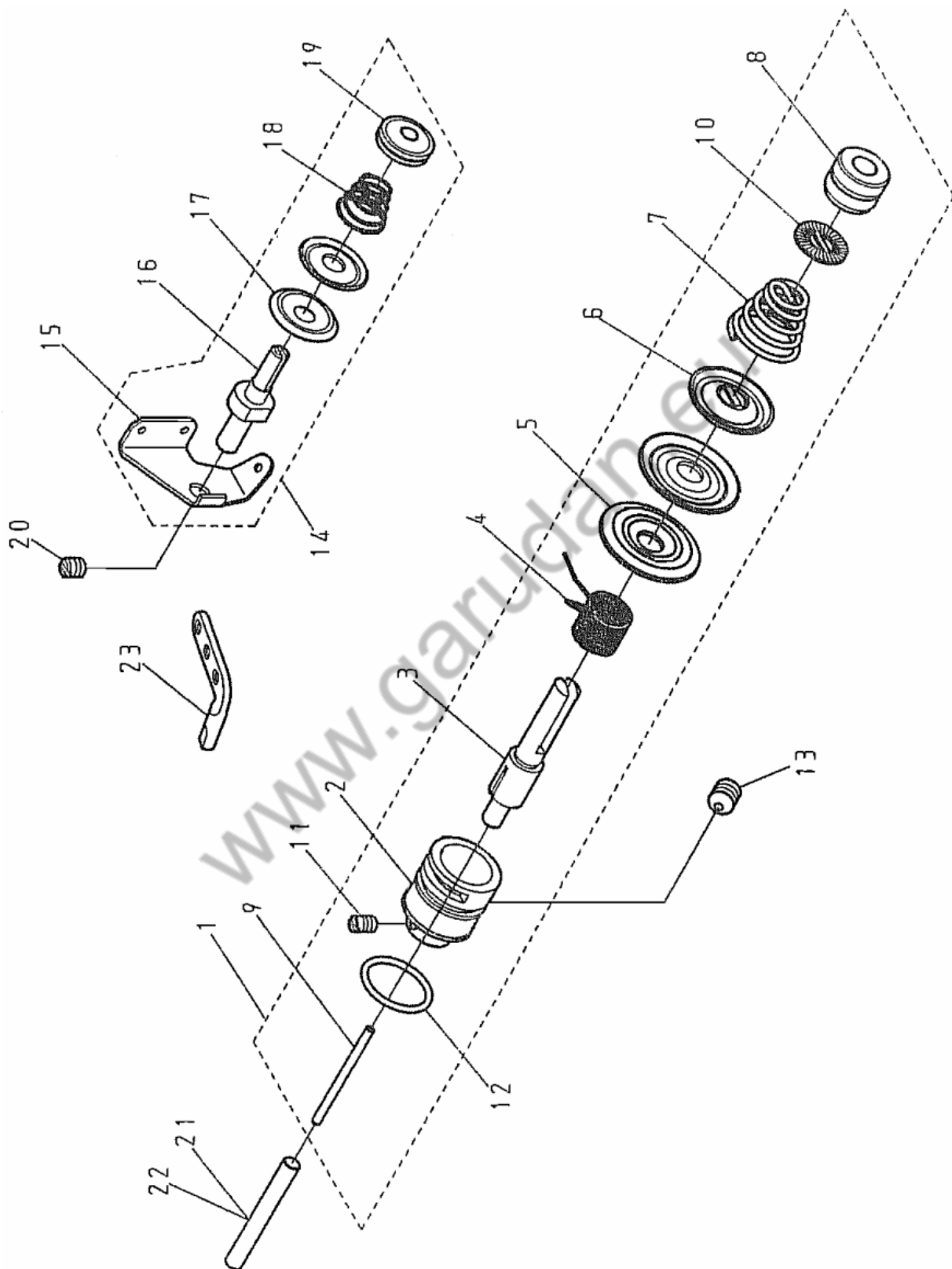
I. THREAD TRIMMER COMPONENTS 1						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	VJ032121	Connector Cover Asm.		0	1	
2	E4412-2A	Thread Cutting Solenoid Asm.		0	1	
3	E4411-2A	Solenoid Installing Base		0	1	
4	E4415-2A	Flexible Driving lever		0	1	
5	ZSK15003	Screw	15/64-28	0	1	
6	E4417-2A	Spring		0	1	
7	E4418-2A	Thrust Collar		0	1	
8	E4414-2A	Pin		0	1	
9	RU20UC05	Cord Holder		0	1	
10	E1077-2A	Strain Relief Bushing		0	1	
11	VJ032118	Pin Terminal		0	2	
12	ZMC04005	Screw	M4-0,7 L=6,5	0	3	
13	ZSB15034	Screw	15/64-28 L=12	0	2	
14	ZSB11024	Screw	11/64-40 L=10	0	1	
15	ZSL15001	Nut	15/64-28	0	1	
16	ZSB09018	Screw	9/64-40 L=6,5	0	2	
17	RE000040	E-Shaped Snap Rings	4mm	0	2	
18	ZSB11024	Screw	11/64-40 L=10	0	1	
19	E4419-2A	Bracket		0	1	
20	ZSG11009	Hinge Screw		0	1	
21	E4420-2A	Bracket		0	1	
22	ZSB08014	Screw	1/8-44x6,8	0	2	
23	6120314805	Flexible Wire Asm.		0	1	
24	ZML05002	Nut	M5x0,8	0	2	
25	E4421-2A	Holder		0	1	
26	ZSB11022	Screw	11/64-40x7	0	2	

I. THREAD TRIMMER COMPONENTS 2



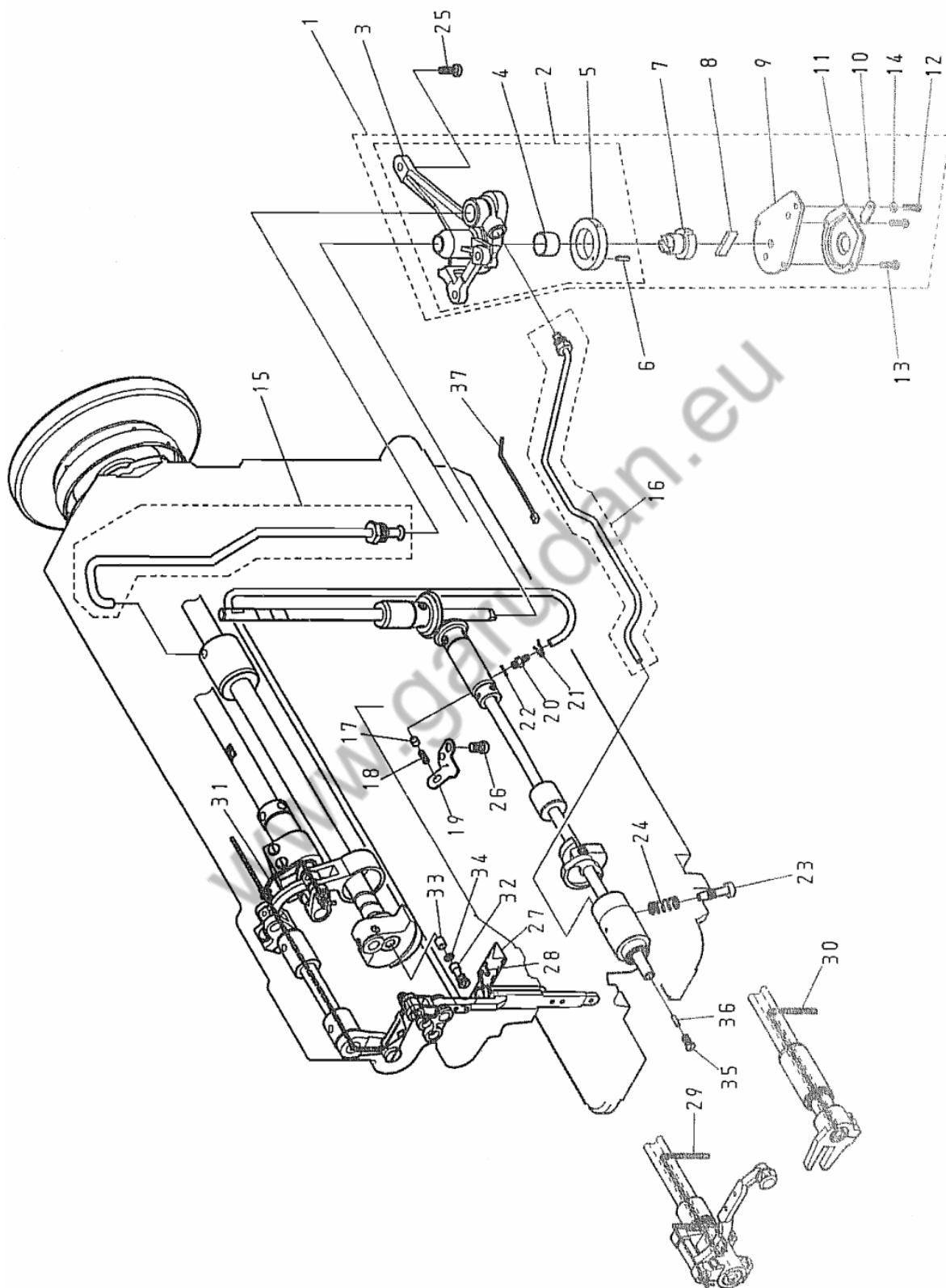
I. THREAD TRIMMER COMPONENTS 2						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	E4015-2A	Thread Trimmer Cam		0	1	
2	E6115-2A	Knife Holding Bracket Saddle		0	1	
3	E6112-2A	Knife Base		0	1	
4	E6117-2A	Special Washer		0	1	
5	E6110-2A	Movable Knife		0	1	
6	E6114-2A	Knife Driving Crank		0	1	
7	E6113-2A	Link		0	1	
8	612024010	Knife Driving Shaft		0	1	
9	E4458-2A	Cam Follower Crank A		0	1	
10	E4459-2A	Cam Follower Crank B		0	1	
11	E4455-2A	Stopper		0	1	
12	E4465-2A	Stopper Plate		0	1	
13	E4460-2A	Roller		0	2	
14	ZSG12032	Hinge Screw	3/16-28 D=6 L=3,6	0	2	
15	E4454-2A	Thrust Collar		0	1	
16	E4457-2A	Bushing		0	1	
17	E4461-2A	Spring		0	1	
18	E4456-2A	Spring		0	1	
19	ZSH16004	Screw	1/4-40 L=10	0	2	
20	ZSB11024	Screw	11/64-40 L=8	0	2	
21	ZSC08002	Screw	1/8-44 L=8	0	3	
22	ZSC11005	Screw	11/64-40 L=7	0	2	
23	ZSB11019	Screw	11/64-40 L=13	0	1	
24	ZSG11008	Hinge Screw	11/64-40 D=6 L=3,1	0	2	
25	ZSL11005	Nut	11/64-40	0	2	
26	ZSB15013	Screw	15/64-28 L=8	0	2	
27	ZSB15034	Screw	15/64-28 L=12	0	2	
28	ZSL12004	Nut	3/16-28	0	2	
29	ZSA16011	Screw	1/4-40 L=7	0	1	
30	ZSA16029	Screw	1/4-40 L=3,5	0	1	
31	ZSD15008	Screw	15/64-28 L=23	0	1	
32	ZSL15004	Nut	15/64-28	0	1	
33	E6111-2A	Fixed Knife		0	1	
34	E6118-2A	Fixed Knife Base		0	1	
35	E6119-2A	Thread Guide		0	1	
36	ZSA09003	Screw	9/64-40 L=8,5	0	1	
37	ZSN09001	Nut	9/64-40	0	1	
38	ZSC09011	Screw	9/64-40 L=4,5	0	1	
39	ZSB11011	Screw	11/64-40 L=9	0	1	
40	ZSB09011	Screw	9/64-40 L=6,5	0	1	
41	WA059008	Washer	Ø10x1,5 d=5,2	0	2	

J. UPPER THREAD TENSION REGULATOR MECHANISM COMPONENTS



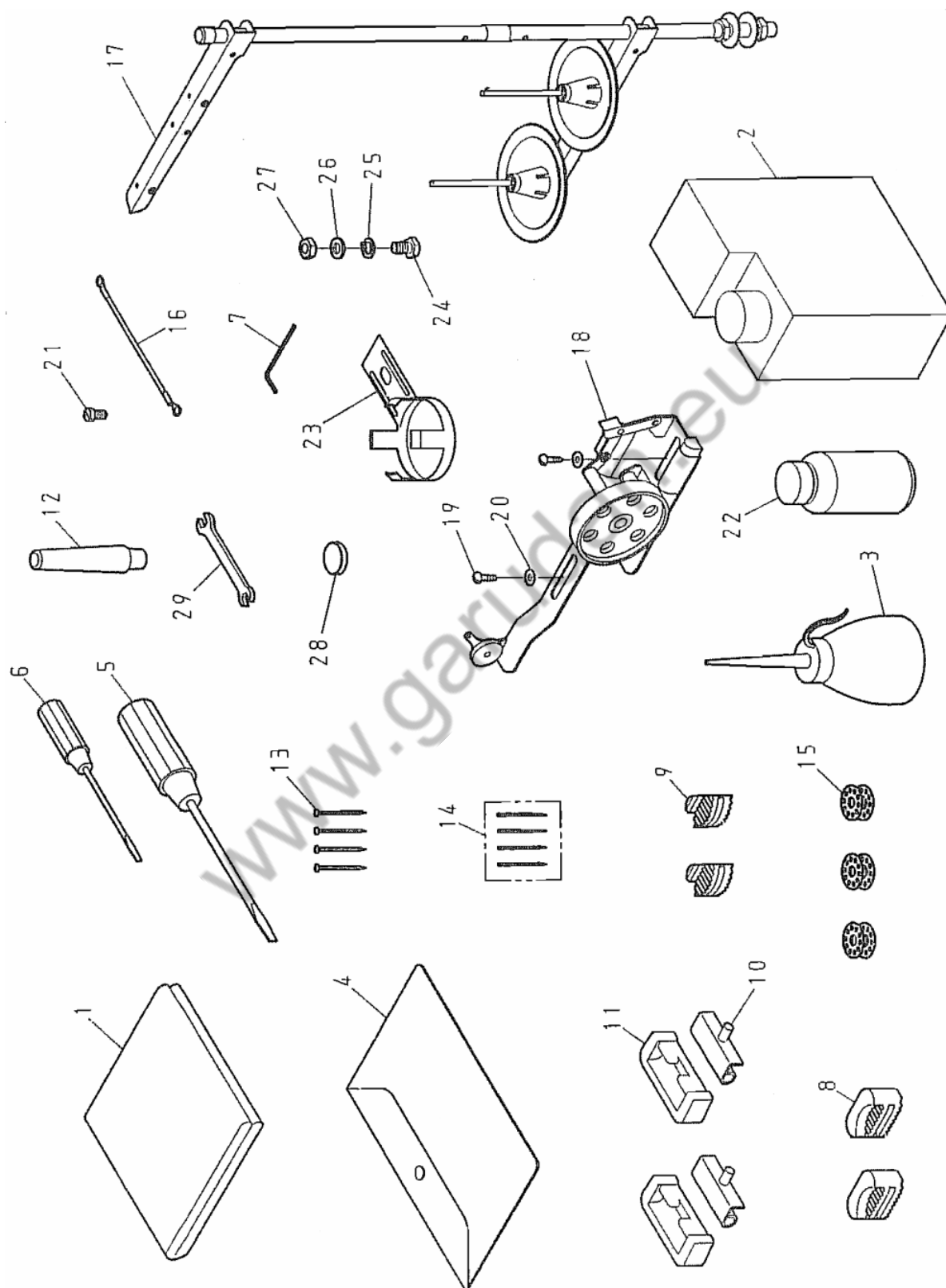
J. UPPER THREAD TENSION REGULATOR MECHANISM COMPONENTS						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120310505	Thread Tension Regulator Asm.		1	1	
2	E1029-0A	thread tension Post Bracket		(1)	(1)	
3	E1026-0A	thread tension Post Bracket		(1)	(1)	
4	E1027-0A	Spring A		(1)	(1)	
5	A1025-0A	Tension Disk		(2)	(2)	
6	A1022-0A	Tension Regulator Presser Disk		(1)	(1)	
7	E1021-0A	Tension Spring		(1)	(1)	
8	ZSN16001	Nut	1/4-40	(1)	(1)	
9	6120312200	Tension Releasing Pin		(1)	(1)	
10	A1042-0A	Tension Disk Stopper		(1)	(1)	
11	ZSB09013	Screw	9/64-40 L=4	(1)	(1)	
12	OPP01450	O-rings	Ø15	(1)	(1)	
13	ZSA15025	Screw	15/64-28 L=6	1	1	
14	E1020-2A	Thread Tension Regulator Asm.		0	1	
15	E1038-2A	Upper Thread Tension Plate		0	(1)	
16	E1026-2A	Thread tension Post Bracket		0	(1)	
17	E1025-2A	Tension Disk		0	(2)	
18	E1021-2A	Tension Spring		0	(1)	
19	ZSN11001	Nut	11/64-40	0	(1)	
20	ZSA11003	Screw	11/64-40 L=5	1	1	
21	6120312500	Tension Releasing Pin		0	1	
22	6120312400	Tension Releasing Pin		1	0	
23	A1051-0A	Thread Guide		1	0	

K. OIL LUBRICATION MECHANISM COMPONENTS



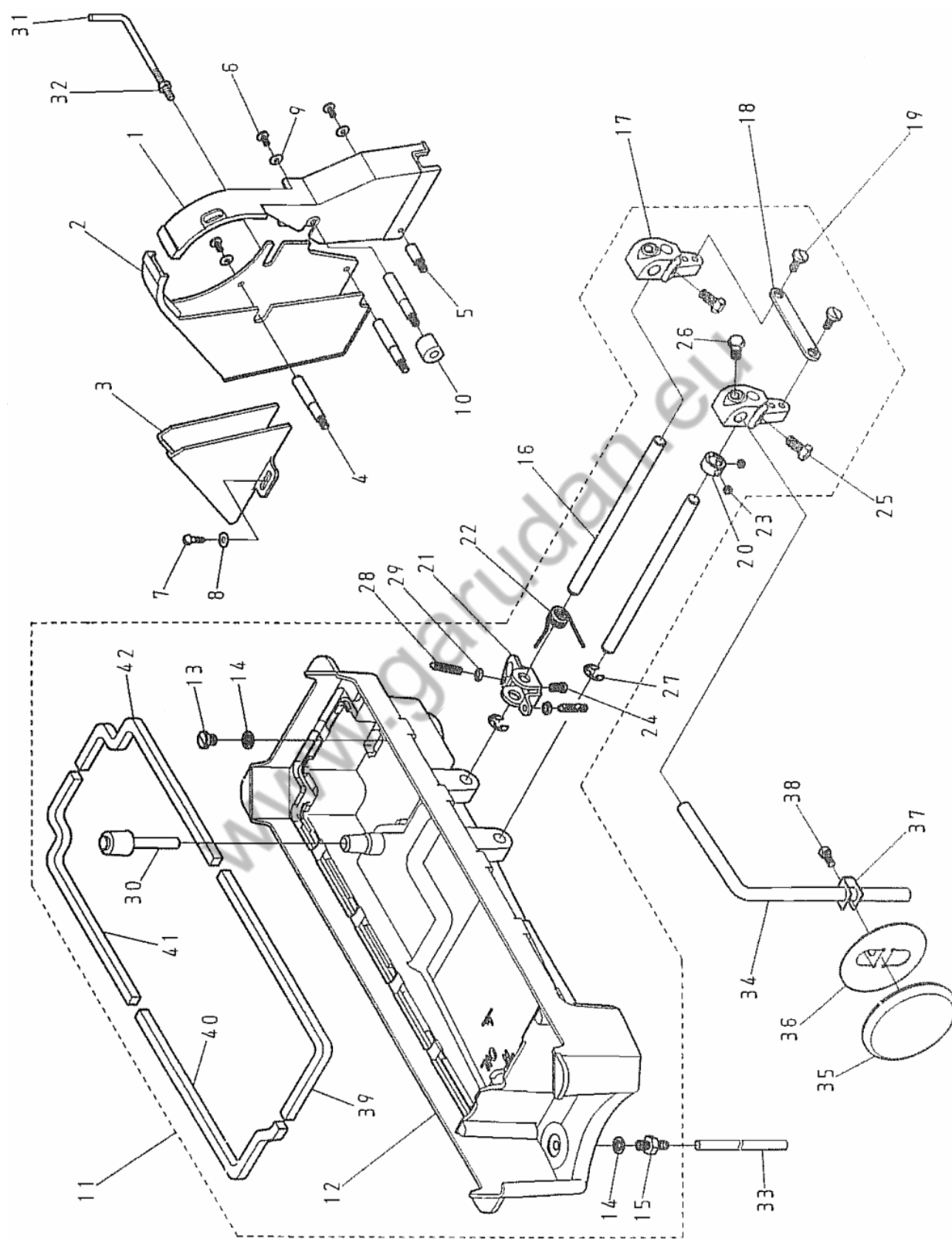
K. OIL LUBRICATION MECHANISM COMPONENTS						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120358005	Rotary Pump Asm.		1	1	
2	6120358004	Rotary Pump Com.		(1)	(1)	
3	6120358000	Housing		((1))	((1))	
4	6120358100	Bushing		((1))	((1))	
5	6120358200	Casing		((1))	((1))	
6	YD030010	Spring Pin	3.0x10	((1))	((1))	
7	6120358300	Rotor		(1)	(1)	
8	6120358400	Sliding Block		(1)	(1)	
9	6120358500	Housing Plate		(1)	(1)	
10	6120358600	Oil Adjusting Plate		(1)	(1)	
11	6120358704	Filter Screen Plate Com.		(1)	(1)	
12	ZSB08016	Screw	1/8-44 L=12	(1)	(1)	
13	ZSB08016	Screw	1/8-44 L=12	(2)	(2)	
14	WB031001	Spring Lock Washers	Ø3,6	(1)	(1)	
15	6120358905	Oil Pipe Asm.		1	1	
16	6120359105	Oil Pipe Asm.		1	1	
17	6120359400	Plunger		1	1	
18	6120359500	Spring		1	1	
19	6120359300	Plunger Thrust Plate		1	1	
20	6120354000	Connecting Screw		1	1	
21	6120353400	Oil tube Holder		1	1	
22	6120353900	Gasket		1	1	
23	6120354100	Oil Adjusting Screw		1	1	
24	C7031-0A	Spring		1	1	
25	ZSB11019	Screw	11/64-40 L=13	3	3	
26	ZSB15019	Screw	15/64-28 L=9	1	1	
27	6120357005	Felt Asm.		1	1	
28	6120353500	Felt Holder		1	1	
29	XA300340	Oil Wick		1	1	
30	XA300260	Oil Wick		1	1	
31	XA300080	Oil Wick		1	1	
32	6120354200	Oil Adjusting pin		1	1	
33	6120354300	Oil Adjusting Rubber		1	1	
34	OPP00350	O-rings	Ø4	1	1	
35	6120354400	Screw		1	1	
36	6120354500	Filter		1	1	
37	RU010100	Nylon Cable Tie		1	1	

L. ACCESSORIES 1



L. ACCESSORIES 1						
Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	C7001-0A	Cover		1	1	
2	A7012-2A	Oil Can		1	1	
3	A7012-1A	Oiler		1	1	
4	A7000-0A	Accessory Box		1	1	
5	A7010-1A	Screw Driver (middle)		1	1	
6	A7010-0A	Screw Driver (small)		1	1	
7	TLA020	Hexagonal Wrench Key	2mm	0	1	
8	EJ7026-0A	Vibration Preventing Rubber		2	2	
9	EJ7026-1A	Vibration Preventing Rubber		2	2	
10	F7021-0A	Head Hinge		2	2	
11	F7022-0A	Rubber Hinge		2	2	
12	A7025-0A	Head Rest Wood		1	1	
13	A701-0A	Nail		4	4	
14	INDP x 17-22	Needle	DP x 17-22	1	1	
15	E7006-1B	Bobbin		3	3	
16	6120914005	Ground Wire Asm.		1	1	
17	J7050-0A	Thread Stand		1	1	
18	A7040-0A	Bobbin Winder		1	1	
19	ZMT05001	Wood Screw	L=18	2	2	
20	WA059003	Washer	Ø12x0,7 d=5,2	2	2	
21	ZSB11011	Screw	11/64-40 L=9	1	1	
22	A7012-0A	Oiler		1	1	
23	A7009-0A	Oiler Bracket		1	1	
24	ZMD06004	Screw	M6x1.0 L=12	1	1	
25	WB060002	Spring Lock Washer		1	1	
26	WA069002	Washer	Ø13x1 d=6,5	1	1	
27	ZML06004	Nut	M6x1,0	1	1	
28	EJ4108-0A	Magnet		1	1	
29	TRB12x14	Wrench	14x12	1	1	

L. ACCESSORIES 2



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Ref. No	Parts No.	Name of parts	Description	Qty		Note
				443	447	
1	6120335100	Belt Cover A		1	1	
2	6120335200	Belt Cover B		1	1	
3	6120335500	Belt Cover C		1	1	
4	6120335300	Belt Cover Stud		3	3	
5	6120335700	Belt Cover Stud		1	1	
6	ZSB11078	Screw	11/64-40 L=9	4	4	
7	ZMT05003	Wood Screw	D=8,3 L=18	2	2	
8	WA059003	Washer	Ø12x0,7 d=5,2	2	2	
9	WA049005	Washer	Ø11x1 d=4,5	4	4	
10	E1169-2A	Rubber Ring		1	1	
11	6120350105	Oil Pan Asm.		1	1	
12	6120350100	Oil Pan		(1)	(1)	
13	ZSB20014	Screw		(1)	(1)	
14	EJ4109-0A	Spacer		(2)	(2)	
15	6120354600	Connecting Screw		(1)	(1)	
16	6120341700	Knee Lifter Shaft		(2)	(2)	
17	6120342000	Knee Lifter Crank		(2)	(2)	
18	6120343400	Knee Lifter Link		(1)	(1)	
19	ZSG1540	Hinge Screw	15/64-28 D=8 L=3,5	(2)	(2)	
20	LG4014-0A	Thrust Collar		(1)	(1)	
21	6120342900	Rotating Lever		(1)	(1)	
22	EJ7031-0A	Spring		(1)	(1)	
23	ZSA16029	Screw	1/4-40 L=3,5	(2)	(2)	
24	ZSB15016	Screw	15/64-28 L=14	(1)	(1)	
25	ZSD20007	Screw	5/16-18 L=16	(2)	(2)	
26	ZSD20007	Screw	5/16-18 L=16	(1)	(1)	
27	RE000090	Retaining Rings-E	Type 5	(2)	(2)	
28	ZSA15038	Screw	15/64-28 L=28	(2)	(2)	
29	ZSL15002	Nut	15/64-28	(2)	(2)	
30	6120343500	Knee Press Lifter Rod Asm.		1	1	
31	8370912500	Synchronizer Holder Stud		0	1	
32	ZSL15004	Nut 15/64-28		0	1	
33	XP600700	Oil Tube		1	1	
34	EJ7035-0A	Knee Lever Rod		1	1	
35	A7037-0A	Knee Guard		1	1	
36	A7037-1A	Knee Plate		1	1	
37	A7036-0A	Retainer		1	1	
38	ZSD15007	Screw	15/64-28 L=14	1	1	
39	6120350200	Packing		(1)	(1)	
40	6120350300	Packing		(1)	(1)	
41	6120350400	Packing		(1)	(1)	
42	6120350500	Packing		(1)	(1)	