

User's Manual
and Spare Parts Book

GARUDAN®

GC-3318-443 MH



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1. SPECIFICATION

Model	Usage	Max speed	Max stitch length	Needle system & size	Presser foot (knee/lifter)
GC-3317-443 MH	medium-heavy	2.000	7mm	135x17(110-140)	6/15 mm
GC-3317-448 MH	medium- heavy	2.000	7mm	135x17(110-140)	6/15 mm
GC-3318-443 MH	medium- heavy	2.000	7mm	135x17(110-140)	6/15 mm
GC-3318-448 MH	medium-heavy	2.000	7mm	135x17(110-140)	6/15 mm

Weight:

Machine head: 39 kg

Complete: 104 kg

Dimension:

Machine head: 28x67x58

Complete: 107x115x55 cm

General description and usage:

GC-3317 series – cylinder bed single-needle lockstitch industrial sewing machines with compound feed and horizontal large hook. Machines are designed for binding operations with medium and heavy materials like bags, suitcases and packings.

GC-3318 serie – cylinder bed single-needle lockstitch industrial sewing machines with triple feed and large horizontal hook. The machines are designed for sewing of medium and heavy materials.

2. SAFETY MEASURES

Do not put the machine into operation until an appropriate preparation is carried out by a specialist or an authorised person, and until you get acquainted with safety measures.

1. Any sewing machine may be operated only by a properly trained operator.
2. Take into consideration the safety regulations valid on your country.
3. The sewing machine may be used only for the operations for which it has been designed. Other operations are inadmissible.
4. All safety measure must be observed on the machine before putting into operation and during operation.
5. It is advisable to wear protective glasses to ensure personal safety when working on the machine
6. If you are going to make any modifications or changes on the machine observe the safety regulations. Modifications can only be made at your own risk.
7. The main switch of the machine must be switched off or the plug must be pulled out of the socket of mains supply when following operations are to be performed (if you use mechanically controlled clutch motors without a fuse preventing the machine from being started with the pedal until the motor stops).
 - 7.1 Threading the needle thread (threads), threading the looper thread, etc.
 - 7.2 Replacing needles, presser foot, stitch plate, looper bobbin, feed dog, needle guard, finger guard, cloth guide, etc.
 - 7.3 When you leave the workplace and you leave the machine unattended.
 - 7.4 Machine maintenance (cleaning).
8. Repairs, maintenance and modifications of the machine may be carried out only by a specialist or an authorised person. Only spare parts supplied by the machine builder should be used for repairs.
9. Works on the electrical part of the machine can only be carried out by an electrician or under an authorised person's control and supervision.
10. Working on „live“ parts and equipment is inadmissible.
11. Compressed air supply has to be disconnected before maintenance and repairs of pneumatic device. Residual compressed air has to be let off before the works can be done.
12. The user will be held responsible if safety measures given in the instructions for use are not observed.
13. An inseparable part of the instructions for use is the instruction for use of the respective drive which must be observed, as well. In particular point „Safety instructions“.

Important notices

Be careful!

Never set off the machine without the belt cover, you could be hurt.

To avoid disorders and damages, it is necessary to do these:

- Before the first setting off, clean and oil the machine properly .
- Check if the mains voltage is the same like the voltage written on the motor rating plate. If it isn't, never set off the machine .
- When the machine is running the handwheel, must be turned towards the person, If it isn't, the motor reverse polarity.
- Don't run the machine more than 3/4 its speed in first two weeks
- When you put the product off the machine put the needle bar to its highest position.

Safety instruction:

1. The machine can be used for it is needed. When you need to use different embodiments it is necessary to do all safety instruction.
2. It isn't allowed to run the machine without protective devices which it has from the manufacturing plant
3. Only education person can set the machine off and work with it.
4. When replacing sewing machines (needle, presser foot, throat plate, feed dog and bobbin, must be disconnected main switch.
5. Only experts can do wiring

3. COMMISSIONING THE MACHINE

To avoid disorders and damages of the machine you must do these:

Clean the machine from preservatives and put one or two drops oil to the hook remove the front cover and oil connecting rod, needle bar and thread lever. An expert must try if the electric equipment is all right including the electric voltage for motor and the handwheel of the machine must be turned towards the person (according to arrow). Don't use the highest speed of the machine in first two weeks sew to 3/4 the highest speed.

Be careful

Don't encroach the electric equipment of the machine, call an expert. There is a danger of electricity.

When you work with the machine or you are at it you must behave not to be hurt.

No liquid can be put into the electric equipment, it could be disordered. It is necessary to pay attention to safety instructions.

When you work with the machine be careful near the needle, shearing blades, thread lever and the pressure elements.

Be more careful when the head on the base is tipped not to tilt the machine with the base.

When you put the head of the machine into working position hold the head with your both hands. Then there can't be engagement between the machine and the plate of the base.

4. PRECAUTION BEFORE USING

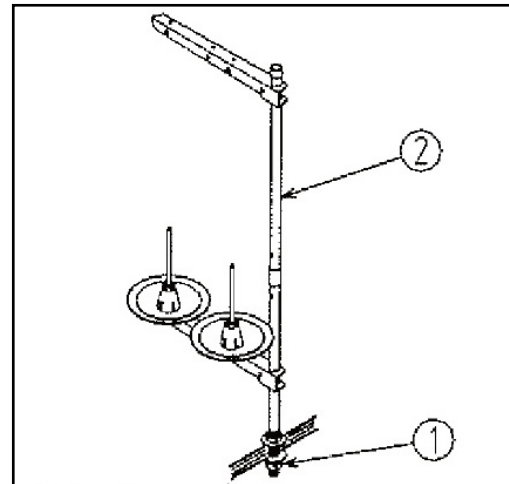
- A. Do not turn on the power as stepping the pedal
- B. Turn off the power when leaving the work place
- C. Be sure to turn the power off when repairing the sewing machine or changing the needle
- D. Make sure to connect the earthing
- E. Do not use multiple number of motors in one outlet
- F. Keep optional distance from the noise centre such as high-frequency weber operation
- G. Be careful of high tension power when disassembling the controller box. (Wait about ten Minutes after turning off the power before disassembling.)
- H. When an error comes along, verify the error code first and turn the power on again to use it.
- I. Make sure to hold the connector edge, facing the arrow mark when inserting or disassembling the frontal connector of the controller box. (Do not hold or pull the cable.)
- J. Check the belt tension.
- K. In case of a new machine which was delivered a long time ago or of a machine that has not been operated for an extend period, lubricate two or three times using the filling tube,
first mening up the face plate on such a places as the friction pat of the thread take-up unit, needle bar or presser bar.

5. INSTRUCTION FOR THE DISPOSAL

When the machine isn't possible to run because its technical life give it to the company ANITA B,s.r.o. for its disposal or you can give the machine to another company which is specialised for disposal of product.

6. INSTALLING THE THREAD STAND

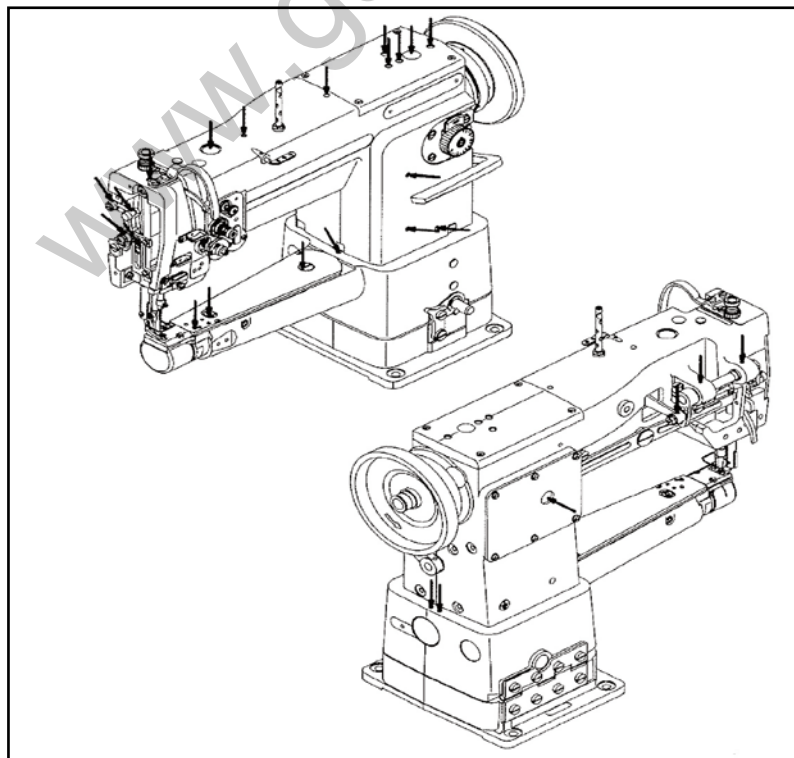
Assemble the Thread stand, and insert it in the hole in the machine table, and fix in by tightening nut (1). For ceiling wiring pass the power cord through spool rest rod (2). (fig 1)



(fig.1)

7. LUBRICATION

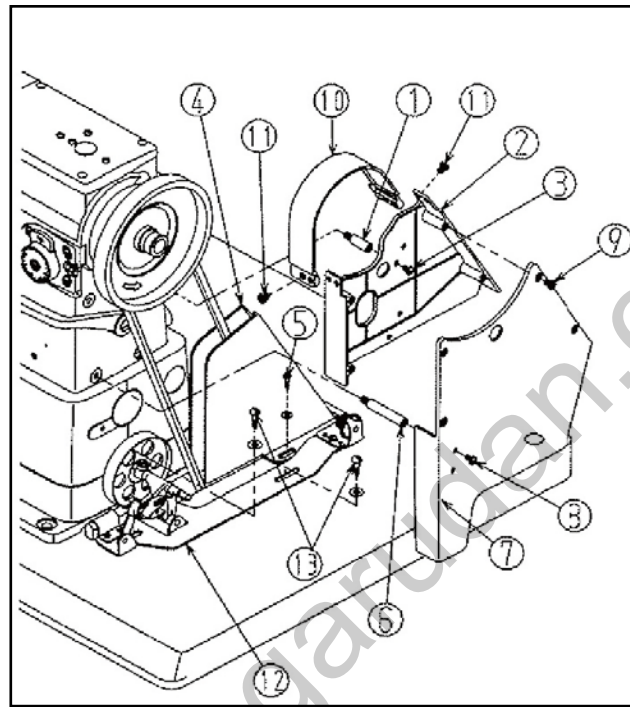
Prior to operation be sure properly lubricate the points marked with the arrows. When oiling all section requirring lubrication, after installation of the machine has been completed wait for a while (approximately 10 minutes) so that oil can penetrace each section sufficiently before starting continous operation. When starting the machine initially and after kept away for a long time without using at all, apply two or three drops of oil each section noted with an arrow mark, and to operate the machine continuosly, apply two or three drops of oil each section whenever starting operation in the morning and in the afternoon.



(fig.2)

8. INSTALLING THE BELT COVER

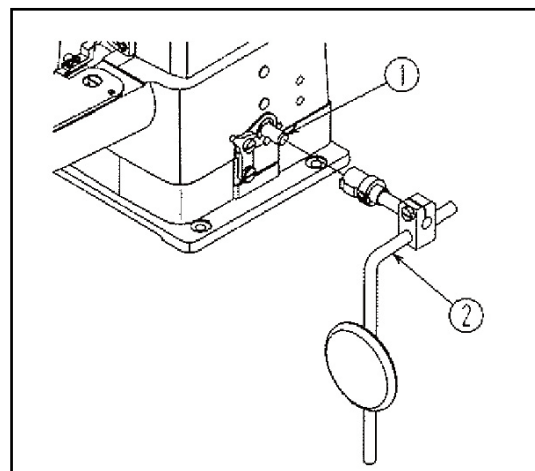
Install three belt cover supports (1) to the machine. Install the belt cover (2) to the belt cover supports using screws (3). Install the belt cover (4) to the table using the wooden screws (5). Install the belt cover support (6) to the machine and install the belt cover (7) to the belt cover support and the belt cover (2) using screws (8),(9). Install the belt cover (10) to the belt cover (2) using screws (11). Place boobin winder (12) in the belt cover, and position it so that it does not contact the belt cover before fixing it with the wooden screws (13). (fig.3)



(fig.3)

9. INSTALLING THE KNEE LIFTER

Installing the knee press plate asm (2) to the shaft (1). (fig.4)

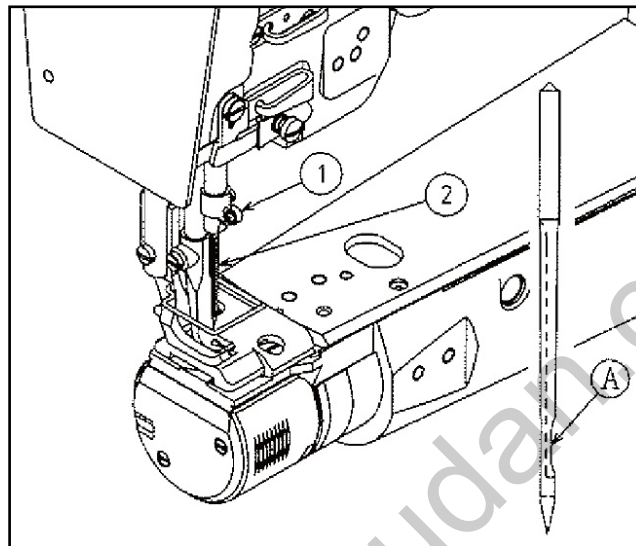


(fig.4)

10. HOW TO INSTALL THE NEEDLE

Be sure to power-off the motor. The normal needle system is „DPx17“.

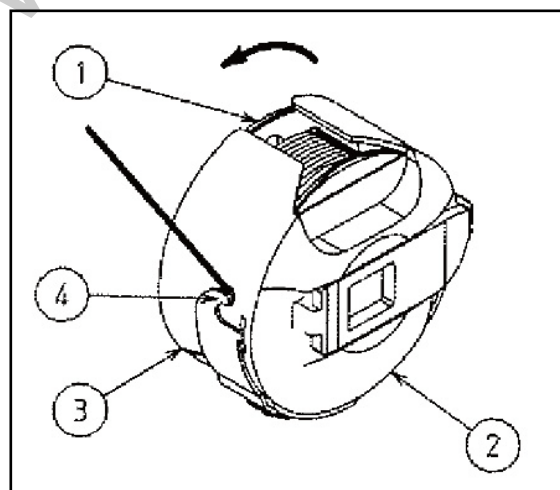
Turn the handwheel by hand and raise the needle bar to its top position. Loosen screw (1) and insert the needle (2) into the hole until it will go no further. Insert the needle with its recess (A) facing directly to the right-hand side. Securely tighten the screw in the needle. (fig.5)



(fig.5)

11. HOW TO INSTALL THE BOBBIN

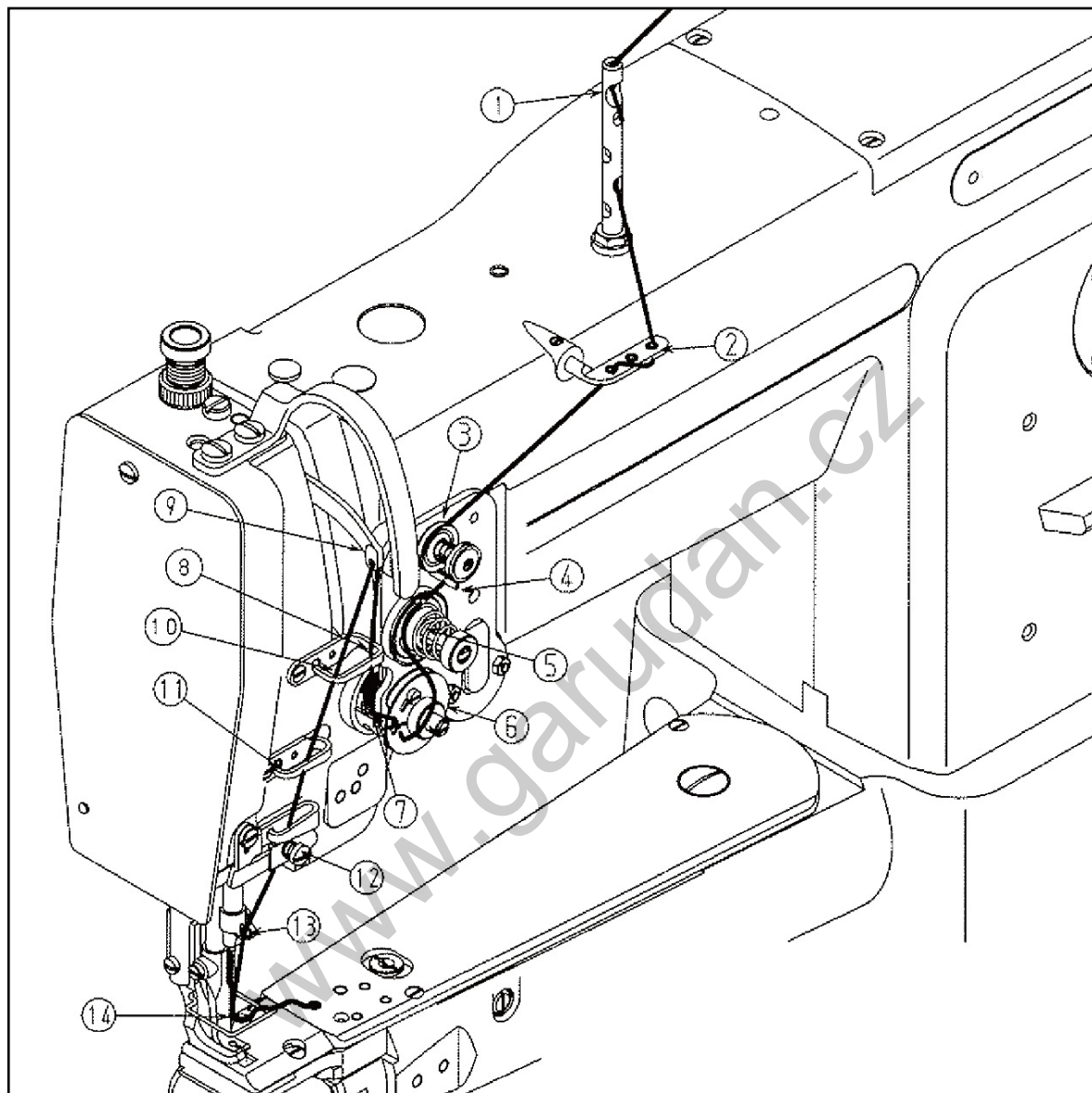
Put the bobbin (1) into the bobbin case (2). Pass the thread through the threading groove (3) and the notch (4) of tension spring in the bobbin case. Fit the bobbin in the bobincase so that the bobbin turns in the direction of the arrow when the bobbin thread is pulled. (fig.6)



(fig.6)

12. HOW TO THREAD THE MACHINE HEAD

Thread the machine head as illustrated. (fig.7)



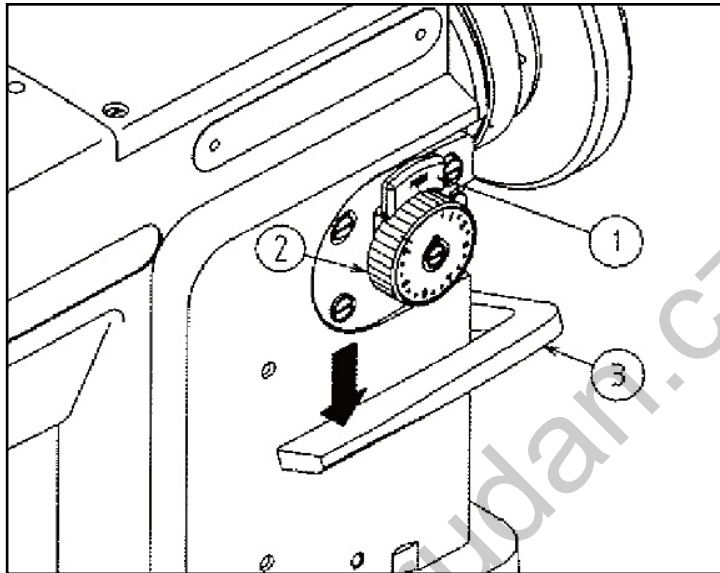
(fig.7)

13. ADJUSTING THE STITCH LENGTH

To adjusting the stitch length push lock plate (1). Align the stitch length dial (2) indicator to the line of the lock plate turning stitch length dial counterclockwise or clockwise.

Reverse stitching

Push the feed lever (3) down. The machine performs reverse feed stitching as long as the lever is held depressed. The moment you release the lever, the machine resumes the normal stitching mode.



(fig.8)

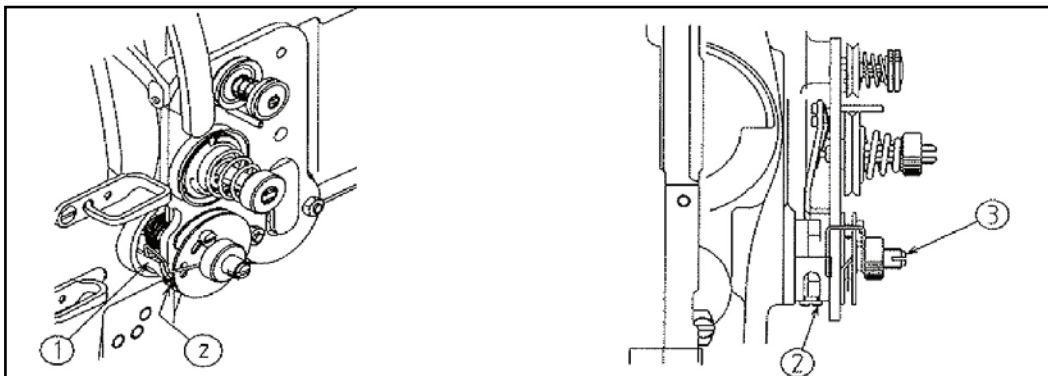
14. THREAD TAKE-UP SPRING

Adjusting the thread take-up spring stroke

Loosen setscrew (2), and turn the adjusting plate (1). Turn the adjusting plate (1) to the right (counterclockwise), increase its moving range. Turn the adjusting plate (1) to the left, decrease its moving range.

Adjusting the thread take-up spring tension

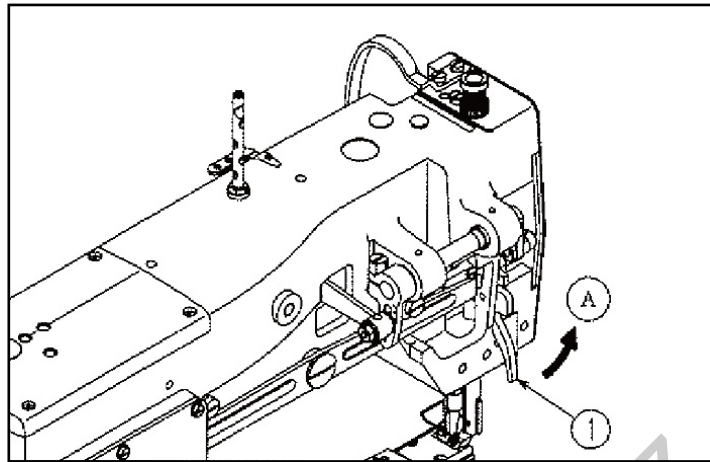
Turn the tension stud (3) over toward left to increase tension. Turn it to the right, decrease tension. (fig.9)



(fig.9)

15. LIFTING THE PRESSER FOOT

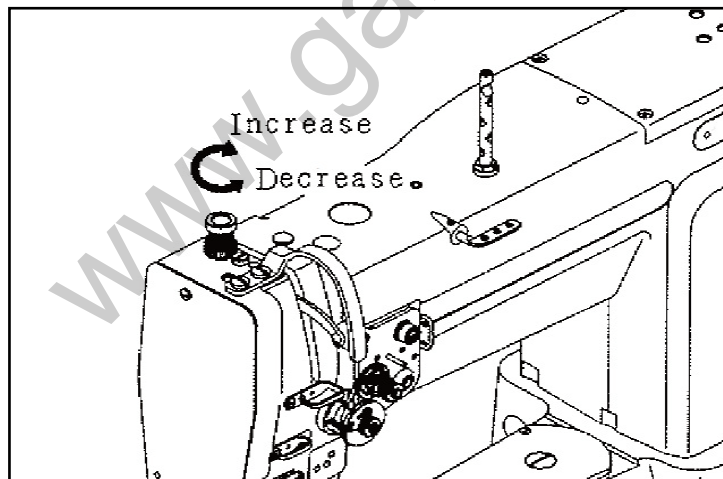
Turn the hand lifter (1) toward (A), presser foot up. (fig.10)



(fig.10)

16. ADJUSTING THE PRESSER FOOT PRESSURE

Turn the presser spring regulator to the right to increase and to the left to decrease pressure. (fig.11)



(fig.11)

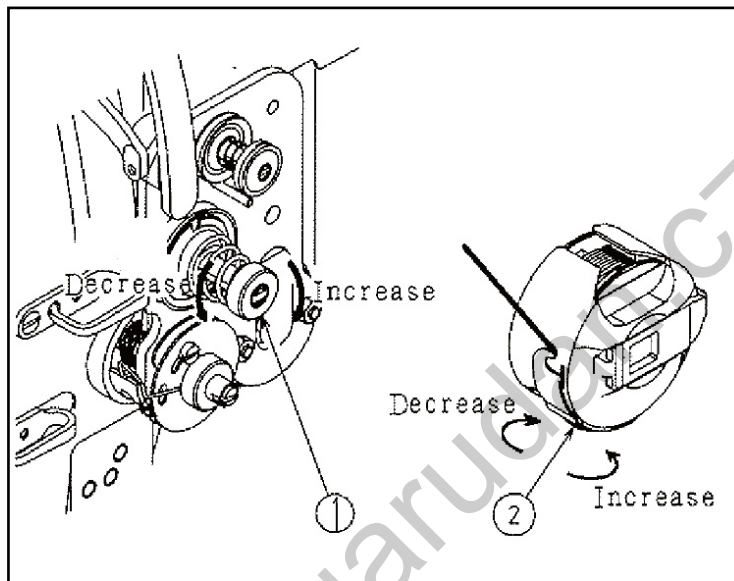
17. THREAD TENSION

Adjusting the needle thread tension

Turn the thread tension nut (1) clockwise to increase or counterclockwise to decrease the needle thread tension. (fig.12)

Adjusting the bobbin thread tension

Turn the tension screw (2) clockwise to increase or counterclockwise to decrease the bobbin thread tension. (fig.12)



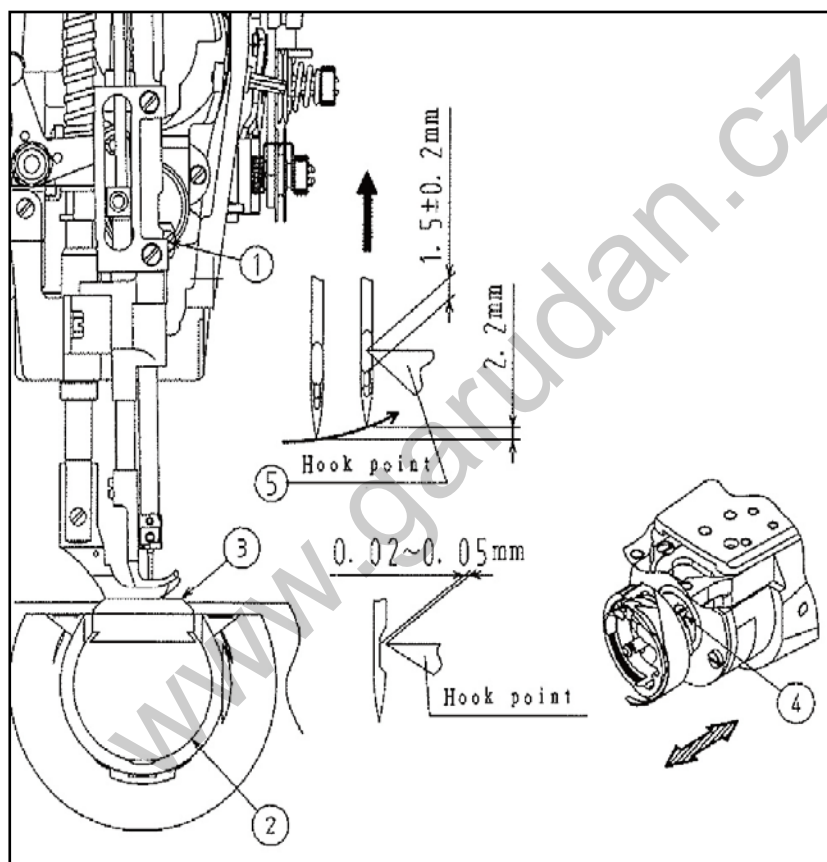
(fig.12)

18. NEEDLE TO HOOK RELATIONSHIP

Remove throat plate (3) and hook cover (2). Bring the needle bar down to its lowest point. Loosen the needle bar clamp screw (1). Bring the needle bar up to 2,2 mm from its lowest point turning the handwheel. Adjust the distance between the top edge of needle eylet and hook point (5) to 1,5 mm when hook point nearly meet the center of needle then tighten the needle bar clamp screw (1).

The needle to hook clearance

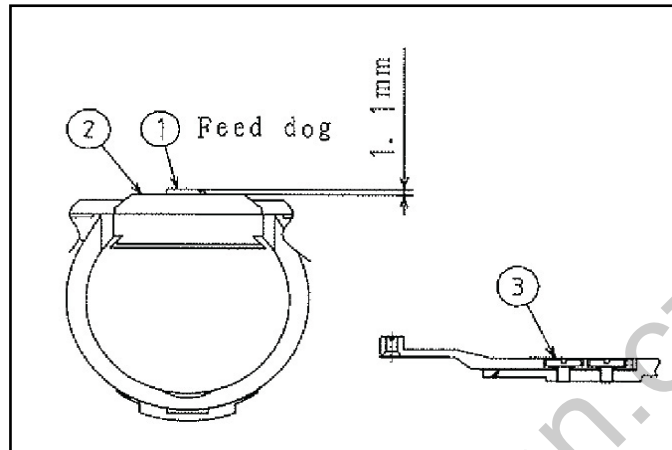
Loosen screws (4) in the hook and move the hook to the right or left until a clearance of 0,02 to 0,05 mm is provided between the blade point of the hook and needle. After the adjustment, securely tighten the screws.



(fig.13)

19. HEIGHT OF THE FEED DOG

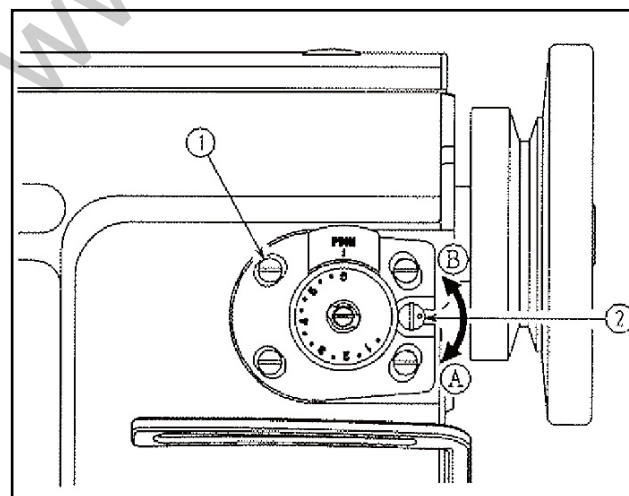
Standard height of the feed dog is 1,4 mm from the surface of throat plate (2). When the feed dog height needs to be adjusted according the sewing conditions or after the feed dog is replaced, follow the procedure described below. Loosen screws (3) in the feed dog. Adjust the position to the needle bar. Securely tighten the screws (3) in the feed dog.



(fig.14)

20. FORWARD REVERSE SEAM RATIO

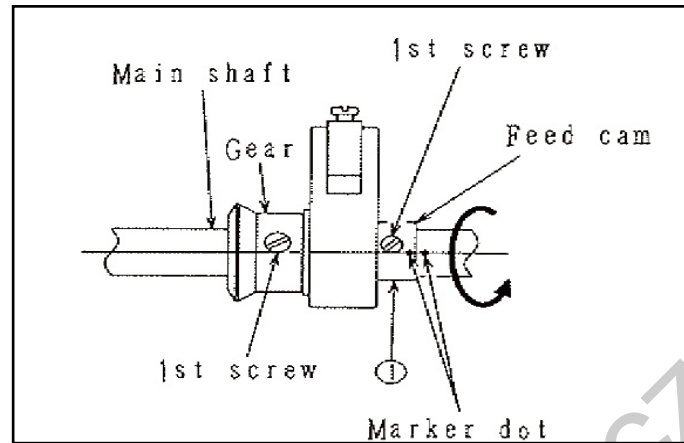
Loosen four screws (1). When increasing the forward stitching length, turn the eccentric pin (2) clockwise (toward A) using a screwdriver. When decreasing the forward stitching length, turn eccentric pin (2) counterclockwise (toward B) using a screwdriver. Then securely tighten the screws (1). (fig.15)



(fig.15)

21. FEED TIMING

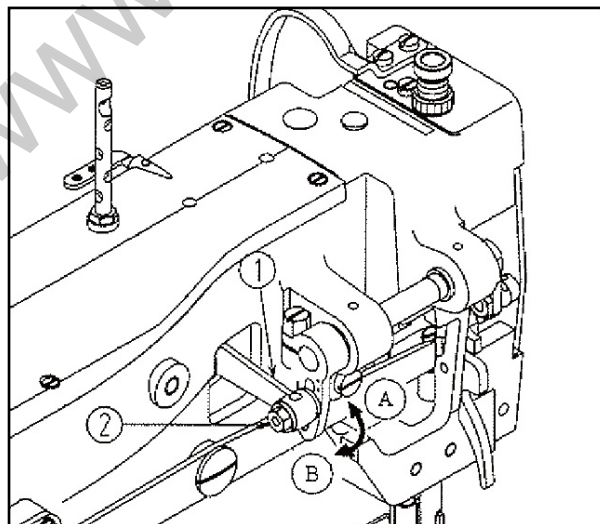
It is the standard position of feed cam as illustrated. Remove a top cover and change the position of feed cam (1). (fig.16)



(fig.16)

22. ADJUSTING THE WALKING FOOT AND PRESSURE FOOT

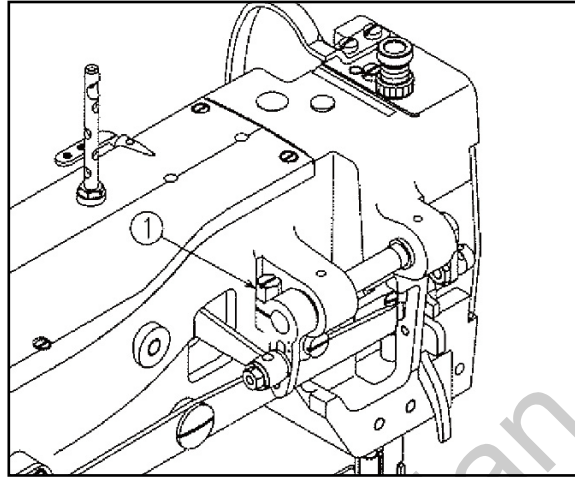
Loosen nut (2). Turn the rod (1) toward (A), walking foot and presser foot up. Toward (B), walking foot and presser foot down. After adjustment, securely tighten nut (2). (fig.17a)



(fig.17a)

Alternate vertical motions of the walking foot and the presser foot

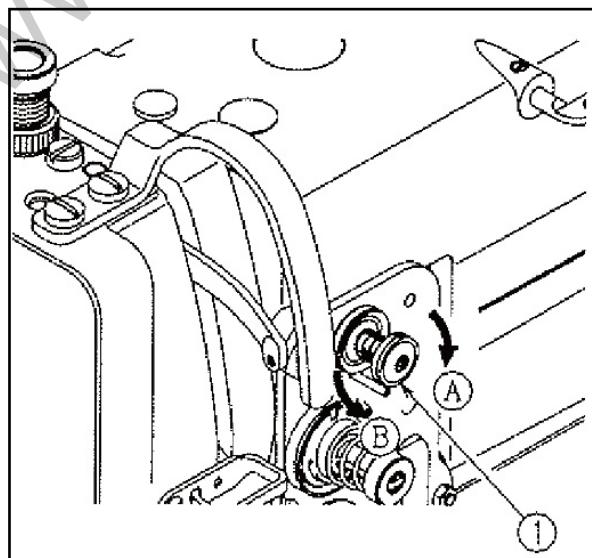
The alternate vertical strokes of walking foot and presser foot are normally equal. Depending on the type of materials, however the vertical stroke of the presser foot may be set smaller than of walking foot. Turn the handwheel, raise the presser foot from throat plate a little. Loosen screw (1). The presser foot falls to the throat plate by power of the spring. Then tighten screw (2) in its position. (fig.17b)



(fig.17b)

23. AUXILIARY THREAD TENSION CONTROLLER

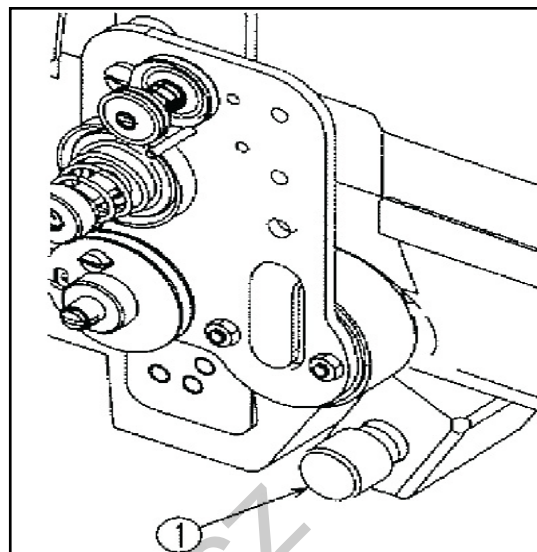
Adjust the auxiliary thread tension using nut (1). Turn the nut in direction (A), tension increases and the needle thread shortens. Turn the nut in direction (B), tension decreases and the needle thread lengthens. (fig.18)



(fig.18)

24. ONE-TOUCH TYPE REVERSE FEED STITCHING MECHANISM

The moment you press switch (1), the sewing machine performs reverse feed stitching. The machine continues reverse feed stitching as long as the switch is held pressed. When you release the switch the machine resumes normal stitching. (fig.19)



(fig.19)

25. ADJUSTMENT NEEDLE BAR STOP POSITION

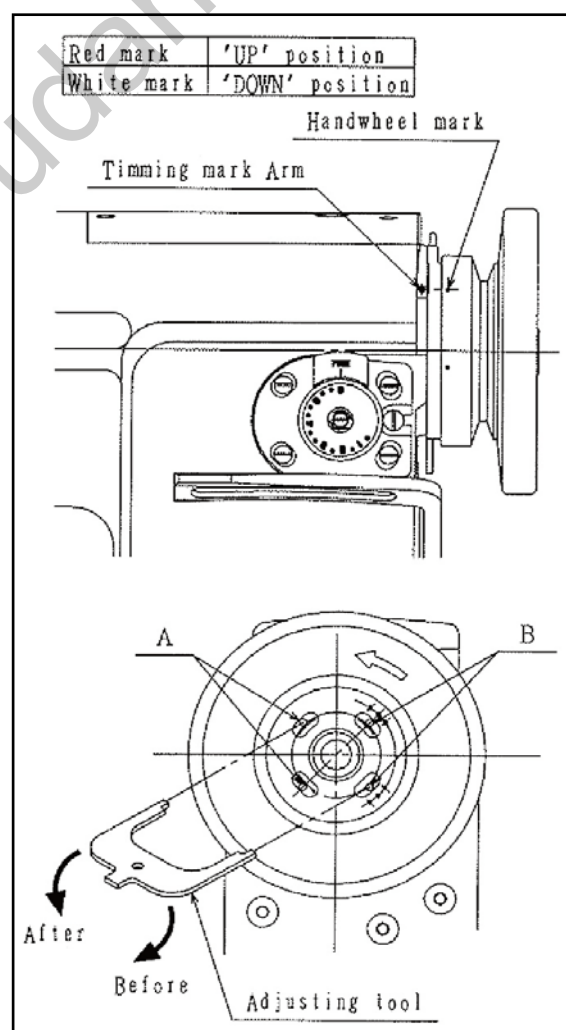
A. Adjust of „UP“ position

When the pedal is kicked down by heel the machine stops at „UP“ position. If the marks deviate larger than 3 mm, adjust as follows. Disconnect the plug (12 pins) of cable from the machine head. Run the machine and stop at „UP“ position. While holding the handwheel, insert the „adjusting tool“ in the hole „A“, then remove tool.

B. Adjust of „DOWN“ position

When the pedal is „Neutral“ the machine stops at „DOWN“ position. If the marks deviate larger than 5 mm, adjust as follows. Disconnect the plug (12 pins) of cable from the machine head. Run the machine and stop at „DOWN“ position. While holding the handwheel, insert the „adjusting tool“ in the hole „B“, then remove the tool.

Confirm the stop operation, then set the plug (12 pins) coming from the machine head into the receptacle. (fig.20)

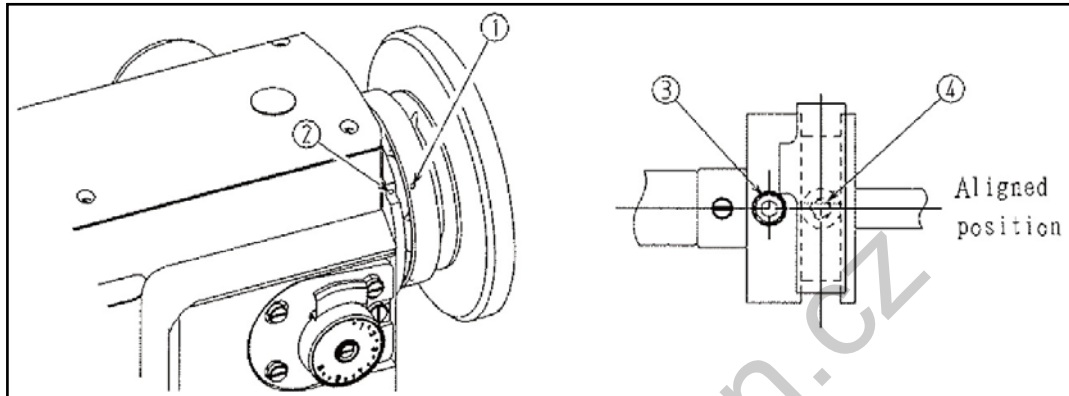


(fig.20)

26. ADJUSTING THE THREAD TRIMMING CAM

Turning the handwheel, align black marker dot (1) in the machine arm with white marker dot (2) in the handwheel.

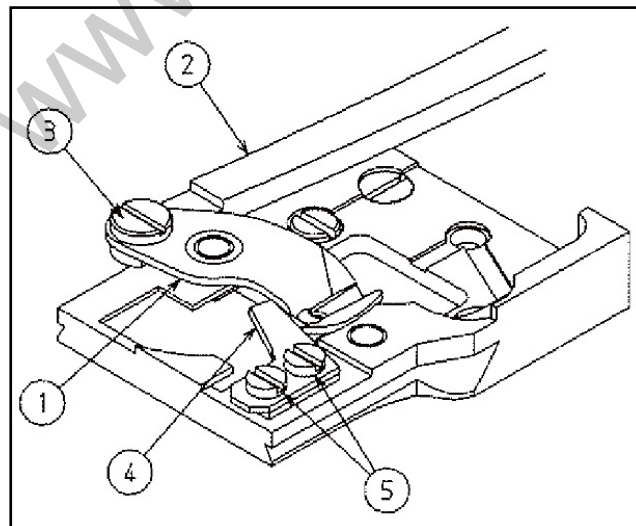
Turn the thread trimming cam until first screw (3) in the thread trimming cam aligns with cam roller shaft (4) in the cam roller arm, and tighten screw at the aligned position.



(fig.21)

27. HOW TO REPLACE THE KNIVES

Remove the throat plate and the feed dog. Rotary knife (1) can be removed by removing connecting screw (3) in driving plate (2), and fixed knife (4) can be done by removing setscrew (5) of the fixed knife. After replacement adjust the knife pressure.



(fig.22)

28. TROUBLE AND CORRECTIVE MEASURES

Trouble	Cause	Coorective measures
Thread breakage (thread frays or wears out)	<ol style="list-style-type: none"> 1. The thread path, needle point, hook point or bobbin case positioning finger has scratches 2. The needle thread tension is too high 3. The needle hits the hook points 4. The needle thread tension od too low 5. The thread take-up spring has an excessively high tension while it has an excessively small stroke 6. The timing between the needle and hook is too early or late. 	<ol style="list-style-type: none"> 1 Remove the scratches on the hook point using a fine sand paper. 2. Properly adjust the needle thread tension 3. See "13. Neelde-to-hook relationship" 4. Properly adjust the needle thread tension 5. Decrease the tension and increase the stroke 6. See "13. Neelde-to-hook relationship"
Stitch skipping	<ol style="list-style-type: none"> 1. The clearance between the needle and the hook point is too large 2. The timing between the needle and hook is too aerly or late 3. the presser foot pressure is too low 4. The clearance between the top edge of the needle eylet and the hook point is not correct 5. The size of the needle is wrong 	<ol style="list-style-type: none"> 1. See "13. Neelde-to-hook relationship" 2. See "13. Neelde-to-hook relationship" 3. Increase the presser foot pressure 4. See "13. Neelde-to-hook relationship" 5. Replace the needle by one which one grade thicker
Loose stitches	<ol style="list-style-type: none"> 1. The thread has not been the passed the through notch of the bobbin case tension spring 2. The thread path is poorly finished 3 The bobbin does not rotate smoothly 4. The bobbin thread tension is too low 5. The bobbin thread has been wound too tight 	<ol style="list-style-type: none"> 1. Properly thread the bobbin case 2. Grind it using a fine sand paper of a buff 3. Replace the bobbin or hook 4. Properly adjust the tension 5. Decrease the bobbin thread winding tension
The thread slips off the needle up on being trimmed	<ol style="list-style-type: none"> 1. The tension of the auxiliary thread tension controller is too high - on controller is too high 2. The thread trimming timing is too early 3. The retuirning force of the thread take-up spring is too high 	<ol style="list-style-type: none"> 1. Descrease the tension 2. See "21. Adjust the thread trimming cam" 3. See "9. Thread take-up spring"
The needle thread cannot be trimmed while the bobbin thread can be trimmed	<ol style="list-style-type: none"> 1. The last stitch has been skipped (the clearance between the needle and the hook is too large) 	<ol style="list-style-type: none"> 1. See "13. Neelde-to-hook relationship"
Both needle and bobbin threads cannot be trimmed	<ol style="list-style-type: none"> 1. The thread trimming timing os wrong 2. The knife has been damaged 3. The knife pressure is inadequate 4. The home position of the movable knife is inaccurate 5. The movable knife fails to work 6. The thread trimming solenoid fails to work 	<ol style="list-style-type: none"> 1. See "21. Adjust the thread trimming cam" 2. Replace the knife 3. Increase the knife pressure 4. See "21. Adjust the thread trimming cam" 5. Check it by actuating it by hand 6. Check the motor solenoid for proper operation
Thread cannot be trimmed sharply	<ol style="list-style-type: none"> 1. The thread trimming timing is wrong 2. The knife pressure is inadequate 3. The knife bledeisblunt 	<ol style="list-style-type: none"> 1. See "21. Adjust the thread trimming cam" 2. Increase the knife pressure 3. Replace the knife

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Spare Parts List
Katalog náhradních dílů

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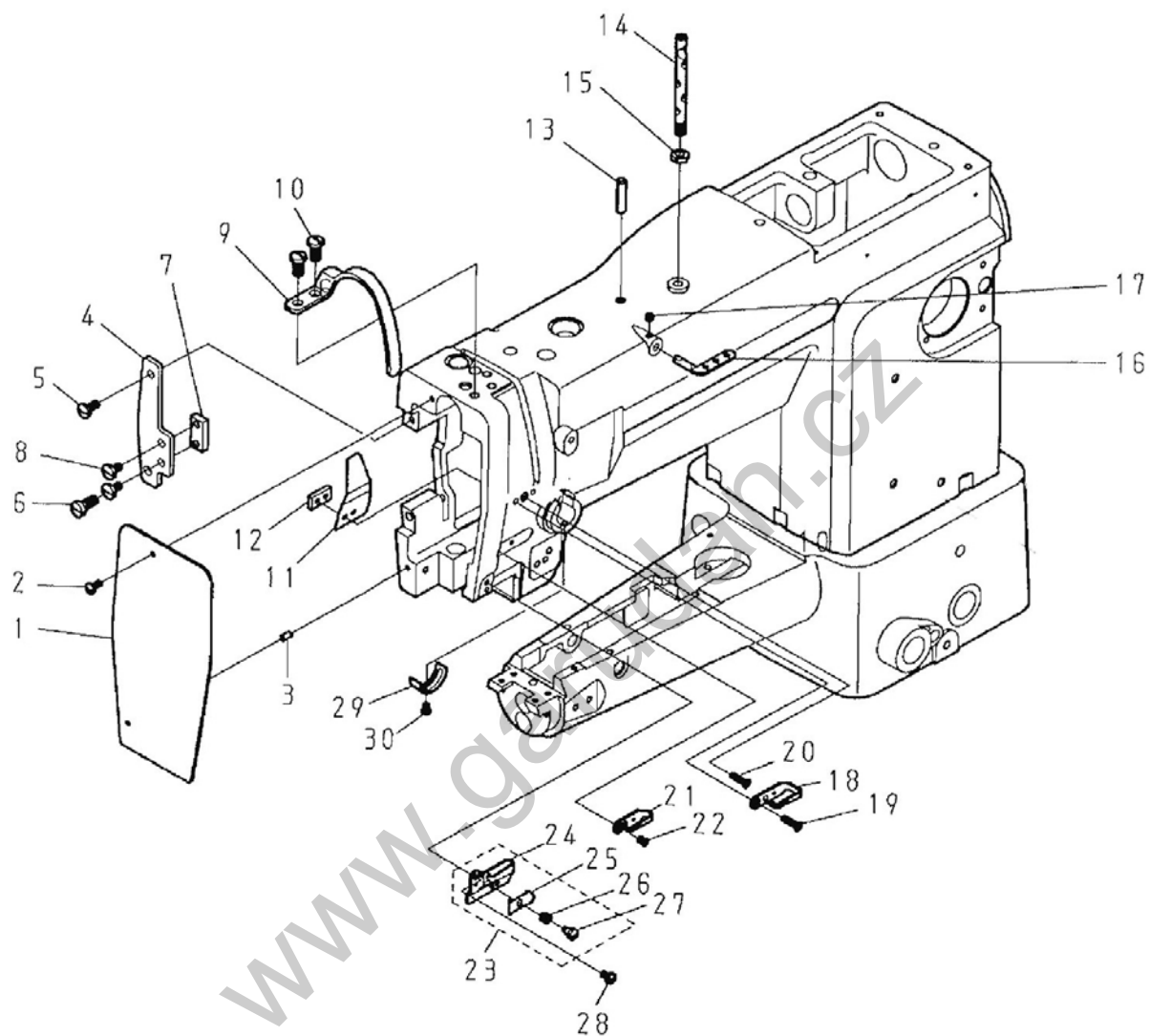
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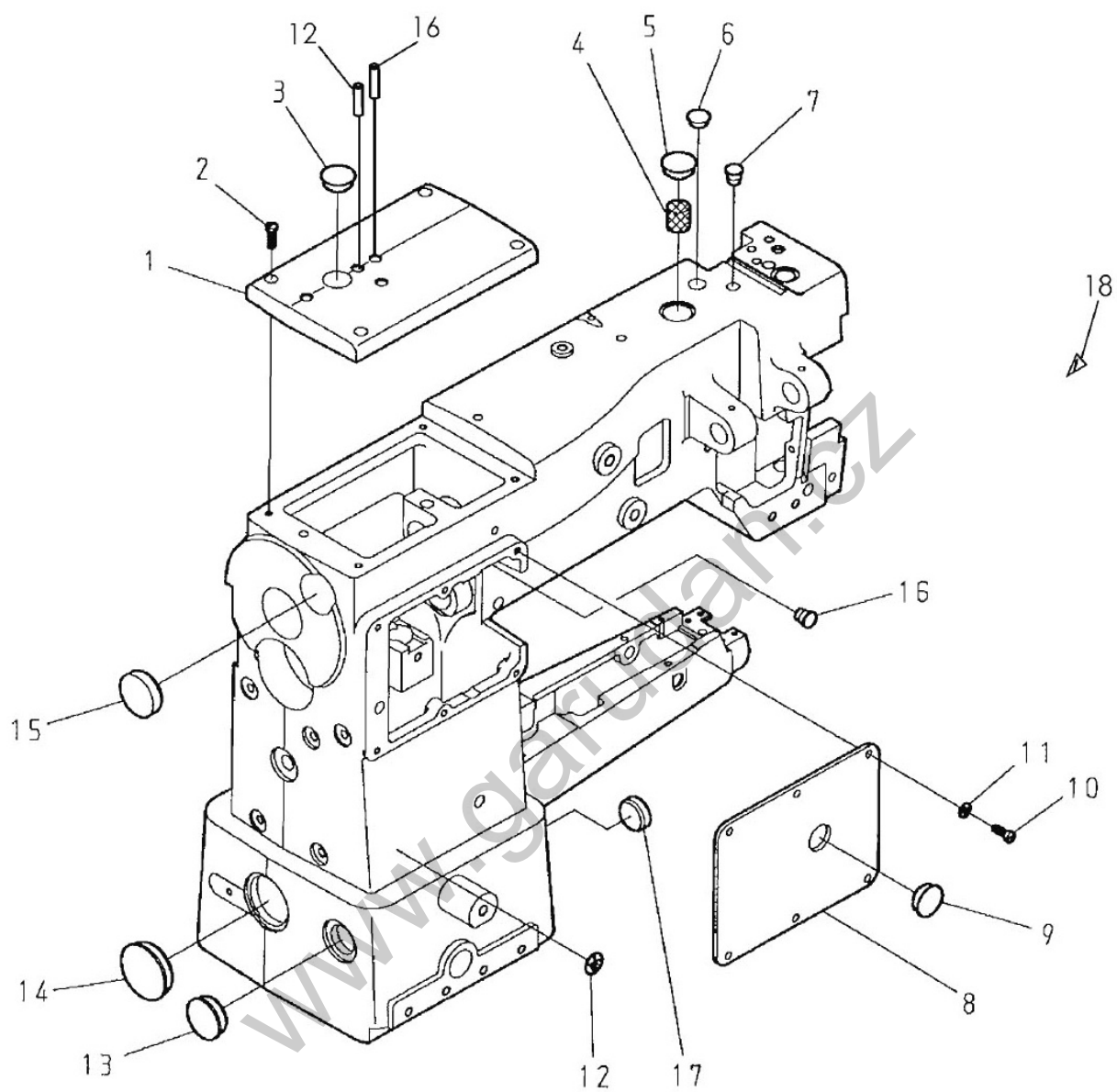
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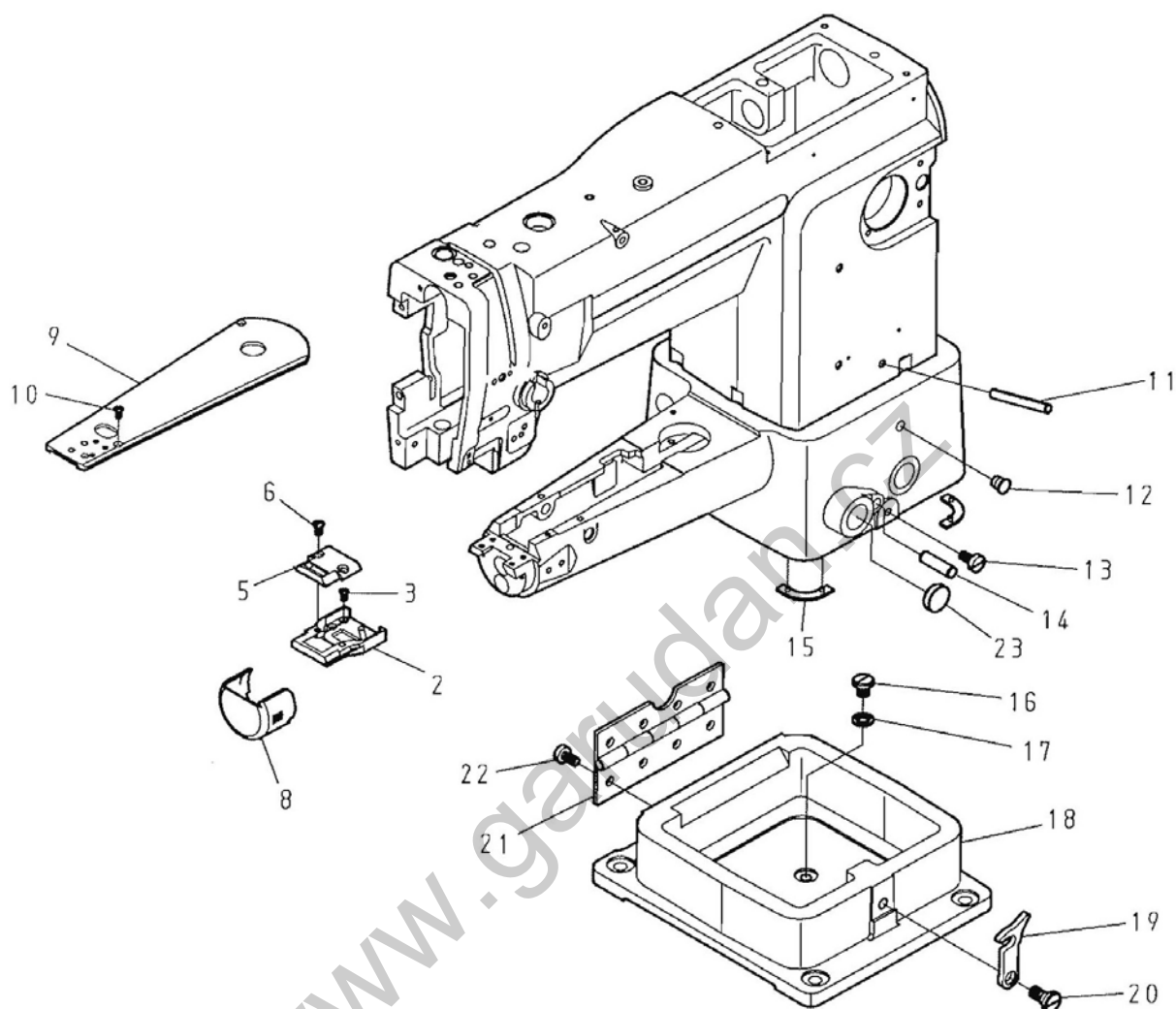
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A. FRAME & MISCELLANEOUS COVER COMPONENTS (1/3)

A. FRAME & MISCELLANEOUS COVER COMPONENTS (1/3)				
REF.No	Note	Part No.	Name of Part	QTY
1		8703111000	Face Plate	1
2		ZSB09017	Screw 9/64-40x8	1
3		YA035075	Pin	1
4		8233110900	Vibrating Presser Bar Guide	1
5		ZSB12006	Screw 3/16-28x10	1
6		ZSB15009	Screw 15/64-28x13	1
7		8233143700	Bell Crank Guide	1
8		ZSB12030	Screw 3/16-32x8	2
9		F1063-0A	Thread Také-up Lever Cover	1
10		ZSB15010	Screw 15/64-28x10	2
11		EJ1014-0A	Oil Guard Plate	1
12		EJ1017-0A	Spacer	1
13		YD060024	Oil Pipe	1
14		B1050-0A	Tread Guide	1
15		ZML06001	Nut	1
16		A1051-0A	Thread Guide	1
17		ZSA11007	Screw 11/64-40x7	1
18		C1052-0A	Thread Guide (Upper)	1
19		ZSC09021	Screw 9/64-40x13	1
20		ZSC09021	Screw 9/64-40x13	1
21		C1054-0A	Thread Guide (Center)	1
22		ZSC09009	Screw 9/64-40x6,5	1
23		8370311605	Thread Guide Asm.	1
24		EJ1055-0A	Thread Guide	(1)
25		EJ1056-0A	Guide Plate	(1)
26		EJ1057-0A	Spring	(1)
27		ZSG08003	Hinge Screw	(1)
28		ZSB09011	Screw 9/64-40x6,5	1
29		J1041-0A	Stopper	1
30		ZSB09005	Screw 9/64-40x5	1

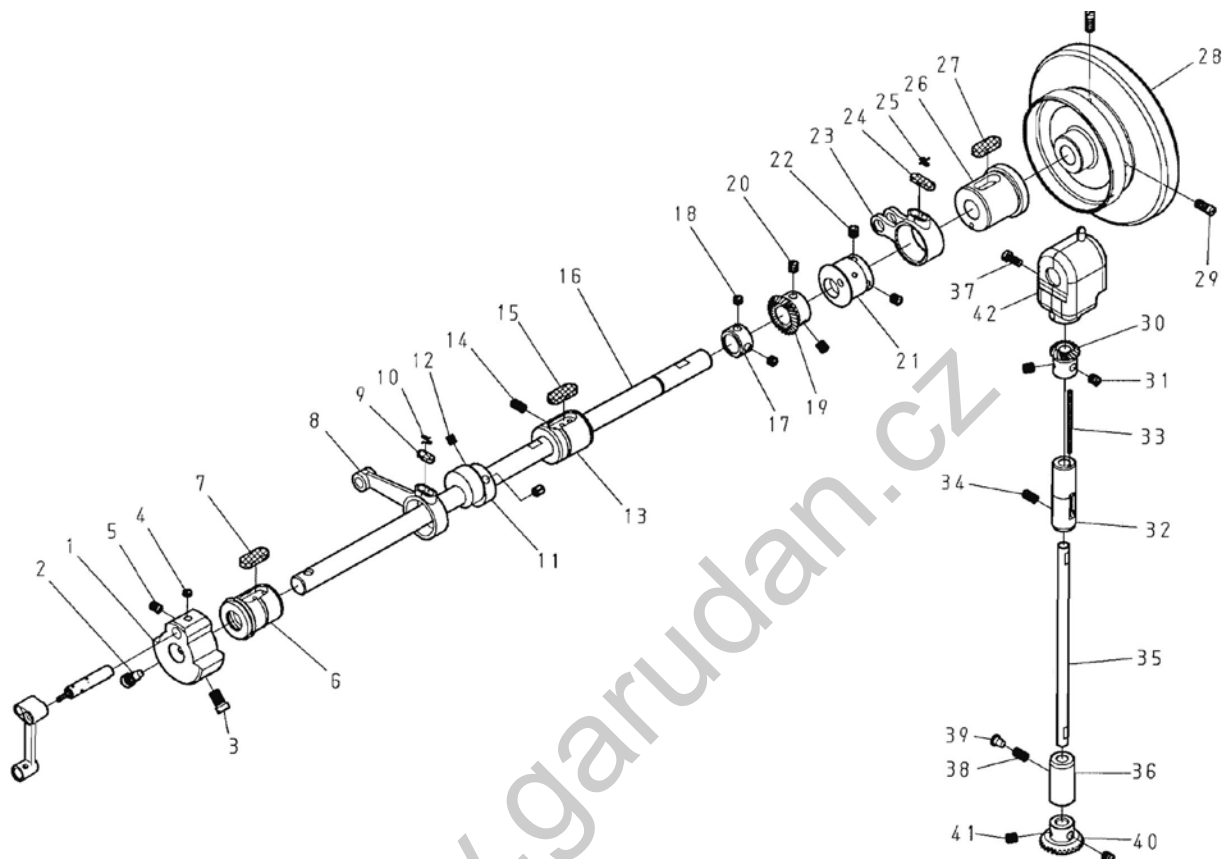
A. FRAME & MISCELLANEOUS COVER COMPONENTS (2/3)

A. FRAME & MISCELLANEOUS COVER COMPONENTS (2/3)				
REF.No	Note	Part No.	Name of Part	QTY
1		8703110500	Top Cover Asm.	1
2		ZSB11017	Screw 11/64-40x12	4
3		A1013-0A	Rubber Plug	1
4		AXB114001	Felt	1
5		A1013-0D	Rubber Plug	1
6		A1013-1A	Rubber Plug	1
7		6120117400	Rubber Plug	1
8		8703168000	Arm Side Cover	1
9		A1013-0A	Rubber Plug	1
10		ZSB11017	Screw 11/64-40x12	6
11		WA049003	Washer	6
12		YD060028	Pin	1
13		6120117300	Rubber Plug	1
14		6220117900	Rubber Plug	1
15		6120117000	Rubber Plug	1
16		YD060036	Pin	1
17		8710118400	Rubber Plug	1
18		WARN000108-A	Paster	1

A. FRAME & MISCELLANEOUS COVER COMPONENTS (3/3)

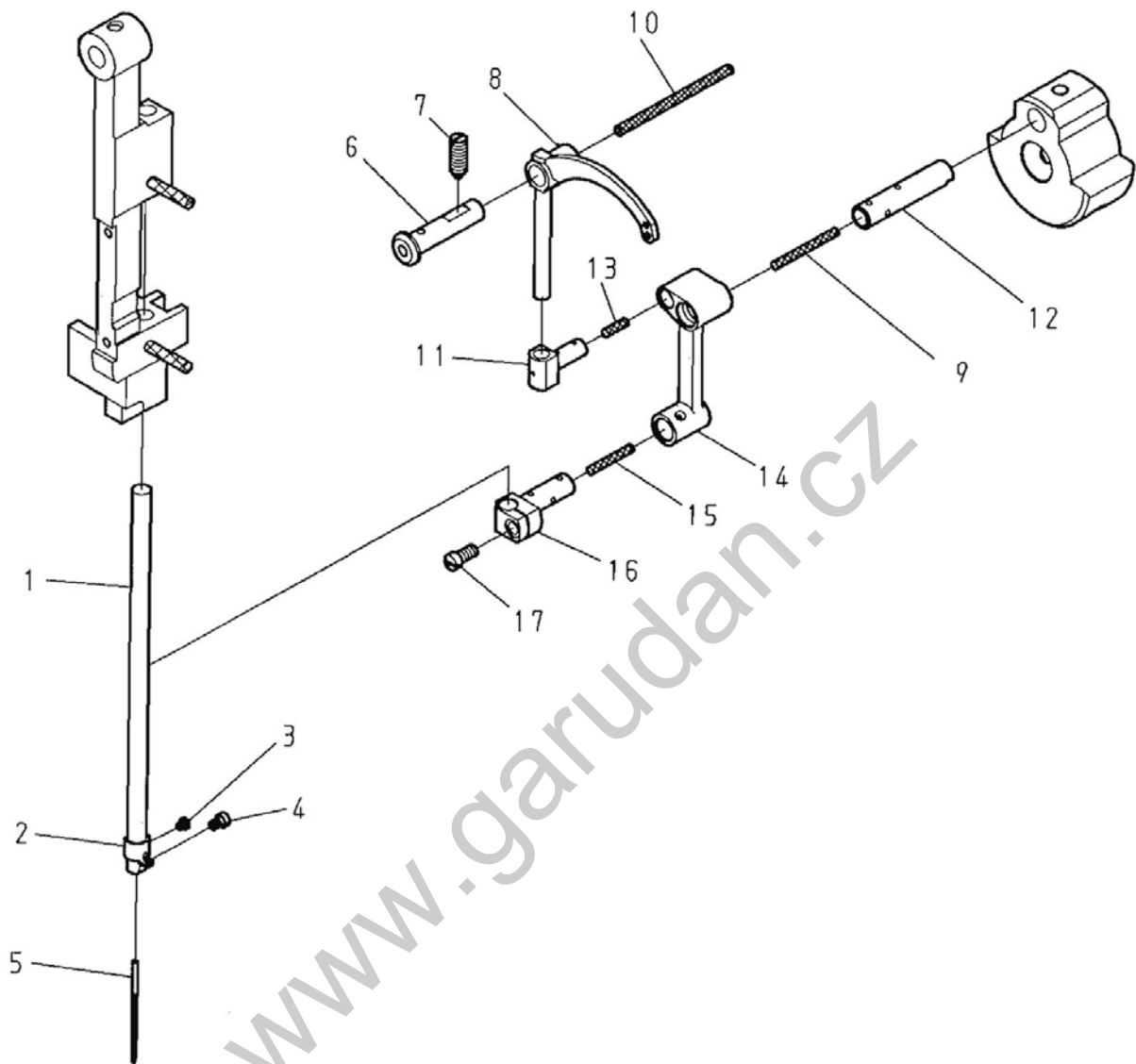
A. FRAME & MISCELLANEOUS COVER COMPONENTS (3/3)				
REF.No	Note	Part No.	Name of Part	QTY
2		87101106K0	Bed Cylinder Cap	1
3		ZSB09044	Screw 9/64-40x5,3	4
5		8710111301	Throat Plate	1
6		ZSC11003	Screw 11/64-40x9	2
8		6220183600	Hook Cover	1
9		8713110400	Cover	1
10		ZSC09012	Screw 9/64-40x7	2
11		YD060056	Oil Pipe	1
12		6120117400	Rubber Plug	1
13		ZSB15034	Screw 15/64-28x12	1
14		YA080280	Stopper Pin	1
15		6220119100	Vibration Preventing Rubber	2
16		ZSB20014	Screw 5/16-28x9,3	1
17		EJ4109-0A	Spacer	1
18		8703110300	Machine Base	1
19		6220112700	Latch	1
20		ZSG20018	Hinge Screw	1
21		6220112800	Hinge Screw	1
22		ZSB15034	Screw 15/64-28x12	8
23	*01	6120117100	Rubber Plug	1
*01 Pedal Lifter Specification Parts				

B. MAIN SHAFT & UPRIGHT SHAFT COMPONENTS

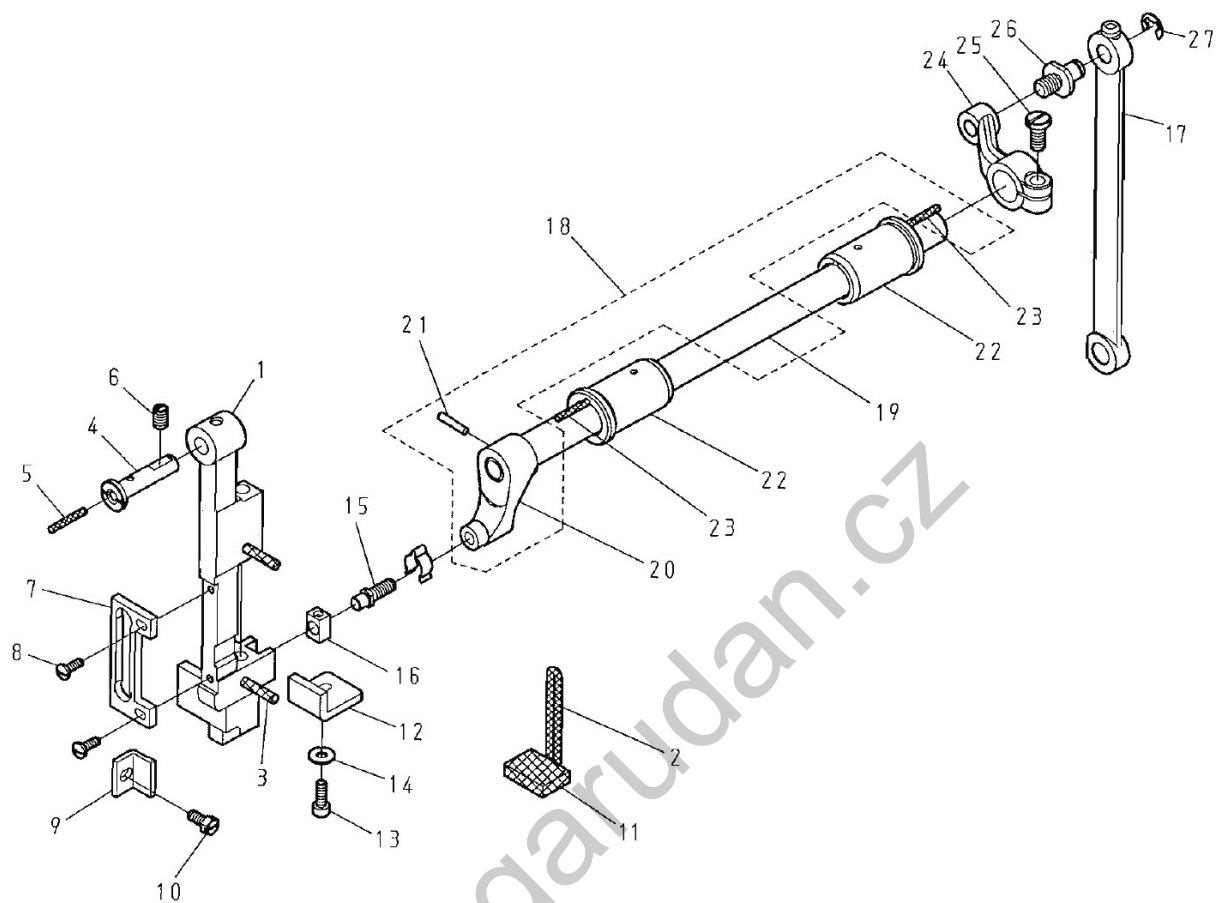


B. MAIN SHAFT & UPRIGHT SHAFT COMPONENTS				
REF.No	Note	Part No.	Name of Part	QTY
1		8713120800	Counterweight	1
2		ZSB18001	Screw 9/32-28x9,5	1
3		ZSB18002	Screw 9/32-28x13	1
4		ZSA15019	Screw 15/64-28x3	1
5		ZSA15017	Screw 15/64-28x8,5	2
6		8110120200	Main Shaft Bushing, Front	1
7		XB210001	Felt	1
8		8233144501	Connecting Rod	1
9		XB207002	Felt	1
10		A1130-0A	Spring	1
11		82331400Q	Driving Cam	1
12		ZSH16004	Screw 1/4-40x10	2
13		8110120301	Main Shaft Bushnig, Center	1
14		ZSA15020	Screw 15/64-28x11	1
15		XB210001	Felt	1
16		8703120100	Main Shaft	1
17		E4044-0A	Thrust Collar	1
18		ZSA16010	Screw 1/4-40x4,5	2
19		A1108-0C	Bevel Gear, Large	1
20		ZSA16011	Screw 1/4-40x7	2
21		6220122000	Feed Cam	1
22		ZSH16001	Screw 1/4-40x6	2
23		5371167400	Reverse Sewing Crank	1
24		XB207001	Felt	1
25		A1130-0A	Spring	1
26		8110120400	Main Shaft Bushibg, Rear	1
27		XB210001	Felt	1
28		6120120302	Hand Wheel	1
29		ZSB15026	Screw 15/64-28x18	2
30		A1109-0C	Bevel Gearm Small	1
31		ZSA16011	Screw 1/4-40x7	2
32		8110132100	Upright Shaft Bushing	1
33		XA300055	Oil Wick	1
34		ZSA15020	Screw 15/64-28x11	1
35		8110132000	Upright Shaft Bushing	1
36		A1113-0B	Upright Shaft Bushing	1
37		ZSB12008	Screw 3/16-24x12	1
38		ZSA15020	Screw 15/64-28x11	1
39		A1013-1A	Rubber Plug	1
40		A4020-0C	Bevel Gear, Large	1
41		ZSA16011	Screw 1/4-40x7	2
42		8703351005	Gear Case Cover	1

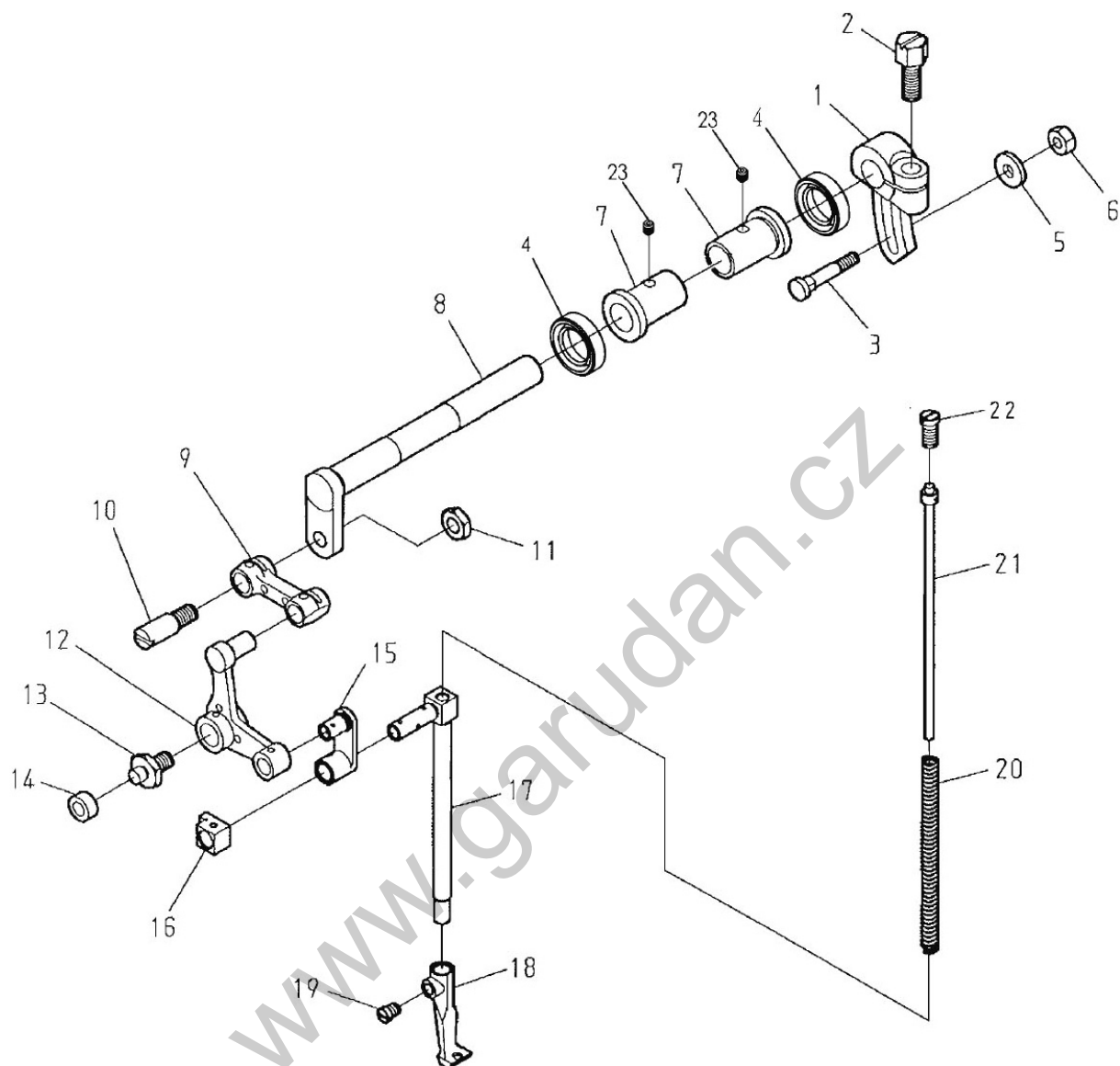
C. NEEDLE BAR & THREAD TAKE-UP LEVER COMPONENTS



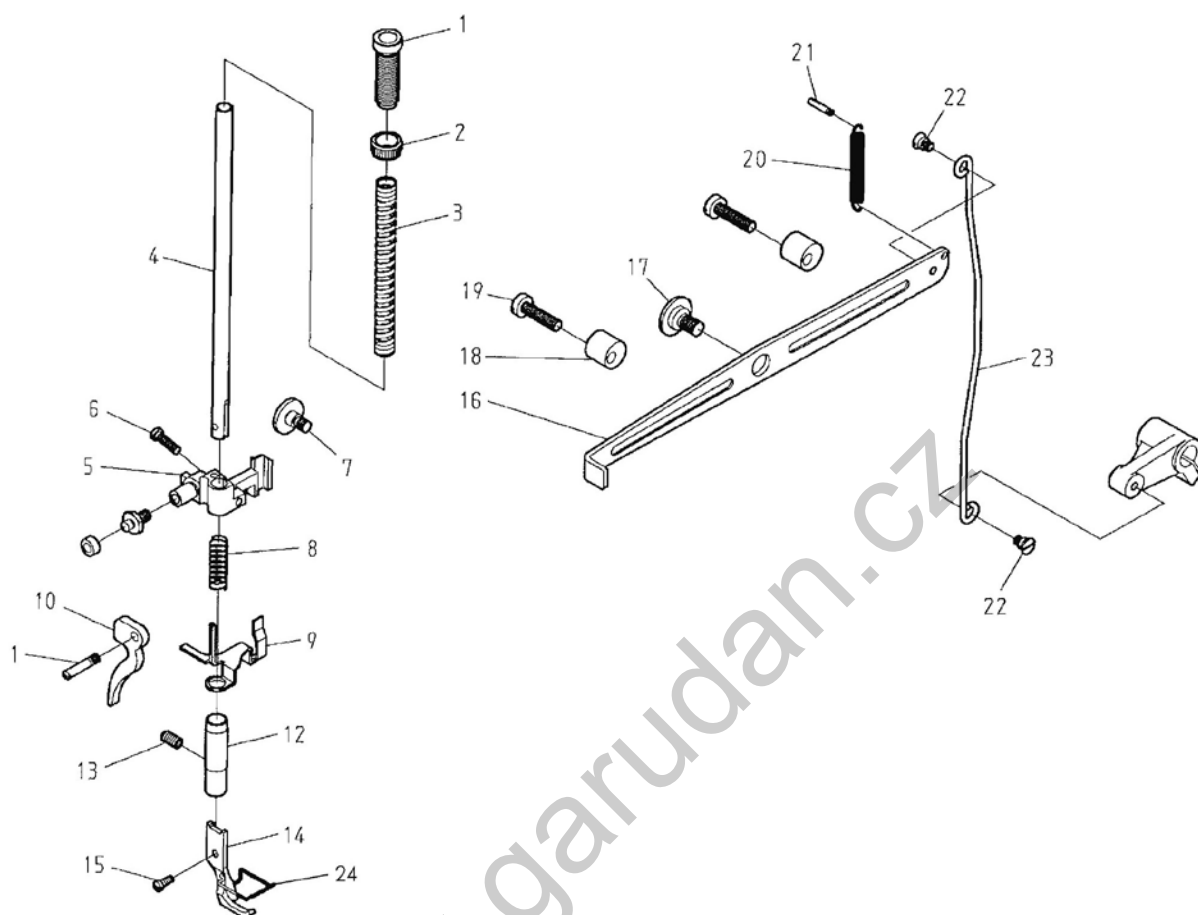
C. NEEDLE BAR & THREAD TAKE-UP LEVER COMPONENTS				
REF.NO	Note	Patr No.	Name of Part	QTY
1		Q1070-0A	Needle Bar	1
2		F2076-0A	Needle Bar Thread Guide	1
3		ZSB06002	Screw 3/32-56x2,5	1
4		ZSB08002	Screw 1/8-44x4,5	1
5		INDP x 17-21	Needle DP x 17-21	1
6		8703106100	Thread Take-up Lever Pin	1
7		ZSA15012	Screw 15/64-28x17	1
8		8713190101	Thread Take-up Lever	1
9		XA300065	Oil Wick	1
10		XA200250	Oil Wick	1
11		8713190800Q	Thread Take-up Slide Brock	1
12		7162110700	Needle Bar Crank Shaft	1
13		XA300030	Oil Wick	1
14		8703108000	Needle bar Crank Rod	1
15		XA300020	Oil Wick	1
16		B1074-0A	Needle Bar Connection	1
17		ZSB11003	Screw 11/64-40x9	1

D. NEEDLE BAR ROCKING MOTION MECHANISM COMPONENTS

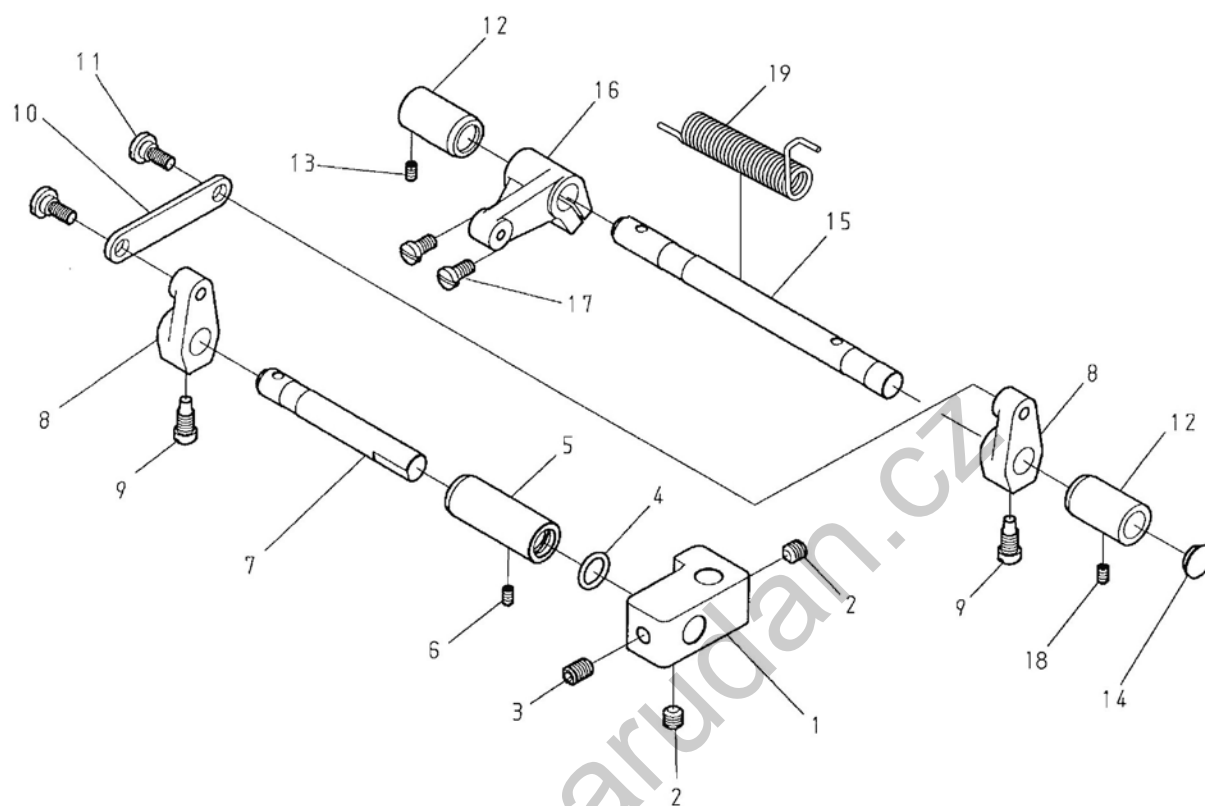
D. NEEDLE BAR ROCKING MOTION MECHANISM COMPONENTS				
REF.No	Note	Part No.	Nane of Part	QTY
1		8610270100	Needle Bar Guide Bracket	1
2		XA300125	Oil Wick	1
3		XA300040	Oil Wick	1
4		B1091-0A	Needle Bar Guide Bracket Stud	1
5		XA300020	Oil Wick	1
6		ZSA15023	Screw 15/64-28x10	1
7		B1285-0A	Vibrating Presser Bar Guide	1
8		ZSB09002	Screw 9/64-40x10	2
9		8713270500	Needle Bar Guide	1
10		ZSD11001	Screw 11/64-40x10	2
11		XB316001	Felt	1
12		8110270401	Needle Bar Guide	1
13		ZMJ04002	Screw M4x0,7x12	1
14		WA049005	Washer	1
15		B1333-0A	Crank Pin	1
16		B1334-0A	Square Block	1
17		8610271100	Connecting Rod	1
18		8110270814	Needle Bar Vibrating Shaft Ams.	1
19		8110270801	Needle Bar Vibrating Shaft	(1)
20		F1332-0A	Needle Bar Vibrating Crank (Left)	(1)
21		YB030020	Taper Pin Ø 3x20x1/50	(1)
22		8110272801	Needle bar Vibrating Shaft Bushning	2
23		XA300040	Oil Wick	2
24		8710271000	Needle Bar Vibrating Crank (Rigit)	1
25		ZSB15009	Screw 15/64-28x13	1
26		Q4436-1A	Hinge Screw	1
27		RE000060	Retaining Rings-E Type	1

E. UPPER FEED MECHANISM COMPONENTS

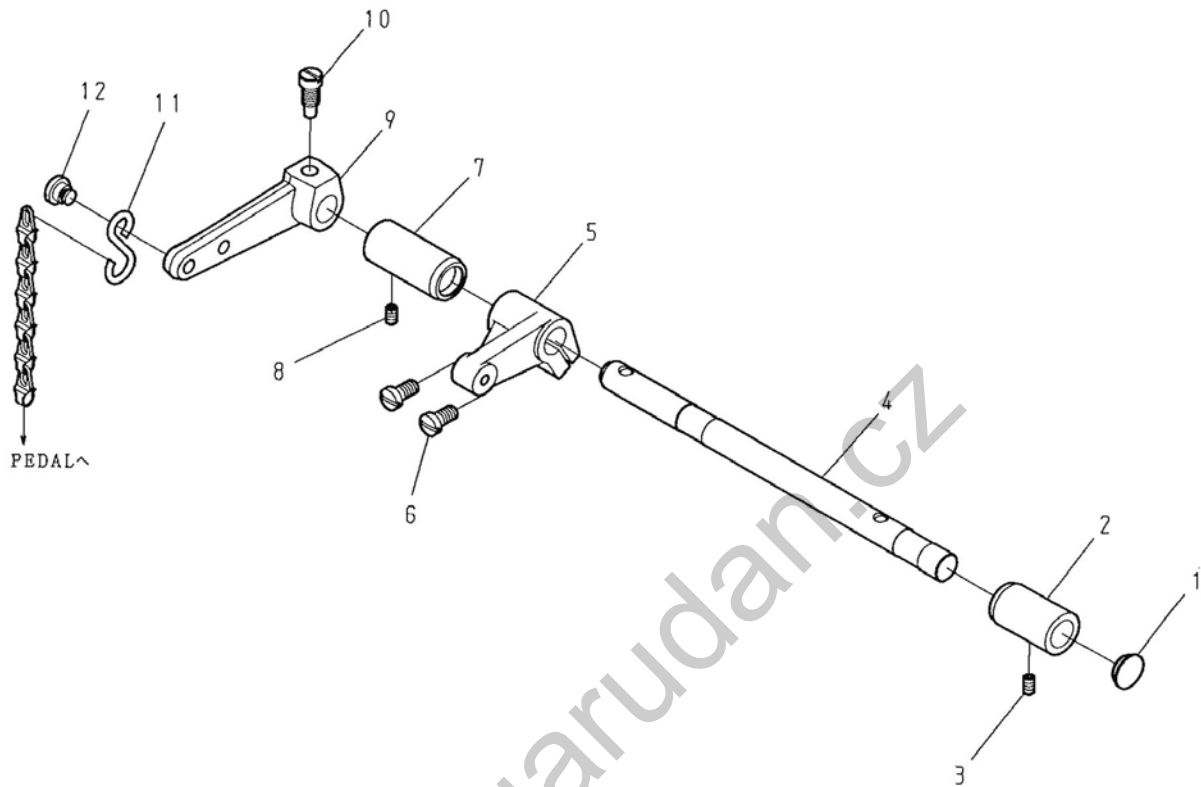
E. UPPER FEED MECHANISM COMPONENTS				
REF.No	Note	Part No.	Name of Part	QTY
1		8233144702	Feed Rotating Shaft Crank	1
2		ZSD16007	Screw 1/4-28x16,5	1
3		ZMG06019	Screw	1
4		OAGM111503	Oil Seal	2
5		WH206009	Washer	1
6		ZML06001	Nut (M6x1,0)	1
7		8703145000	Feed Rotating Shaft Bushing	2
8		8233144801	Feed Rocker Shaft	1
9		8233145101	Lifting Bell Crank Link	1
10		ZSk16002	Hinge Screw	1
11		ZSL16001	Nut 1/4-32	1
12		8233143601	Lifting bell Crank	1
13		8233152000	Pin	1
14		8233151900	Roller	1
15		B1283-0A	Vibrating Presser Bar Link	1
16		B1284-0A	Slide Brock	1
17		8703141700	Vibrating Presser Bar	1
18		8710151000	Walking Foot	1
19		ZSB11009	Screw 11/64-40x5	1
20		8230144203	Spring	1
21		B1280-0A	Vibrating Presser Spring Guide	1
22		ZSB20017	Screw 5/16-28x10	1
23		ZSA11012	Screw 11/64-40x6,5	2

F. PRESSURE BAR & KNEE LIFTER COMPONENTS (1/3)

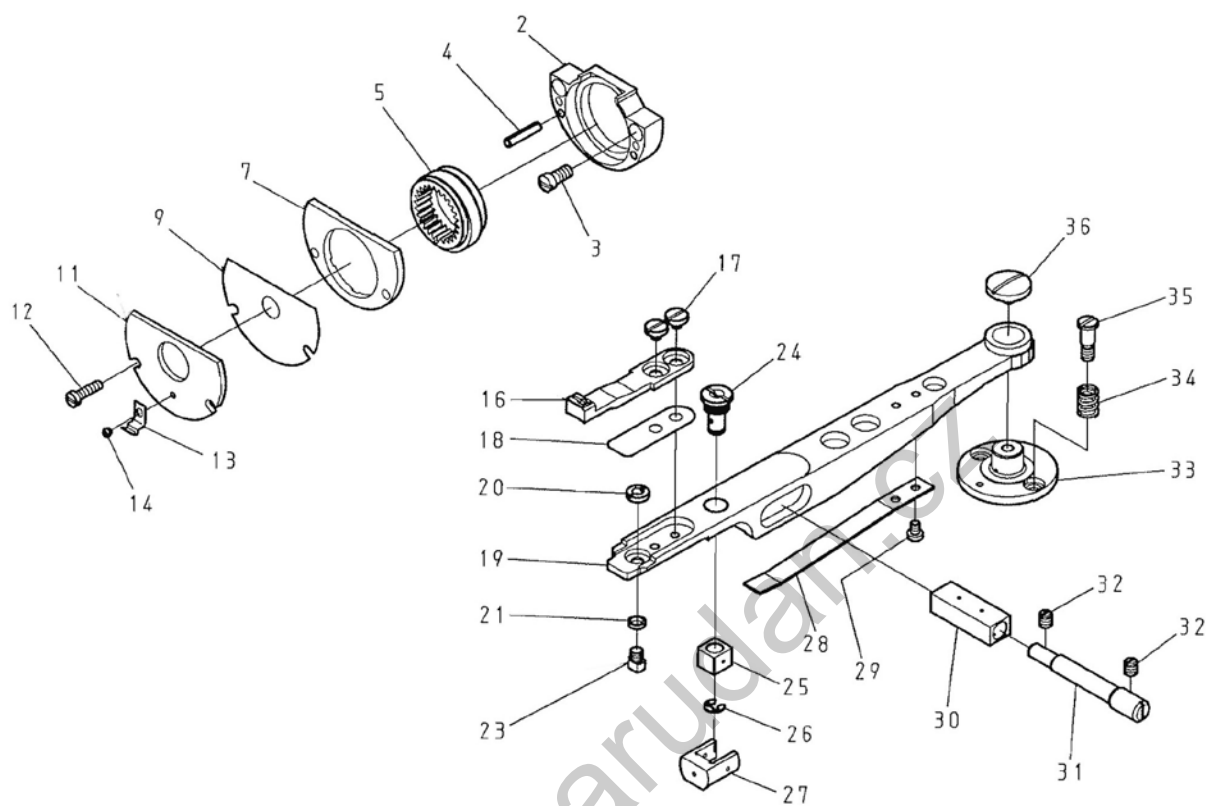
F. PRESSURE BAR & KNEE LIFTER COMPONENTS (1/3)				
REF.No	Note	Part No.	Name of Part	QTY
1		ZSF32001	Screw	1
2		ZSN32001	Nut	1
3		8230150401	Presser Spring	1
4		8703150100	Presser Bar	1
5		8233150500	Presser Bar Lifter	1
6		ZSB11086	Screw 11/64-40x18	1
7		ZSG16006	Hinge Screw	1
8		B1274-0A	Spring	1
9		8233344000	Tension Release Slide	1
10		EJ1200-0A	Presser Foot Lifter	1
11		ZSK12026	Hinge Screw	1
12		8233150200	Bushing	1
13		ZSA15020	Screw 15/64-28x11	1
14		8710153000	Presser Foot Asm.	1
15		ZSB09003	Screw 9/64-40x9	1
16		8233343000	Foot Lifter Lifting Lever	1
17		ZSG20004	Hinge Screw	1
18		8370341100	Stopper	2
19		ZSB16011	Screw 1/4-24x25	2
20		8230340200	Spring	1
21		EJ4434-2A	Spring Suspension	1
22		ZSK12003	Hinge Screw	2
23		8703340400	Knee Operating Connection Bar	1
24		8710152500	Spring	1

F. PRESSURE BAR & KNEE LIFTER COMPONENTS (2/3)

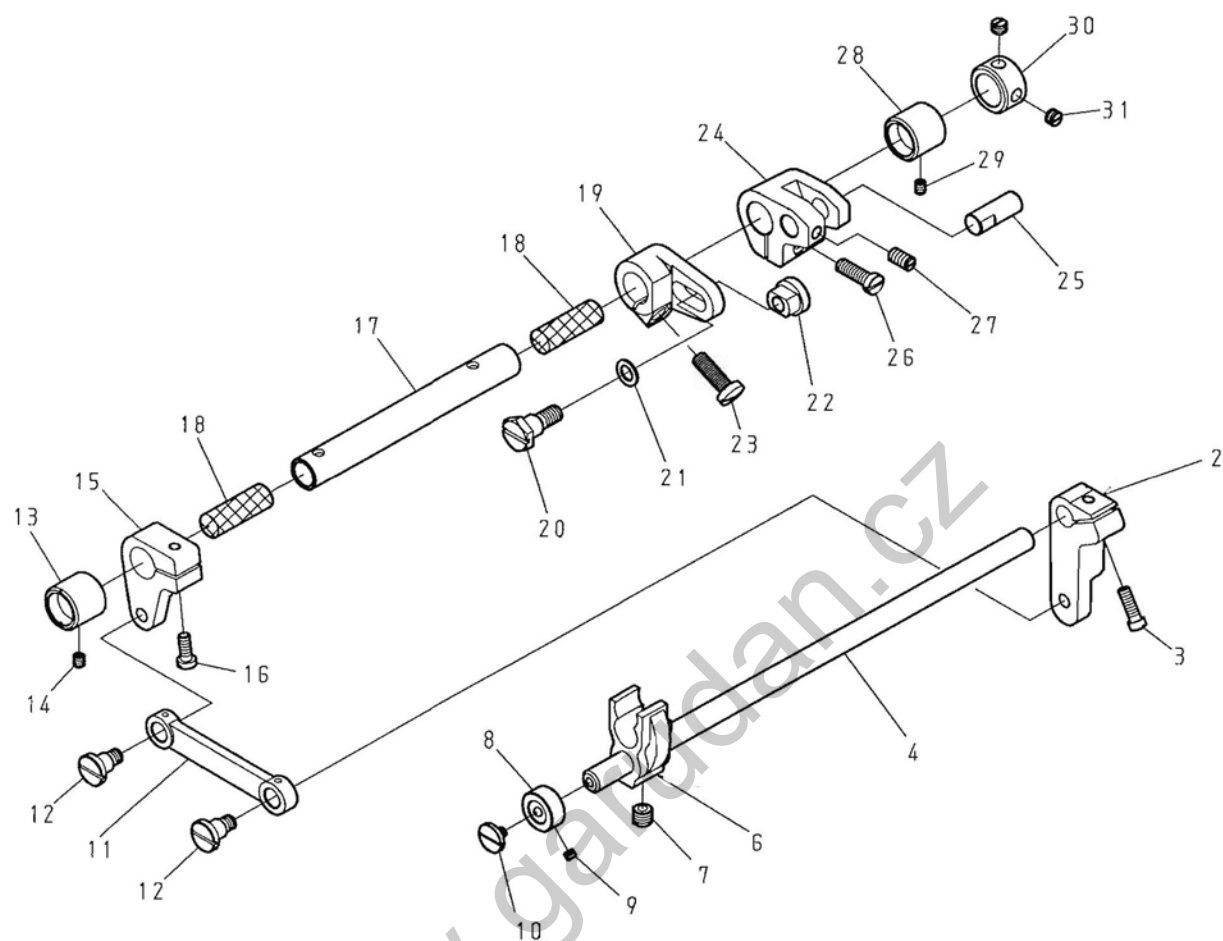
F. PRESSURE BAR & KNEE FILTER COMPONENTS (2/3)				
REF.No	Note	Part No.	Name of Part	QTY
1		6220342000	Knee Lifter Crank	1
2		ZMH08003	Screw M8x1,25x8	2
3		ZMH08002	Screw M8x1,25x12	1
4		OPP01250	O-rings Ø 12,5	1
5		6220344200	Bushing	1
6		ZSA11007	Screw 11/64-40x7	1
7		6220342200	Shaft	1
8		8703341600	Knee Lifter Crank	2
9		ZSB18001	Screw 9/32-28x9,5	2
10		8703343400	Knee Lifter Link	1
11		ZSG15040	Hinge Screw	2
12		8703343800	Bushing	2
13		ZSA11007	Screw 11/64-40x7	1
14		6220118100	Rubber Plug	2
15		8703341701	Knee lifter shaft	1
16		8703342900	Knee Lifter Crank (Rear)	1
17		ZSB15028	Screw 15/64-28x11,5	2
18		ZSA11004	Screw 11/64-28x3,5	1
19		8703343900	Spring	1

F. PRESURE BAR & KNEE LIFTER COMPONENTS (3/3)

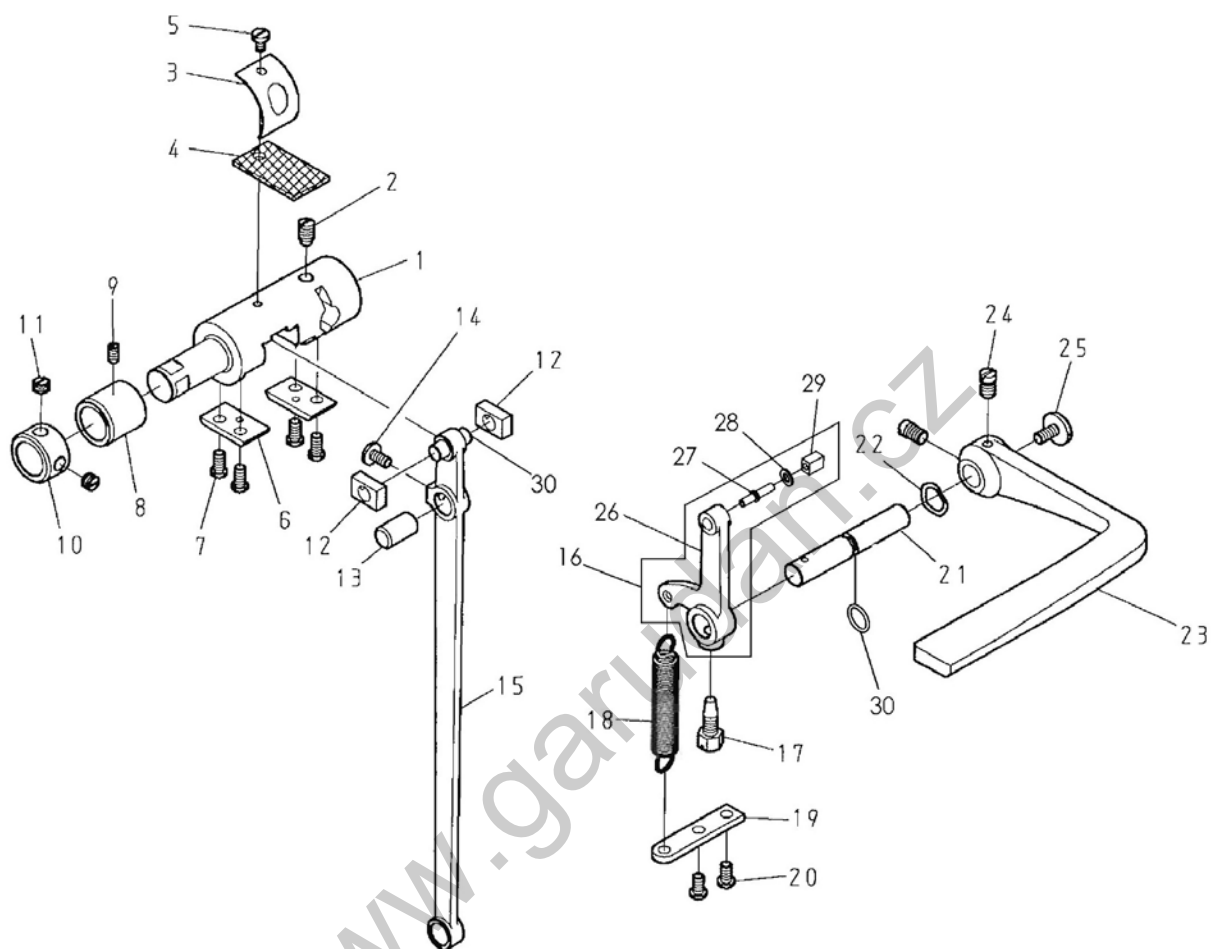
F. PRESSURE BAR & KNEE LIFTER COMPONENTS (3/3)				
REF.No	Note	Part No.	Name of Part	QTY
1	*01	6220118100	Rubber Plug	1
2	*01	8703343800	Bushing	1
3	*01	ZSA11007	Screw 11/64-40x7	1
4	*01	8703341701	Knee lifter shaft	1
5	*01	8703342900	Knee Lifter Crank (Rear)	1
6	*01	ZSB15028	Screw 15/64-28x11,5	2
7	*01	8703344200	Bushing	1
8	*01	ZSA11007	Screw 11/64-40x7	1
9	*01	8703344400	Knee Lifter Crank	1
10	*01	ZSB18001	Screw 9/32-28x9,5	1
11	*01	4710340800	S-Plug	1
12	*01	ZSG16025	Hinge Screw	1
*01 Pedal Lifter Specification Parts				

G. LOWER FEED MECHANISM COMPONENTS (1/2)

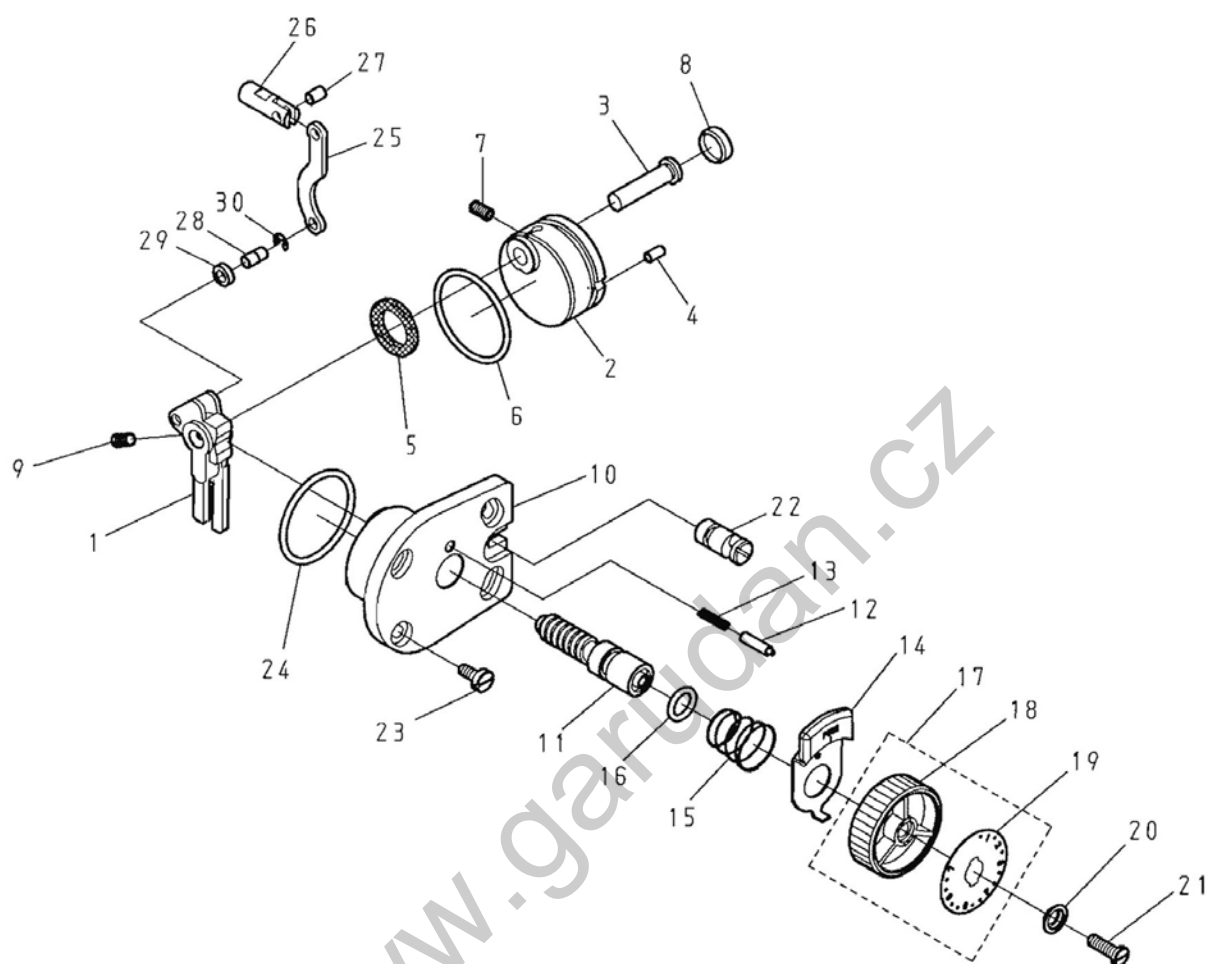
G. LOWER FEED MECHANISM COMPONENTS (1/2)				
REF.No	Note	Part No.	Name of Part	QTY
2		87101713K0	Feed Cam Holder B	1
3		ZSB11051	Screw 11/64-40x11,5	2
4		YD030015	Spring Pin 3,0x15	2
5		6220170900	Feed Cam	1
7		87101712K0	Feed Cam Holder A	1
9		6220171400	Feed Cam Holder Washer	1
11		6220171500	Feed Cam Holder Plate	1
12		ZSB08016	Screw 1/8-44x12	2
13		622183700	Hook Cover Spring	1
14		ZSB06004	Screw 3/32-56x2,2	1
16		8710161402	Feed dog	1
17		ZSB08041	Screw 1/8-44x4	2
18		6220166100	Spacer	1
19		62201601K0	Feed Bar	1
20		87101716K0	Nut 11/64-40	1
21		87101717K0	Washer	1
23		87101711K0	Pin	1
24		6220163300	Feed bar Slide Screw Stud	1
25		622016900	Feed bar Slide Block	1
26		RE000030	E-Shaped Snap Rings (3mm)	1
27		6220169700	Feed Bar Slide Block A	1
28		6220169800	Spring	1
29		ZSB08010	Screw 1/8-44x4,6	2
30		6220169500	Block	1
31		6220164400	Eccentric Shaft	1
32		ZSA11012	Screw 11/64-40x4,6	2
33		6220169400	Feed bar Stud	1
34		L6063-2A	Spring	2
35		ZSG11028	Hinge Screw	2
36		ZSB11047	Screw 11/64-40x5	1

G. LOWER FEED MECHANISM COMPONENTS (2/2)

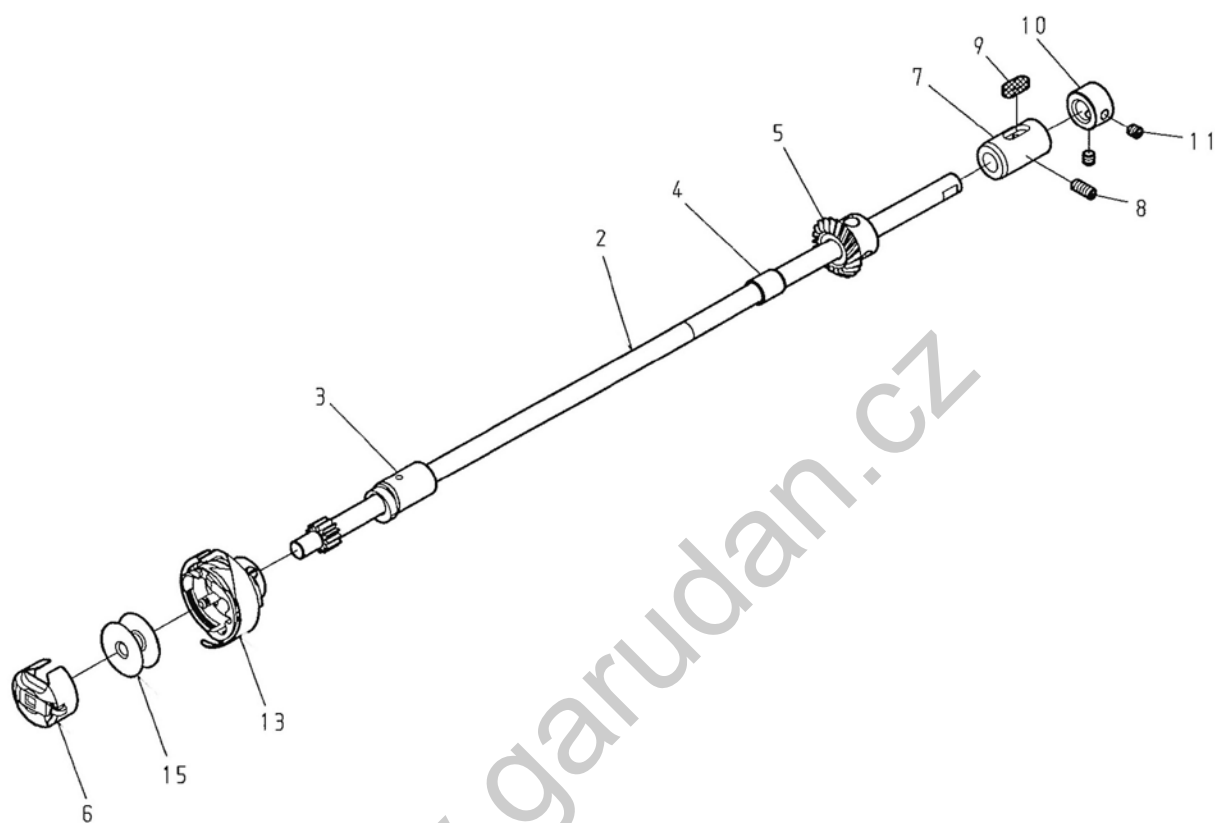
G. LOWER FEED MECHANISM COMPONENTS (2/2)				
REF.No	Note	Part No.	Name of Part	QTY
2		622189200	Feed Lifting Rock Link	1
3		ZSJ12009	Screw 3/16-28x15	1
4		8703160400	Feed Rocker Shaft	1
6		6220160500	Feed Bar Rod	1
7		ZSA20008	Screw 5/16-24x7	1
8		8360188200	Thrust Collar	1
9		ZSA11004	Screw 11/64-40x3,5	2
10		ZSB11069	Screw 11/64-40x6	1
11		6220165100	Rod	1
12		ZSG16016	Hinge Screww	2
13		6220167900	Bushibg	1
14		ZSA11005	Screw 11/64-40x5,5	1
15		6220169300	Feed Lifting Rock Link	1
16		ZSJ12006	Screw 3/16-28x12	1
17		8710167800	Feed Rocker Shaft	1
18		XB111004	Felt	2
19		8710160800	Feed Connection Crank	1
20		ZSG18006	Hinge Screw	1
21		WA079008	Washer	1
22		ZSR18002	Nut	1
23		ZSB16005	Screw 1/4-24x20	1
24		6120160800	Feed Rocker Shaft Crank	1
25		8610167600	Horizontal Feed Rod Shaft	1
26		ZSB15032	Screw 15/64-28x14	1
27		ZSA15020	Screw 15/64-28x11	1
28		6220167900	Bushing	1
29		ZSA11005	Screw 11/64-40x5,5	1
30		E4044-0A	Thrust Collar	1
31		ZSA16010	Screw 1/4-40x4,5	2

H. FEED ADJUSTMENT MECHANISM COMPONENTS (1/2)

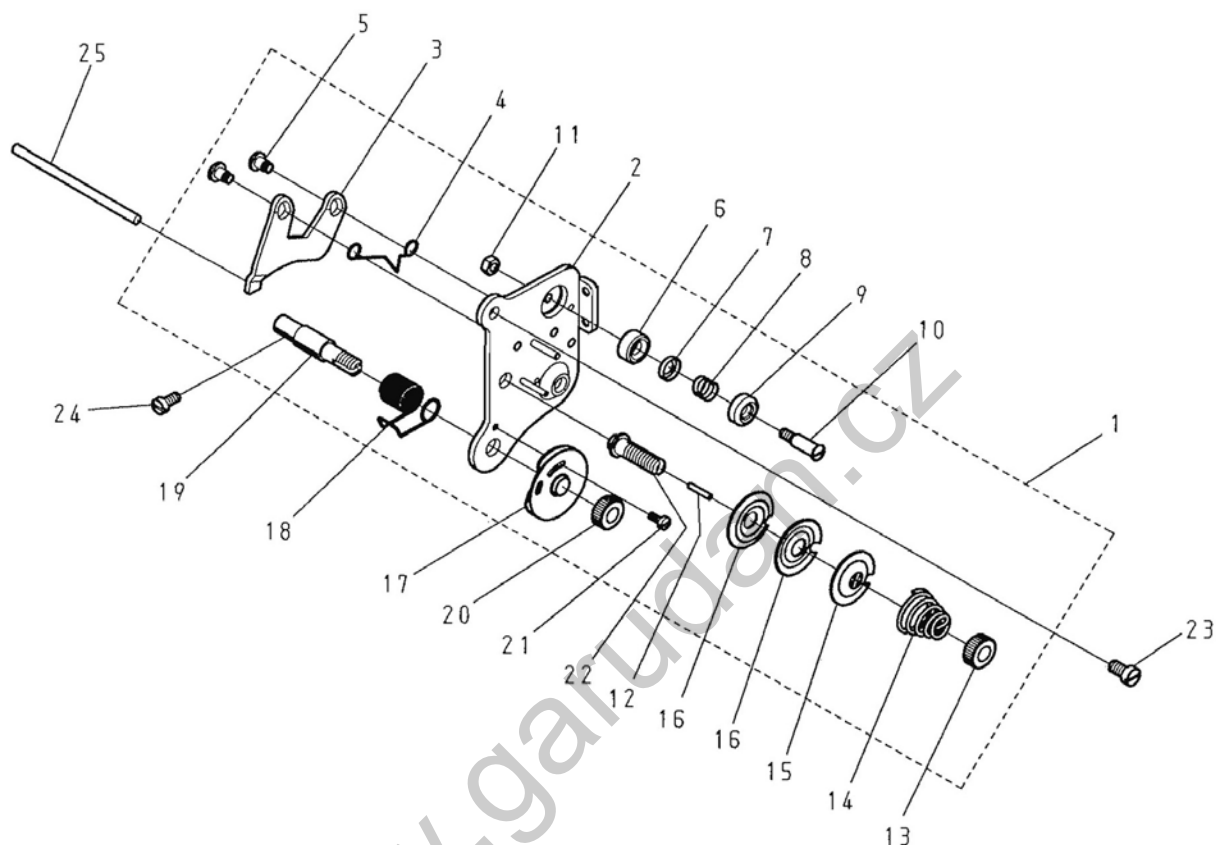
H. FEED ADJUSTMENT MECHANISM COMPONENTS (1/2)				
REF.No	Note	Part No.	Name of Part	QTY
1		6120167000	Reverse Block	1
2		ZSA15037	Screw 15/64-28x10,5	1
3		5371353500	Plate	1
4		XB320003	Felt	1
5		ZSB09011	Screw 9/64-40x6,5	1
6		EJ4153-0A	Guide Plate	2
7		ZSB11018	Screw 11/64-40x9	4
8		6120160600	Bushing	1
9		ZSA11007	Screw 11/64-40x7	1
10		6120167200	Thrust Collar	1
11		ZSA16010	Screw 1/4-40x4,5	2
12		EJ4152-0A	Square Block	2
13		6120167500	Pin	1
14		ZSB11007	Screw 11/64-40x7	1
15		6120160900	Horizontal Feed Rod Com.	1
16		A1162-0A	Reverse Feed Crank Asm.	1
17		ZSD15003	Screw 15/64-28x16,5	1
18		A1166-0A	Spring	1
19		873166000	Spring Suspension	1
20		ZSB11034	Screw 11/64-40x8	2
21		6120161800	Lever Shaft	1
22		WG000010	Washer	1
23		A1160-0A	Lever	1
24		ZSB15019	Screw 15/64-28x9	2
25		ZSB12011	Screw 3/16-28x10	1
26		A1163-0A	Reverse Feed Crank Asm.	1
27		A1165-0A	Shaft	1
28		WA040009	Washer	1
29		A1164-0A	Block	1
30		6120167100	Shaft	1
31		OPP00680	Ring	1

H. FEED ADJUSTMENT MECHANISM COMPONENTS (2/2)

H. FEED ADJUSTMENT MECHANISM COMPONENTS (2/2)				
REF.No	Note	Part No.	Name of Part	QTY
1		8610161100	Feed Regulator	1
2		8610162200	Bushing	1
3		6120161500	Feed Regulator Shaft	1
4		YA050100	Stopper Pin	1
5		XB120001	Felt	1
6		OPP04440	O-rings Ø 44,4	1
7		ZSA15020	Screw 15/64-28x11	1
8		8610118200	Rubber Plug	1
9		ZSB15006	Screw 15/64-28x8,5	1
10		6120162200	Stitch Dial Base	1
11		6120164300	Feed Regulating Screw	1
12		E1171-2A	Pin	1
13		E1158-0A	Spring	1
14		E1173-2A	Stopper Pin Releasing Lever	1
15		E1174-2A	Spring	1
16		OP00100A	O-rings Ø 10	1
17		8710164005	Dial Asm.	1
18		E1172-2B	Dial Asm.	(1)
19		8710164100	Dial Plate	(1)
20		C1174-0A	Washer	1
21		ZSB12017	Screw 3/16-28x15	1
22		6120164400	Eccentric Pin	1
23		ZSB11026	Screw 11/64-40x10	4
24		OPP03550	O-rings Ø 35,5	1
25		8703168200	Feed Connecting Link	1
26		6120168300	Set Pin	1
27		6120168400	Pin	1
28		6120168500	Pin	1
29		WA060013	Washer	1
30		RE000040	E-Shaped Snap Rings (4mm)	1

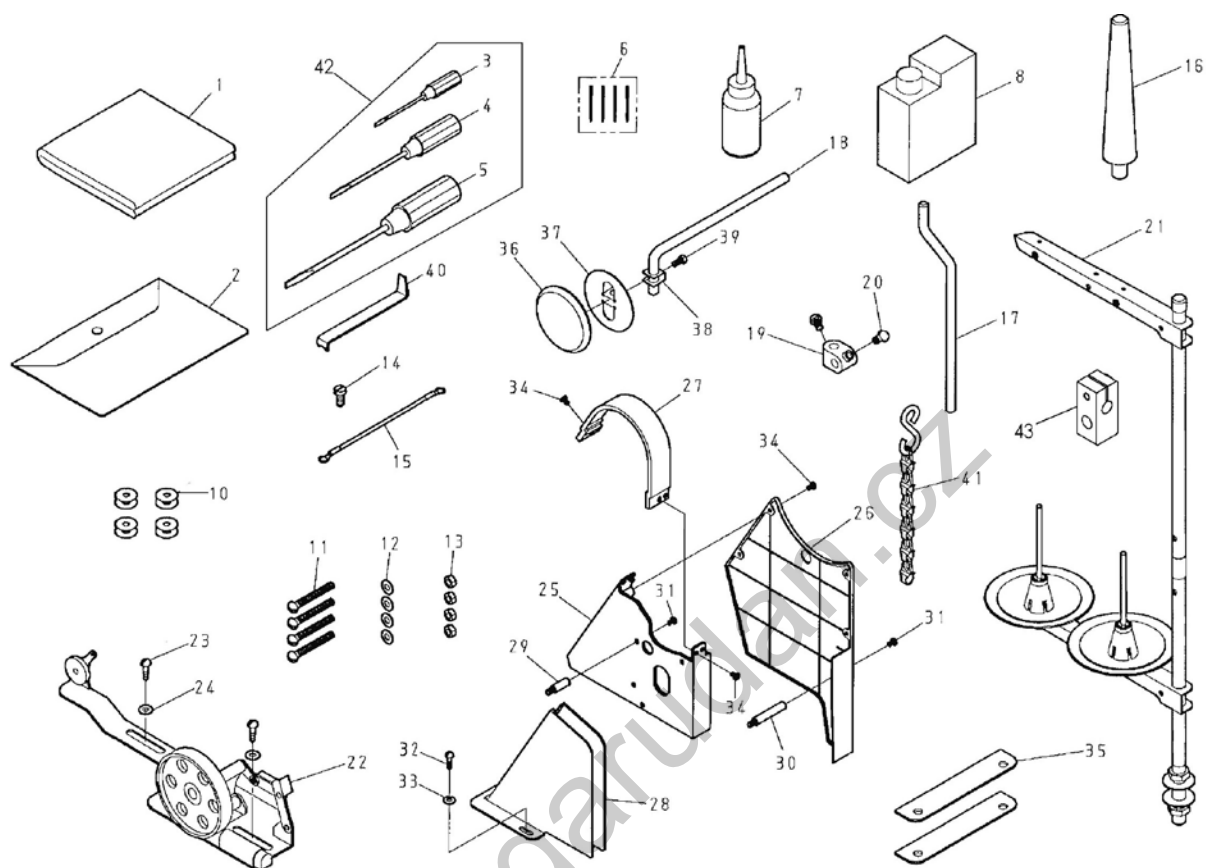
I. HOOK DRIVE SHAFT COMPONENTS

I. HOOK DRIVE SHAFT COMPONENTS				
REF.No	Note	Part No.	Name of Part	QTY
2		8712180100	Hook Driving Shaft	1
3		8710180300	Bushing, Front	1
4		6220180400	Bushing, Center	1
5		A4021-0A	Screw Gear, Back	1
6		Q6105-1A	Bobbin Case	1
7		8703180500	Bushing, Rear	1
8		ZSA11016	Screw 11/64-40x11	1
9		XB205002	Felt	1
10		E4014-0A	Thrust Collar	1
11		ZSA11011	Screw 11/64-40x4,5	2
13		Q6100-1A	Hook	1
15		E7006-1A	Bobbin	1

J. UPPER THREAD TENSION REGULATOR MECHANISM COMPONENTS




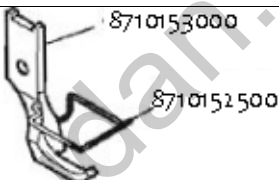
J. UPPER THEAD TENSION REGULATOR MECHANISM COMPONENTS				
REF.No	Note	Part No.	Name of Part	QTY
1		EJ1020-0A	Thread Tension Regulator Asm.	1
2		A1038-0A	Mounting Plate Asm.	(1)
3		EJ1037-0A	tension Releasing Plate	(1)
4		A1036-0A	Tension Releasing Spring	(1)
5		ZSG09004	Hinge Screw	(2)
6		A1030-0A	Thread Guide Disk	(1)
7		A1031-0A	Thread Guide Disk	(1)
8		A1032-0A	Spring	(1)
9		A1033-0A	Thread Guide Bracket	(1)
10		ZSG09005	Hinge Screw	(1)
11		ZSL09001	Nut 9/64-40	(1)
12		EJ1028-0A	Tension Releasing Pin (small)	(1)
13		ZSN16002	Tension Thumb Nut 1/4-40	(1)
14		EJ1021-0A	Tension Spring	(1)
15		A1034-0A	Tension Regulator Presser Disk	(1)
16		A1035-0A	Tension Regulator Disk	(2)
17		A1024-1A	Tension Controller Disk Set	(1)
18		EJ1027-0A	Thread Take-up Spring	(1)
19		EJ1026-0A	Tension Stud	(1)
20		ZSN16002	Tension Thumb Nut 1/4-40	(1)
21		ZSB06001	Screw 3/32-56x6	(1)
22		A1026-1A	Shread Tension Stud	(1)
23		ZSB11012	Screw 11/64-40x8	1
24		ZSB09007	Screw 9/64-40x7,5	1
25		8233312200	Tension Releasing Pin (small)	1

K. ACCESSORIES



K. ACCESSORIES				
REF.No	Note	Part No.	Name of Part	QTY
1		C7001-0A	Cover	1
2		A7000-0A	Accessory Box	1
3		A7010-0A	Screw driver (small)	1
4		A7010-1A	Screw Driver (middle)	1
5		A7010-2A	Screw Driver (Large)	1
6		INDP x 17-21	Needle DP x 17-21	4
7		A7012-1A	Oiler	1
8		A7012-2A	Oil Can	1
10		E7006-1A	Bobbin	4
11		ZMQ08001	Screw M8x1,25c65	4
12		WA089001	Washer	4
13		ZML08001	Nut M8x1,25	4
14		ZSB11011	Screw 11/64-40x9	1
15		6120914005	Ground Wire Asm.	1
16		6220119000	Head Rest Wood	1
17	*01	6220344700	Knee Lever Rod	1
18	*01	6220341900	Knee Lever Rod	1
19	*01	A7034-0A	Knee Lifter Crank	1
20	*01	ZSD20007	Screw 5/16-18x16	2
21		J7050-0A-A	Thread Stand	1
22		A7040-0C	Bobbin Winder	1
23		ZMT05001	Wood Screw	2
24		WA059003	Washer	2
25		8230335101	Belt Cover A	1
26		8230335201	Belt Cover B	1
27		8230335502	Belt Cover C	1
28		8230335801	Belt Cover D	1
29		6220335300	Belt Cover Stud (A)	3
30		8110335700	Belt Cover Stud (B)	1
31		ZSB11041	Screw 11/64-40x7	4
32		ZMT05003	Wood Screw	2
33		WA059003	Washer	2
34		ZMB04009	Screw M4x0,7x6	8
35		6220913500	Vibration Preventing Rubber	2
36	*01	A7037-0A	Knee Guird	1
37	*01	A7037-1A	Knee Plate	1
38	*01	A7036-0A	Retainer	1
39	*01	ZSD15007	Screw 15/64-28x14	1
40		87109133K0	Screw Driver	1
41	*02	B7060-0A	Chain Assy	1
42		A7010-0Z	Screw driver Asm.	1
43		5100342000	Knee Lifter Crank	1
*01 Knee Lifter Specification Parts				
*02 Pedal Lifter Specification Parts				

L. GAUGE PARTS LIST

THROAT PLATE		
	8710111301	
FEED DOG		
	8710161402	
WALKING FOOT		
	8710151000	
PRESSUER FOOT		
	8710153004	

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