

User Manual



GF-140 Series **GF-240 Series**

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A BASIC INFORMATION

A1. PRODUCT DESCRIPTION AND INTENDED USE

This is a guide to use of single-needle GF-140 series and twin-needle GF-240 series sewing machines with large working space of 500x145 mm for heavy-duty materials with bottom, needle, and alternating foot feeding system. The machines are suitable for the following applications: Tent, Sailcloth, Rubberized, Fabrics, Heavy Synthetic, Heavy Upholstery Materials, Fiber Plate, Leather, etc.

A2. TECHNICAL SPECIFICATIONS

Model	GF-145-443 H/L50 GF-145-4411 H/L50 GF-146-4411 H/L50	GF-245-443 H/L50 GF-245-4411 H/L50 GF-246-4411 H/L50
Number of needles	1	2
Needle gauge	-	6,4 mm; 9,5 mm; 16 mm; 19 mm
Use	Heavy materials	
Stitch type	2-thread lock-stitch	
Max. stitch length	GF-145 / GF-245: 10 mm GF-146 / GF-246: 16 mm	
Hand lever foot lift	20 mm	
Needle system	794H	
Needle size	Nm. 230	
Hook type	Vertical axis, bobbin Ø37mm	
Lubrication	Local (ref. to section Machine Maintenance)	
Lubrication oil	10# M22	
Motor	External servomotor	
Machine head weight	109 kg	
Table weight	34 kg	
Working space	500 x 145 mm	
Machine bed dimensions	846 x 230 mm	
Power	400 W	
Ground plan dimensions (including frame)	1500 x 600 mm	
Bedplate height	800 – 880 mm	
Machine height including thread stand	1550 mm	
Noise level by 50% machine utilization and under standard conditions	80 dB / A	
Max. sewing speed	1 200 st./min *	1 200 st./min *

* Do not exceed specified sewing speed due to the service life of the machine mechanism. This cannot be guaranteed under any conditions. It is necessary to reduce speed depending on the thread, needle and material, stitch length and the foot track.

B SAFETY INSTRUCTIONS

Read the instructions carefully before installation and use. Keep this manual for future reference.

B1. GENERAL INSTRUCTIONS

1. Do not operate the sewing machine until proper preparation has been made by a technician or qualified person and safety precautions have been taken.
2. Always follow the safety instructions when handling the machine.
3. This sewing machine may only be operated by properly trained personnel.
4. Maintenance, repair, inspection, and adjustment of the machine may only be carried out by a qualified person.
5. Work on electrical equipment may only be performed by a qualified worker or person with the appropriate authorization. Work on electric parts and equipment on your own is not permitted.
6. The machine may only be used for its intended purpose.
7. The warranty does not cover any problems in the operation of the machine that are caused by unauthorized modifications to the machine, as well as problems caused by non-observance of the instructions given in this manual and generally known habits for the operation and maintenance of industrial sewing machines.

B2. INSTALLATION PRECAUTIONS

1. Immediately report visible damage to the carrier. Check the contents of the order shipment and report any defects immediately to the manufacturer. Later claims will not be accepted.
2. Use the machine after checking that it meets all the safety standards of your country.
3. The machine head is covered with a corrosion-proof coating. Wipe off the lubrication and dust layer with a cloth or petrol before placing it on the work surface.
4. The machine has been thoroughly inspected and tested before shipment. However, it may have been damaged by transport or impact. Check the operation of the machine with the handwheel, to detect extraordinary noises, heavy running, etc. before starting the test sewing.
5. Never start the machine if the oil level is under or over the marked lines.
6. Check that the power and phase are in accordance with the label instructions.
7. Proper grounding of the machine is necessary.
8. Use the correct grounding plug.
9. Do not use an extension cord.
10. Make sure that the power supply and voltage match the requirements on the label of the machine.
11. Do not use the machine in explosive or corrosive environment.
12. In the first two weeks, do not exceed 3/4 of the maximum machine speed.

B3. OPERATIONAL SAFETY INSTRUCTIONS

1. Do not use the machine without a belt cover, finger guards or other protective equipment.
2. All protective equipment of the machine must be in place before operation. Do not use the machine without covers and protective equipment.
3. Repair damaged covers or replace them immediately.
4. If the safety label is damaged, order a new one from the machine supplier and place it in its original position.
5. Switch off the machine and unplug it from the electricity supply network in these situations (the motor still rotates after turning off; wait until it stops completely):
 - when threading the needle (needles), hooks, etc.
 - when changing the needle, presser foot, needle plate, hooks, hook bobbins, feeders, needle guards, finger guards, work guides, etc.
 - when the machine is not in use and left unattended
 - when opening or removing the protective covers
 - for any maintenance, repair, inspection, and adjustment of the machine
 - when cleaning the machine
6. Wear safety goggles and gloves when lubricating the machine. Do not drink oil under any circumstances, as it may cause vomiting and diarrhoea. Keep oil out of the reach of children.
7. Take special care when lifting/tilting the machine head. When tilting the machine head, make sure the machine is turned off. Always hold the machine head with both hands.
8. When handling cords and plugs, check if the machine is switched off to avoid electrical shock and injury.
9. Check the electrical cords for damage to avoid injury by touching an exposed wire.
10. Do not place any objects on the power cord.
11. Do not open or touch the inside of the junction box.
12. It is strictly forbidden to connect any connector while the machine is powered. Risk of damage to electrical components and drives.
13. Do not modify the machine in any way that could endanger safety.
14. Clean the machine regularly during operation.
15. Do not wipe the machine with thinner or acetone.
16. Use only original or approved spare parts from manufacturer.
17. Ensure adequate illumination of the work area and the surroundings of the machine.

B4. WORKING SAFETY INSTRUCTIONS

1. Make sure you know the position of the stop button / main power switch before starting to work.
2. Do not touch any moving parts or put objects into the machine while sewing.
3. Be careful not to catch or place objects near the machine's moving mechanisms, particularly fingers, sleeves, clothing, and hair.
4. Never touch the needle when the machine is turned on and sewing.
5. Never reach under the thread lever cover while the machine is on.

6. Do not place your fingers in the needle guard holder when feeding material manually.
7. Do not work on the machine under the influence of alcohol or drugs.
8. We recommend wearing safety goggles.
9. Do not remove covers or any other safety device while the machine is running.
10. Always turn off the main switch when leaving the machine.

B5. DISPOSAL INSTRUCTIONS

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

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C MACHINE SETUP

C1. CAUTION BEFORE STARTING OPERATION

1. Do not operate the machine, even if only for testing and or idling, unless it has been properly oiled at every spot and reservoir required lubrication.
2. During practice period the new machine should be oiled more frequency.
3. The machine pulley turns toward to the operator (the auxiliary hand wheel turns to clockwise). Do not operate the machine at maximum speed of 1200 s. p. m. for starting operation. To take practice operate at speed of 100 s. p. m. Operating speed is to be changed to proper condition suitable for the materials case by case.

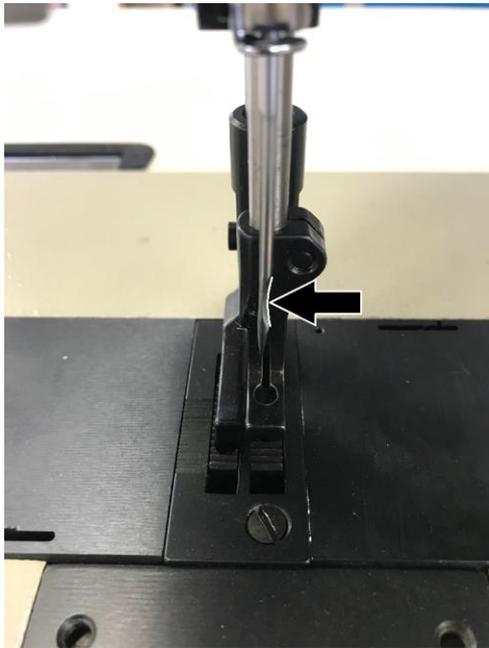
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D OPERATING INSTRUCTIONS

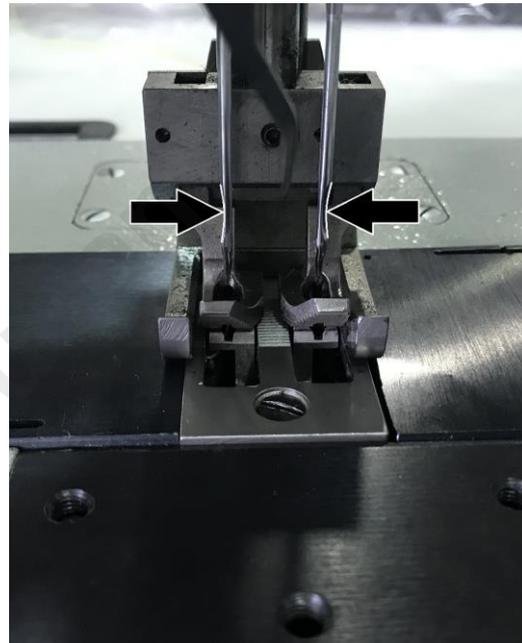
D1. NEEDLE

1. To insert the needle, turn the machine pulley over toward you until the needle bar moves up to its highest point, push the needle up into the needle bar as deeply as it will go, with the hook groove of the needle faced outside – refer to the below pictures.
2. Tighten the needle fix screw securely.

single-needle:

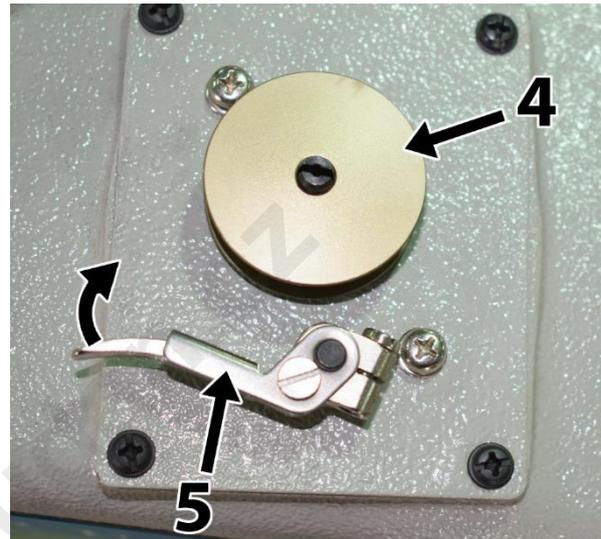
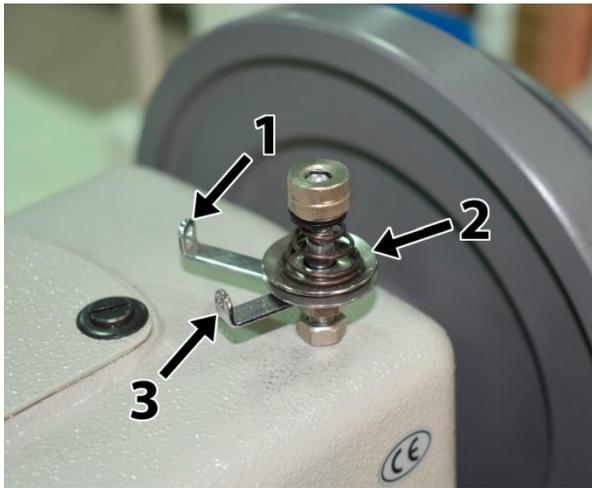


twin-needle:



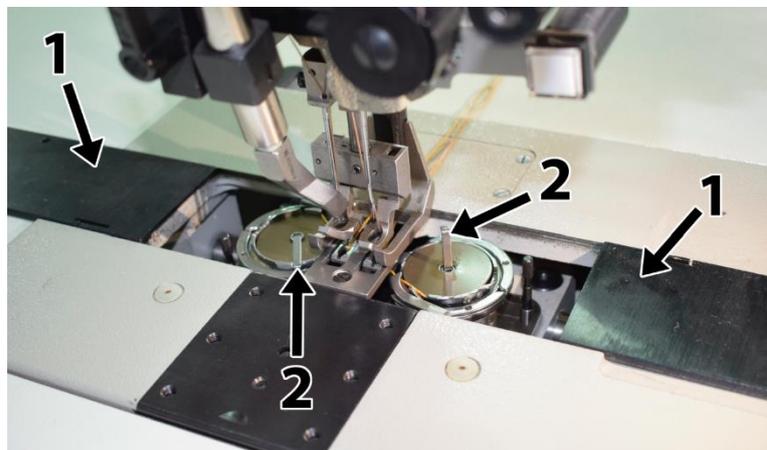
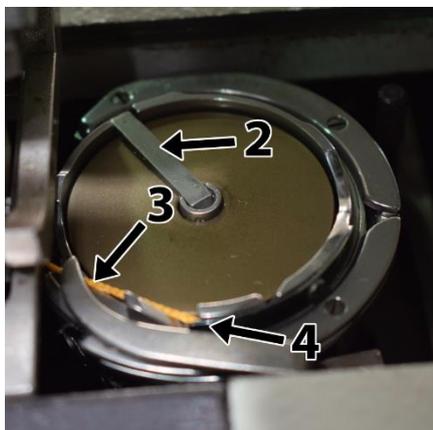
D2. WINDING THE LOWER THREAD ON THE BOBBIN

1. Pass the thread through (1) – (4), and wind several times around the bobbin, which is set up to the shaft of bobbin winder.
2. Press the lever (5) in direction of the arrow then the bobbin winds the thread automatically in engage with the operation of the machine.
3. The winding will stop automatically after the bobbin is filled with thread.



D3. REMOVING AND INSERTING THE BOBBIN

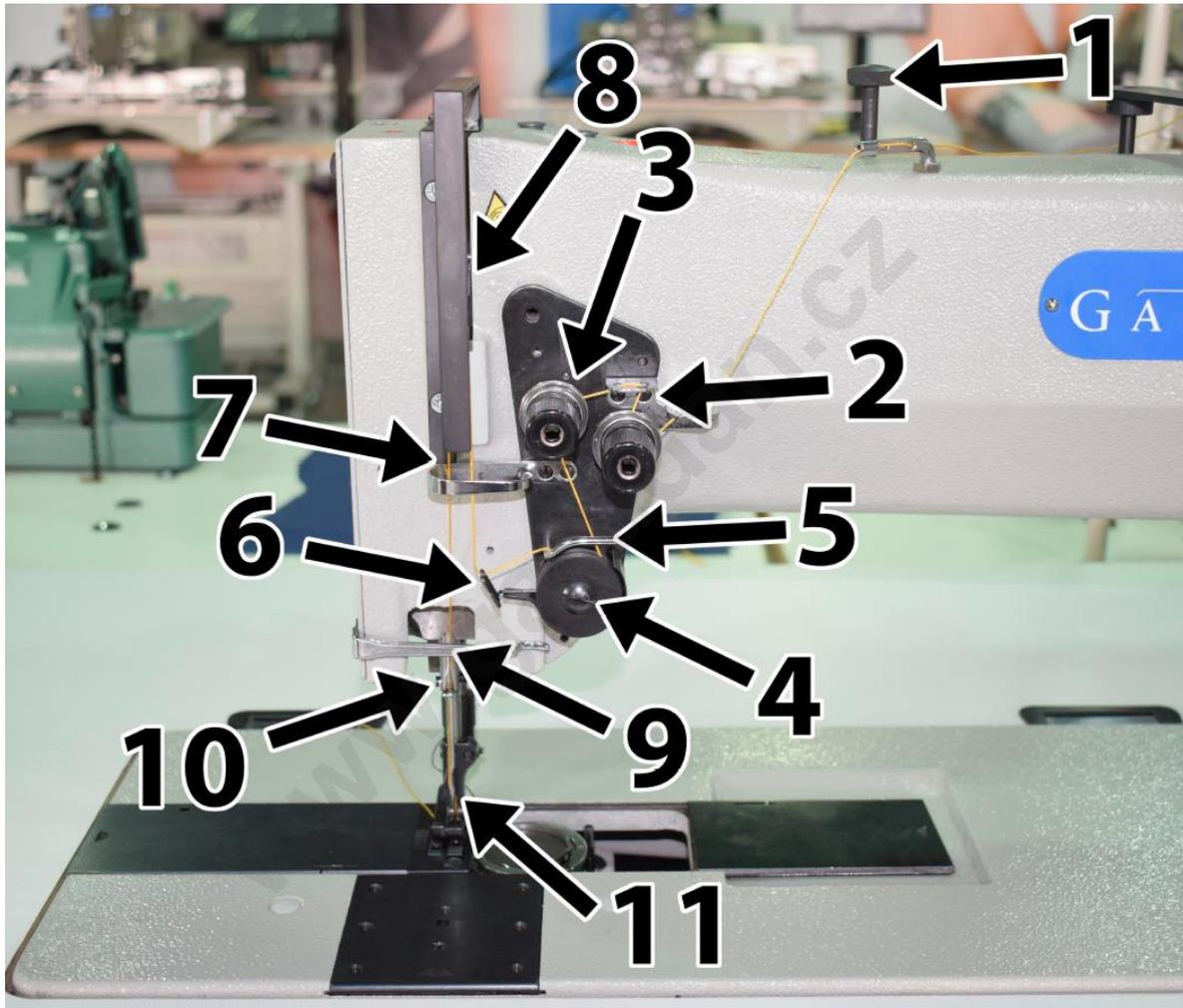
1. Draw back the side plate (1) on the bed of the machine and raise the hinged latch (2) to a vertical position, then you can remove and insert the bobbin.
2. Insert the bobbin and pull the thread out about 4-5 cm (3), then push down the hinged latch (2) and draw the thread end under the tension spring (4).
3. When closing the side plate (1), leave just enough space for the thread to pass through.



D4. THREADING THE NEEDLE

1. Pass the thread from thread guide (1) – eyelet (2) – tension disc (3) – tension thread guide (4) – guide (5) – thread take-up spring (6) – guide (7) – take-up lever (8) – guide (7) – lower guide (9) – self threading needle bar thread guide (10) – through the eye of the needle (11).

Remark: Wind the threading a single time to tension thread guide (4).



2. With the left hand hold the end of the needle thread leaving it slack from the hand to the needle. Turn the machine pulley over toward you until the needle moves down and up again to its highest point, thus catching the bobbin thread, draw up the needle thread, and the bobbin thread will come up with it through the hole in the feed dog. Lay the threads back under the presser feet and close the slide.

Threading detail for single-needle machine:

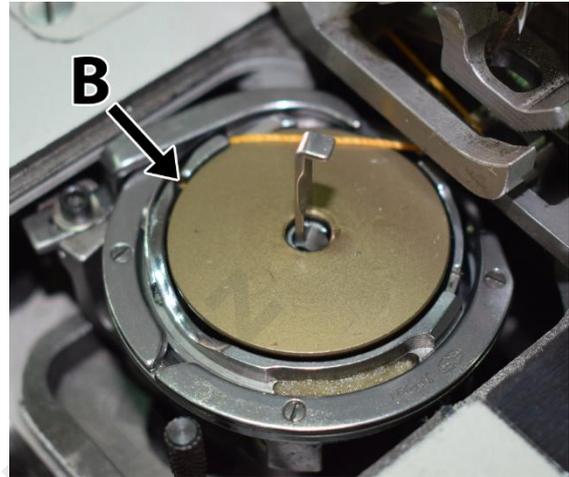
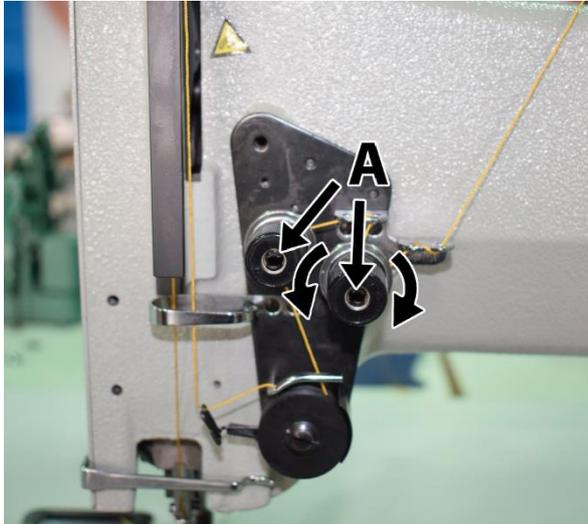


Threading detail for twin-needle machine:



D5. THREAD TENSION ADJUSTMENT

1. The tension on the needle thread is regulated by the thumb nut (A).
2. The tension on the bobbin thread is regulated by the screw of the tension spring on the outside of the bobbin case (B).

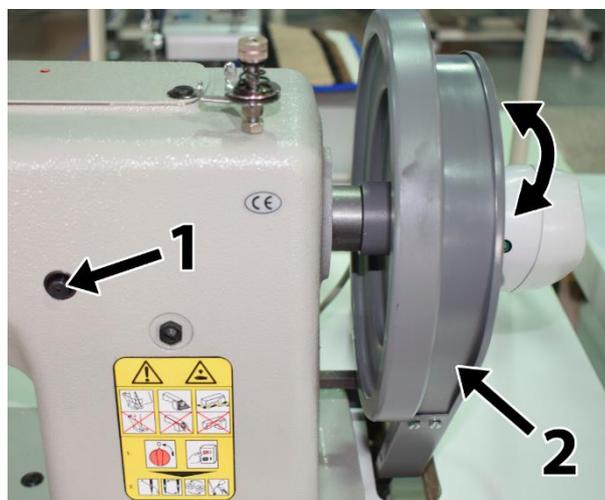


To increase the tension turn the nut or screw clockwise, and to decrease the tension turn the nut or screw counter-clockwise.

D6. ADJUSTING THE STITCH LENGTH

The length of stitch is regulated by pressing down the button (1) with left hand, while turning the machine pulley (2) slowly with right hand in the condition of setting the top of button (1) to the feeding eccentric mechanism (i.e., until it can be pushed in). To increase the length of stitch, turn the machine pulley over toward you. To decrease the length of stitch, turn the machine pulley to opposite direction.

When the desired length of stitch is obtained, operate the machine after fully confirmed releasing the button (1) to the original position.



D7. PRESSURE OF THE PRESSURE-FEET

The pressure of the presser feet is regulated by the adjusting screw. To increase the pressure, turn the screw clockwise, and decrease it, turn the screw counter-clockwise.



D8. FOOT-PEDALS

Foot-pedals have the following function:

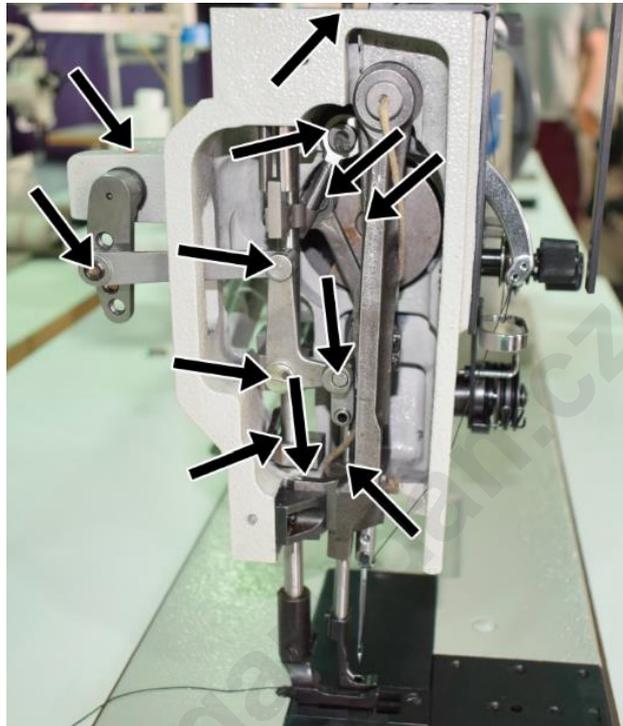
- 1 – sewing control
- 2 – presser-foot lift-up
- 3 – back-tacking



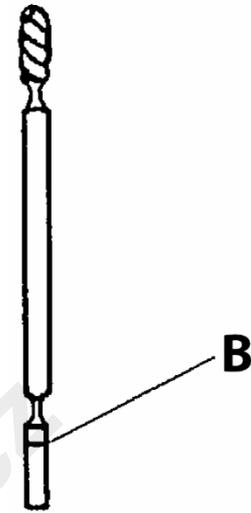
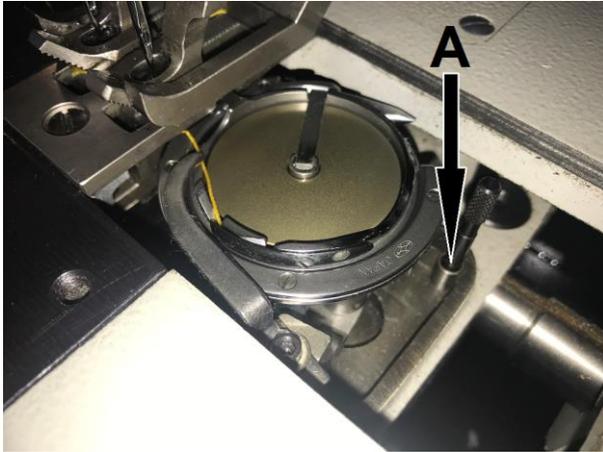
E MACHINE MAINTENANCE

E1. LUBRICATING THE MACHINE

1. Apply oil at each place designated by arrows – once per week (for 8-hour shift):

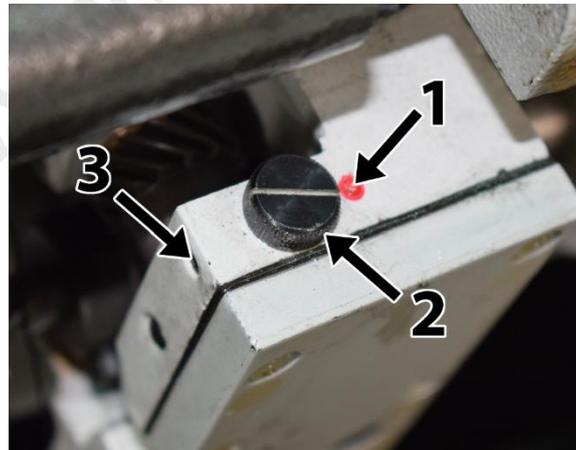


2. To fill the oil for hook saddle reservoir: take out the oil gauge from the hole (A) pour the oil into the hole until the oil level reaches the upper reference line of the oil gage (B).
3. When in continuous use, the machine should be oiled daily.

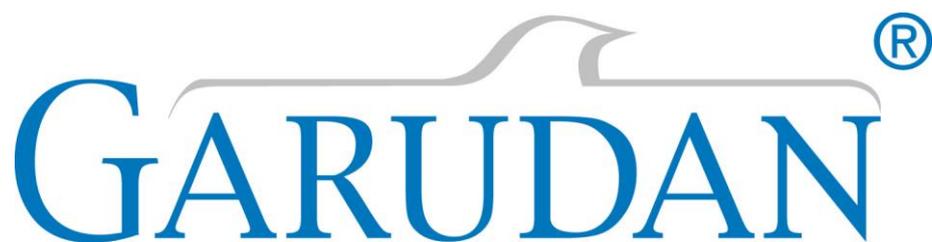


E2. ADJUSTMENT OF THE OILING FOR THE HOOK SADDLE

Loosen the screw for the oil adjustment dial (3) and adjust oil supply by turning the oil adjustment dial (2). Maximum oil is supplied when the center line of the adjustment dial (2) directly points to the red mark (1). Oil supply stops when the center line of the dial (2) is at the vertical position.



Katalog náhradních dílů
Spare Parts List



GF-140 Series
GF-240 Series

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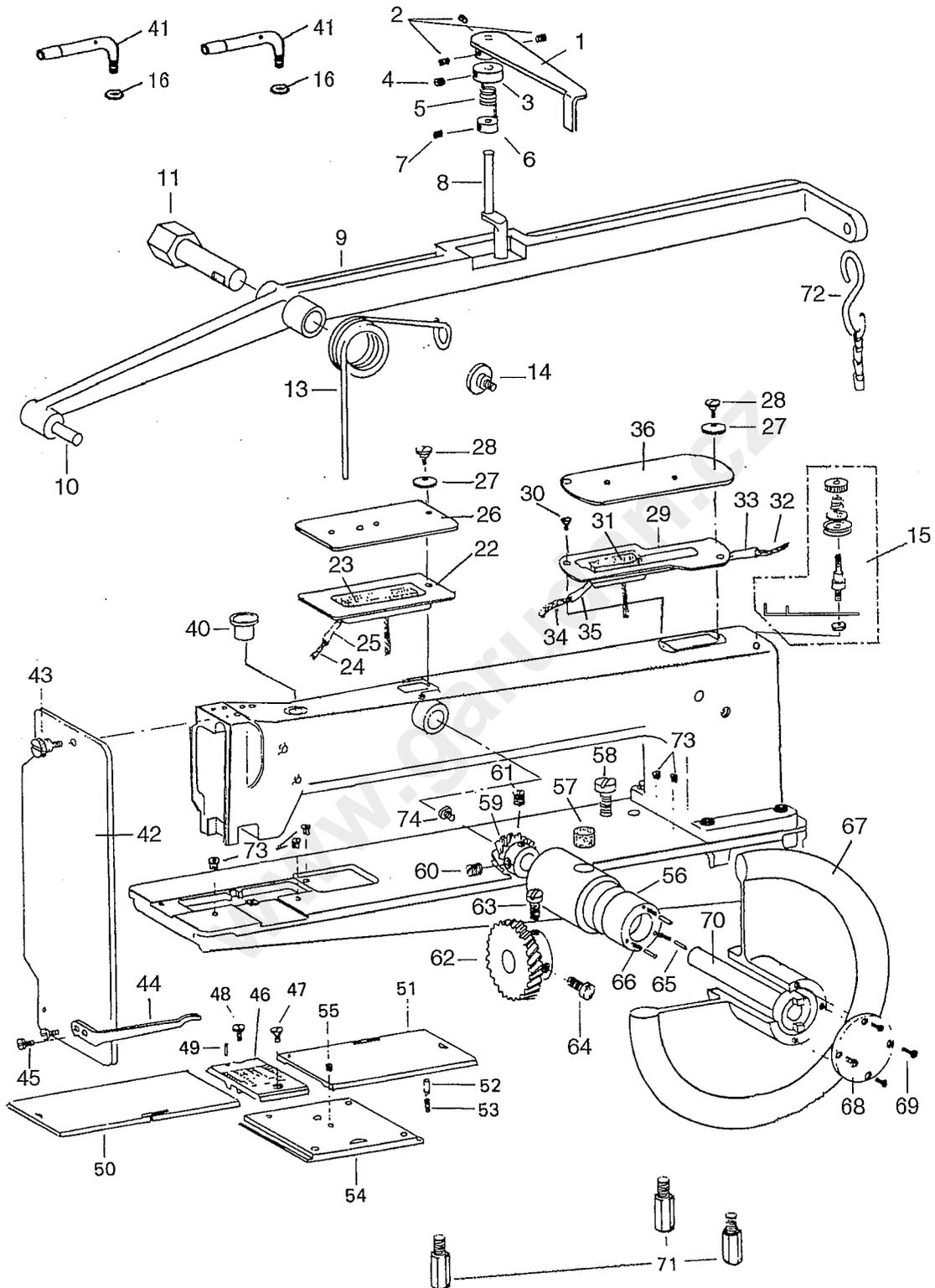
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A. ARM BED AND ITS ACCESSORIES



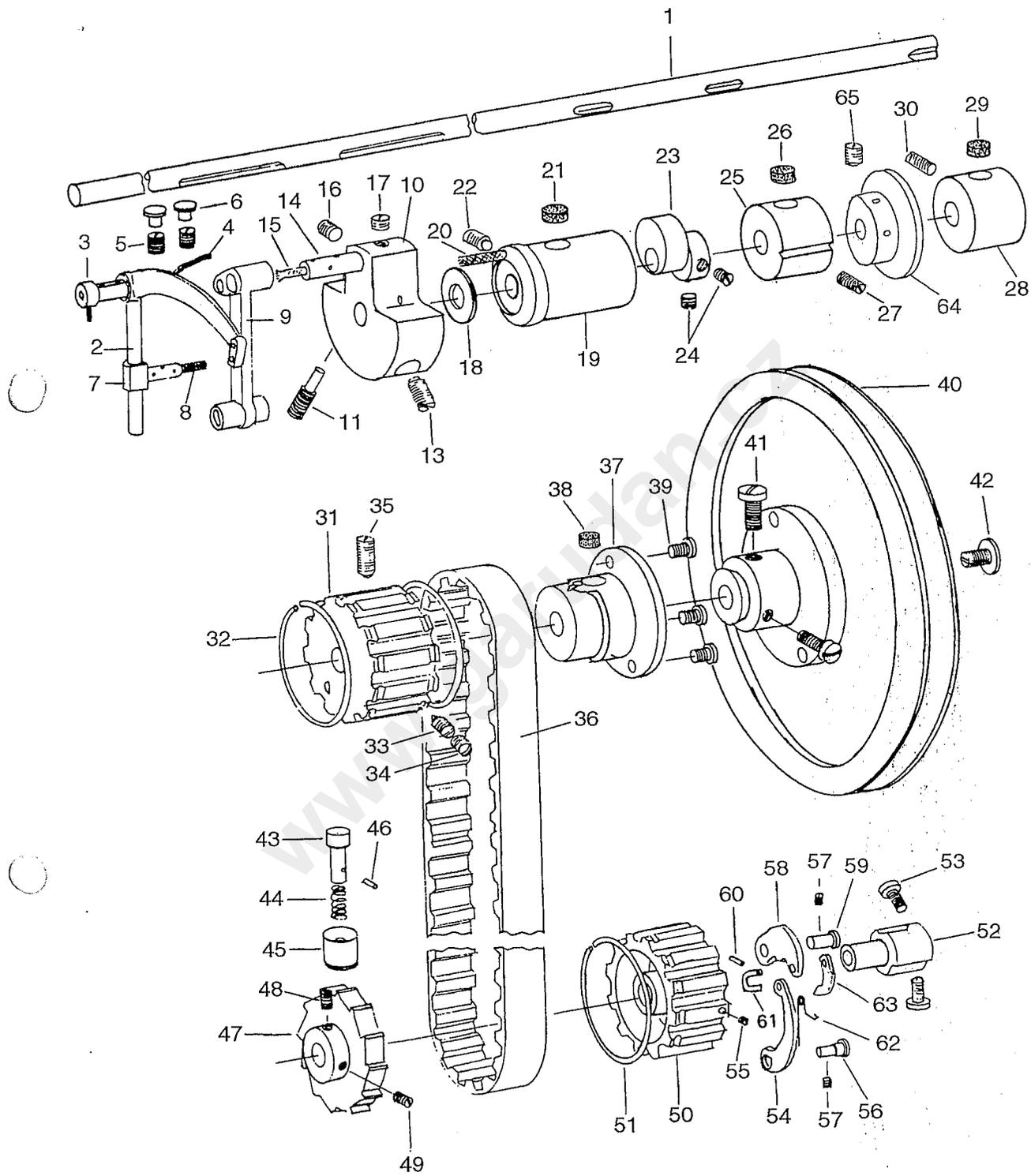
A. ARM BED AND ITS ACCESSORIES

Fig. Nos.	Parts Nos.	Quan- tity	Description
1	HE924B7101	1	Foot lifter lifting lever latch handle.
2	HA100B2110	3	Set screw
3	HE913B8001	1	Collar (upper)
4	H7214H8001	1	screw
5	HE915B8001	1	Foot lifter lifting lever latch spring.
6	HE916B8001	1	Collar (lower)
7	HA100C2170	1	Set screw
8	HE917B8001	1	Foot lifter lifting lever latch.
9	HE918B8001	1	Foot lifter lifting lever.
10	HE919B8001	1	Pin
11	HE920B8001	1	Foot lifter lifting lever hinge stud.
13	HE921B8001	1	Foot lifter lifting lever spring.
14	HE048D8001	1	Screw
15	H7014D7101	1	Down-lead complete
16	HE021B8001	2	Nut
22	HE949B8001	1	Lubricating oil cup (front).
23	HE950B8001	1	Oil pad
24	HE930B8001	1	Oil wick (A)
25	HE931B8001	1	Vinyl tube (A)
26	HE951B8001	1	Arm cap (front).
27	HE045D8001	2	Washer
28	H2015I0065	1	Stop screw
29	HE928B8001	1	Lubricating oil cup
30	HE111F8001	1	Set screw
31	HE929B8001	1	Oil pad
32	HE932B8001	1	Oil wick
33	HE933B8001	1	Vinyl tube
34	HE930B8001	1	Oil wick
35	HE931B8001	1	Vinyl tube
36	HE934B8001	1	Arm cap
40	H7327B8001	1	Arm oil plug.
41	HE020B8001	2	Thread guide.
42	HE937B8001	1	Face plate.
43	HE938B8001	1	Face plate thumb screw.
44	HE939B8001	1	Thread guide (lower).
45	HE025C8001	2	Screw for 70080.
46	HE940B8001	1	Throat plate.
47	HE005H8001	1	Throat plate screw.
48	HE006H8001	1	Throat plate position screw.
49	H3200B2130	1	Throat plate stop.
50	HE942B8001	1	Bed slide (left).

A. ARM BED AND ITS ACCESSORIES

Fig. Nos.	Parts Nos.	Quantity	Description
51	HE943B8001	1	Bed slide (right).
52	HE946B8001	1	Bed slide stop.
53	HE009H8001	1	Bed slide stop spring.
54	HE944B8001	1	Bed plate (front).
55	HE013H8001	1	Screw
56	HE957B8001	1	Arm cross shaft bushing.
57	HE014C8001	1	Oil wick
58	HE040D8001	1	Set screw
59	HE958B8001	1	Arm cross shaft gear.
60	HE017G8001	1	Position screw
61	HE023C8001	1	Position screw
62	HE959B8001	1	Hand wheel driving gear.
63	HE022G8001	1	Set screw
64	HE960B8001	1	Set screw
65	HE961B8001	3	Hand wheel disengaging spring plunger.
66	HE962B8001	3	Hand wheel disengaging spring.
67	HE963B8001	1	Hand wheel.
68	HE964B8001	1	Hand wheel engaging plate.
69	HA700F2100	4	Screw
70	HE965B8001	1	Arm cross shaft.
71	HE956B8001	3	Machine supporting bolt.
72	H8000H2070	1	Foot lifter lifting lever chain hook.
73	H2000M0090	5	Ball oiler.
74	HA700F2100	1	Screw

B. ARM SHAFT MECHANISM



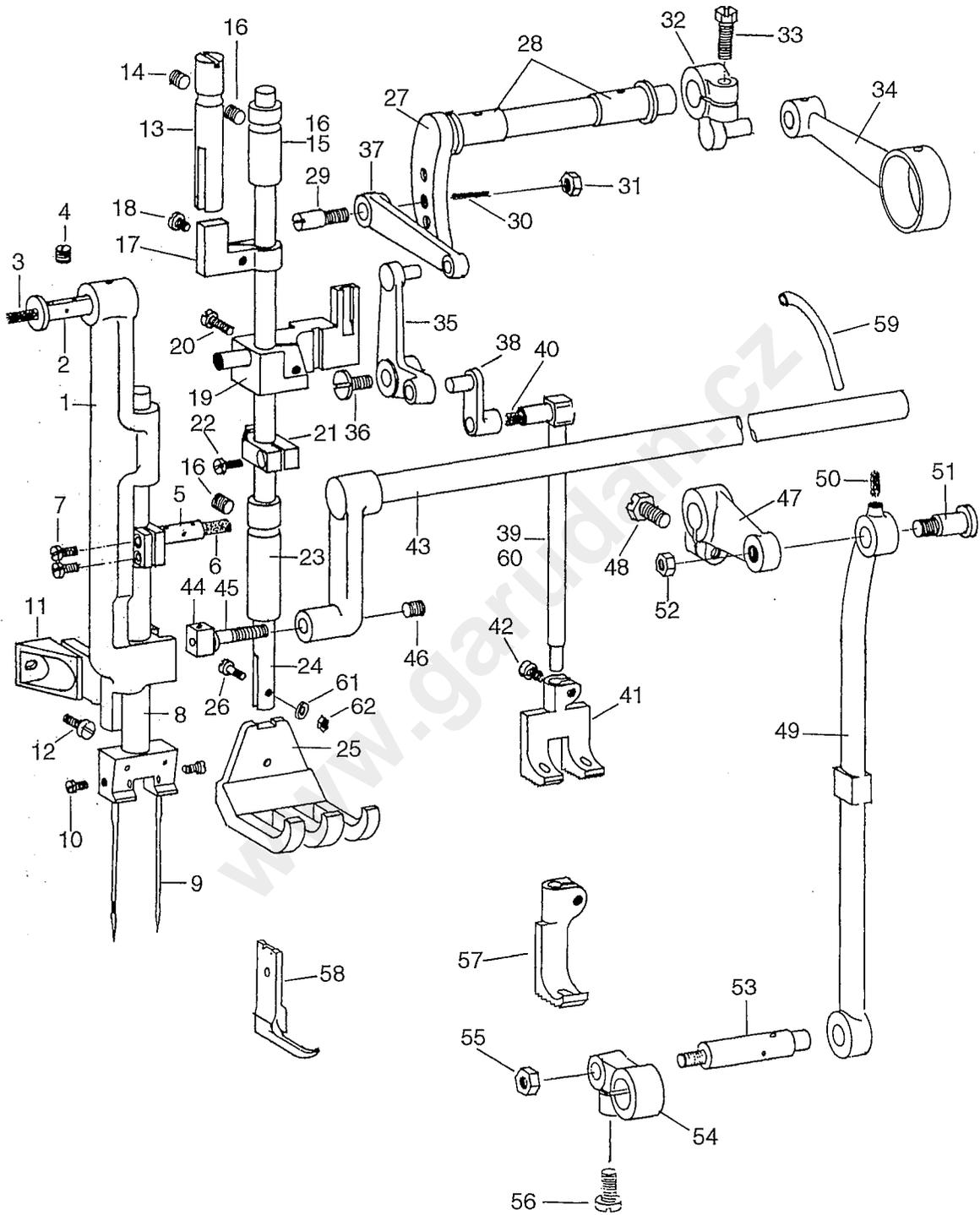
B. ARM SHAFT MECHANISM

Fig. Nos.	Parts	Nos.	Quantity	Description
1	HE904C8001		1	Arm shaft.
2	HE905C8001		1	Take-up lever.
3	HE906C8001		1	Take-up lever hinge stud.
4	HE907C8001		1	Oil wick
5	HE020C8001		2	Set screw
6	HA100B2150		2	Cap
7	HE908C8001		1	Take-up lever driving stud.
8	HE035C8001		1	Oil wick
9	HE909C8001		1	Needle bar connecting link.
10	HE910C8001		1	Needle bar crank.
11	HA100C2070		1	Position screw
12	HE013C8001		1	Set screw
13	HA100C2060		1	Set screw
14	H3100C2070		1	Needle bar connecting link stud.
15	HE041C8001		1	Oil wick
16	HE013C8001		1	Set screw
17	HE911C8001		1	Set screw
18	HE011C8001		1	Needle bar crank friction washer.
19	HE912C8001		1	Arm shaft bushing (front).
20	HE014C8001		1	Oil wick
21	HE010G8001		1	Oil pad
22	HE028C8001		1	Set screw
23	HE914C8001		1	Feed driving eccentric.
24	HE023C8001		2	Set screw
25	HE915C8001		1	Arm shaft center bushing (front).
26	HE014C8001		1	Oil pad
27	HE020C8001		1	Set screw
28	HE916C8001		1	Arm shaft center bushing
29	HE014C8001		1	Oil pad
30	HE020C8001		1	Set screw
31	HE026C8001		1	Arm shaft connection belt pulley.
32	H3205C0661		2	Arm shaft connection belt pulley spring flange.
33	HE006D8001		1	Set screw
34	HE030C8001		1	Check screw
35	HE028C8001		1	Position screw
36	HE917C8001		1	Connection belt.
37	HE918C8001		1	Arm shaft bushing
38	HE014C8001		1	Oil pad
39	HE919C8001		3	Set screw
40	HE920C8001		1	Machine pulley.

B. ARM SHAFT MECHANISM

Fig. Nos.	Parts Nos.	Quantity	Description
41	HE038E8001	2	Set screw
42	HE007C8001	1	Machine pulley adjusting screw.
43	HE921C8001	1	Hook driving shaft lock stud.
44	H4107D0672	1	Spring
45	HE922C8001	1	Socket
46	H601016100	1	Stop
47	HE923C8001	1	Hook driving shaft lock ratchet.
48	HE035G8001	1	Set screw
49	HE034G8001	1	Set screw
50	HE924C8001	1	Safety clutch pulley.
51	H3205C0661	1	Safety clutch pulley spring flange.
52	HE021G8001	1	Safety clutch hook driving shaft position collar.
53	HE022G8001	2	Set screw
54	HE925C8001	1	Safety clutch locking lever spring.
55	HE926C8001	1	Adjusting screw
56	HE927C8001	1	Stud
57	HE028E8001	2	Stop screw
58	HE028G8001	1	Safety clutch locking lever.
59	HE029G8001	1	Stud
60	H601012050	1	Safety clutch throw-in latch pin.
61	HE027G8001	1	Connecting link
62	HE026G8001	1	Safety clutch throw-in latch spring.
63	HE031G8001	1	Safety clutch throw-in latch.
64	HE939G8001	1	Bobbin winder driving gear
65	H6623C8001	2	screw

C. PRESSER FOOT MECHANISM



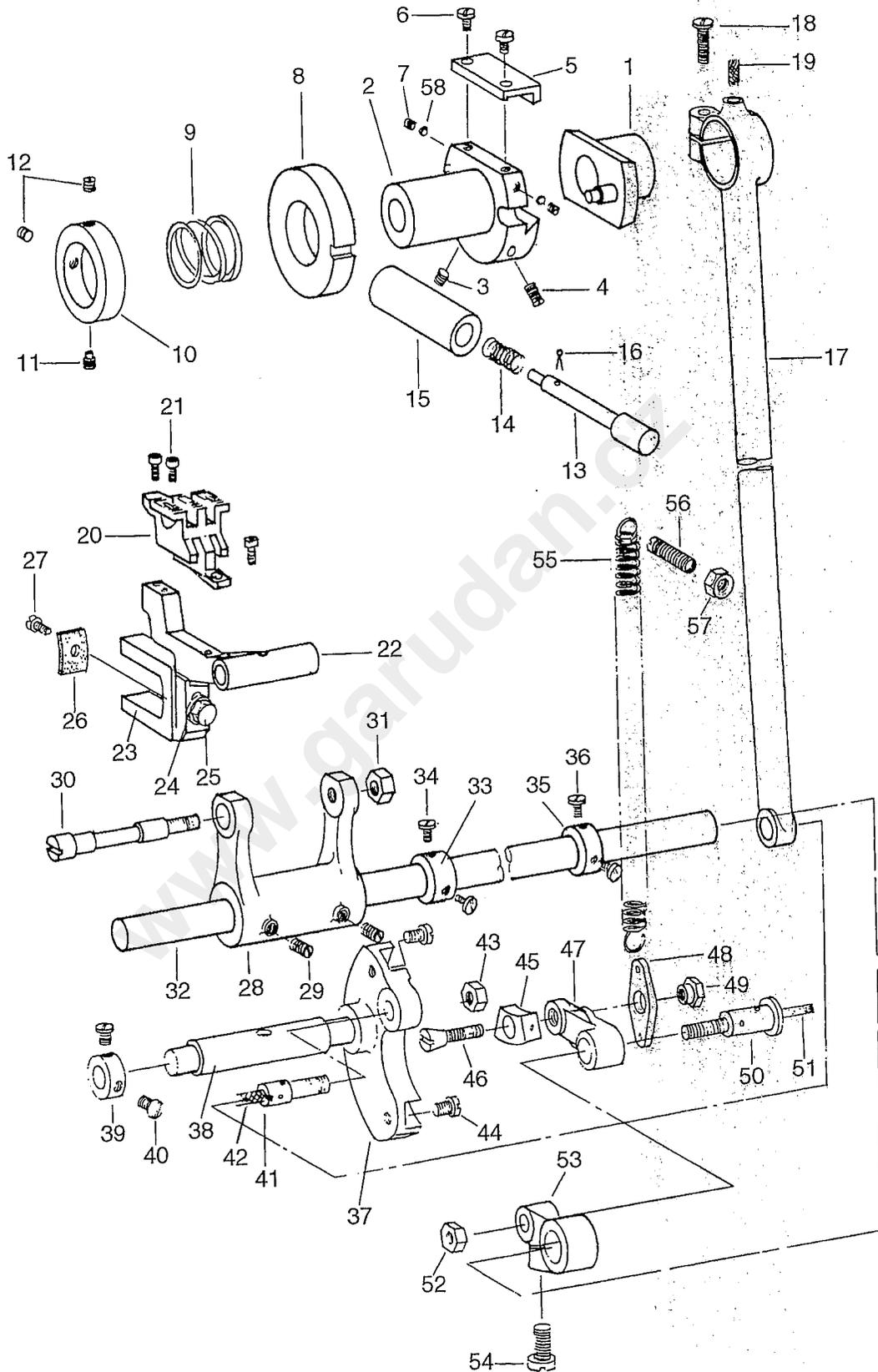
C. PRESSER FOOT MECHANISM

Fig. Nos.	Parts Nos.	Quantity	Description
1	HE904D8001	1	Needle bar rock frame.
2	HE905D8001	1	Needle bar rock frame hinge stud.
3	HE035C8001	1	Oil wick
4	HE009G8001	1	Set screw
5	HE907D8001	1	Needle bar connection stud.
6	HE041C8001	1	Oil wick
7	HE119E8001	2	Pinch screw for 70022.
8	HE908D8001	1	Needle bar.
9	HE909D8001	2	Needle.
10	HE910D8001	2	Needle set screw.
11	HE911D8001	1	Needle bar rock frame position bracket.
12	HE022K8001	1	Screw
13	HE912D8001	1	Presser bar position guide.
14	HE006D8001	1	Set screw
15	HE007D8001	1	Presser bar bushing (upper).
16	HE006D8001	2	Set screw
17	HE913D8001	1	Presser bar position guide lever.
18	HE009D8001	1	Pinch screw
19	HE914D8001	1	Presser bar lifting bracket.
20	H3107G0661	1	Pinch screw
21	HE915D8001	1	Presser bar spring bracket.
22	HE916D8001	1	Pinch screw
23	HE007D8001	1	Presser bar bushing (lower).
24	HE918D8001	1	Presser bar.
25	HE919D8001	1	Lifting presser foot.
26	HE920D8001	1	Pinch screw for lifting presser foot.
27	HE921D8001	1	Lifting rock shaft.
28	HE024D8001	2	Lifting rock shaft bushing.
29	HE025D8001	1	Screw stud
30	HE035C8001	1	Oil wick
31	H3112F0662	1	Nut
32	HE922D8001	1	Lifting eccentric.
33	HE038E8001	1	Position screw
34	HE923D8001	1	Lifting eccentric connection.
35	HE924D8001	1	Lifting bell crank.
36	H3107G0662	1	Set screw
37	HE925D8001	1	Lifting bell crank link.
38	HE926D8001	1	Vibrating presser bar connecting link.
39	HE927D8001	1	Vibrating presser bar.

C. PRESSER FOOT MECHANISM

Fig. Nos.	Parts Nos.	Quantity	Description
40	HE035C8001	1	Oil wick
41	HE928D8001	1	Vibrating presser foot.
42	HE929D8001	1	Set screw for vibrating presser foot.
43	HE930D7101	1	Needle bar rock frame rock shaft.
44	H3100F2270	1	Needle bar rock frame slide block.
45	HE027E8001	1	Screw stud
46	HE028E8001	1	Set screw
47	HE933D8001	1	Needle bar rock frame rock shaft crank.
48	HE038E8001	1	Pinch screw
49	HE934D8001	1	Needle bar rock frame rock shaft crank connection.
50	HE035C8001	1	Oil wick
51	HE935D8001	1	Hinge screw
52	HE936D8001	1	Nut
53	HE937D8001	1	Feed reversing crank screw stud.
54	HE938D8001	1	Feed reversing crank.
55	HE926E8001	1	Nut
56	HE038E8001	1	Stop screw
57	HF207D8001	1	Vibrating presser foot.
58	HF304D8001	1	Lifting presser foot.
59	HE939D8001	1	Vinyl tube.
60	HF209D8001	1	Vibrating presser bar.
61	HE044J8001	1	Washer
62	HE940D8001	1	Nut

D. STITCH REGULATOR MECHANISM



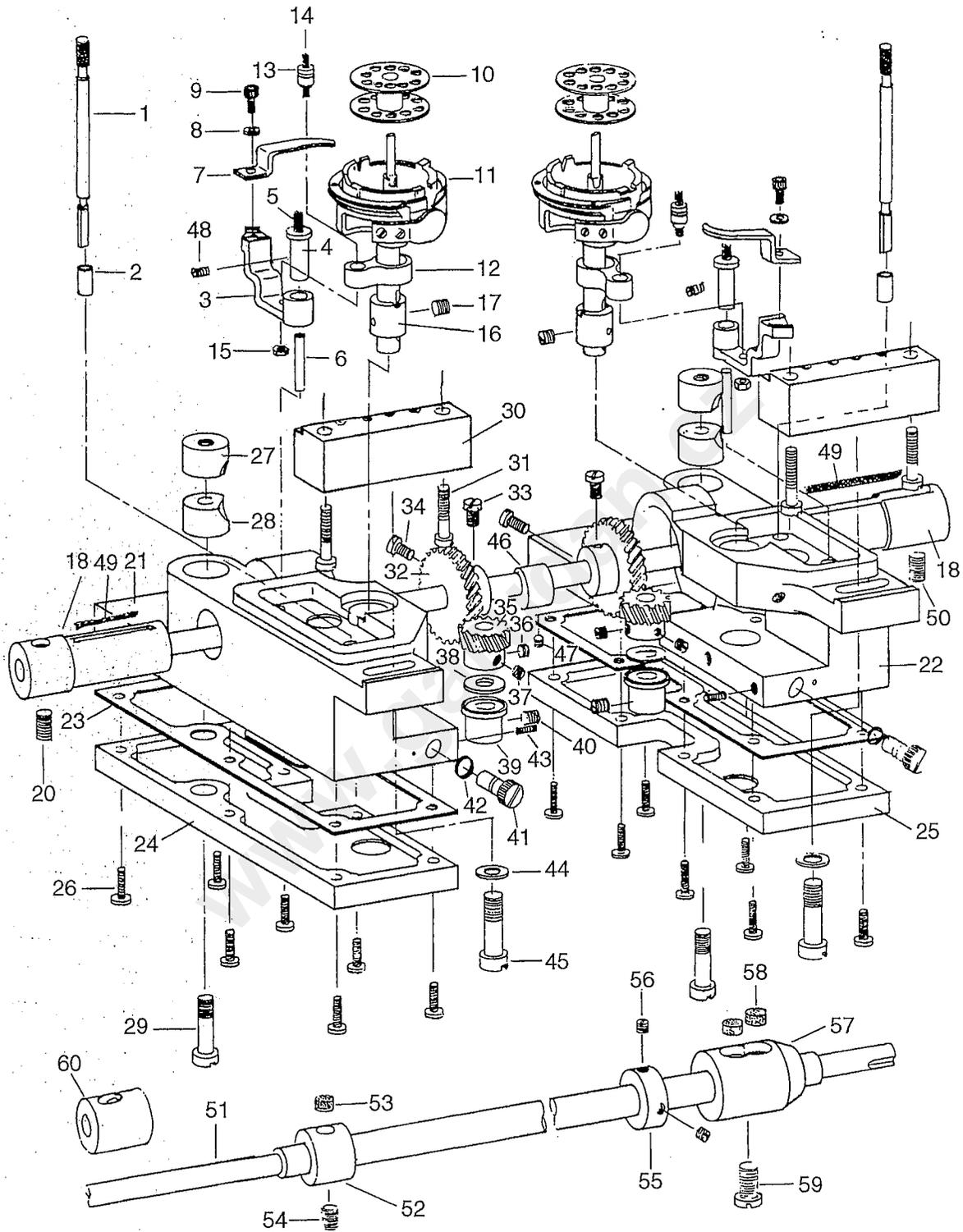
D. STITCH REGULATOR MECHANISM

Fig. Nos.	Parts Nos.	Quan- tity	Description
1	HE946E7101	1	Feed driving eccentric.
2	HE905E8001	1	Flange
3	HE906E8001	1	Set screw
4	HE907E8001	1	Set screw
5	HE908E8001	1	Friction plate.
6	HE909E8001	2	Stop screw
7	HA100B2110	2	Set screw
8	HE910E8001	1	Feed driving eccentric adjusting disc.
9	HE911E8001	1	Spring
10	HE912E8001	1	Collar
11	HE035G8001	1	Position screw
12	HE023C8001	2	Set screw
13	HE913E8001	1	Feed regulating stud.
14	HE914E8001	1	Spring
15	HE915E8001	1	Bushing
16	H601016100	1	Retaining spring
17	HE916E8001	1	Feed driving connection.
18	H4753E8001	1	Pinch screw
19	HE035C8001	1	Oil wick
20	HE917E8001	1	Feed dog .
21	HE918E8001	3	Feed dog set screw.
22	HE919E8001	1	Feed bar
23	HE920E8001	1	Feed lifting cam fork.
24	H2013J0065	1	Washer
25	HE022H8001	1	Screw
26	HE020H8001	1	Oiling pad
27	HE025B8001	1	Screw
28	HE921E8001	1	Feed bar crank.
29	HE922E8001	2	Set screw
30	HE923E8001	1	Feed bar hinge screw.
31	HE131E8001	1	Nut
32	HE925E8001	1	Feed driving rock shaft.
33	HE033H8001	1	Feed driving rock shaft stop collar
34	HE034H8001	2	Set screw
35	HE033H8001	1	Feed driving rock shaft stop collar
36	HE034H8001	2	Set screw
37	HE943E7101	1	Feed reversing lever.
38	HE928E8001	1	Feed reversing lever bushing.
39	HE929E8001	1	Collar

D. STITCH REGULATOR MECHANISM

Fig. Nos.	Parts Nos.	Quantity	Description
40	HE012E8001	1	Set screw
41	HE930E8001	1	Hinge screw
42	HE035C8001	1	Oil wick
43	HE941E8001	1	Nut
44	HE931E8001	2	Stop screw
45	HE932E8001	1	Feed reversing lever slide block.
46	HE933E8001	1	Hinge screw
47	HE934E8001	1	Feed reversing link.
48	HE935E8001	1	Spring and treadle connecting link for 70165.
49	HE936E8001	1	Hinge screw nut
50	HE937E8001	1	Hinge screw
51	HE035C8001	1	Oil wick
52	HE926E8001	1	Nut
53	HE938E8001	1	Feed reversing crank.
54	HE939E8001	2	Bracket screw
55	HE945E8001	1	Feed reversing lever slide block spring.
56	HE940E8001	1	Connection collar
57	HE941E8001	1	Nut
58	HE942E8001	2	Lining metal f

E. HOOK SADDLE MECHANISM



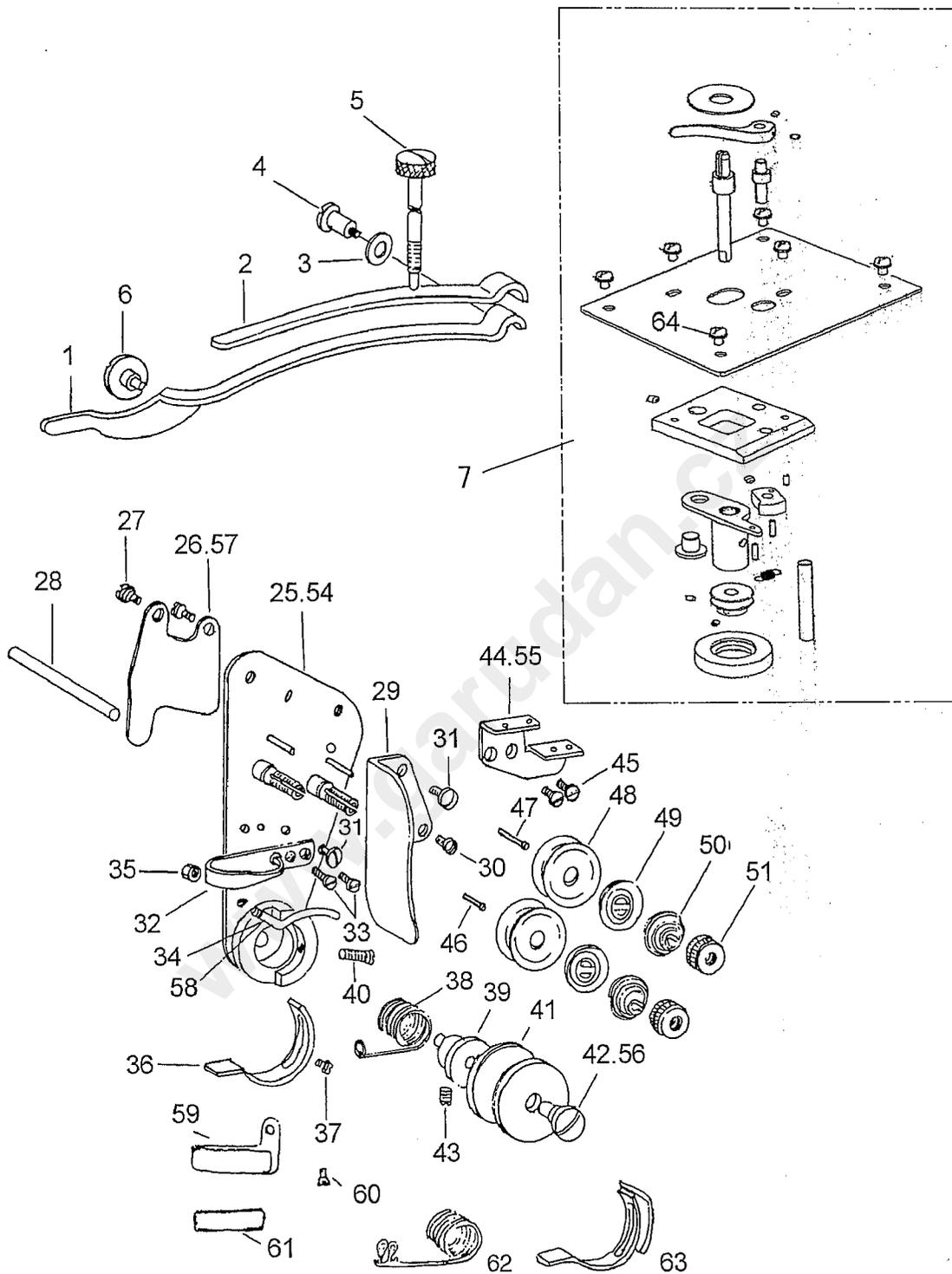
E. HOOK SADDLE MECHANISM

Fig. Nos.	Parts Nos.	Quantity	Description
1	HE904F8001	2	Oil gauge.
2	HE039J8001	2	Oil gauge guide.
3	HE905F8001	2	Bobbin case opener lever.
4	HE906F8001	2	Bobbin case opener lever hinge stud.
5	HE018J8001	2	Oil wick
6	HE020J8001	2	Oil wick vinyl tube
7	HE907F8001	2	Bobbin case opener.
8	H005004060	2	Washer
9	HE909F8001	2	Screw f
10	HE933F7101	2	Bobbin.
11	HE911F8001	2	Hook.
12	HE912F8001	2	Bobbin case opener lever link.
13	HE017J8001	2	Bobbin case opener lever driving screw stud.
14	HE018J8001	2	Oil wick
15	HE019J8001	2	Nut
16	HE913F8001	2	Hook bushing (upper).
17	HE009J8001	2	Set screw
18	HE914F8001	2	Hook driving shaft bushing (front).
20	HE020C8001	2	Set screw
21	HE915F8001	1	Hook saddle (left).
22	HE916F8001	1	Hook saddle (right).
23	HE005J8001	2	Gasket for hook saddle.
24	HE052J8001	1	Oil reservoir (left).
25	HE006J8001	1	Oil reservoir (right).
26	HE017B8001	14	Screw for 15091.
27	HE046J8001	2	Hook saddle screw collar
28	HE046J8001	2	Hook saddle screw collar
29	HE048J8001	2	Hook saddle screw.
30	HE918F8001	2	Bed block.
31	HE919F8001	4	Bed block screw.
32	HE055G8001	2	Hook driving gear.
33	HE920F8001	2	Set screw
34	HE921F8001	2	Set screw
35	HE010J8001	2	Hook driving pinion.
36	HE017G8001	2	Set screw
37	HE012J8001	2	Set screw
38	HE013J8001	2	Hook driving pinion thrust washer.
39	HE014J8001	2	Hook bushing (lower).
40	HE009J8001	2	Set screw
41	HE040J8001	2	Oil adjusting dial.
42	HE041J8001	2	O-ring
43	HE045G8001	2	Set screw

E. HOOK SADDLE MECHANISM

Fig. Nos.	Parts Nos.	Quantity	Description
44	HE049J8001	2	Washer
45	HE050J8001	2	Hook saddle screw.
46	HE058G8001	1	Feed lifting cam.
47	HE017G8001	1	Set screw
48	HE053C8001	2	Set screw
49	HE010G8001	2	Oil wick
50	HE040D8001	1	Set screw
51	HE922F8001	1	Hook driving shaft.
52	HE923F8001	1	Hook driving shaft bushing (center).
53	HE007G8001	1	Oil pad
54	HE034G8001	1	Set screw
55	HE924F8001	1	Hook driving shaft collar.
56	HE034H8001	2	Position screw
57	HE925F8001	1	Hook driving shaft bushing (back).
58	HE926F8001	2	Oiling pad
59	HE927F8001	1	Set screw
60	HE914F8001	1	Lower shaft front metal. (for Single needle 20" & 30")

F. THREAD TENSION REGULATOR MECHANISM



F. THREAD TENSION REGULATOR MECHANISM

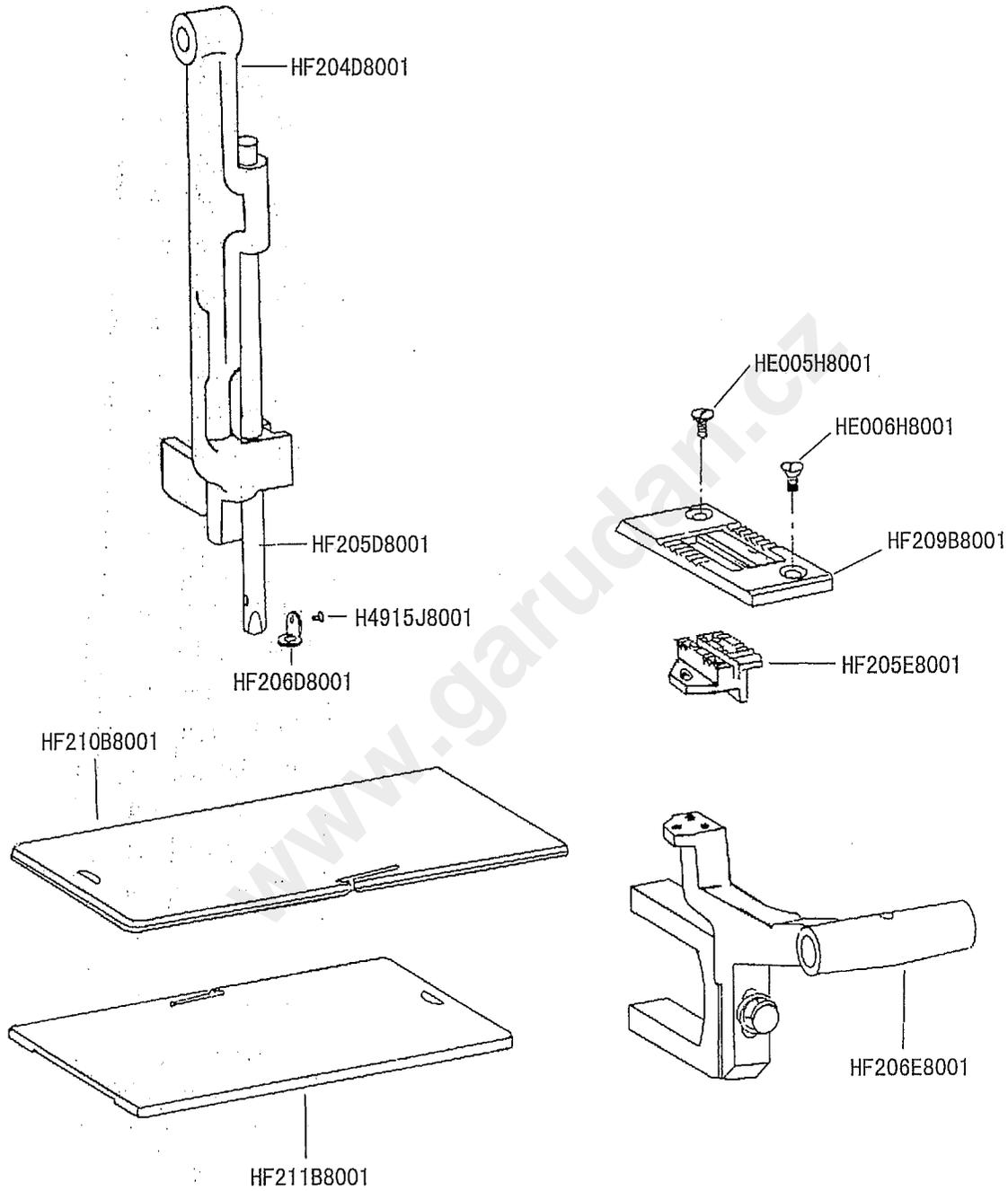
Fig. Nos.	Parts Nos.	Quantity	Description
1	HE904G8001	1	Presser bar spring (flat).
2	HE905G8001	1	Presser bar spring (auxiliary).
3	H005006080	1	Presser bar spring support screw washer.
4	HE907G8001	1	Presser bar spring support screw.
5	HE908G8001	1	Presser bar spring regulating screw.
6	HE048D8001	1	Presser bar lifting bracket guide screw.
7	HE933G7101	1	Bobbin complete.
25	HE925G8001	1	Tension bracket.
26	HE910G8001	1	Tension release lever.
27	HE019K8001	2	Screw for tension release lever.
28	HE912G8001	1	Tension release plunger.
29	HE913G8001	1	Thread controller covering plate.
30	HE046C8001	1	Stop screw
31	HE012E8001	2	Stop screw
32	HE914G8001	1	Thread guide (lower).
33	HE915G8001	2	Screw
34	HE916G8001	1	Thread controller thread guide (lower).
35	HE018H8001	1	Nut
36	HE931G8001	1	Thread controller spring stop.
37	HE046C8001	1	Stop screw
38	HF205G8001	1	Thread controller spring.
39	HE917G8001	1	Thread controller spring stud.
40	HE022K8001	1	Set screw
41	HE918G8001	1	Thread controller disc.
42	HE919G8001	1	Thread controller stud.
43	HE920G8001	1	Set screw for thread controller stud.
44	HE921G8001	1	Thread controller thread guide.
45	HE915G8001	2	Set screw
46	HE922G8001	1	Tension release plunger (short).
47	HE923G8001	1	Tension release plunger (long).
48	HA310B0705	4	Tension disc.
49	HA310B0702	2	Tension disc.
50	H2206B0671	2	Tension spring.
51	HA310B0701	2	Tension thumb nut.
54	HF206G7101	1	Tension bracket.
55	HF208G8001	1	Thread controller thread guide.
56	HF209G8001	1	Thread controller stud.
57	HF210G8001	1	Tension release lever.
58	HF211G8001	1	Thread controller thread guide (lower).

F. THREAD TENSION REGULATOR MECHANISM

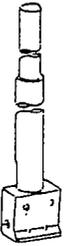
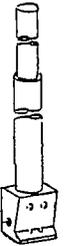
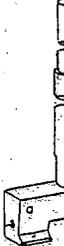
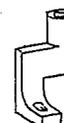
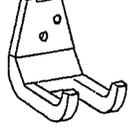
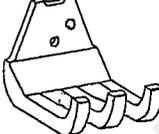
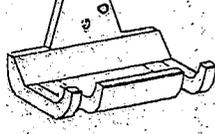
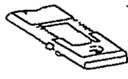
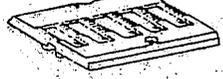
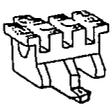
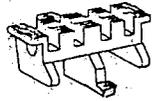
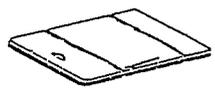
Fig. Nos.	Parts Nos.	Quantity	Description
59	HE033B8001	1	Thread guide.
60	HE032B8001	1	Set screw
61	H3108B0692	1	Felt.
62	HE929G8001	1	Thread controller spring.
63	HE930G7101	1	Thread controller spring stop.

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G. FOR SINGLE NEEDLE

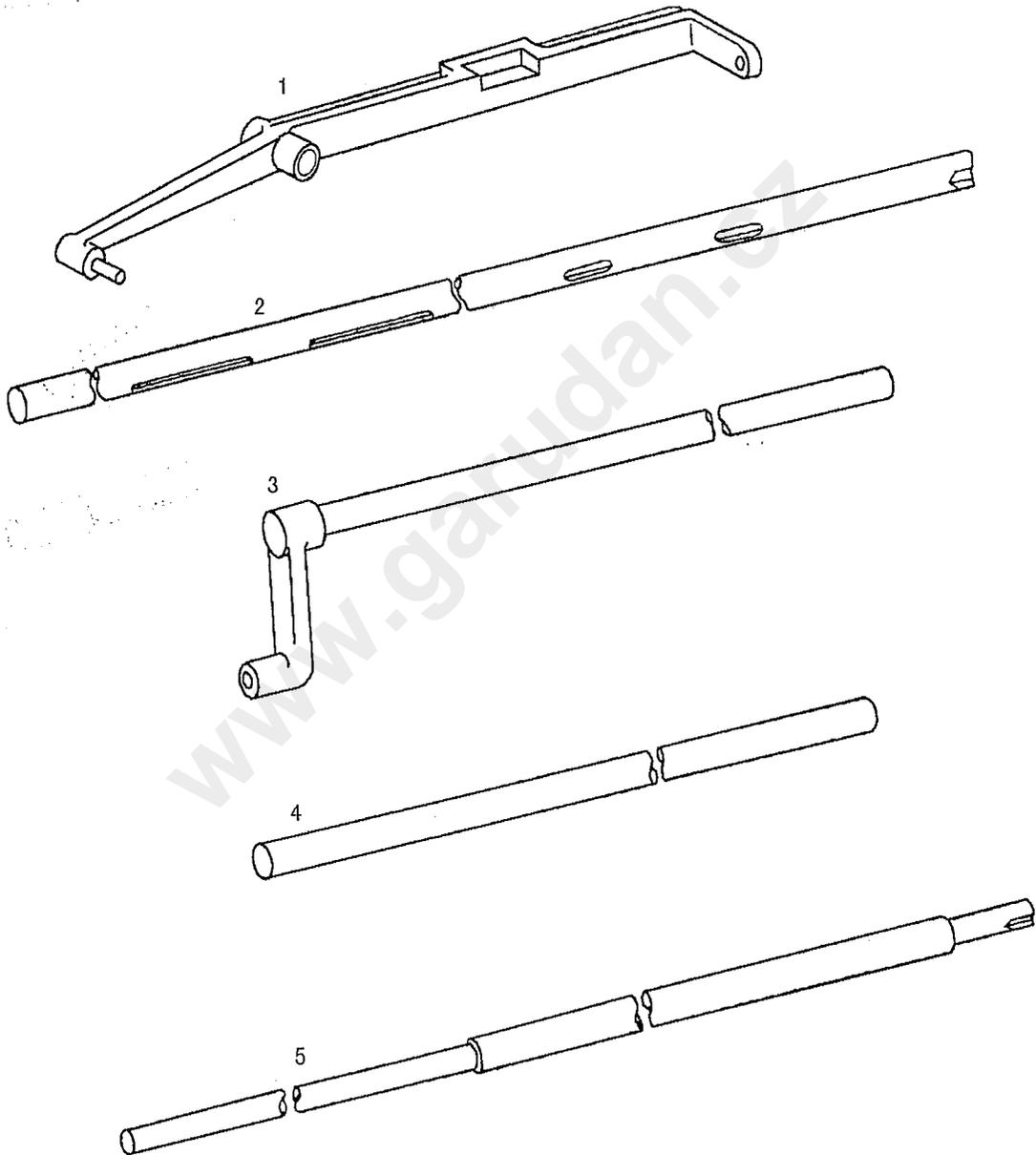


H. FOR 2-NEEDLE

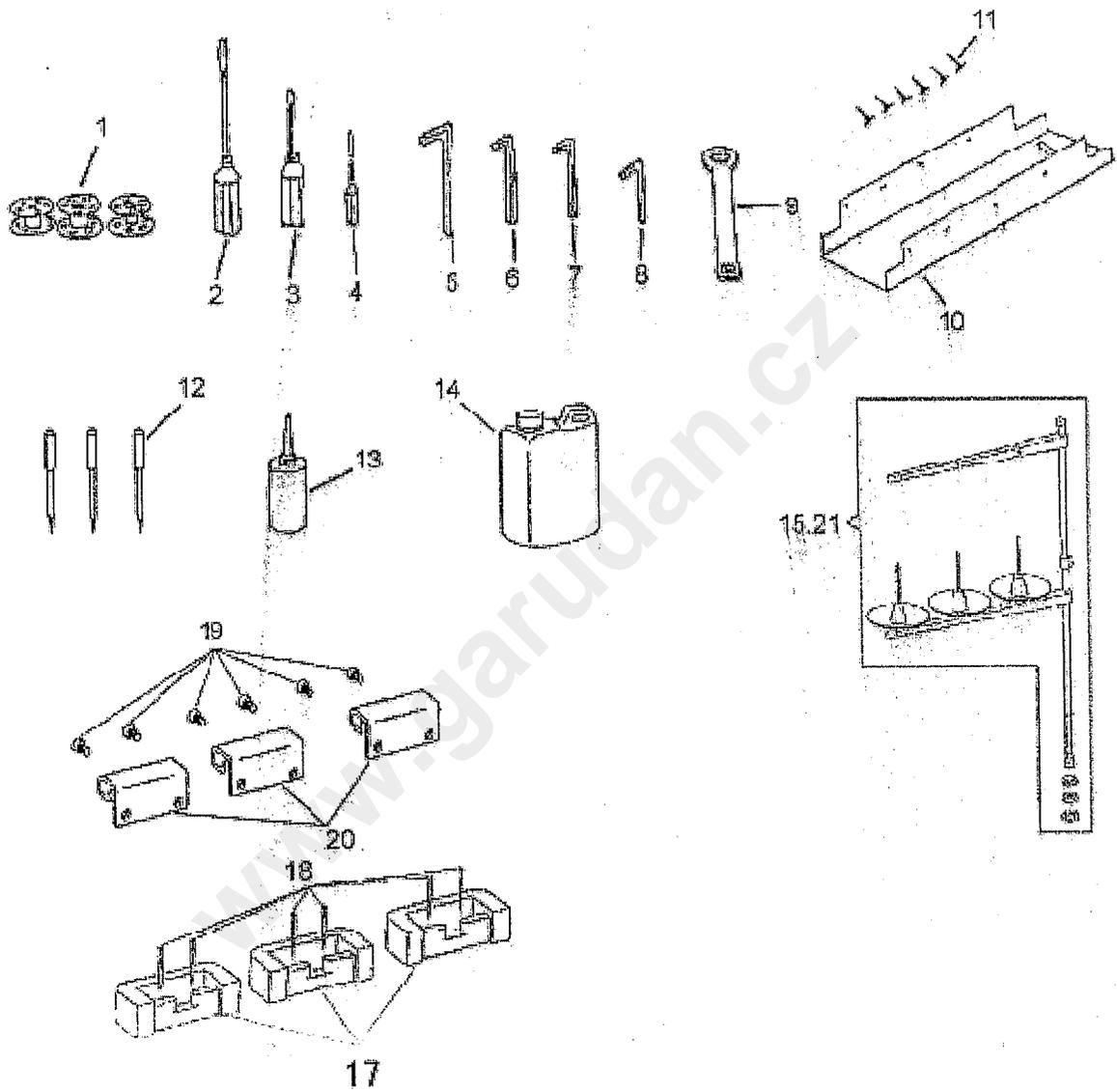
					
1/4"	3/8" 1/2"	3/4" 7/8"	1" 1-1/4"	1-1/2" 1-3/4"	
					
1/4"	3/8" 1/2"	3/4" 7/8"	1" 1-1/4"	1-1/2" 1-3/4"	
					
1/4"	3/8" 1/2"	3/4" 7/8"	1" 1-1/4"	1-1/2" 1-3/4"	
					
1/4"	3/8" 1/2"	3/4" 7/8"	1" 1-1/4"	1-1/2" 1-3/4"	
					
1/4"	3/8" 1/2"	3/4" 7/8"	1" 1-1/4"	1-1/2" 1-3/4"	
					
1/4"	3/4"	1-1/2"	1/2"	3/4"	1-1/4"
1/2"	7/8"	1-1/4"	1/4"	7/8"	1-1/2"
3/8"	1"	1-3/4"	3/8"	1"	1-3/4"

I. SPECIAL PARTS FOR 20"

Fig. Nos.	Parts Nos.	Quantity	Description
1	HF410B8001	1	Lifting lever.
2	HF404C8001	1	Main shaft.
3	HF404D7101	1	Needle bar frame rock shaft.
4	HF404E8001	1	Feed driving rock shaft.
5	HF404F8001	1	Hook driving shaft.



K. ACCESSORIES



K. ACCESSORIES

Fig. Nos.	Parts Nos.	Quantity	Description
1	HE933F7101	3	Bobbin.
2	HA300J2070	1	Screw driver (large).
3	HA300J2200	1	Screw driver (middle).
4	HA300J2210	1	Screw driver (small).
5	HB00001040	1	Wrench 4.0 mm
6	HB00001030	1	Wrench 3.0 mm
7	HB00001025	1	Wrench 2.5 mm
8	HB00001015	1	Wrench 1.5 mm
9	HA300J2220	1	Double head wrench.
10	HE905H8001	1	Oil pan.
11	016250	10	Nail
12	HE909D8001	1	Needle DY×3 (satandard No. 24) • SY5213 • 794
13	H200400069	1	Oiler.
14	HA300J2170	1	Oil.
15	H3200L0120	1	Thread stand. (for Single needle).
17	HA307J0671	1	Vibration preventing rubber
18	016250	6	Nail
19	HE010M8001	6	Screw
20	HE009M8001	3	Bed hinge.
21	H3200L0120	1	Thread stand.

