User´s Manual

GPS/X-3525

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MP03200EN_180810

VERSION	CREATED ON	APPROVED BY
MP03200EN_180810	10. 08. 2018	Jakub Lžičař

Content

1. SPECIFICATION

Model	GPS/X-3525G extra heavy material GPS/X-3525_ _-xx/xx/xx feeding frame type (2 – piece = 22; for template loading = 24); Options, e.g., barcode reader BR, Control of the machine through buttons HC, needle cooler NC, safety curtain SC, mouse port MP
Sewing area	350 x 250 mm
Max. sewing speed -for stitch length up to 9 mm	800 spm (see table on page 29)
Stitch length	0,1 – 40 mm
No. of needles	794H Nm. 160-300
Hook	Barrel shuttle hook XL
Lift of Presser Foot max.	Max.20 mm (stroke: 10 - 20 mm)
Lift of feeding frame	Standard 35 mm
Thread Trimmer	Standard
Memory Device	USB port – all device USB compatible
Communication interface	USB port
No. of stitches in memory	Unlimited
No. of patterns in memory	Unlimited
Driving unit	750 W servomotor
Power supple	1PH 220/230 V, 50/60Hz
Power consumption	0,9kVA/4A
Fuse recommendation	Jistič 10A, kategorie C
Air consumption	0,55 až 0,6 Mpa (6 kg/cm^2)
Ambient temperature	5℃～40℃

2. DESCRIPTION

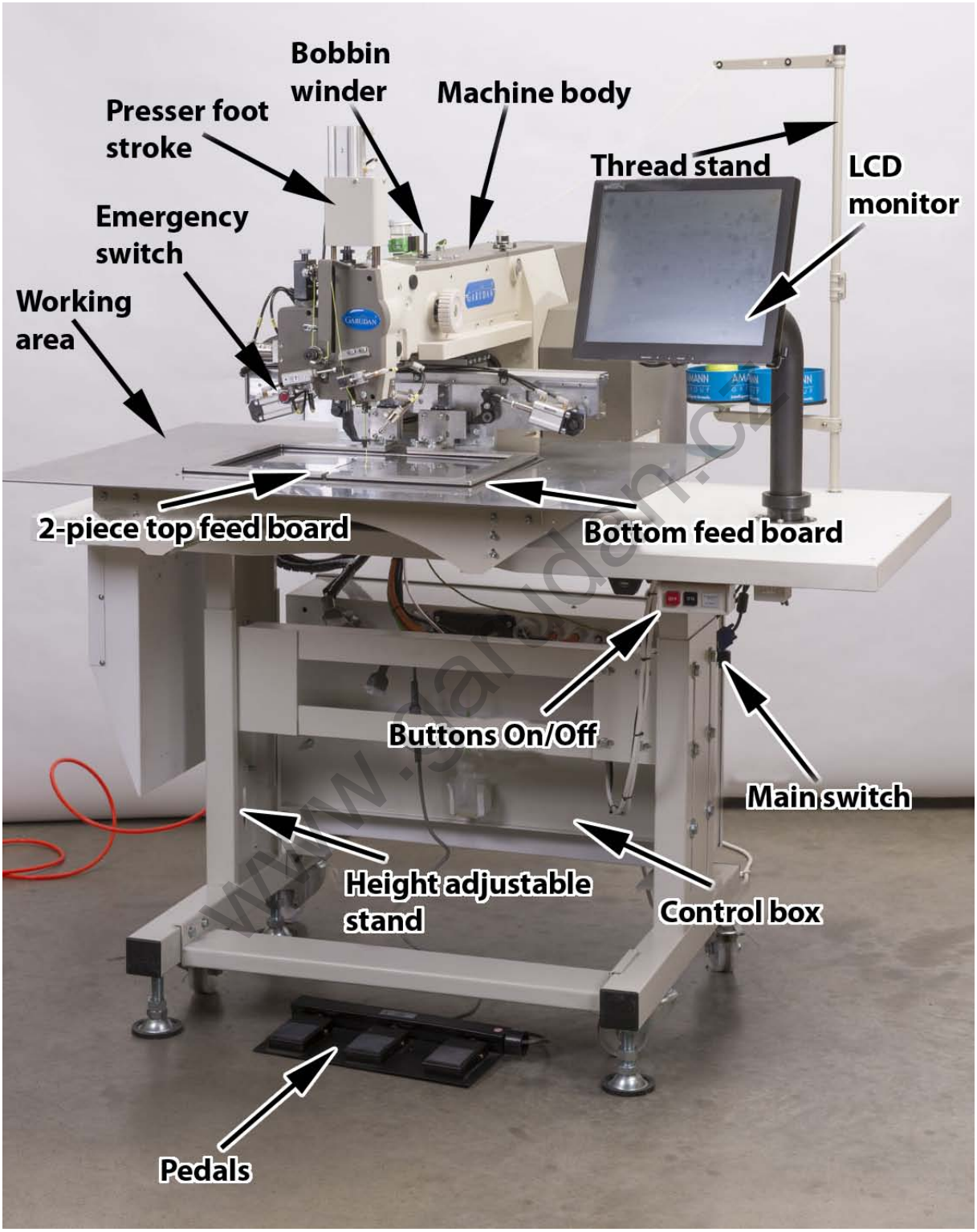


Fig. 1

3. SAFETY INSTRUCTIONS

Based on the TUV SUD Conformity Compliance and compliance with all standards, each machine is CE marked - Declaration of Conformity.

General Safety Instructions 

- Read this manual, operating instructions and operating instructions thoroughly before using the machine. There are also listed machine parameters and specified limit values and conditions under which the machine may be used
- Make sure the Stop button position is operational
- Under no circumstances place your fingers in the area of the sewing needle
- Ensure that the electrical cables are not damaged to prevent injury to the exposed wire. Repaint the damaged covers immediately or replace them with a flawless cover.
- When replacing a needle, threading, repairing or any mechanical adjustment and leaving the machine, turn off the drive with the on / off switch or the main machine switch.
- Before dismantling the machine or maintenance, disconnect the power supply by pulling the plug out of the socket.
- If you are not working on the machine, turn off the power supply with the main switch.
- Do not modify the machine in any way that could compromise safety.
- If the label is damaged, order a new one at our company and place it in the original location.
- If there is a power failure, turn off the machine with the main switch.
- Be careful not to interfere with moving machinery mechanisms, especially sleeves, loose clothing and hair.
- Do not operate the machine under the influence of alcohol or drugs.

Safety instructions hen delivered 

- When unpacking, follow the markings on the packaging.
- Immediately notify the carrier of visible damage to the shipment. Check the contents of the shipment with the order and notify the manufacturers immediately of any defects. Later complaints will not be recognized.

Safety instructions for installation and maintenance 

- The machine should be installed and run for the first time only by a trained person.
- Interference with electrical circuits may only be carried out by a trained person with Order No. 50/158 sb.6 and higher.
- Ensure that the power supply, voltage, sizing, and fuse is such as to allow the constant supply of the energy required for reliable machine performance.
- Connect the ground properly.
- Check that the air pressure is between 0.55 and 0.6 MPa.
- It is strictly forbidden to connect all the connectors except the USB port when the power is on. There is a risk of damage to electrical components and drives.
- If one of the covers is dismantled, switch off the main switch or disconnect the machine from the power supply.
- Use only spare parts supplied or approved by the manufacturer.
- The machine is equipped with interference suppression filters according to EMC - ČSN 50081-1 and 50081-2. If a current protector is connected to the mains, the fault current type and high surge current type (e.g. type "S") must be used.

Safety instructions for daily operation for the operator 

- Do not connect the machine to the net if any of the protective covers are removed.
- Check that the electrical cables are not damaged to prevent injury to the naked wire by touching them.
- If you are unsure about the correctness of the procedure or the machine setup for the operation, call the responsible mechanic.
- The user must ensure adequate illumination of the work area and the surrounding area of the machine.

Location of safety features, Fig. 2

A Stop button. It is used, for example, in collision situations. To reboot the machine monitor the LCD monitor.

B Thread lever cover. Compression, trapping, shooting - hand injury. 

C The drives are located under the cover. During operation, it must be mounted on the machine.

D Finger protection. Prevents finger inserting under the needle.

E Security sticker on the control box. Danger of dangerous voltage. 

F Sewing area. Protected by a hinged transparent cover. Puncture or puncture - hand injury. 

H Hook space. Protected by a hinged cover. Cutting - Hand Injury. 

I Moving mechanism space - X and Y axis movements. Bursting.  

J Space below the upper pressure frame. The compressive force must not exceed 50N. This is how the machine is adjusted from production. The pressure can be regulated by the auxiliary pressure gauge. 22. Squeeze. 

K Hand wheel. Friction or rubbing - Hand injury. 

L Production label. It lists the type of machine, equipment, voltage, machine input, serial number, manufacturer's address and CE mark (Declaration of Conformity). Next to the pictogram - read the operating instructions. 

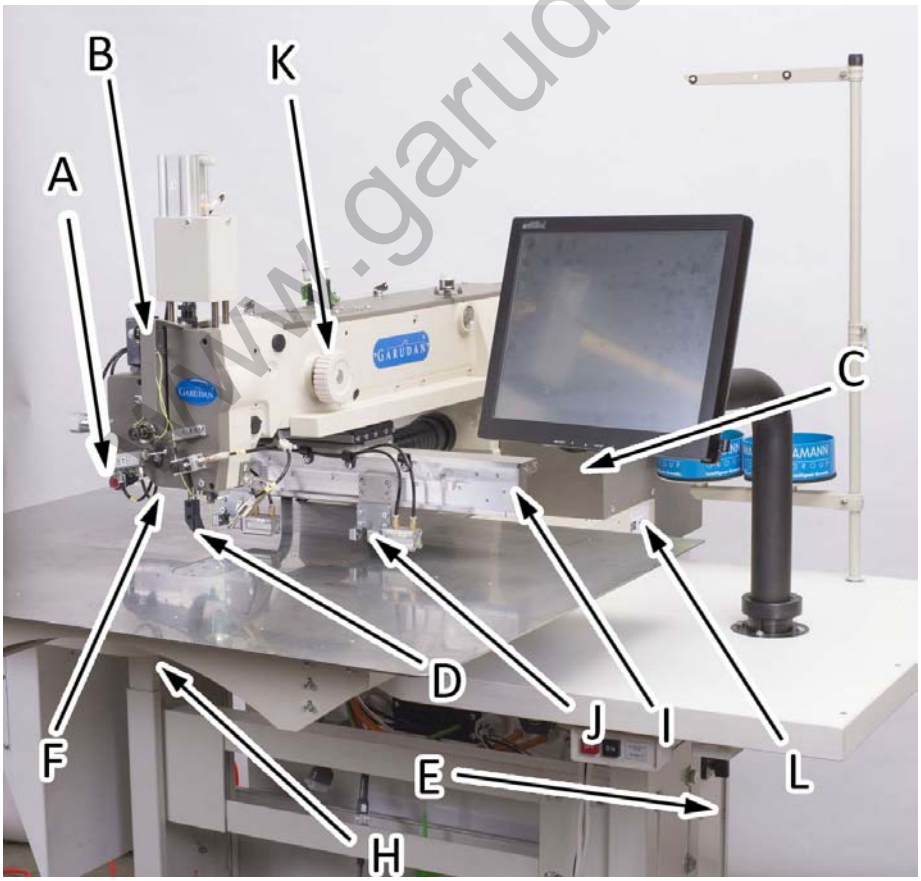


Fig.2

4 SAFE INSTALLATION

All installation and service work have to be done without power supply.

A. The machine cannot be used if voltage is 10% above or 10% below the formal voltage.

B. Check if there is correct air pressure in the pneumatic system.

C. For safe operation, please, use the machine in accordance with following conditions:
   - The ambient operation temperature is from 5 to 40°C
   - The ambient storage temperature is from -10 to 60°C

D. Humidity is between 20 – 80% (relative humidity)

5 ELECTRIC DEVICE SETTING

A. Power voltage
   - The voltage should be within the range of ±10% of the formal voltage.
   - Power frequency should be within the range ±1% of the formal frequency (50/60Hz).

B. Electromagnetic wave noise
   - The power should not be adjacent to strong magnetic field or high frequency stuff.

C. The liquid such as water is prevented from flowing into the adjusting box or motor.

6 DISPOSAL INSTRUCTIONS

Please, hand the machine over to ANITA B, s.r.o. after end of the machine operational life.

7 BEFORE MACHINE OPERATION

1. Lubrication:

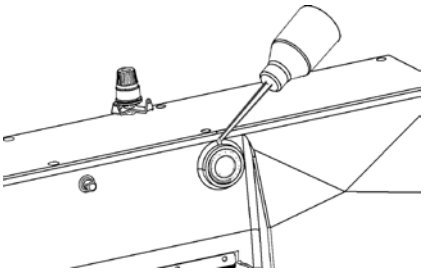


Fig. 3

Check the amount oil in the oil gauge Windows.
Fill up the oil Fig. 3, 4

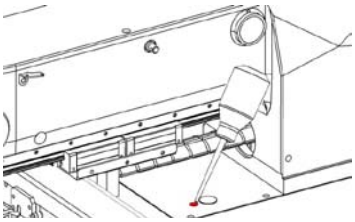


Fig. 4

Machine should be lubricated before its first use or if reused after a long period of idleness or according to traffic in regular intervals, at least at the beginning of each shift.

Fig. 5a

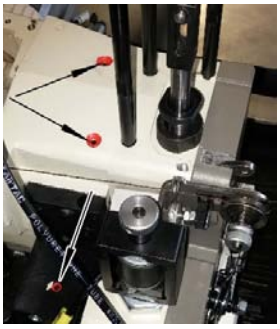


Fig.5b

Lubricate the hooks into the holes in the right and left hand holster according to the arrows, Fig. 5a. The channel is lubricated by the track of the hook. In addition, it is necessary to delete the cam track and foot lift housing. Oil into the marked openings, see Fig. 5b

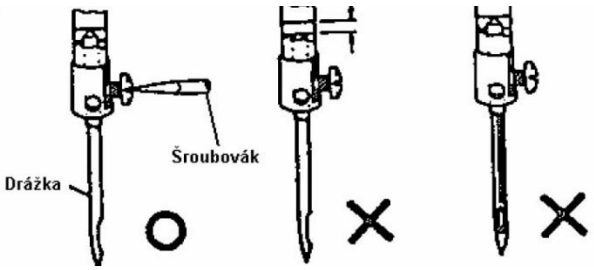
For safety, the hook lid should be closed during operation.

Fig. 6

In case of need, add silicon oil in the cup of the bracket for lubrication of upper thread.

2. Needle insertion:

Loosen the screw of needle holder (1), fully insert the needle (2) into the needle socket in needle holder while keeping the needle slot (3) facing tip of the hook, then tighten it with the screw (1), see Fig. 7.



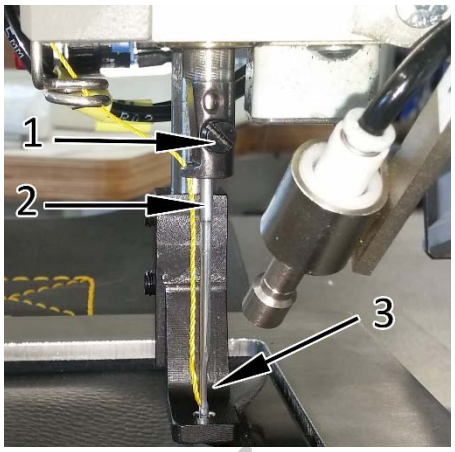


Fig. 7

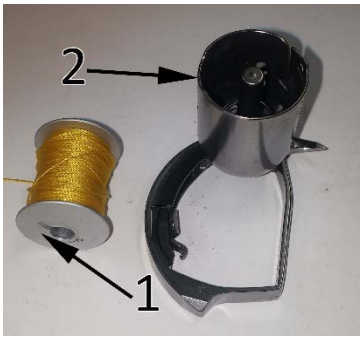
3. Upper threading:

Lead the thread as the figure 8 shows and put the thread take-up lever in upper stop position to prevent slipping of the thread. You will find detailed description in chapter 5 on page 18, 19.

Fig. 8

4. Bobbin threading:

A. Put bobbin (1) into bobbin case (2) as the Fig. 9 shows (the shuttle rotates in clockwise direction).
B. Bobbin thread is led through the bobbin case spring and bobbin case hole (3)
C. The remain of bobbin thread end should be kept about 55mm long.



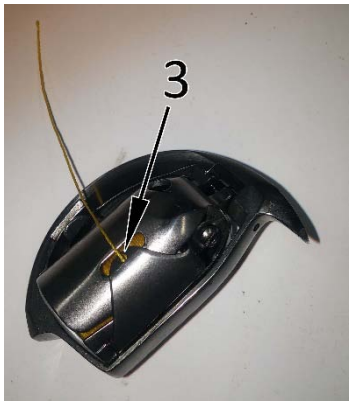


Fig. 9

5. Insertion of bobbin to bobbin case:

Insert the threaded bobbin into the tilted bobbin case. Drain the thread into the outlet hole in the spring of bobbin case and push the case into the working position so that the lock locks in place, see Fig. 10

[Notice]
If the shuttle is not correctly installed, machine can be damaged during operation

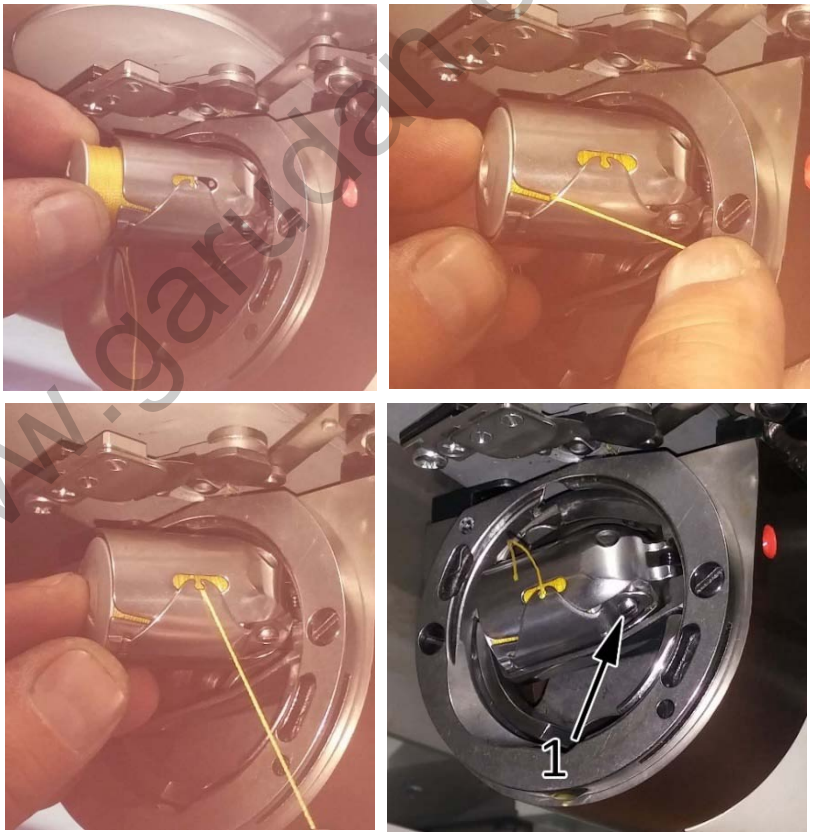
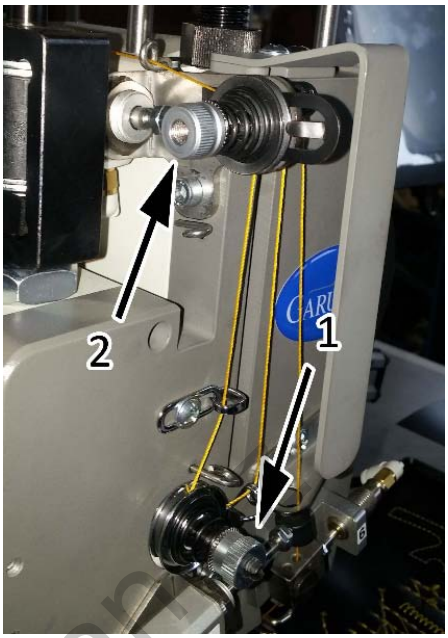
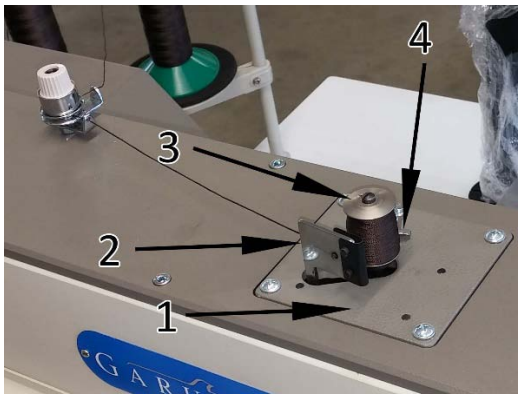


Fig. 10

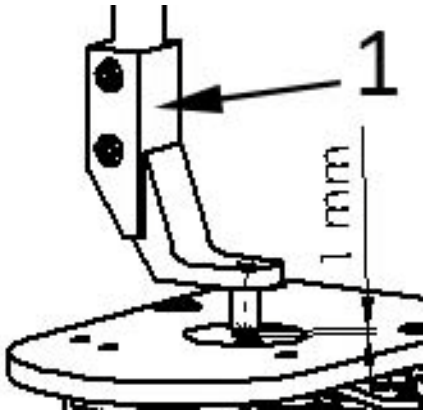
6. Thread tension adjustment:

A. Needle thread tension adjustment, Fig. 11: As the Figure shows turn screw (1) of the main tensioner clockwise to increase the tension, while counter clockwise to reduce the tension. Additional tensioner (2) is used for final adjustment of the end of needle thread after trimming. B. Bobbin thread tension adjustment, Fig. 10: As the figure shows, turn screw 1 clockwise to increase the tension, while counter clockwise to reduce the tension.	 Fig. 11

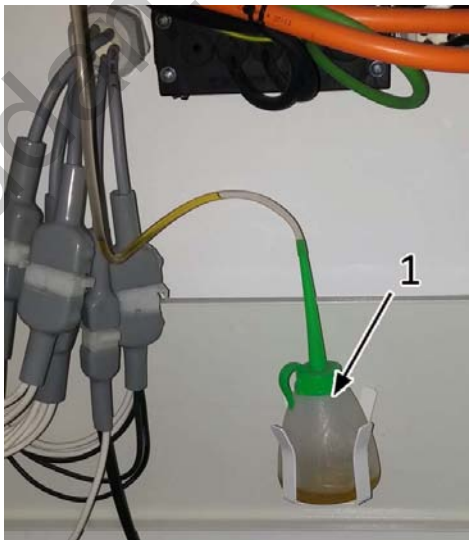
7. Bobbin winding:

A) Insert the bobbin (3) on bobbin winder shaft (1). B) Press the winder lever (2) to activate the operation and start the machine. C) When the bobbin is fully wound with thread, the winder lever releases the bobbin. Cut the thread by knife (4), see Fig. 12	 Fig. 12

8. Adjusting height of presser foot:

Adjustment of the foot is described in Chapter 4, page 17. The presser foot is mounted on the presser bar to the end of casting. If you need to adjust the through hole on the needle axis, loosen the presser foot 1 by loosening the screws. Rotate the presser foot onto the needle axis and tighten the screws. By default, the foot is about 1 mm above the insert plate, Fig. 13.	 Fig. 13

9. Used oil disposal:

The oil container (1) attached under the base table should be taken away for cleanup after it is full with oil, see Fig. 14.	 Obr. 14

8 MECHANICAL MAINTENANCE

1. Running settings of the driver and needle bar:

Notice: The driver of the needle bar 1, Fig. 16 is mounted on the presser bar to the end of casting 2, Fig. 16 (there are two different diameters of the needle bar).

Adjust the needle bar by turning the hand wheel into the bottom position, Fig. 16, (the rod is in alignment with the needle bar).

Using the adjusting screw 3 on the connecting rod, Fig. 15, tighten the connecting rod on the main shaft.

Then turn the hand wheel. The driver of the hook on the lower shaft must move along with the needle bar.

For inspection, we put the needle bar into the upper position - the driver begins to move along with the needle bar.

Repeat the procedure by loosening the bolt 3 on the connecting rod and turning it to the main shaft until the movement of the needle bar and the driver is correct.

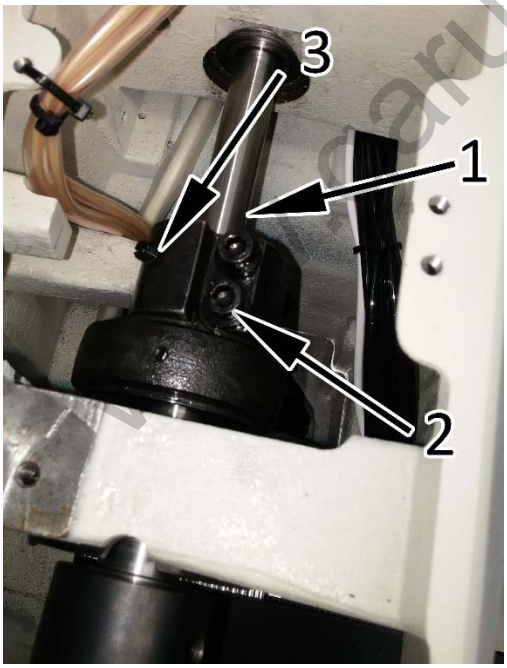


Fig. 15

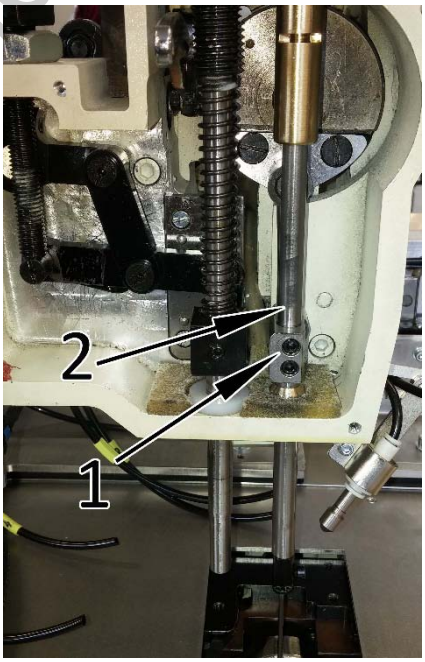


Fig. 16

2. Needle to hook relationship:

For adjustment, loosen the bolt 3 on the lever 2 with a clamping connection on the lower shaft 1, Fig 17. Place the needle bar at the bottom position. (the rod is in alignment with the needle bar).

Turning the hand wheel in the sewing direction shifts the needle bar 4.5 to 5mm upwards. We now set the tip of the hook on the needle axis. Then tighten the clamping joint on the lever 2 on the lower shaft 1.

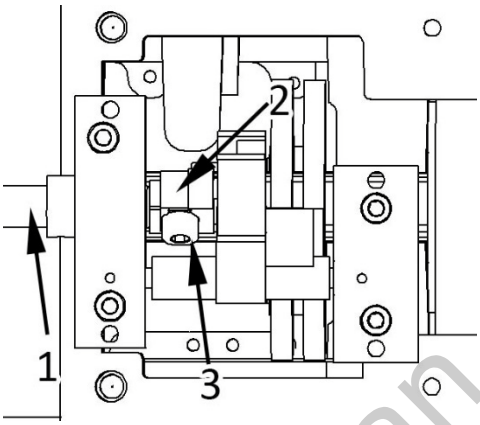


Fig. 17

3. Adjustment the needle distance from the tip of the hook:

This adjustment is performed by moving the hook case 1, Fig. 18, and thus the hook tip to the desired distance from the needle.

After losing the screw 2, Fig. 18, we move by rotation the eccentric 3 the hook case until the distance from the hook tip to from the hook recess in the needle is 0.1 to 0.2 mm, Fig. 19.

The hook in connection with the needle has to be adjusted so that the tip of the hook at the bottom of the recess in the needle is the point of the hook picking up the upper thread loop.

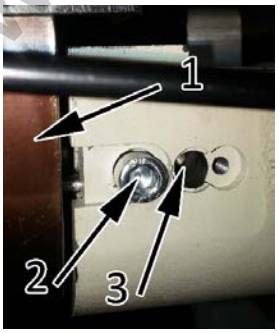


Fig. 18

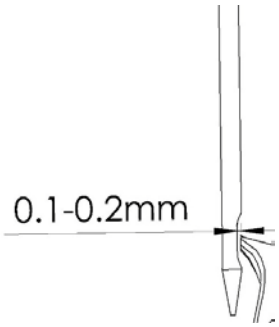


Fig. 19

Because the alignment procedure involves several operations at the same time, it is advisable to check and adjust the value after adjustment

Finally, we tighten all the screws, especially the two hexagon screws 2, Fig. 15, which fix with the wedges the position of the rod on the main shaft.

4. Adjustment of presser foot:

a) Set the needle bar to the Loir reversal point by turning hand wheel. Loosen screws (2) of the eccentric (1) as per Fig.20 and set this eccentric to the position where the presser bar (9) starts moving together with the needle bar or with a little delay (see Fig. 21). The eccentric (1) is placed on the main shaft (3), see Fig. 20.

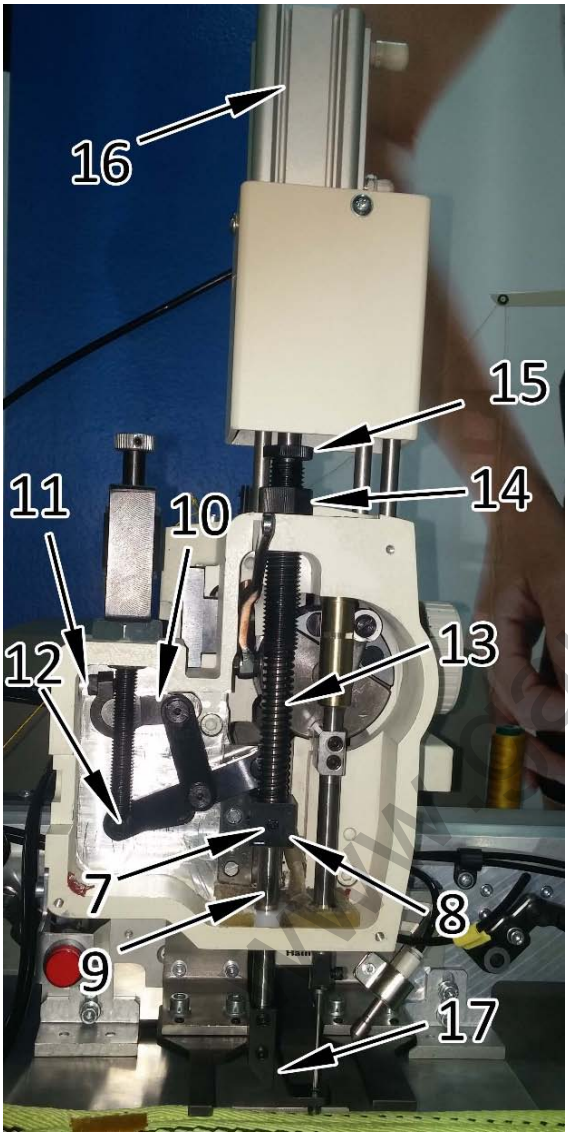


Fig. 21

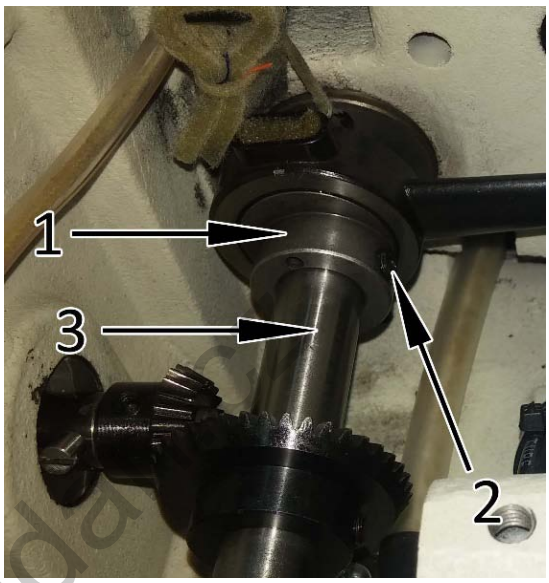


Fig. 20

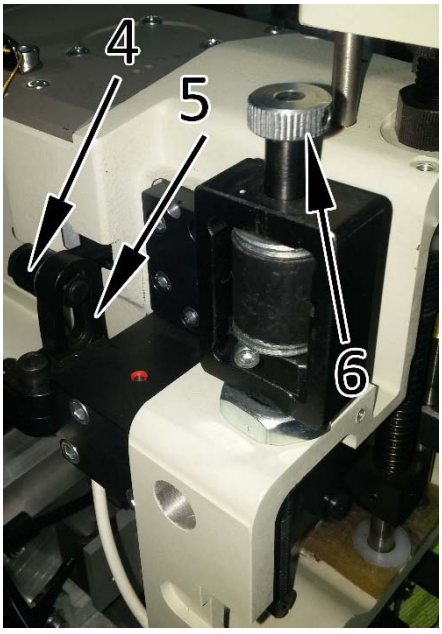


Fig. 22

b) Set the position of the driver 8 (Fig. 21) on the presser bar (9) to the position where presser foot (17) is on lower position of the presser bar, approximately 1 mm above the needle plate (Fig.13). At tightening the screws (7) check the position of the needle in the middle of the presser foot hole. See Fig. 21.

c) Lever 4, (Fig. 22), is driven by the eccentric and it is joined with the adjusting pin and nut on the lever with the groove (5) in the part located outside the machine. If the pin is in the upper part of the groove, the presser foot movement is set to minimum. If the pin is in the lower part of the groove, the presser foot movement is set to maximum.

d) Movement is transmitted on the lever mechanism through the lever (10) with clamping joint and screw, Fig.21. Distance of presser foot (17) above the needle plate (sewn material) is set by the screw (6) which leans against the pin (12) of the lever mechanism, see Fig. 21.

e) Lift of the presser bar during exchange of the material, when the machine is not in operation, is performed by pneumatic cylinder (16), see Fig. 21.

f) Pressure of the presser foot is adjusted by pressing the spring (13). This spring can be adjusted after losing nut (14) by turning the screw (15).

Summary: presser foot (17) should be moving with the delay defined by the value of approximately 5 mm of the needle trajectory during the movement from the lower reversal point. When the sewn material is moving and the needle is above the material, the presser foot must not be in contact with the material.

5. Thread of upper thread:

Lead the thread from thread stand to guides (1) on the head of the machine, Fig.23. After that thread through silicon oil bottle for lubrication (Fig.6). The bottle can also be placed between the guides (1).

After that lead the thread through tensioner (3), guide (4), tensioner (5) and spring (6), see Fig. 24. Then lead the thread through guide (8), thread puller (9), thread holder (10), guide (11) and guide (12) to the needle where the thread is inserted from the operator side in the direction of the arrow (13) (see Fig. 25).

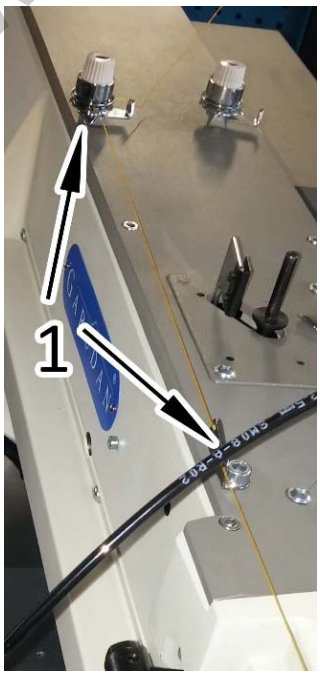


Fig. 23

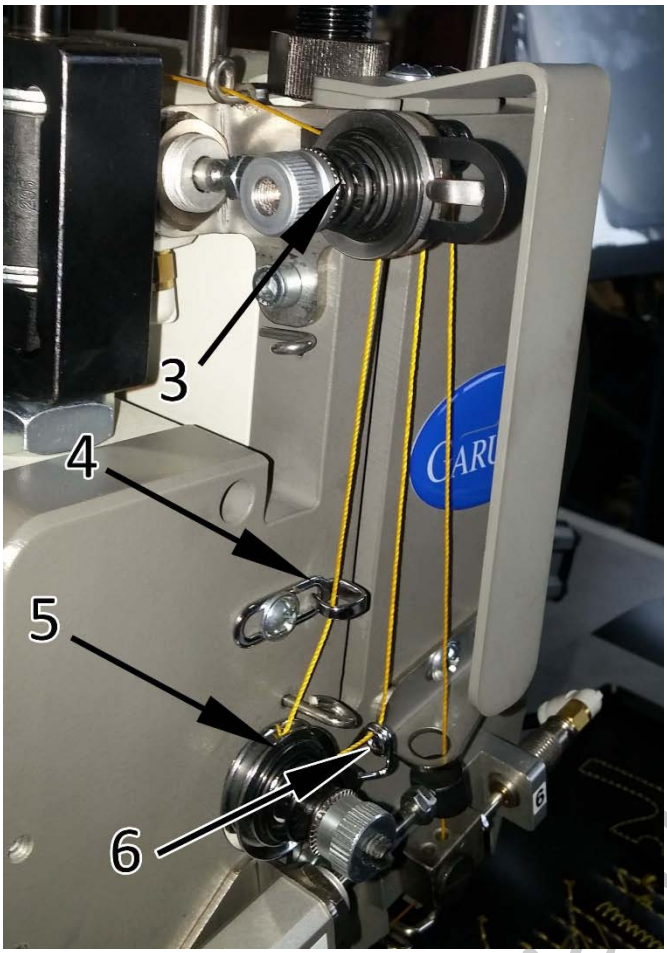


Fig. 24

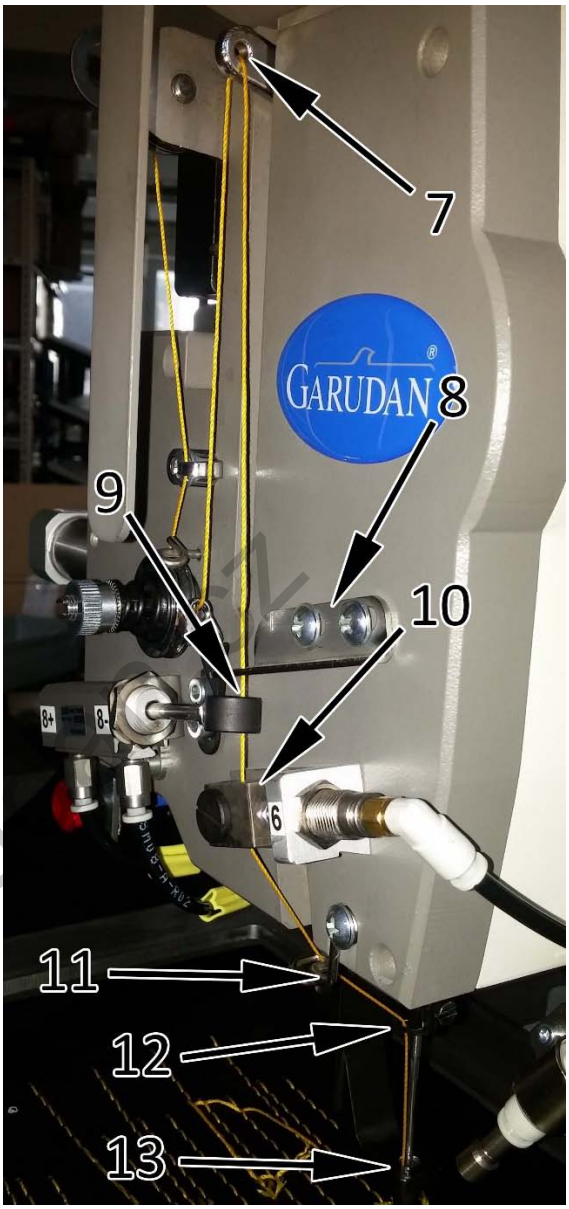


Fig. 25

6. Opening of the main tensioner discs:

Release of the main tensioner discs (5) is performed by pneumatic cylinder connected with the rod (Fig.24). Setting of the cylinder is made by *parameter 16.* This parameter defines position of the needle at the moment, when the tensioner discs are opened. The discs are opened during last trimming rotation in order to ensure sufficient length of the upper thread ends after trimming and correct start stitches of the following stitching.

Amount of release is defined by the lift of control pin of the main tensioner which leans against rising surface of the rod.

7. Adjustment of trimming mechanism:

Adjustment of fixed and moving knife, Fig. 26.

a) Move with needle bar to the upper position.

b) Set the position of fixed knife (1) so that its sharp edge is in distance of 8 mm from the center of the needle plate insert (2).

c) Loosen the screw (4) and set the position of moving knife (3) so that the distance of knife sharp edge (7) is 1.5-2 mm from the sharp edge of fixed knife, Fig. 27.

d) Check the fiction of trimming.

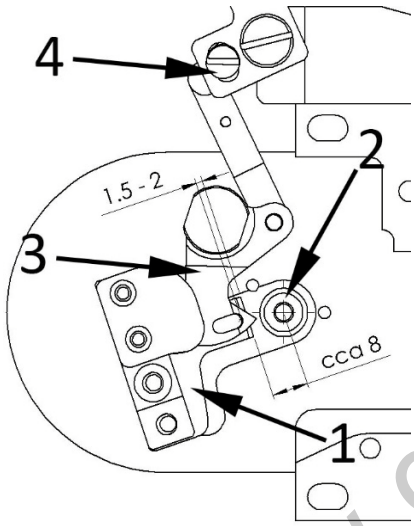


Fig. 26

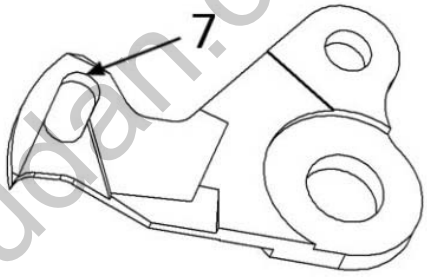


Fig. 27

8. Adjustment of speed of movement of the trimming lever:

Correct function of pneumatic cylinder of trimming is done by air pressure in value 0.55 - 0.6 MPa. Regular length of bottom thread after trimming is 55mm.

The trimming is controlled by below parameters:

- *Parameter* 21 Decelerate stitches – it indicates the number of stitches before trimming. Default value is 1 stitch.

- *Parameter* 22 Decelerate speed – speed of the motor before and during the trimming. Default value is 130 rpm.

- *Parameter* 41 Turning ON feed dog (starting time of thread feeder) – it sets the position of the needle hen the moving knifes is taking the needle. Default value if 500 ms.

- *Parameter* 42 turning OFF feed dog (operating time of thread feeder) – it sets the position of needle bar hen the moving knife is cutting the thread. Default value is 80 ms.

The speed of movement of the rod is decisive for correct moment of taking the thread by moving knife. It is usually adjusted with change of trimming speed, parameter 22. Short end of bottom thread after trimming or cranking of bottom thread is done by high speed of movement of moving knife. The thread is not taken by low speed of the knife.

Increasing or decreasing of the speed of knife is done by the valve (1) on the pneumatic cylinder (2) which is placed on the side of the base plate. The rod is connected with pneumatic cylinder by hinge bearing (3), Fig. 28.

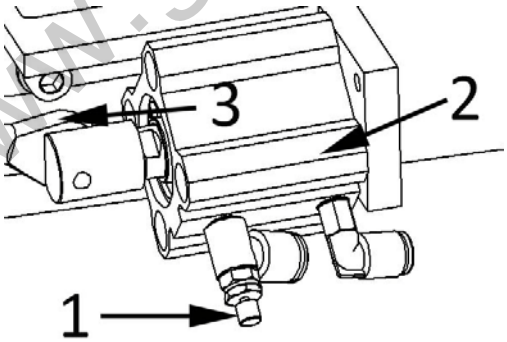


Fig. 28

9. Setting of hand wheel:

a) Press the hand wheel (1) in the direction of the arrow and turn the wheel until the roller leans against longer side of the bushing (3). See Fig. 29.

b) Set the correct clearance on conical gearwheels of the main shaft (4) and hand wheel shaft (5).

c) Turn the hand wheel (1) until the roller (2) sinks into short side of the bushing (3), thus making the required clearance between the gearwheels and enabling sewing operation of the machine.

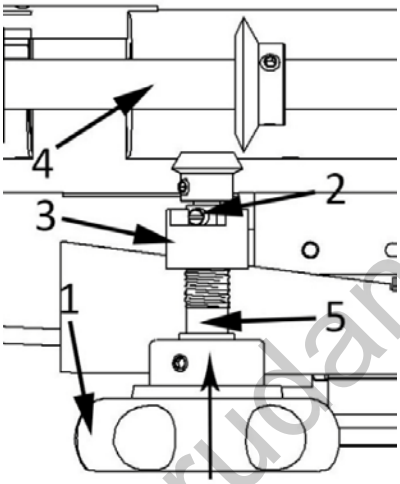


Fig. 29

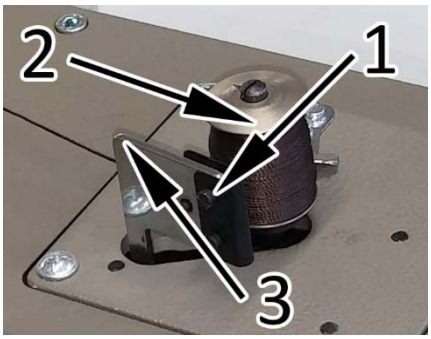
10. Setting of bobbin winder:

Setting amount of Wolf thread (Fig. 30):

a) Loosen screws (1) on the stopper lever (3).

b) Movement of stopper lever (3) in the direction of arrow (A) increases capacity of bobbin thread and vice versa.

c) Tighten the screws (1).

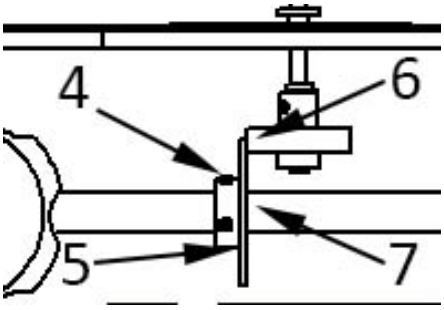


Obr. 30

Setting of driving mechanism of the bobbin winder:

a) After removal of the bobbin winder you reach access to the driving wheel (5), located on the main shaft (7), see Fig.31.

b) Loosen screws (4) and set the wheel (5) by moving it on the main shaft (7) until it is in the required contact with the driving ring of the winder (6).



Obr. 31

11. Sensors for initial position of X, Y and Z axis:

Default setting for initial position of X and Y axis initial point and position of Z axis (needle) is set in the production plant.

a) Sensors are placed on the machine arm, under left cover of the linear railway (Fig. 32).

b) X axis movement position can be set by moving sensor plate (2) against the sensor (1).

c) X axis movement position can be set by moving sensor plate (3) against the sensor (4).
For setting of initial points on X and Y axes move the feeding plate to its central position in both axes. Initial point refers to the actual center position of the feeding plate towards the needle. In this position the edges of sensor plates (2) and (4) are in line with the middle of sensors (1) and (3) (like the edge of sensor plate on Fig. 33).

d) Sensor of Z axis is located in the machine head and it can be reached after taking off cover of the machine head. Revolving sensor plate (5) is located on the main shaft.
Put the needle in the lower stop position and make the setting of the sensor plate (5) located on the ring as is illustrated on the Fig. 33 – the sensor plate is in the middle of the body of the sensor (6).

Clearance between sensor and sensor plate should be set for the value 0.3 – 0.5 mm.

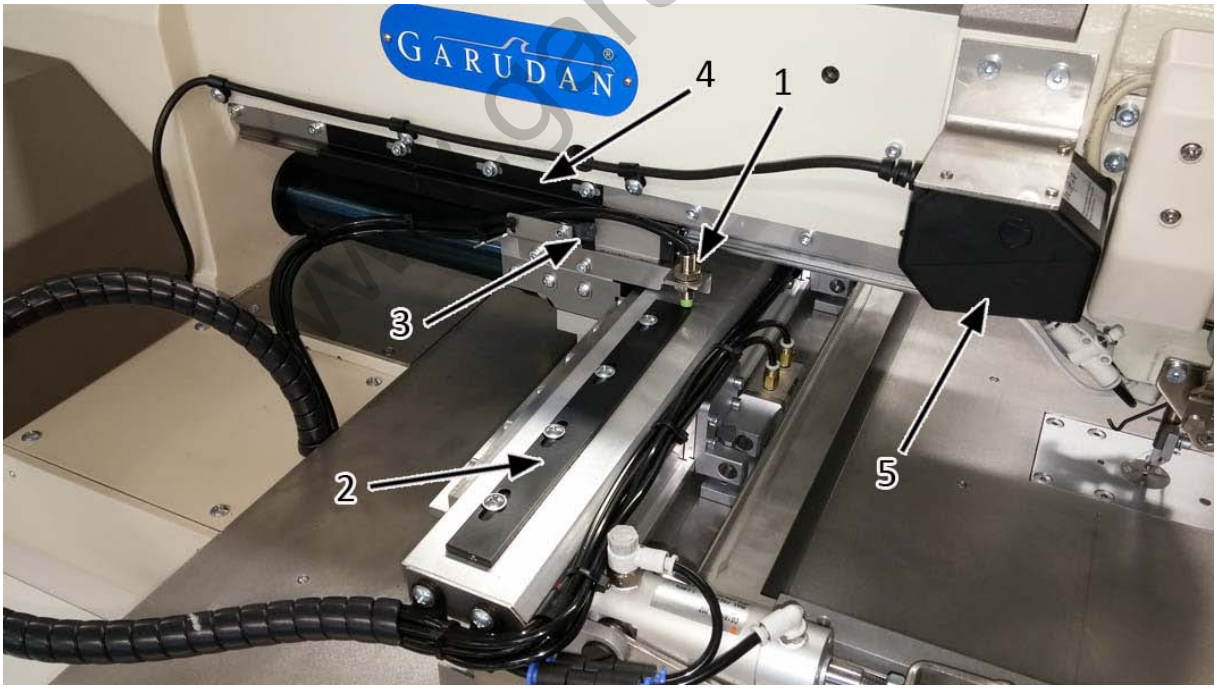


Fig. 32

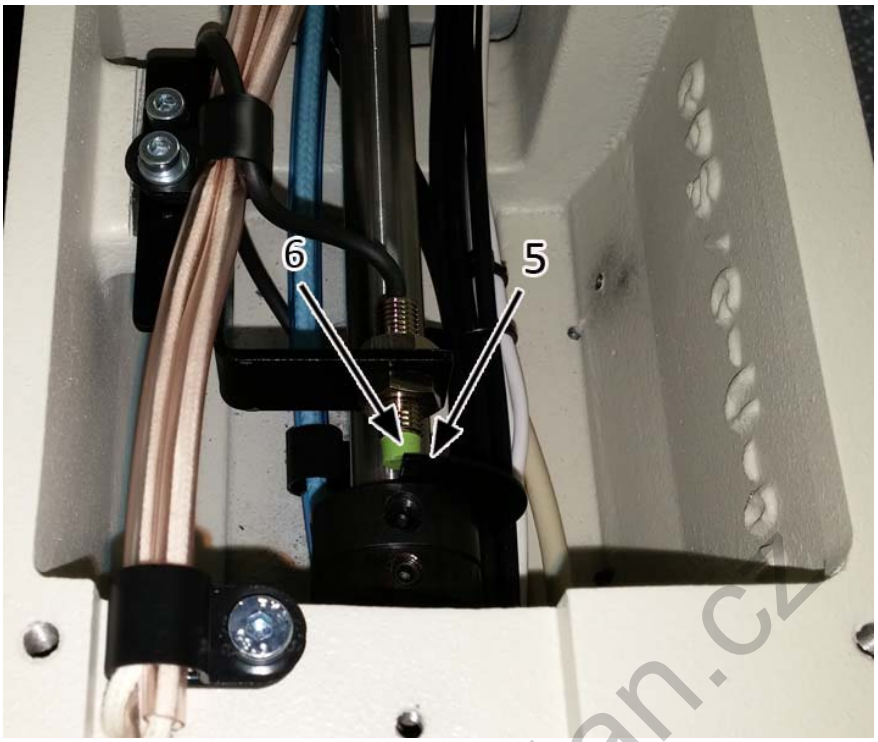


Fig. 33

12. Barcode reader:

Fig. 32 shows position of the barcode reader (5) on the machine.

13. Feeding frame:

Machine can be supplied either with the system of 2-piece upper presser frame (1, 2) and 1-piece lower feeding frame (3) – see Fig. 34, or it is supplied with customized clamp/pallet according to individual order of the customer – see Fig. 35.

a) Speed of the left (1) and right (2) upper frame down movement can be adjusted by pressure gauges (6,7) – see Fig. 38

b) For disassembly of the upper 2-piece frame, remove 12 screws (5). At the same time, it is necessary to disconnect pneumatic hose nipples (4) on both sides.

c) If the machine is supplied by customized pallet/clamp, it is necessary to connect the hoses to pneumatic nipples (4) – see Fig. 35.

Operation parameters:
Parameter 05 – operation of presser frame – down/up
Parameter 06 – type of presser frame
Parameter 07 – test of presser frame – necking position – down/up

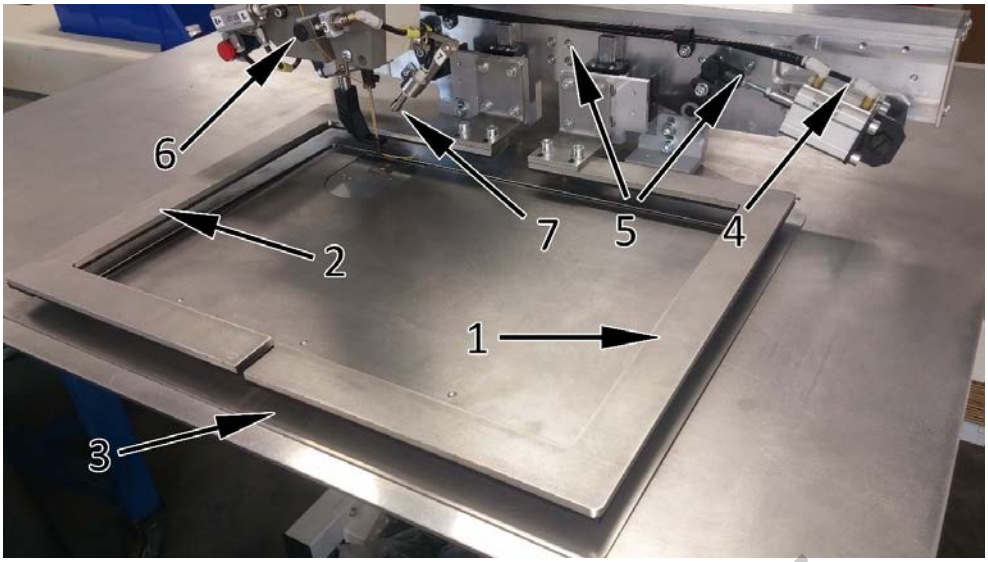


Fig. 34

14. Thread holder:

Fig. 34 shows position of the thread holder (6). This device is activated by *parameter 32*.
Default value is 80

15. Needle cooling:

Fig. 34 shows position of nozzle (7) used for needle cooling. This function is activated by *parameter 31.*

Fig. 35 shows valve (3) for adjustment of the amount of air supplied to the cooling nozzle.

16. Lock of the feeding clamp:

The feeding clamp is connected with the X-axis movement mechanism by means of lock (1), see Fig. 35. For correct function it is necessary to connect the hoses into pneumatic nipples (4).
It is also necessary to lubricate the locks by spray lubricant with teflon as indicated by arrow (2) approximately once a week.

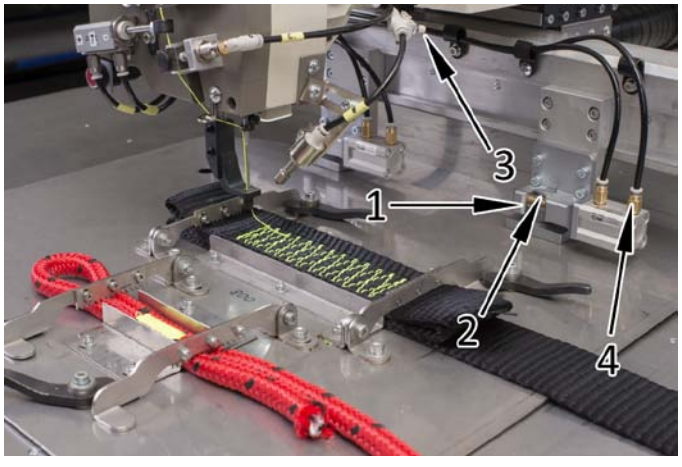


Fig. 35

17. Lubrication of ball screw shaft Bering:

Lubrication of ball screw shaft bearing ensures movement of the frame in axes X and Y
Unscrew the screws of the back cover (1) (two screws from back side and 3 screws on each side) and remove the cover (Fig.36).

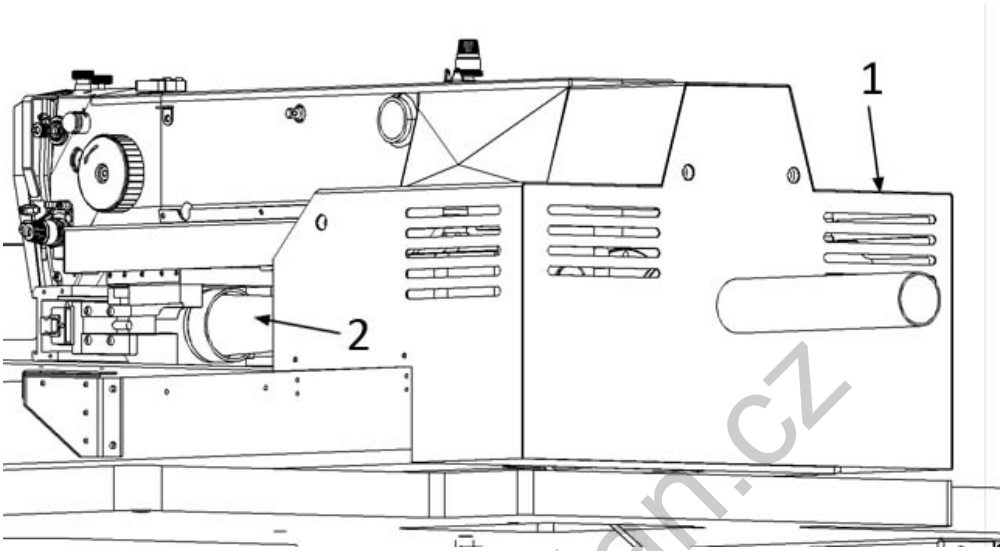


Fig. 36

Now you have access to lubricating head (2) on the flange of the bearing (1), see Fig. 37. Then apply the lubricant on the bearings by means of manual press. Lubrication is recommended to be performed at least once per year according to frequency of machine operation. Besides the bearings, it is recommended to lubricate also the ball screw shaft under the telescopic cover (2), see Fig. 36.

Recommended lubricant is *Multipurpose Grease EP-2*.

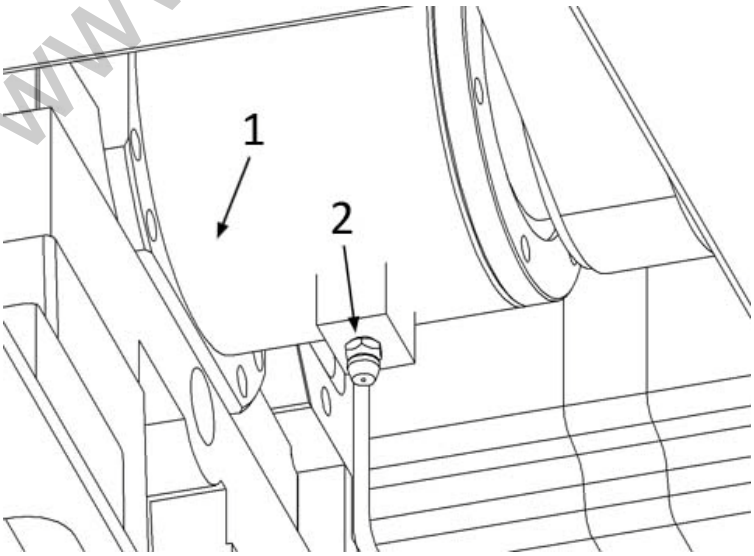


Fig. 37

18. Connection to air supply:

a) Connect air hose to nipple (1) on the entry unit /2), see Fig. 38.

b) Open air valve (3).

c) By turning the knob (4) on the entry unit set the pressure for the value 0,55 - 0,6 MPa. Check the correct air pressure value on the manometer gauge.

d) Make sure that the liquid in the separator (5) is regularly emptied.

Notice: If the pressure drops below the minimum level, the machine displays the error and stops. Setting of this fiction is done from the production plant.

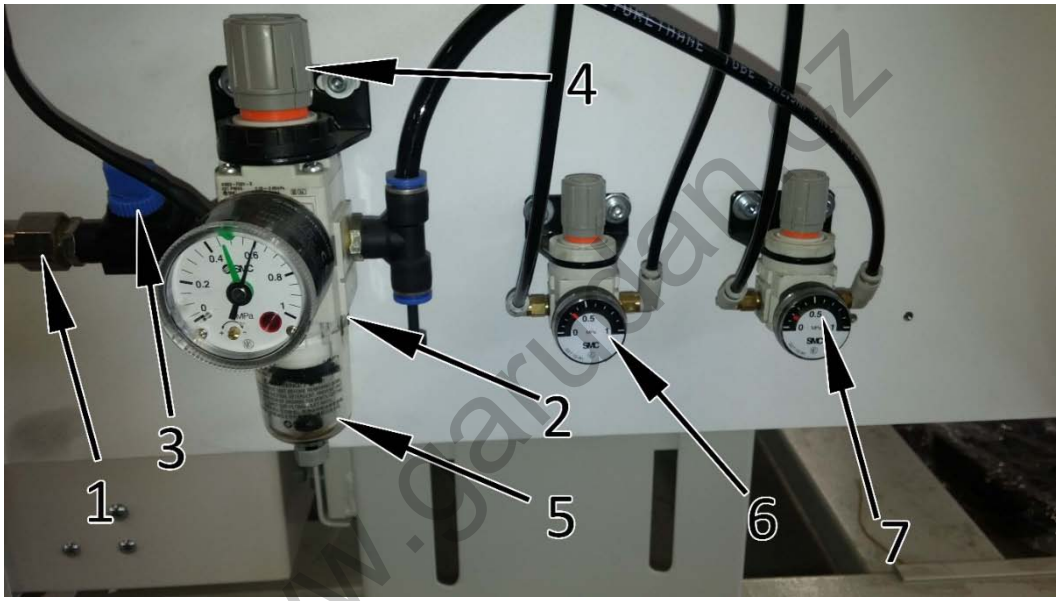


Fig. 38

Auxiliary manometers (6 and 7) is used for regulation of upper feed frame pressure (left and right side), see chapter. 13

19. Operation of pedals:

a) Function of pedals can be defined according to requirement of operator by parameters 8,9 and 10.
b) Machine is standardly supplied with 2-piece presser frame and 3 pedals (see chart 1). If middle pedal is not used, it is possible to use the same setting which is used for machine with 2 pedals (see chart 2).

Chart 1: Setting for operation with 3 pedals:

Parameter	Value
6 Feed plate type	1 Two feed plate
8 Signal of pedal 1 (left)	1 Start sewing
9 Signal of pedal 2 (middle)	2 Left feed plate
10 Signal of pedal 3 (right)	3 Right feed plate

c) In case of use of customized fixing frames (pallets) it is possible to use 3 pedals accordingly: right pedal is used for locking and unlocking of the pallet, middle pedal is used for pressing down the upper frame and left pedal is used for start of the sewing of selected pattern. This setting is described in chart 1.

Chart 2: Setting for operation with 2 pedals:

Parameter	Value
6 Feed plate type	2 Upper and bottom
8 Signal of pedal 1 (left)	1 Start sewing
9 Signal of pedal 2 (middle)	0 Disable
10 Signal of pedal 3 (right)	4 Both feed plate
5 Operation of presser frame	2 In operation

d) In case of use of customized fixing frames (pallets) it is possible to use option with 2 pedals – setting described in chart 2. Parameter 6 is set for the value „Upper and bottom“. Right pedal is used for pressing up and down the upper frame and left pedal is used for start of the sewing of selected pattern.

   Operation of presser frames is additionally is defined by parameters 5, 6 and 7.

The above setting is only standard setting which user can change according to his requirements.

20. Chart of maximum sewing speed:

The chart defines maximum sewing speeds with relation to different stitch lengths. Sewing speed can be lower than the maximum speed but should not exceed the maximum speed defined for the respective stitch length.

Straight stitch		**ZigZag stitch**	
Stitch length (mm)	Spm	Stitch length (mm)	Spm
Up to 9	800	For example. 12x5	
Up to 10	700	Up to 12	600
From 10.1 to 12	600	From 12.1 to 15	500
12.1 – 15	500	15.1 – 19	400
15.1 – 19	400	19.1 – 25	300
19.1 – 25	300	25.1 – 30	200
25.1 – 30	200		
30.1 – 40	100	30.1 – 40	100

9 TROUBLESHOOTING

No.	Type of the problem	Cause of the problem	Solution
1	Error of control system or machine driving unit	Error message on the display of needle motor driver for X or Y axis	Inform manufacturer about the type of error message
		Fuse is short-cut	Check fuses in the switchboard
		Switched-off circuit breaker	Check position of the circuit breaker in the switchboard
		Error message on the machine display	Act in accordance with type of error message and information from the operation manual
2	Wrong needle upper stop position	Wrong setting of parameter for needle upper stop position angle or parameter of reverse angle	Check correct setting of following parameters: 25 Reverse angle 26 Up stop position angle 35 Reverse angle before wiper
		Wrong position of needle motor sensor or sensor plate	Check position of needle motor sensor plate and the sensor function
		Fault of needle motor or motor driver	Exchange motor for needle driving mechanism or respective driver in the switchboard
3	Wrong position of feed frame	Loosen screws leading to slipping of driving toothed wheels of X and Y axis	Check if screws of feed frame driving wheel mechanism are properly tightened
		Wrong fixing of the sewn product	Correct proper fixing of the sewn material inside the template
		Loss of X- or Y- motor steps	Lower the sewing speed and check if there are not any mechanical obstacles preventing motor or feed frame from fluent movement
4	Fault of needle	Damaged needle (bent, broken or worn-out)	Exchange the needle
		Wrong position of needle	Re-install correct positron of the needle
		Contact of needle and position	Set correct clearance between needle and hook and check if the hook is not damaged

5	Broken thread	Wrong threading of upper thread	Make correct threading
		Wrong position of needle	Set correct position of needle
		Damaged needle	Exchange needle
		Wrong tension of upper or lower thread	Re-install correct thread tension
		Wrong tension and rigidity of thread tension spring	Re-install correct tension and rigidity of thread tension spring
		Damage of hook upper spring	Exchange hook upper spring and check if theh hook is not mechanically damaged
6	Thread skips or falls off the needle eye	Bent needle	Exchange the needle
		Thread thickness is not in correspondence with needle size	Exchange the needle
		Wrong position of needle	Re-install correct needle position
		Wrong timing of motion between needle and hook	Re-adjust correct timing between needle and hook
		Too big clearance between needle and hook	Re-adjust correct clearance between needle and hook
		Wrong tension of thread take-up spring	Adjust correct tension of the spring
7	Wrong function of thread breakage detector	Thread take-up spring is not well linked with thread sensor plate	Clean the thread take-up spring and the sensor plate and adjust the correct mutual position
		The wire of thread sensor plate is not well linked	Check the correct wiring
8	Bad quality of thread tension	Tension of needle thread is not sufficient	Adjust correct tension of needle thread
		Tension of bobbin thread is not sufficient	Adjust correct tension of bobbin thread
		Wrong timing of the motion between needle and hook	Adjust correct timing of the motion between needle and hook
9	Trimming error occurs	The cross tension between movable and fixed knife is loose	Adjust the tension of the fixed knife
		Blades of movable or fixed knife are damaged or worn-out	Replace movable or fixed knife
		Wrong trimming speed or speed of the knife	Adjust the trimming speed or speed of the knife - see chap.8

Spare Parts List

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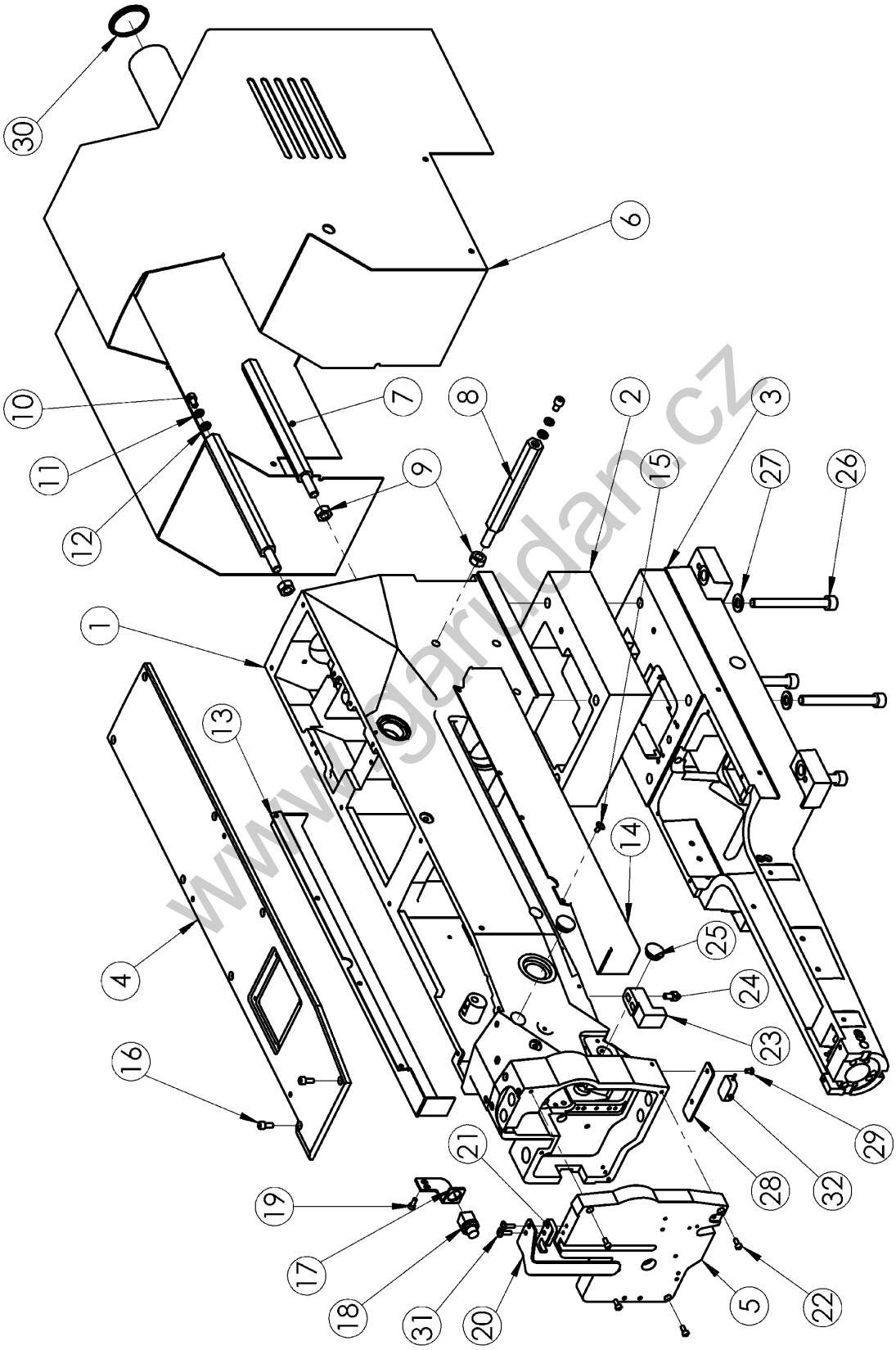
MP03200EN_180822

VERSION	CREATED ON	APPROVED BY
MP03200EN_180822	22. 08. 2018	Jakub Lžičař

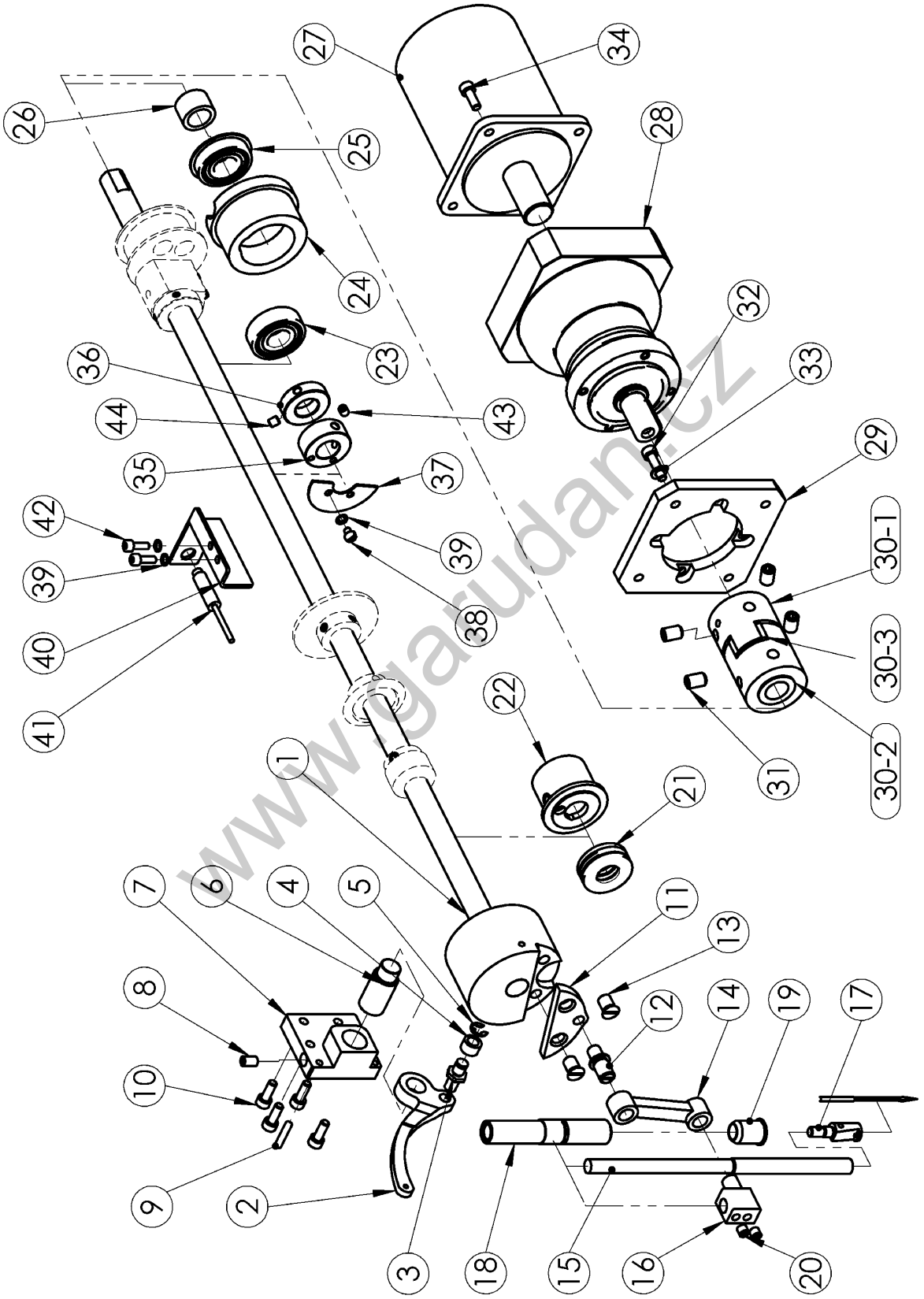
Obsah

A. FRAME AND MACHINE BODY PARTS



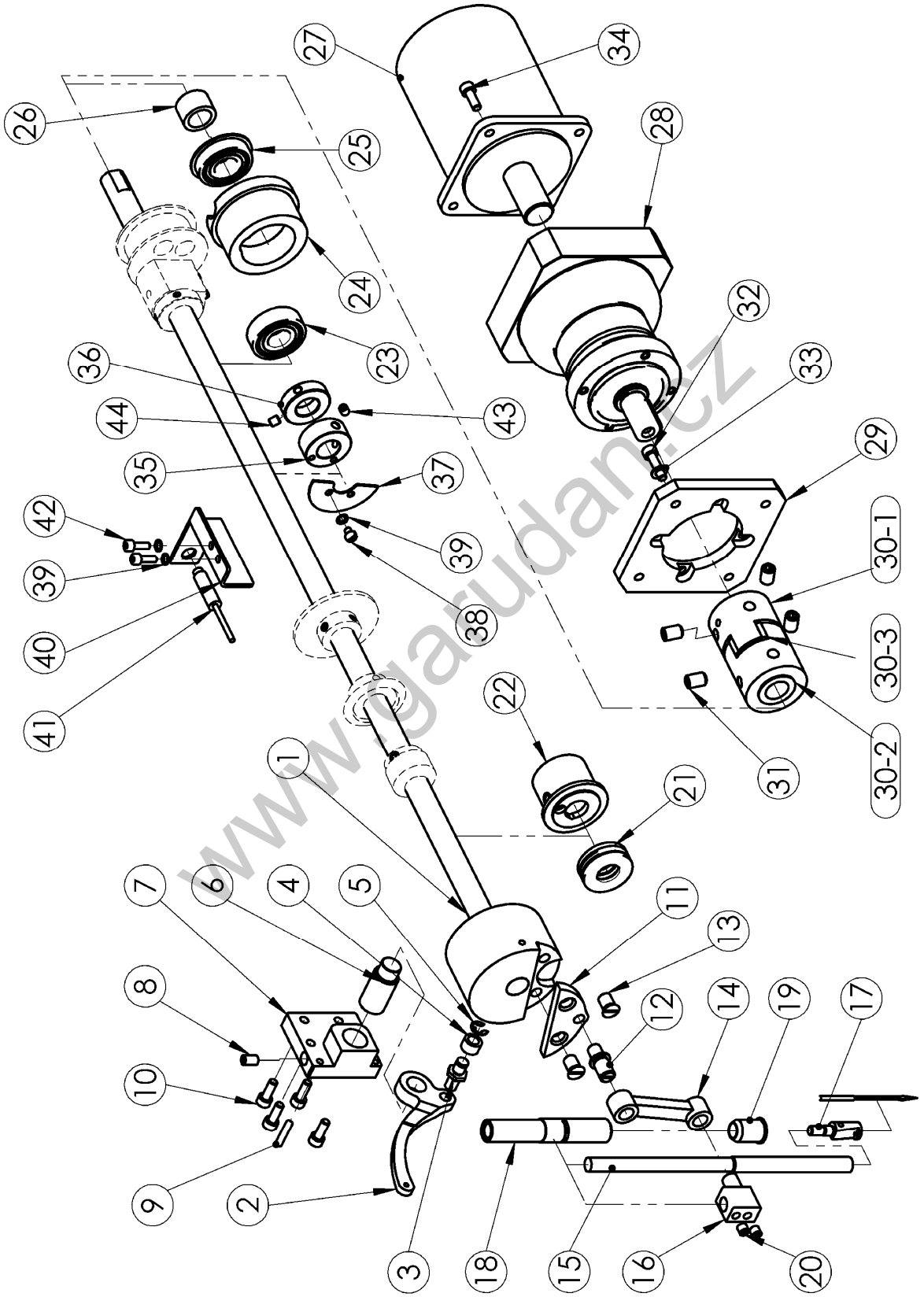
A. FRAME AND MACHINE BODY PARTS					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	A0123525_X	Arm		1	
2	AnB-3525-826	Plate		1	
3	A0223525_X	Bedplate		1	
4	AnB-3525-895	Top Cover		1	
5	AnB-3525-853	Face Cover		1	
6	AnB-3525-880	Back Cover		1	
7	AnB-3525-881	Distance Bracket		2	
8	AnB-3525-064	Distance Bracket		2	
9	M10 DIN 934	Nut		4	
10	M6x10 DIN 912	Screw		4	
11	6 DIN 152A	Washer		4	
12	6 DIN 127A	Washer		4	
13	AnB-3525-028	Cover		1	
14	AnB-3525-063	Cover		1	
15	M4x8 DIN 967	Screw		8	
16	M5x12 DIN 912	Screw		8	
17	A2401507	Stop Switch Bracket		1	
18	A2301507	Stop Switch		1	
19	M4x10 DIN 912	Screw		2	
20	AnB-3525-914	Thread Take-up Cover		1	
21	AnB-3525-915	Washer		1	
22	M4x10 DIN 912	Screw		4	
23	AnB-3525-925	Stopper Y		1	
24	M6x10 DIN 912	Screw		2	
25	A2201507	Plug		2	
26	M10x110 DIN 912	Screw		4	
27	10 DIN 125A	Washer		4	
28	AnB-3525-920	Plate for Light		1	
29	M4x8 DIN 965A	Screw		2	
30	A4326032	Cover		1	
31	M4x14 DIN 967	Screw		2	
32	17213000	Lamp		1	

B. UPPER SHAFT AND MAIN SHAFT MECHANISM (1/2)



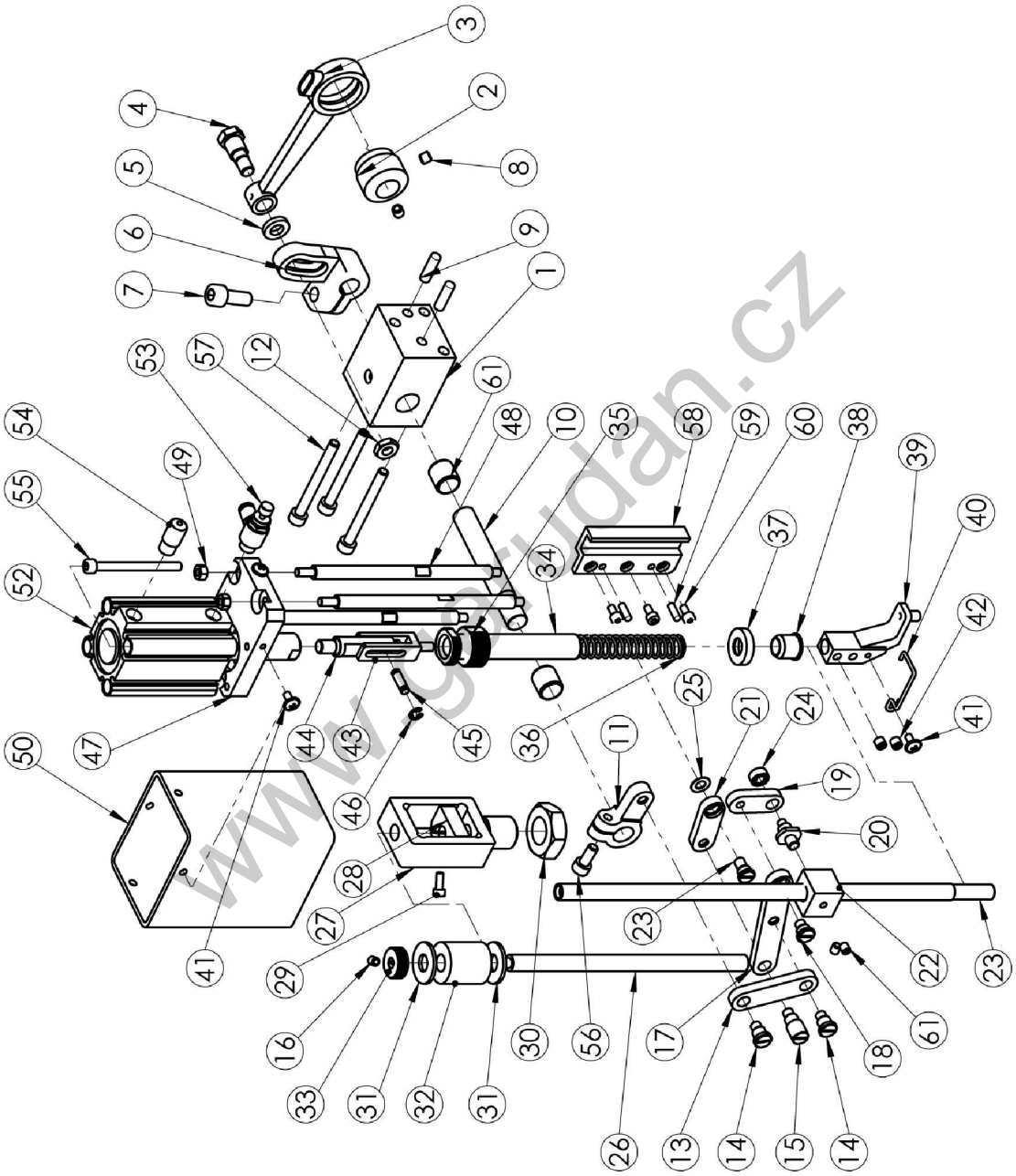
B. UPPER SHAFT AND MAIN SHAFT MECHANISM (1/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	AnB-3525-909	Upper Shaft with Cam Assy´y		1	
2	4710190100	Thread Take-up Lever		1	
3	4710190300	Roller Pin		1	
4	4710190200	Roller		1	
5	5 DIN 6799	Retaining Washer		1	
6	AnB-3525-829	Pin		1	
7	AnB-3525-848	Pin Holder		1	
8	M6x10 DIN 913	Screw		1	
9	4-20m6 DIN 6325	Pin		2	
10	M5x14 DIN 912	Screw		4	
11	4710121100	Cam plate		1	
12	4710121300	Needle Bar Connecting Pin		1	
13	ZSC1800	Screw		2	
14	4410121000	Needle Bar Crank Rod		1	
15	4410140100	Needle Bar		1	
16	4410140900	Needle Bar Holder		1	
17	4410140200	Needle Clamp		1	
18	AnB-3525-820	Bushing		1	
19	AnB-3525-808	Bushing		1	
20	ZMH16005	Screw		2	
21	51202	Ball Bearing axial		1	s. n. >1825
22	AnB-3525-843	Main Bushing		1	s. n. ≤1824
	AnB-3525-928				s. n. >1825
23	B1906032	Bearing		1	
24	A1706032	Bushing		1	
25	B1806032	Bushing		2	
26	AnB-3525-860	Distance Ring		1	
27	C4651510	Main Motor		1	
28	B55X3525	Planet Gearbox		1	
29	AnB-3525-855	Flange		1	
30-1	B4016032	Coupling		1	
30-2	B4026032	Coupling		1	
30-3	B4036032	Elastic element		1	
31	M8x8 DIN 913	Screw		4	
32	M5x20 DIN 912	Screw		4	
33	5.3 DIN 125A	Washer		4	
34	M5x14 DIN 912	Screw		4	
35	B2006032	Sensor Collar		1	
36	B4406032	Collar		1	
37	B3906032	Screen		1	

B. UPPER SHAFT AND MAIN SHAFT MECHANISM (2/2)



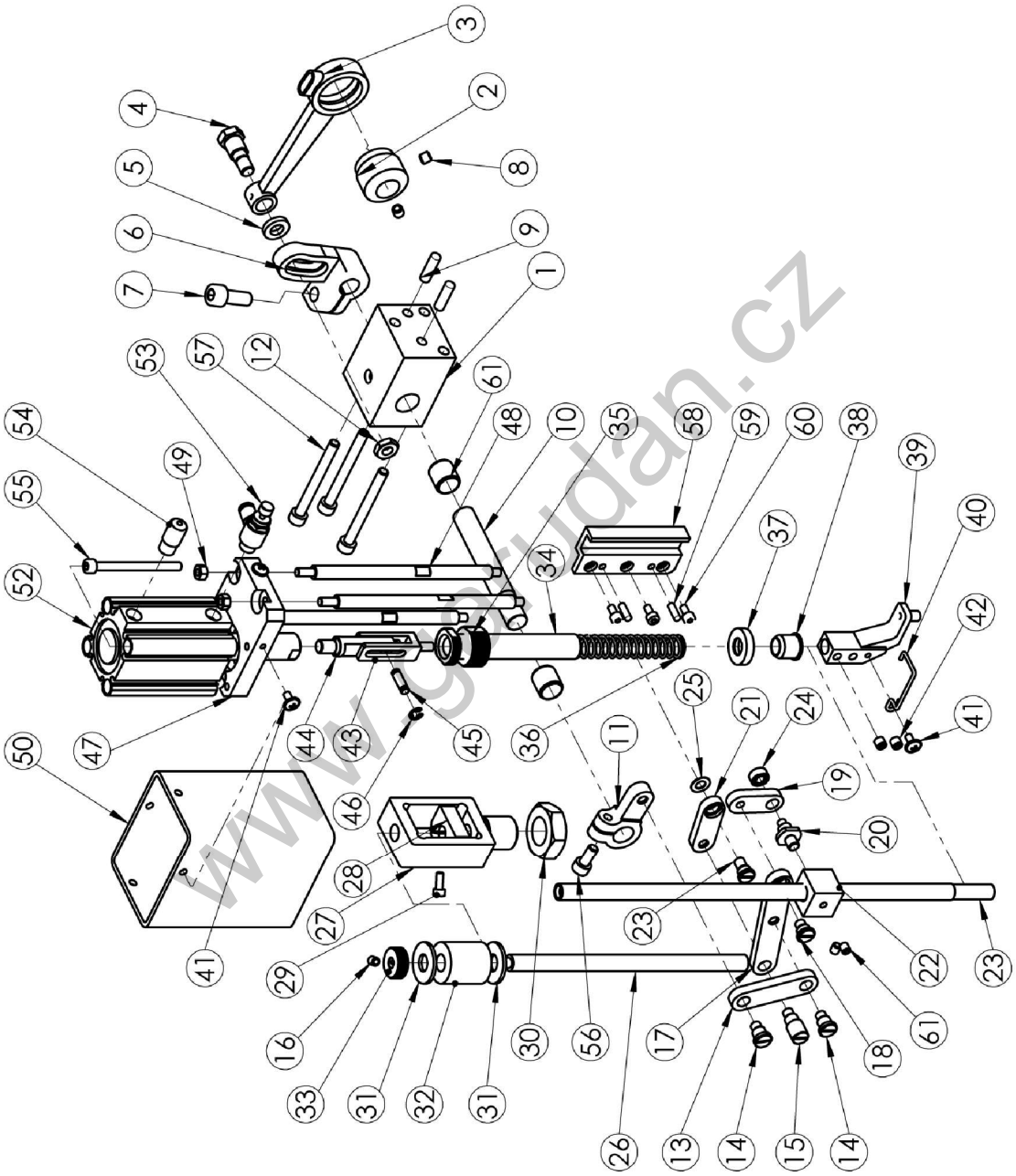
B. UPPER SHAFT AND MAIN SHAFT MECHANISM (2/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
38	M4x10 DIN 84	Screw		2	
39	4 DIN 127A	Spring washer		4	
40	B3006032	Z-sensor bracket		1	
41	K4001507	Sensor		1	
42	M4x12 DIN 912	Screw		2	
43	M6x6 DIN 913	Screw		2	
44	M5x6 DIN 913	Screw		2	

C. PRESSER FOOT MECHANISM (1/2)



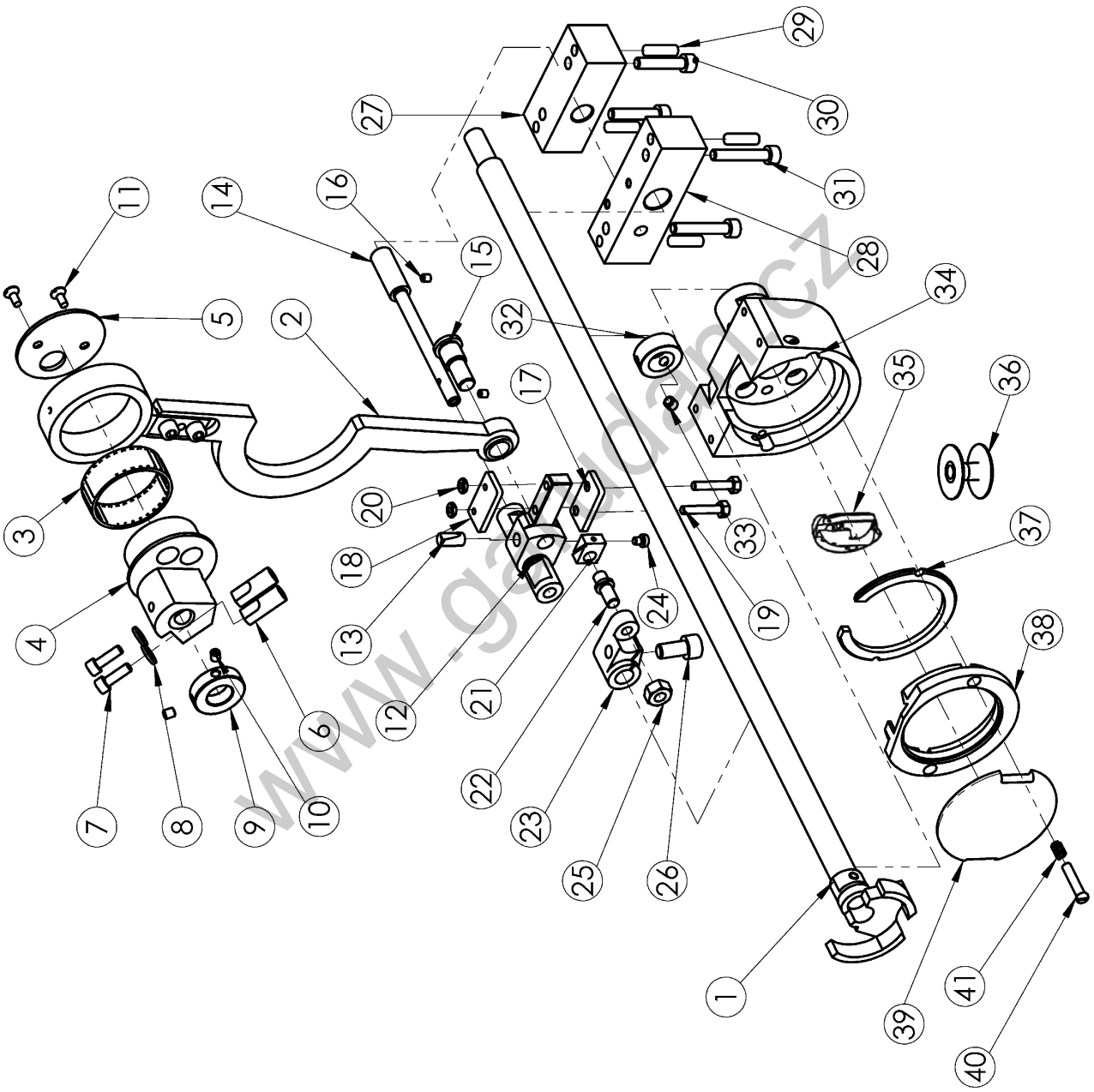
C. PRESSER FOOT MECHANISM (1/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	AnB-3525-832	Bracket		1	
2	AnB-3525-910	Excentr		1	
3	4710144500	Lever		1	
4	ZSG22002	Connection Pin		1	
5	WH208005	Distance Ring		1	
6	4710144700	Take-up Lever		1	
7	M6x20 DIN 912	Screw		1	
8	M6x6 DIN 913	Screw		2	
9	6-20m6 DIN 6325	Pin		2	
10	AnB-3525-807	Feeding Shaft		1	
11	4710144700	Lever		1	
12	ZSL22001	Nut		1	
13	AnB-3525-816	Presser Link		1	
14	AnB-3525-892	Pin		2	
15	AnB-3525-803	Pin		1	
16	DIN 913 M4x6	Screw		1	
17	AnB-3525-803	Presser Link		1	
18	AnB-3525-882	Pin		1	
19	AnB-3525-815	Presser Link		1	
20	AnB-3525-836	Screw		1	
21	AnB-3525-814	Presser Link		1	
22	AnB-3525-811	Guide Cube		1	
23	AnB-3525-818	Bar Holder		1	
24	SKF 638 5 2Z	Ball Bearing		1	
25	6 DIN 988	Washer (0.5 mm)		1	
26	AnB-3525-825	Stopper Bar		1	
27	AnB-3525-890	Bracket		1	
28	AnB-3525-891	Stopper		1	
29	M4x10 DIN 912	Screw		1	
30	M20 DIN 439 B	Nut		1	
31	M10 BN737	Washer		2	
32	AnB-3525-893	Elastomer Spring		1	
33	C3906032	Adjusting Kollar		1	
34	AnB-3525-822	Presser Adjusting Screw		1	
35	AnB-3525-812	Nut		1	
36	4710160404	Presser Adjusting Spring		1	
37	AnB-3525-917	Bushing		1	
38	AnB-3525-837	Bushing		1	
39	AnB-3525-802	Presser Foot with Needle Hole 3.6 mm		1	

C. PRESSER FOOT MECHANISM (2/2)



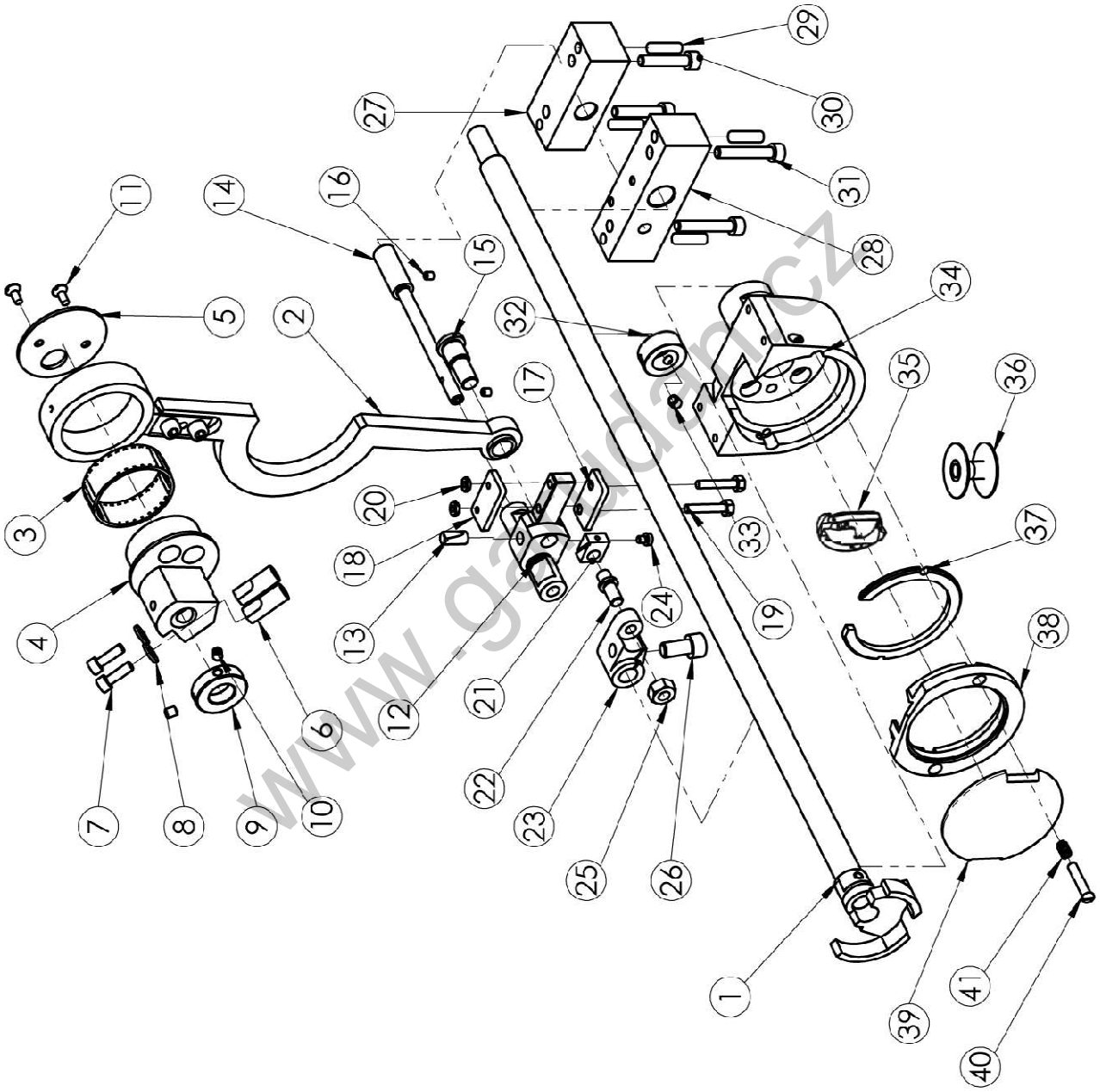
C. PRESSER FOOT MECHANISM (2/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
40	AnB-3525-829	Finger guide		1	
41	M4x8 DIN 967	Screw		5	
42	M6x6 DIN 913	Screw		2	
43	AnB-3525-883	Link		1	
44	AnB-3525-884	Connecting rod		1	
45	AnB-3525-918	Pin		1	
46	4 DIN 6799	Washer		2	
47	AnB-3525-886	Plate		1	
48	AnB-3525-885	Strut		3	
49	M5 DIN 934	Nut		3	
50	AnB-3525-887	Cover		1	
52	CQ2B32-50DZ	Shim ring		1	
53	AS2201F-01-04S	Choke		1	
54	AN10-01	Silencer		1	
55	M5x80 DIN 912	Screw		4	
56	M6x14 DIN 912	Screw		1	
57	Mx60 DIN 912	Screw		3	
58	AnB-3525-801	Guide		1	
59	4-12m6 DIN 6325	Pin		3	
60	M4x8 DIN 912	Screw		3	
61	MDZB13-15	Bearing		2	

D. LOWER SHAFT AND SHUTTLE MECHANISM (1/2)



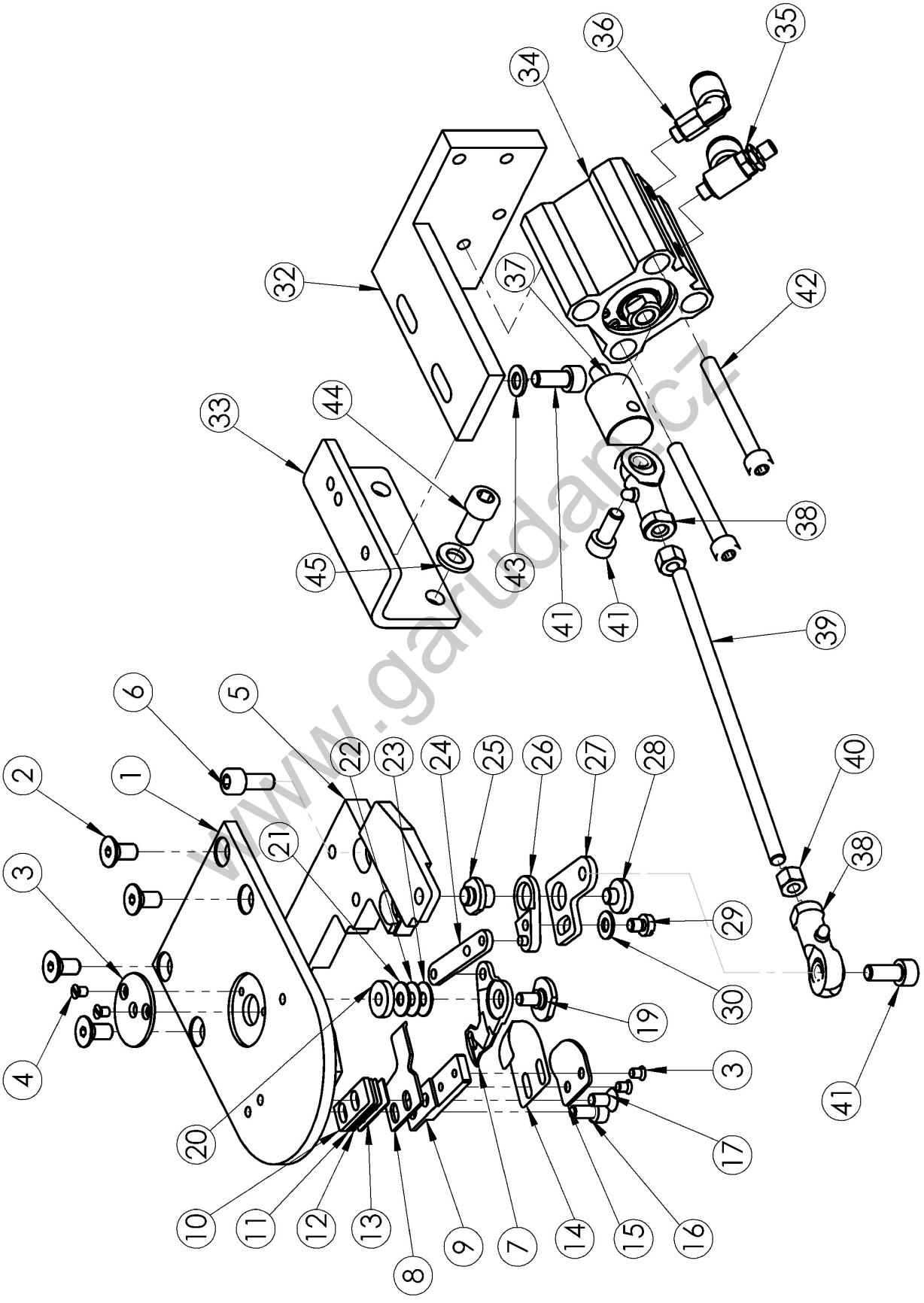
D. LOWER SHAFT AND SHUTTLE MECHANISM (1/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	AnB-3525-842	Lower Shaft Ass´y		1	
2	AnB-3525-872	Connecting Rod Ass´y		1	
3	4710182100	Bearing		1	
4	AnB-3525-911	Excentric Cam		1	
5	4710182000	Cam Side Plate		1	
6	4710183400	Pin		2	
7	ZMJ06006	Screw		2	
8	WA06008	Washer		2	
9	B4406032	Collar		1	
10	M5x6 DIN 913	Screw		2	
11	ZSC11002	Screw		2	
12	4710182200	Shuttle Shaft		1	
13	4710183100	Pin		1	
14	4710182300	Hinge Pin		1	
15	4710183000	Connecting Rod Pin		1	
16	M4x6 DIN 913	Screw		2	
17	4710182800	Slide Plate A		1	
18	4710182900	Slide Plate B		1	
19	ZSD11010	Screw		2	
20	ZSL11002	Nut		2	
21	4710182600	Slide Block		1	
22	4710182700	Side Block Pin		1	
23	4710182500	Driving Shaft Crank		1	
24	ZSB12036	Scrw		1	
25	ZSL18003	Nut		1	
26	ZMJ08003	Screw		1	
27	AnB-3525-810	Bracket 1		1	
28	AnB-3525-809	Bracket 2		1	
29	6-20m6 DIN 6325	Pin		4	
30	M6x30 DIN 912	Screw		2	
31	M6x35 DIN 912	Screw		2	
32	AnB-3525-916	Collar		1	
33	M6x6 DIN 913	Screw		2	
34	AnB-3525-827	Shuttle Bushing		1	
35	4710181300	Shuttle		1	
36	4710183200	Bobbin		1	
37	4710184200	Distance Piece		1	
38	4710181400	Shuttle Race Body		1	
39	4710183600	Shuttle Cover		1	

D. LOWER SHAFT AND SHUTTLE MECHANISM (2/2)



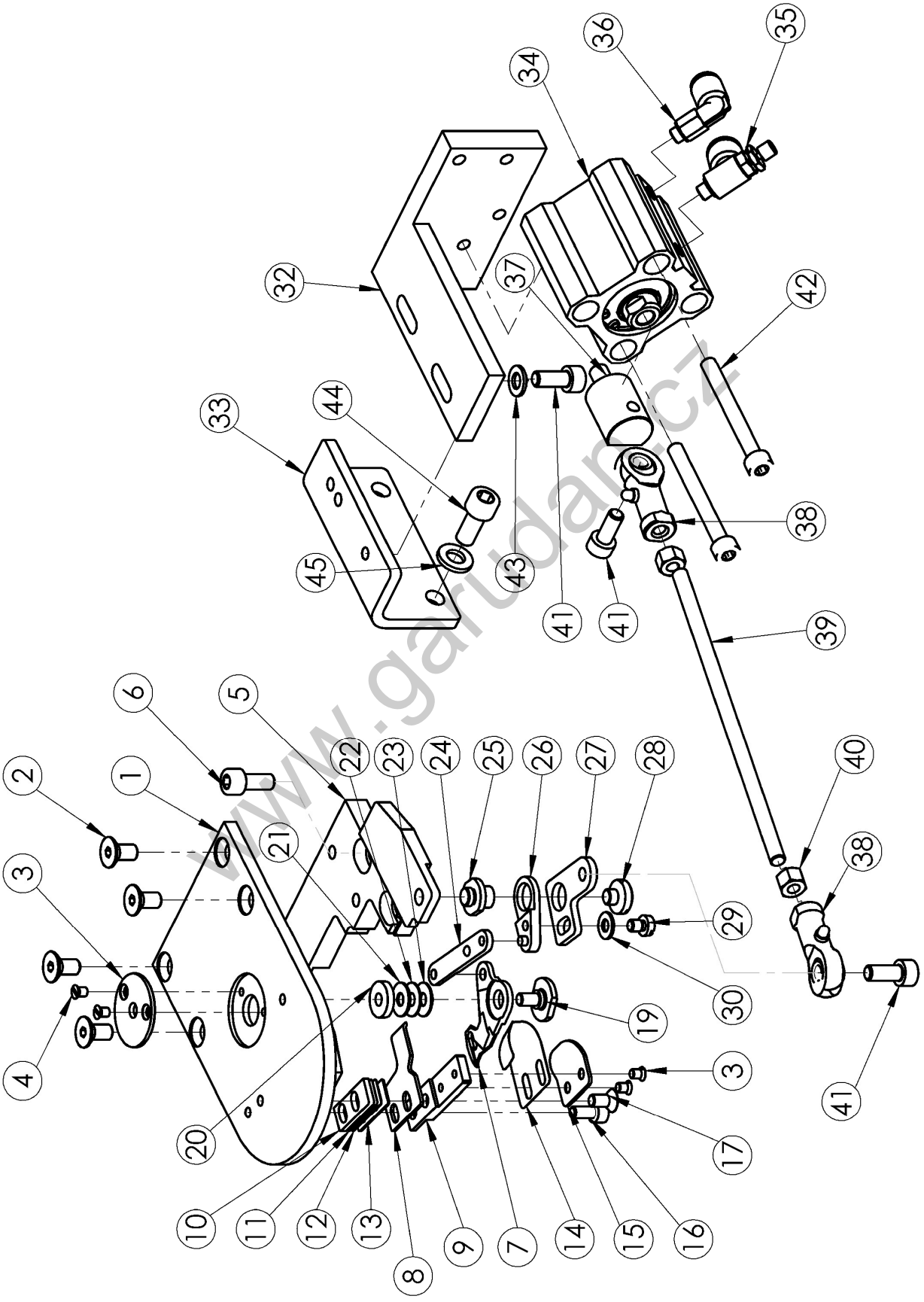
D. LOWER SHAFT AND SHUTTLE MECHANISM (2/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
40	AnB-3525-912	Screw		2	
41	4710183800	Spring		2	

E. THREAD TRIMMING MECHANISM (1/2)



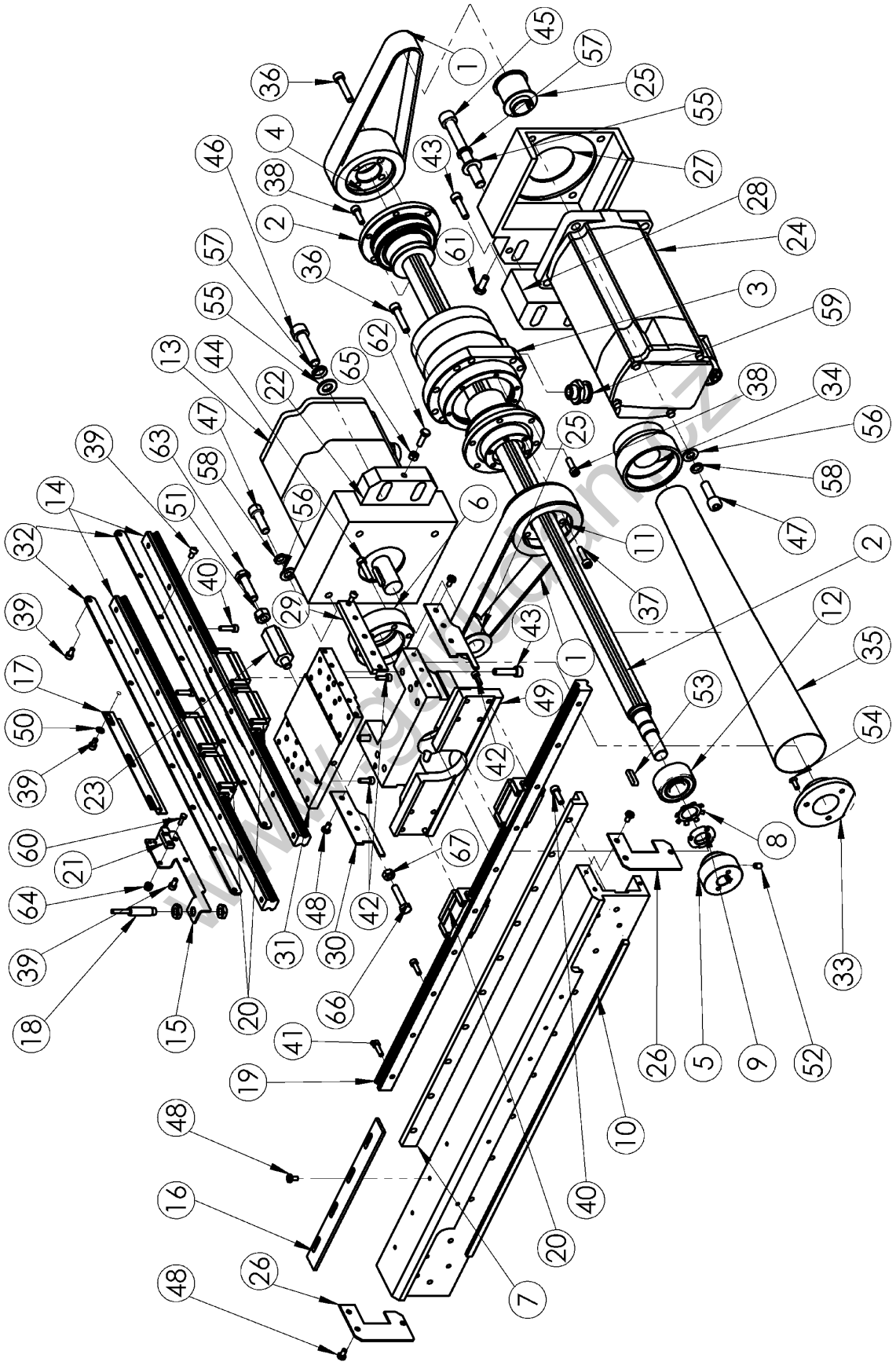
E. THREAD TRIMMING MECHANISM (1/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	AnB-3525-819	Needle Plate		1	
2	E3606032	Screw		4	
3	AnB-3525-828	Needle Plate Cover – hole 3.5 mm		1	
	AnB-3525-841	Needle Plate Cover – hole 4.5 mm			
4	M3x4 DIN 963	Screw		1	
5	AnB-3525-905	Base Ass´y		4	
6	M5x12 DIN 912	Screw		1	
7	E9056032	Moving knife		4	
8	E9026032	Fixed knife		1	
9	E9416032	Holder		1	
10	AnB-3525-903	Insert		1	
11	AnB-3525-922	Washer 0.5 mm		1	
12	AnB-3525-923	Washer 0.2 mm		1	
13	AnB-3525-924	Washer 0.1 mm		1	
14	AnB-3525-831	Spring		1	
15	E9426032	Plate		1	
16	M4x8 DIN 912	Screw		1	
17	M4x8 DIN 965A	Screw		1	
19	AnB-3525-823	Pin		1	
20	AnB-3525-901	Washer		1	
21	J4741507	Washer 0.4 mm		1	
22	J4751507	Washer 0.5 mm		1	
23	J4761507	Washer 0.6 mm		1	
24	AnB-3525-921	Moving Link		1	
25	E5006032	Lever Shaft		1	
26	E6106032	Thread Trimming Lever		1	
27	AnB-3525-840	Thread Trimming Lever		1	
28	E4606032	Screw		1	
29	M4x5 DIN 84	Screw		1	
30	4.3 DIN 125A	Washer		1	
32	AnB-3525-804	Base Ass´y		1	
33	AnB-3525-850	Holder		1	
34	CQ2B25-20D	Pneumatic Cylinder		1	
35	AS1211F-M5-06	Choke Valve		1	
36	KQ2L06-M5A	Hose Nipple		1	
37	AnB-3525-830	Pine Holder		1	
38	E2306032	Rod end Bearing		2	
39	AnB-3525-888	Link Lever A		1	
40	M5 DIN 934	Nut		2	

E. THREAD TRIMMING MECHANISM (2/2)



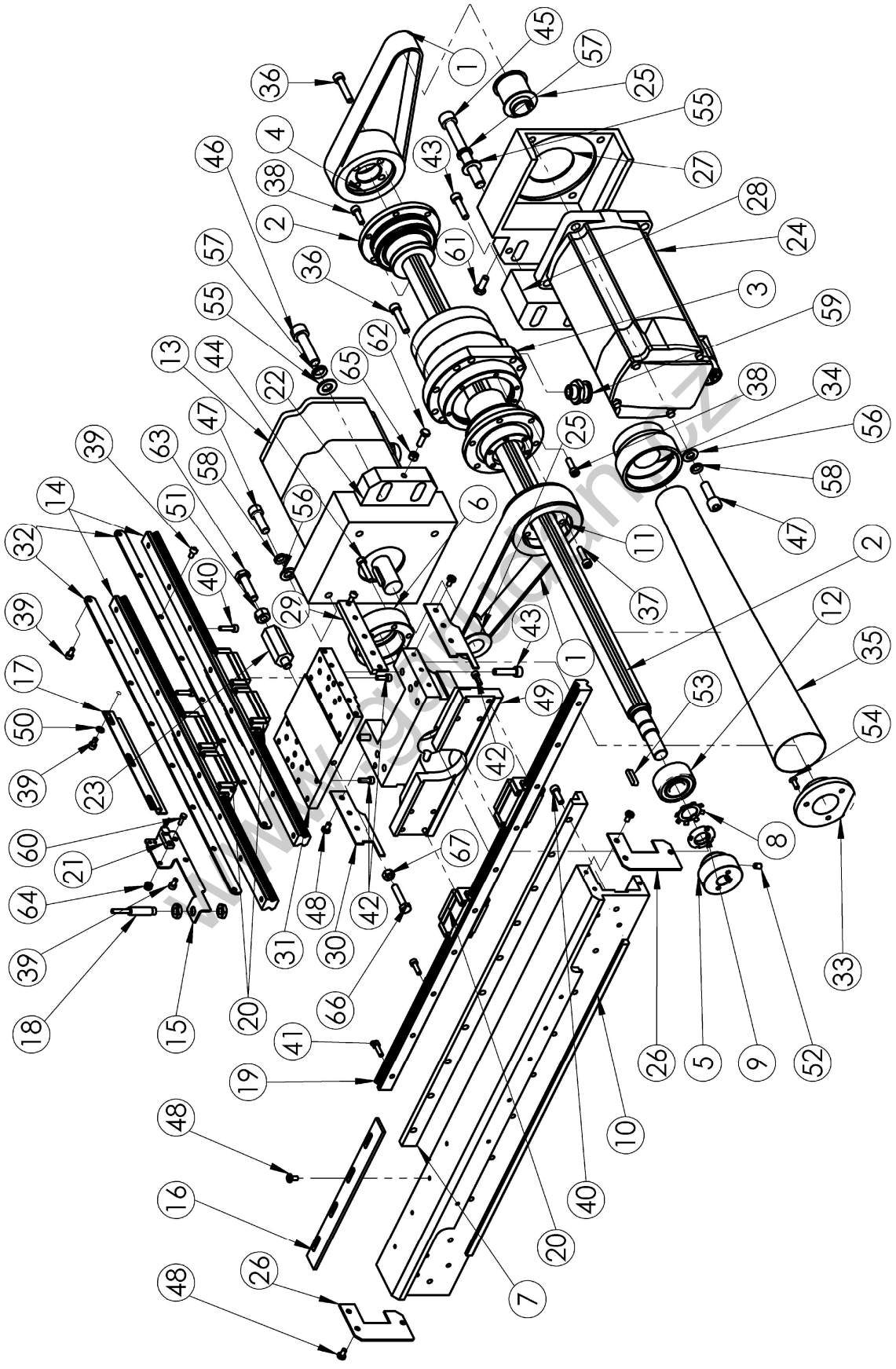
E. THREAD TRIMMING MECHANISM (2/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
41	M5x12 DIN 912	Screw		4	
42	M5x45 DIN 912	Screw		2	
43	5 DIN 125A	Washer		2	
44	M6x14 DIN 912	Screw		2	
45	6 DIN 125A	Washer		2	

G. X-MOVING MECHANISM (1/2)



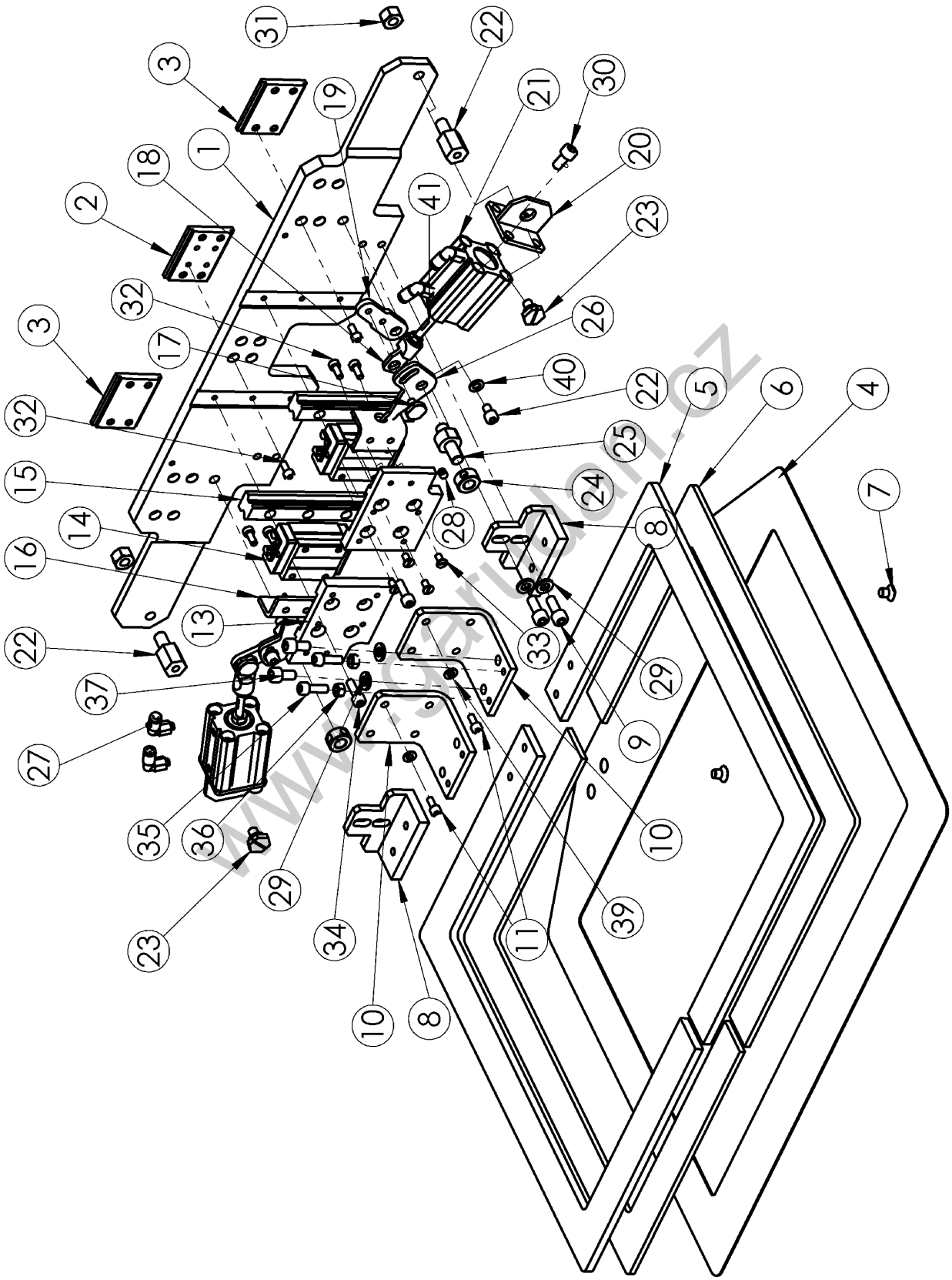
G. X-MOVING MECHANISM (1/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	G2506032	T. belt		2	
2	G7203020	Ball Screw Shaft		1	
3	G7503525	Bushing		1	
4	G7603020	Driven Pulley		1	
5	G3506032	Driven Gear		1	
6	G7803525	Bushing		1	
7	G8023525	Axis Rack		1	
8	G8803020	Washer MB3		1	
9	G8703020	Nut KM3		1	
10	AnB-3525-844	X Axis Moving Frame		1	
11	G8103020	Driven Pulley		1	
12	G7203020	Bearing		1	
13	G7403525	Step motor		1	
14	G1403525	Linear Motion Y		2	
15	AnB-3525-004	X, Y Sensor Bracket		1	
16	AnB-3525-012	X Sensor Plate		1	
17	AnB-3525-005	X Sensor Plate		1	
18	K4001507	X Sensor		1	
19	G1903525	Linear Motion X		1	
20	G2003525	Railway of Linear Guide		6	
21	GX-F8A	Y Sensor		1	
22	G0213525	Motor Bracket		1	
23	H4306032	Distance Screw		1	
24	G0116032	Servo Motor		1	
25	G0506032	Timing Pulley		2	
26	G6206032	Cover		2	
27	G0206032	Motor Bracket		1	
28	G8503020	Bracket		1	
29	G8603525	Shim		1	
30	G9423525	Cover		2	
31	AnB-3525-001N	Plate		1	
32	G8403525	Cover		2	
33	AnB-3525-019	Cover Flange 1		1	
34	AnB-3525-018	Cover Flange 2		1	
35	035-0500-040	Spiral Cover		1	
36	DIN 912 M6x30	Screw		13	
37	DIN 912 M5x20	Screw		6	
38	DIN 912 M5x16	Screw		12	
39	DIN 912 M4x12	Screw		23	

G. X-MOVING MECHANISM (2/2)



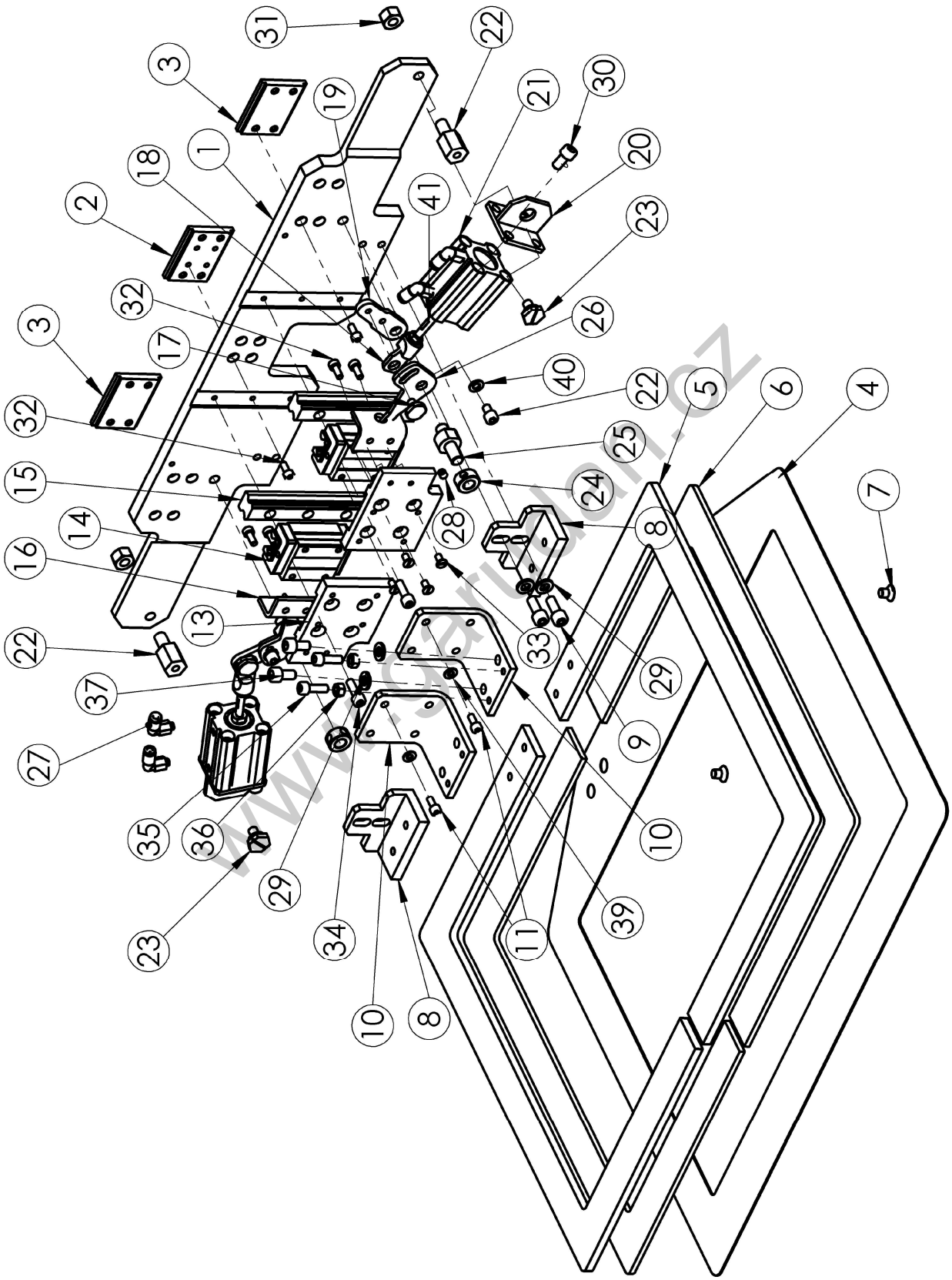
G. X-MOVING MECHANISM (2/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
40	DIN 912 M5x16	Screw		10	
41	DIN 912 M4x14	Screw		10	
42	DIN 912 M4x12	Screw		24	
43	DIN 912 M6x25	Screw		8	
44	DIN 912 M5x25	Screw		6	
45	DIN 912 M10x90	Screw		2	
46	DIN 912 M10x40	Screw		2	
47	DIN 912 M8x25	Screw		8	
48	BN4825 M4x8	Screw		16	
49	AnB-3525-024N	Bracket		8	
50	DIN 125 A4	Washer		3	
51	DIN 934 M8	Nut		1	
52	DIN 913 M5x8	Screw		2	
53	DIN 6885 A5x5x20	Tongue		1	
54	DIN 965A M4x8	Screw		3	
55	DIN 125 A10	Washer		4	
56	DIN 125 A8	Washer		8	
57	DIN 127 A10	Spring Washer		4	
58	DIN 127 A8	Spring Washer		8	
59	DIN 3404AQ M14x1.5	Grease Head		1	
60	DIN 933 M3x10	Screw		1	
61	DIN 933 M6x16	Screw		1	
62	DIN 933 M5x25	Screw		1	
63	DIN 933 M8x30	Screw		1	
64	DIN 985 M4	Nut		1	
65	DIN 934 M5	Nut		1	
66	DIN 912 M6x30	Screw		1	
67	DIN 934 M6	Nut		1	

I. FEED FRAME MECHANISM (1/2)



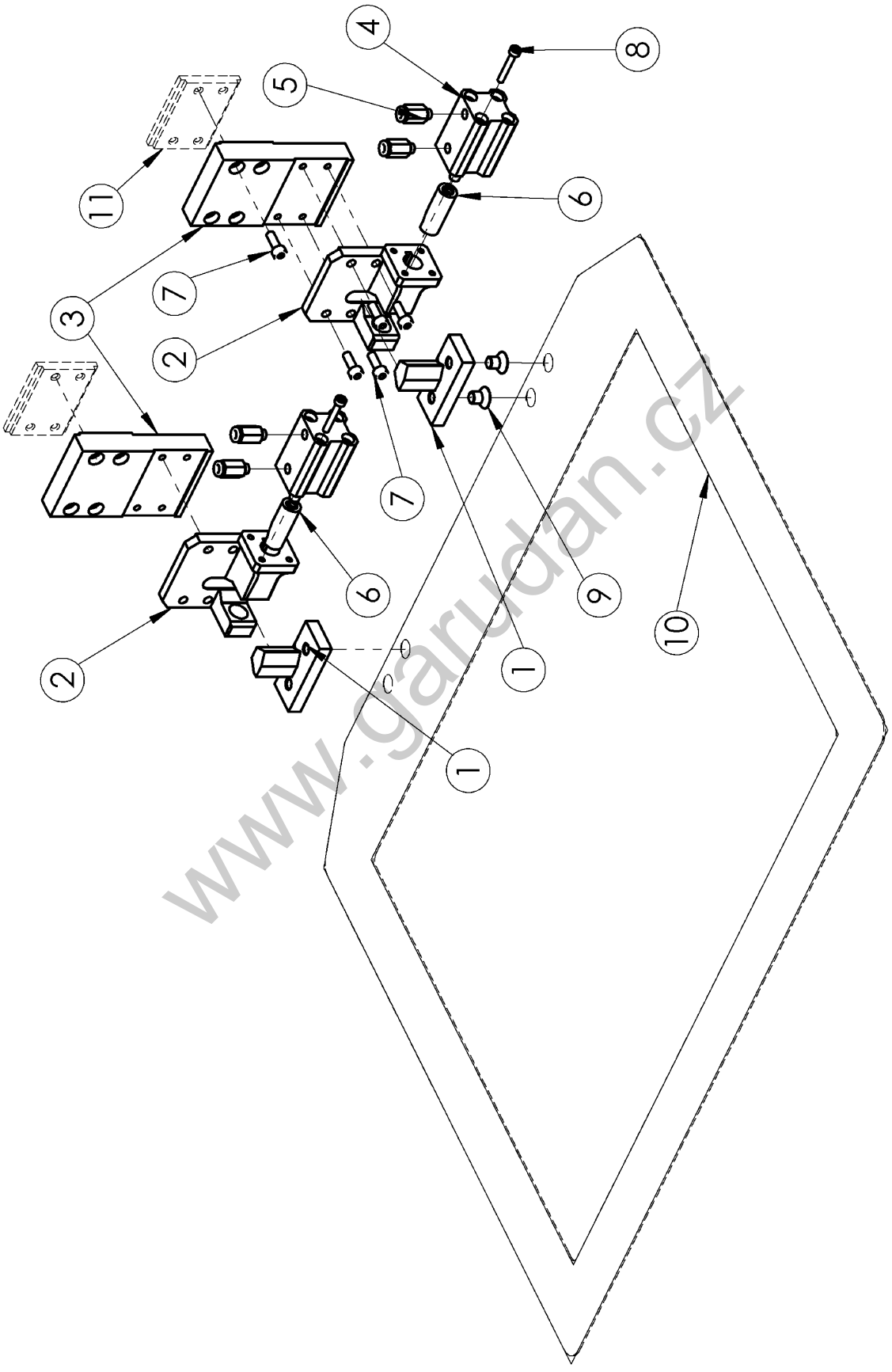
I. FEED FRAME MECHANISM (1/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	S4483525	Plate		1	
2	S4513525	Plate Holder		1	
3	I2906032	Plate Holder		2	
4	S4183525	Feed plate lower		1	
5	S4063525	Upper feed plate bracket segment		2	
6	S4533525	Upper feed plate flexible mounting		2	
7	DIN 965/Z M6x8	Screw		4	
8	S4033525	Holder		2	
9	M6x16 DIN 912	Screw		4	
10	S4053525	Holder		2	
11	M4x10 DIN 912	Screw		8	
13	S4443525	Holder		2	
14	G2003525	Railway of Linear Guide		2	
15	S4383525	Linear motion X		2	
16	S4363525	Holder		2	
17	S4453525	Screw pin		2	
18	S4423525	Rod end bearing		2	
19	S4323525	Lever		2	
20	S4403525	Holder		2	
21	CQ2B20-30D	Air cylinder		2	
22	S4493525	Screw pin		2	
23	E2606032	Screw pin		2	
24	C2606032	Collar		4	
25	S4413525	Screw pin		2	
26	S4333525	Lever		2	
27	KQ2L04-M5	Hose nipple		4	
28	M5x6 DIN 913	Screw		4	
29	6 DIN 125A	Washer		8	
30	M3x12 DIN 912	Screw		8	
31	M8 DIN 934	Nut		2	
32	M4x10 DIN 612	Screw		20	
33	M4x8 DIN 963	Screw		8	
34	M5x12 DIN 912	Screw		6	
35	M5x14 DIN 912	Screw		4	
36	M5 DIN 934	Nut		4	
37	M6x12 DIN 912	Screw		4	
38	M5x8 DIN 912	Screw		2	
39	4 DIN 125 A	Washer		8	

I. FEED FRAME MECHANISM (2/2)



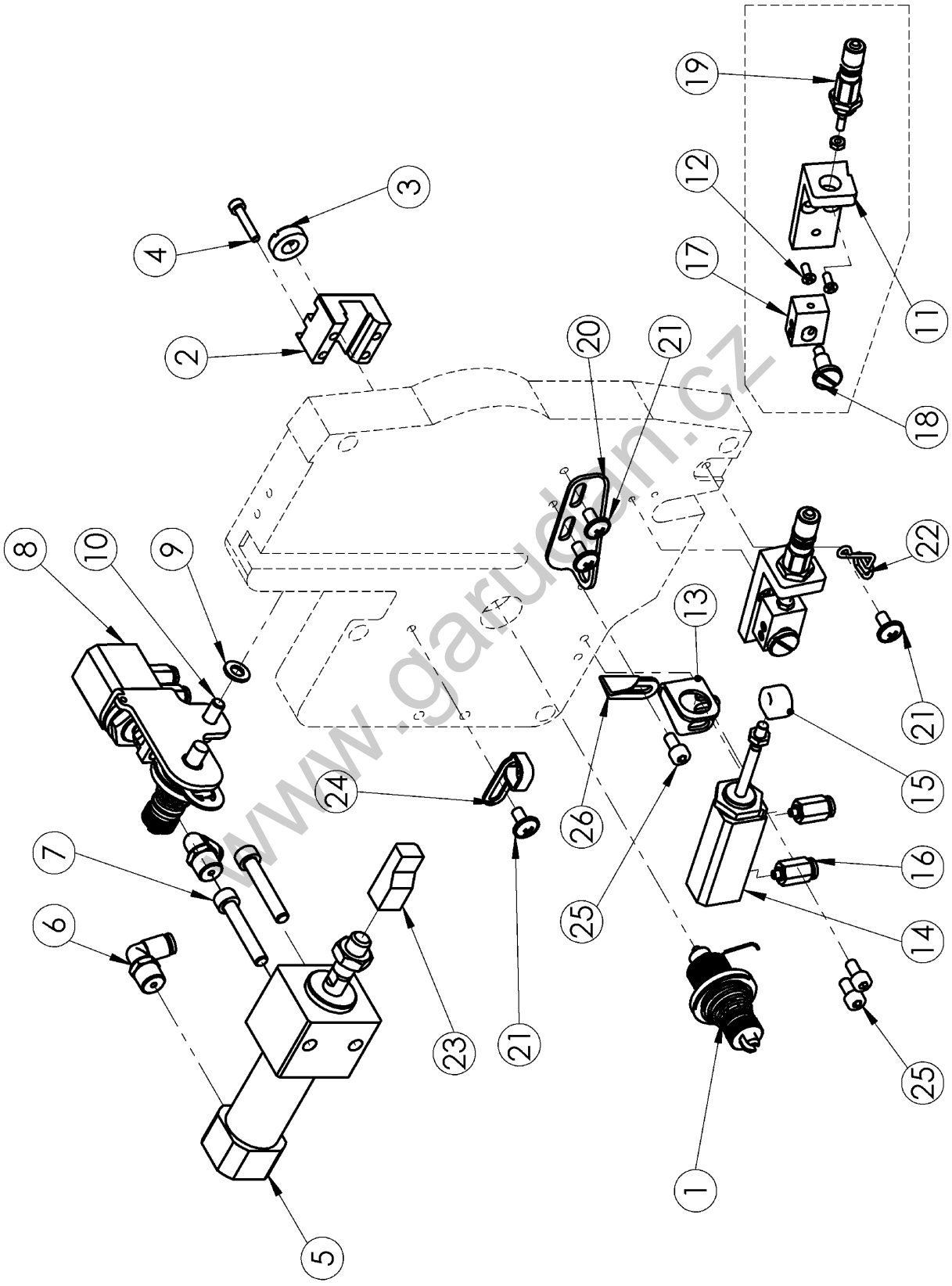
I. FEED FRAME MECHANISM (2/2)					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
40	5 DIN 125A	Washer		2	
41	AnB-3525-927	Screw pin		2	

I2. FEED FRAME FOR CUSTOMER DESIGN



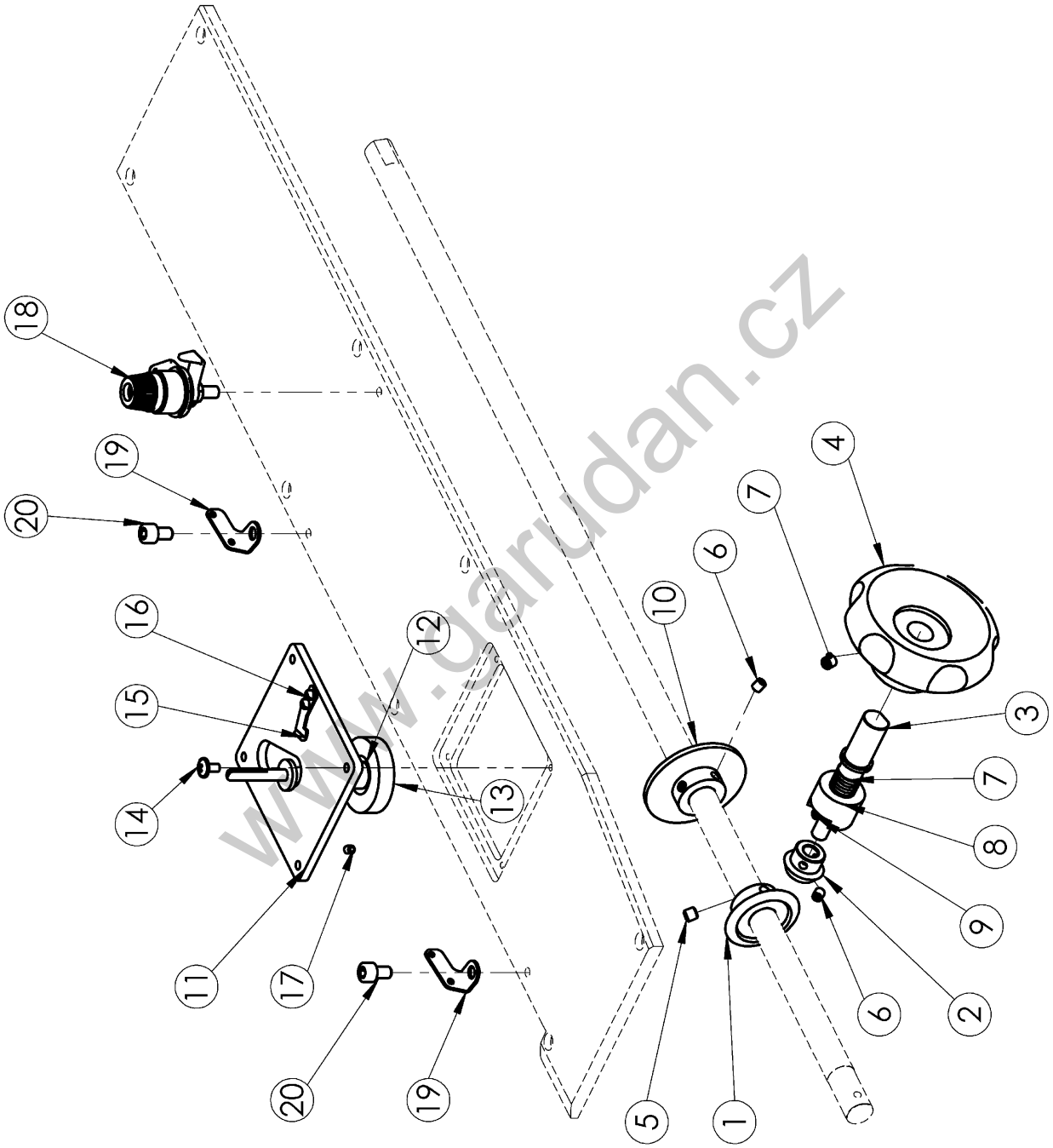
I2. FEED FRAME FOR CUSTOMER DESIGN PATTERN					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	I3006032	Block stopper		2	
2	I2806032	Bracket		2	
3	AnB-3525-867	Holder		2	
4	CQ2B12-20DM	Pneumatic cylinder		2	
5	KQ2H04-M5	Hose nipple		4	
6	I3106032	Knuckle pin		2	
7	M4x12 DIN 912	Screw		16	
8	M3x35 DIN 912	Screw		8	
9	M6x8 DIN 965A	Screw		4	
10		Feed Plate (Customer design)		1	
11	(I2906032)	Bracket Plate		2	

J. THREAD TENSION MECHANISM



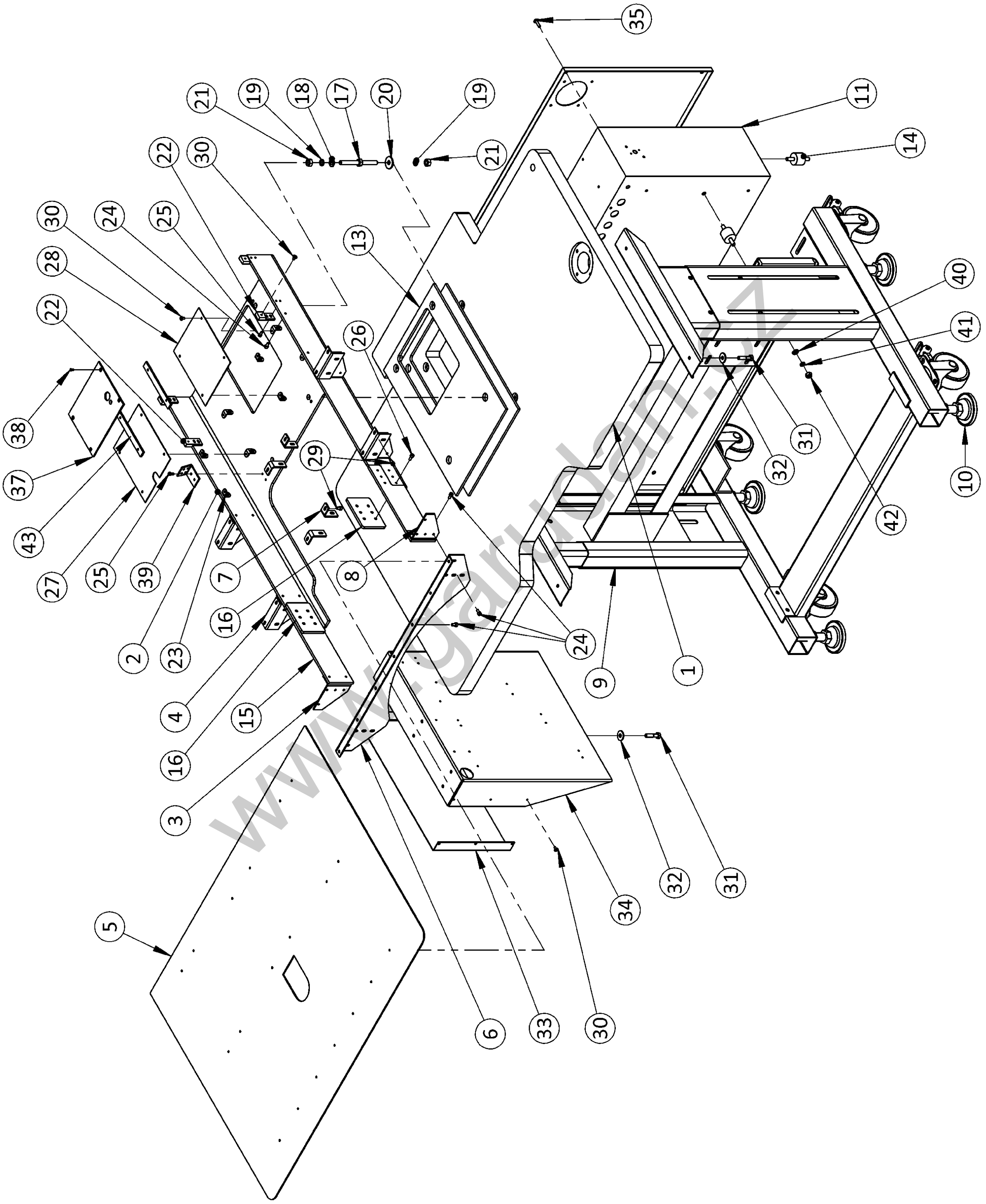
J. THREAD TESION MECHANISM					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	AnB-3525-863	Thread Tension Adjusting Ass´y		1 set	
2	AnB-3525-852	Bushing		1	
3	AnB-3525-879	Nut		1	
4	M3x16 DIN 912	Screw		4	
5	C85RAF20-10	Nut		1	
6	KQ2L04-01AS	Hose nipple		2	
7	M5x30 DIN 912	Screw		2	
8	AnB-3525-856	Second Thread Tension Adjusting Ass´y		1	
9	5 DIN 125A	Washer		1	
10	M5x12 DIN 912	Screw		1	
11	AnB-003-151	Holder		1	
12	M3x8 ISO 7046	Screw		2	
13	AnB-3525-856	Holder		1	
14	CJP2B10-25D	Pneumatic Cylinder		1	
15	AnB-3525-873	Thread guide		1	
16	KQ2H04-M3G	Hose nipple		2	
17	AnB-003-150	Thread guide		1	
18	AnB-003-027	Screw		1	
19	CJPB6-10-H6	Air Cylinder		1	
20	AnB-3525-861	Thread guide		1	
21	M4x8 DIN 967	Screw		4	
22	H9601048	Thread guide		1	
23	AnB-3525-856	Action guide		1	
24	A3301507	Thread guide		1	
25	M4x8 DIN 912	Screw		2	
26	470311000	Stopper		1	

K. BOBBIN WINDER AND HAND PULLEY



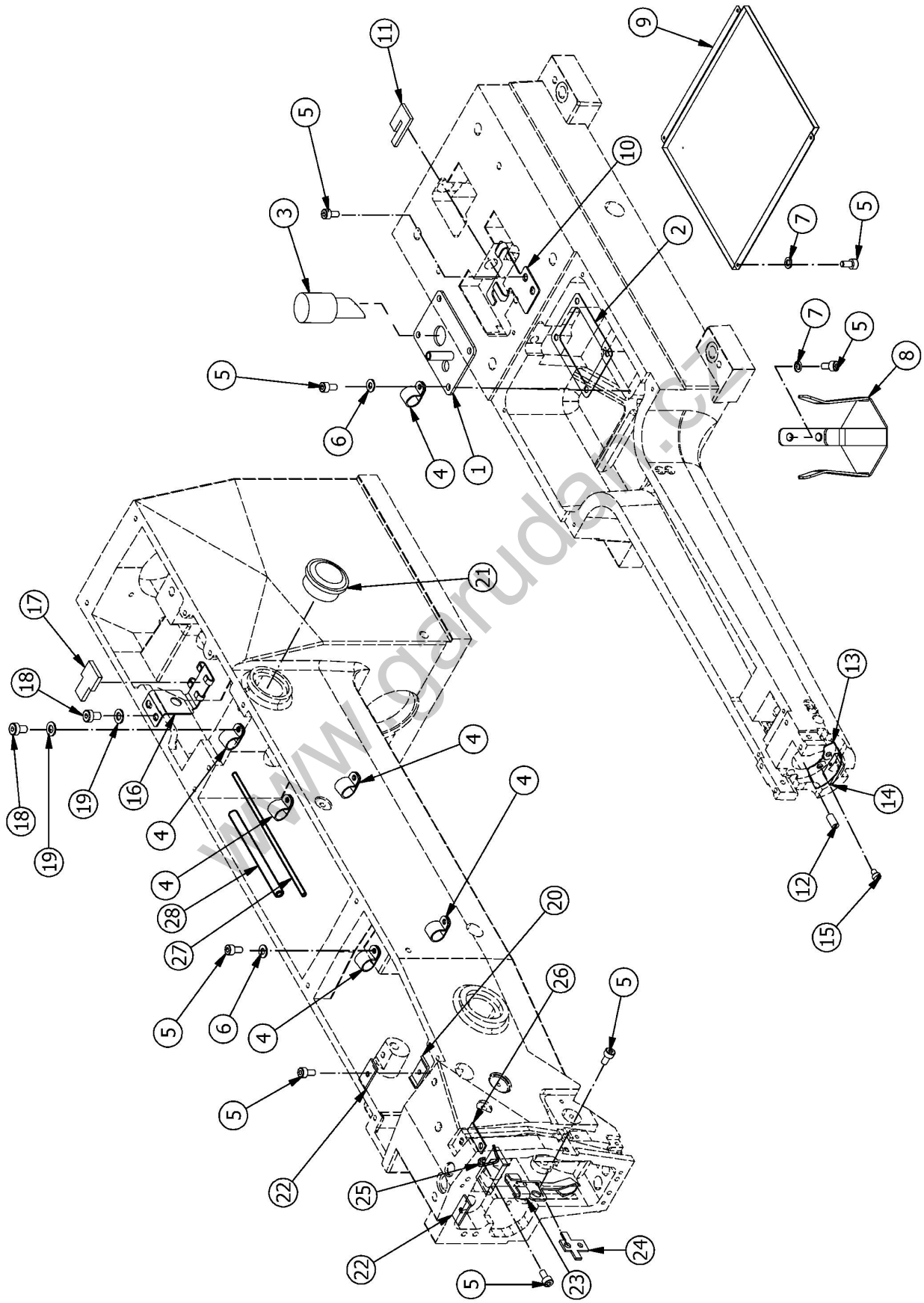
K. BOBBIN WINDER AND HAND PULLEY					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	AnB-3525-908	Gear		1	
2	AnB-3525-907	Gear		1	
3	AnB-3525-904	Hand Wheel Pin		1	
4	AnB-3525-889	Hand Wheel		1	
5	341901	Screw		2	
6	M5x6 DIN 913	Screw		4	
7	D0301507	Spring		1	
8	AnB-3525-905	Bushing		1	
9	AnB-3525-906	Pin		1	
10	4710320500	Friction Wheel		1	
11	4710320805	Bobbin Winder		1	
12	AnB-3525-870	Extension		1	
13	4710321300	O-ring		1	
14	M4x8 DIN 967	Screw		4	
15	D3301507	Thread Blade		1	
16	M3x5 DIN 913	Screw		2	
17	M4x5 DIN 913	Screw		2	
18	K0806032	Thread Tension Second Adjusting Ass´y		1	
19	A1401507	Thread Guide		2	
20	M6x10 DIN 912	Screw		2	

L. STAND AND TABLE



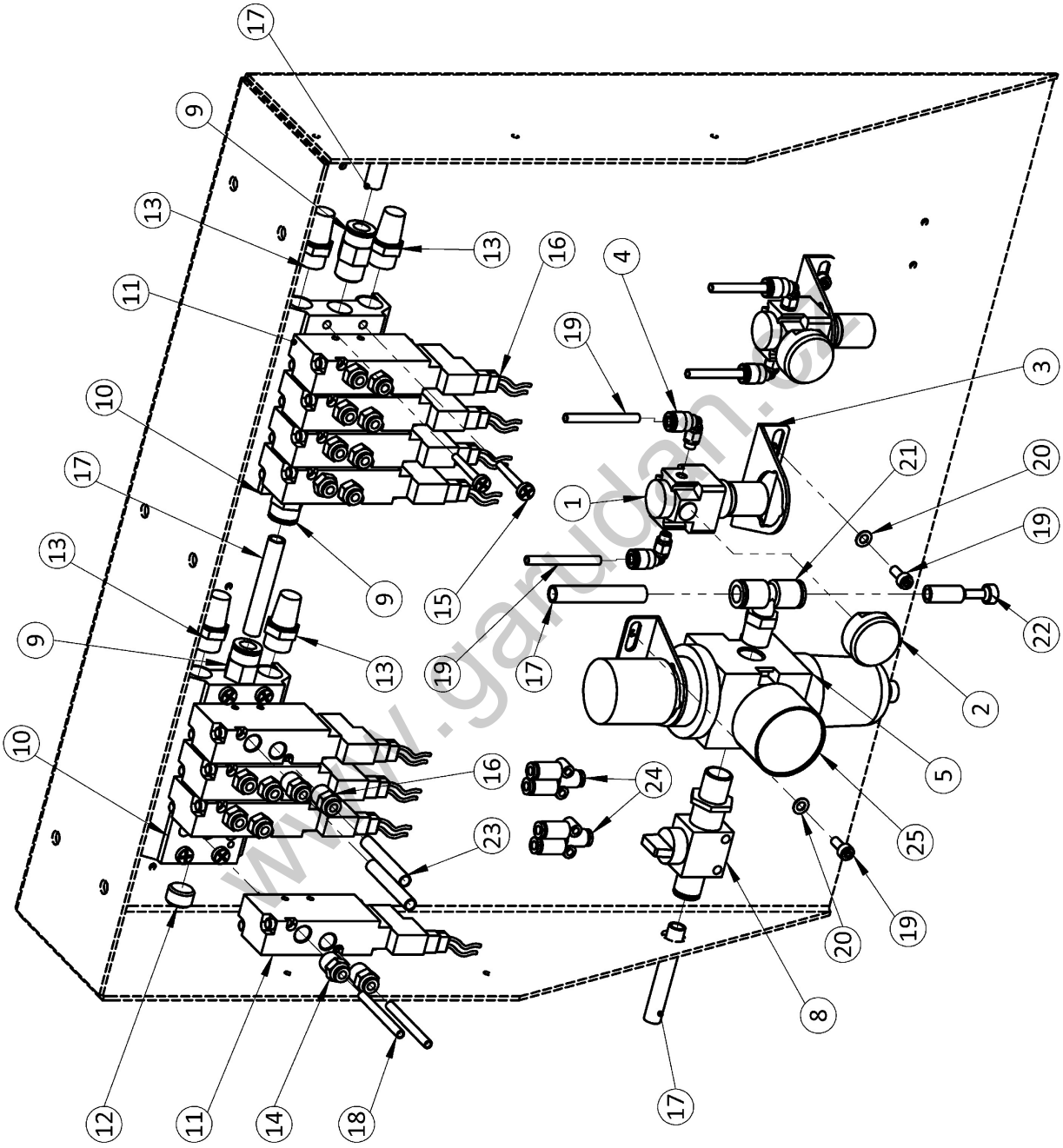
L. STAND AND TABLE					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	Plát CZ B07	Table		1	
2	AnB-3525-029	Frame		1	
3	AnB-3525-032	Left Holder		3	
4	AnB-3525-869	Holder		4	
5	AnB-3525-877	Table Stainless Steel		1	
6	AnB-3525-897	Front Sheet		1	
7	AnB-3525-876	Holder		4	
8	AnB-3525-061	Right Holder		3	
9	JAM-10	Stand		1	
10	FJGN20-100	Adjustable Foot		4	
11	Roz3525	Control Box		1	
13	L0903525	Rubber Underlay		2	
14	T69321	Silent block		4	
15	AnB-3525-314	Support		2	
16	AnB-3525-315	Plate		2	
17	L0803525	Screw		4	
19	A10 DIN 127	Spring Washer		8	
20	M10 DIN 9021	Washer		4	
21	M10 DIN 934	Nut		8	
22	AnB-3525-048	Holder		4	
23	S0206032	Holder		8	
24	M5x10 DIN 912	Screw		31	
25	M4x10 DIN 912	Screw		6	
26	M5x12 DIN 912	Screw		12	
27	AnB-3525-037	Cover		1	
28	AnB-3525-043	Cover		1	
29	M5x10 DIN 912	Screw		12	
30	M4x8 DIN 967	Screw		14	
31	6x35 DIN 571	Wood Screw		14	
32	M8 DIN 9021	Washer		14	
33	AnB-3525-034	Cover		1	
34	AnB-3525-033	Case		1	
35	M6x16 DIN 967	Screw		4	
37	L1806032	Cover		1	
38	M4x8 DIN 7046	Screw		4	
39	N2806032	Tube Holder		1	
40	A8,4 DIN 125	Washer		8	
41	A8 DIN 127	Spring Washer		8	
42	M8 DIN 934	Nut		4	

M. LUBRICATION PARTS



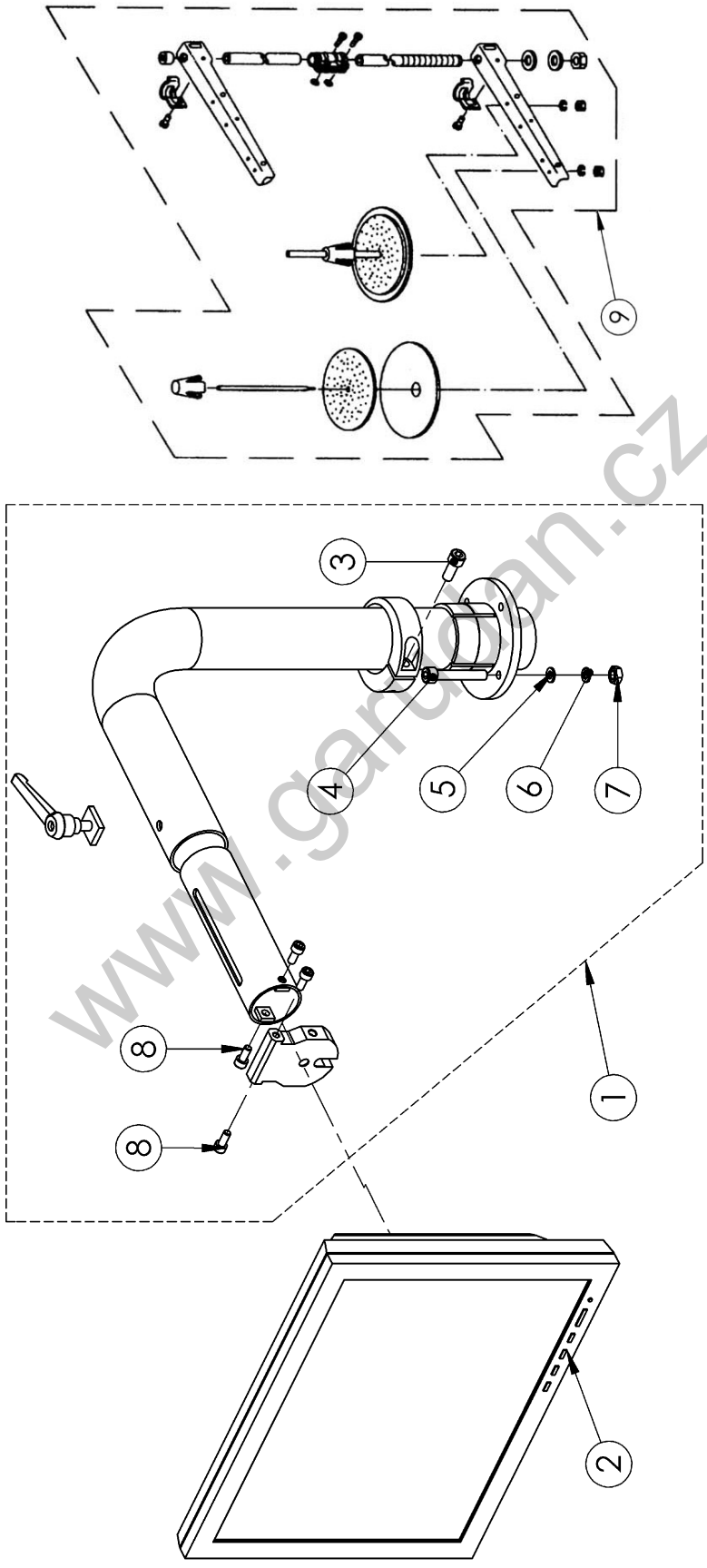
M. LUBRICATION PARTS					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	M0106032	Cover		1	
2	M0206032	Cover Gasket		1	
3	M0306032	Oil Tank Gauge		1	
4	HEYMAN 3376	Holder 9,5		1	
5	M4x8 DIN 912	Screw		18	
6	A4,3 DIN 125	Washer		14	
7	A4 DIN 127	Spring Washer		6	
8	M0806032	Holder of Oil Cap		1	
9	M0906032	Oil Pan		1	
10	M1006032	Lubrication Plate		1	
11	M1106032	Lubrication Felt		1	
16	M1606032	Lubrication Plate		1	
17	M1706032	Lubrication Felt		1	
18	M5x8 DIN 7984	Screw		3	
19	A5,3 DIN 125	Washer		1	
20	M2006032	Lubrication Plate		1	
21	M2106032	Oil Observator Complete		1	
22	M2206032	Lubrication Plate		3	
23	M2306032	Lubrication Plate		1	
24	M2406032	Lubrication Felt		1	
25	M2506032	Oil Wick Holder		1	
26	M2606032	Oil Plate		1	
27	M2706032	Wick		10 m	
28	M2806032	Tube		5 m	
31	029394	Oil Tank		1	
32	M2806032	Tube		1	
34	M3406032	Holder of Oil Plate - Down		1	
35	M3506032	Holder of Oil Plate – Up		1	
37	M3706032	Silicon Tube 4x0.5 m		1	

N. AIR CONTROL PARTS



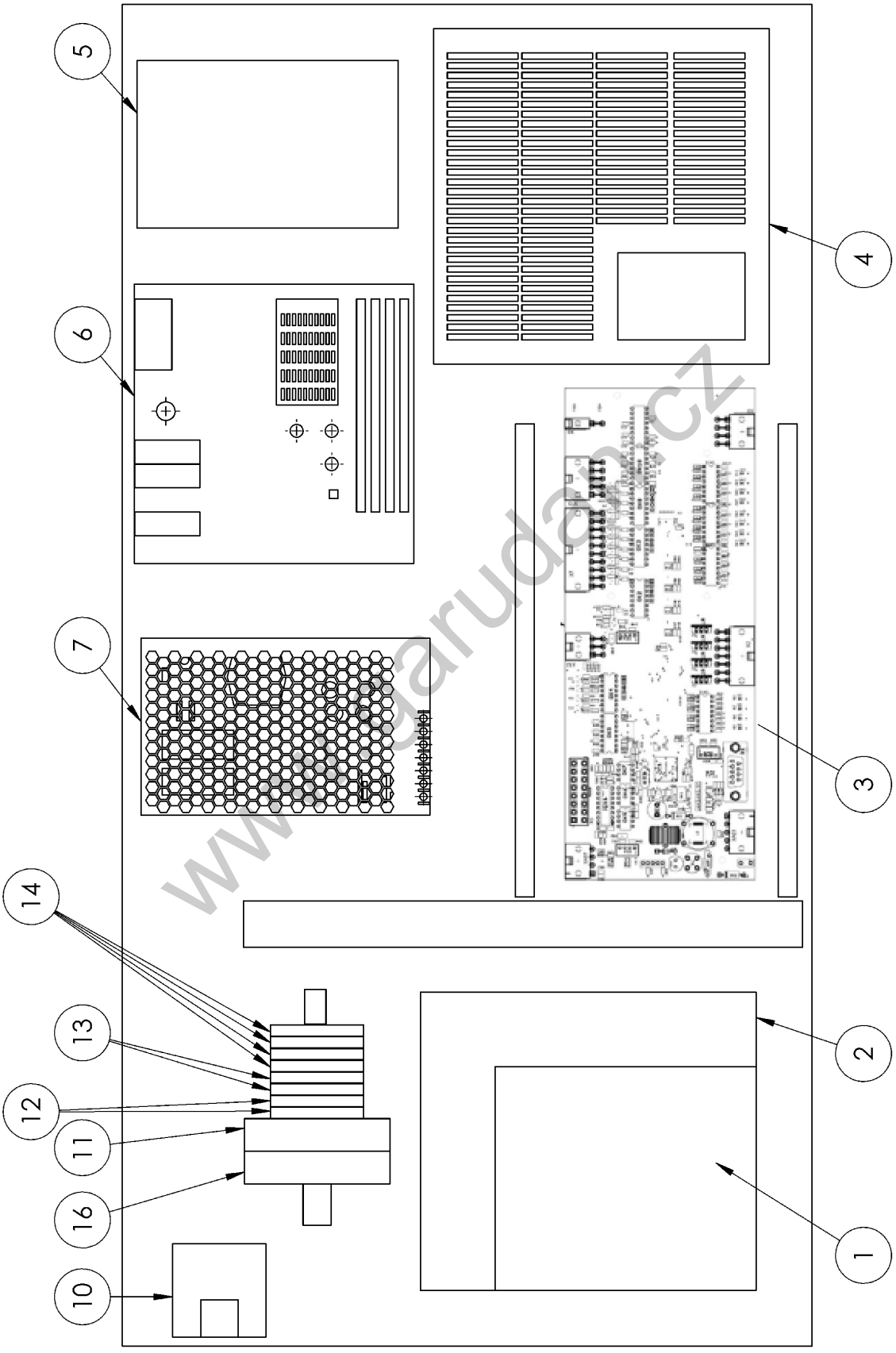
N. AIR CONTROL PARTS					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	AR10-M5H	Regulator of pressure		2	
2	G27-10-R1	Manometer		2	
3	AR10P-270AS	Holder		2	
4	KQ2L04-M5	Hose nipple		4	
5	U0301507	Filter Regulator		1	
8	U0201507	Finger Valve		1	
9	U0401507	Clutch		3	
10	U0831507	Plate		2	Standard
11	TV25110-06	Magnetic Valve		8	Standard
12	U1001507	Plug		1	
13	U0901507	Silencer		4	
14	U1201507	Clutch		14	
15	U1401507	Screw		8	
16	PC6-01	Clutch		2	
17	U0601507	Tube 8 mm		0.4 mm	
18	U1301507	Tube 4 mm		35	
19	M4x8 DIN 912	Screw		4	
20	A4,3 DIN 125	Washer		4	
21	U0701507	Clutch		1	
22	U0501507	Plug		1	
23	TU0604B-20	Tube 6 mm		3.2 mm	
24	PY4	Pipe Fitting		2	
25	GP46-10-01L5-Q	Manometer with Electric Sensor		1	

Q. OPERATION UNIT AND THREAD STAND



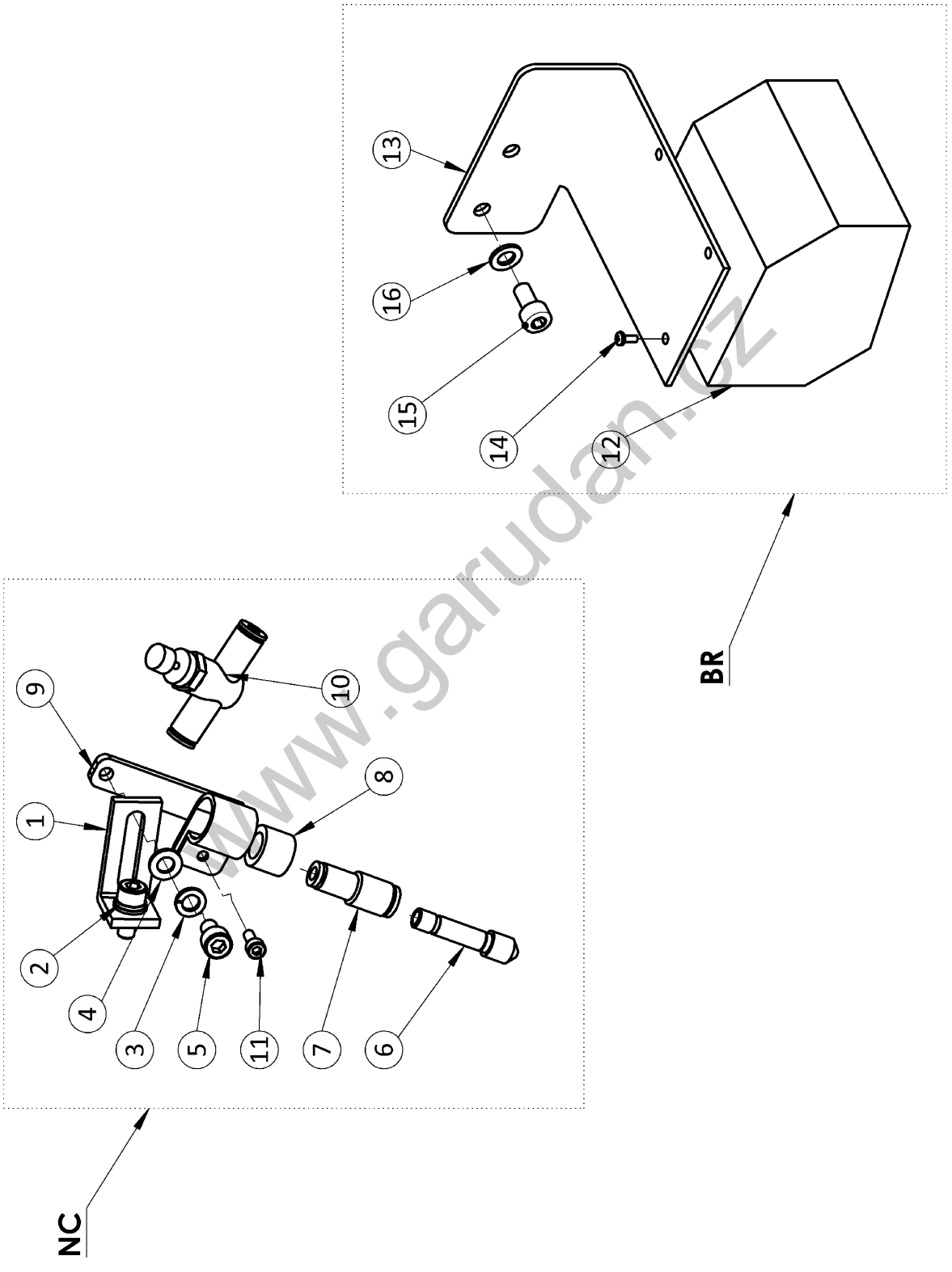
Q. OPERATION UNIT AND THREAD STAND					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	O2201507	Holder LCD		1	
2	O2101507	Touch LCD 15”		1	
3	M8x20 DIN 912	Screw		1	
4	M8x50 DIN 912	Screw		4	
5	A8,4 DIN 125	Washer		4	
6	A8 DIN 127	Spring Washer		4	
7	M8 DIN 934	Nut		4	
8	M6x14 DIN 912	Screw		4	
9	FPL-2	Thread Stand Ass´y		1	

R. CONTROL BOX



R. CONTROL BOX					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	R2053525	Converter		1	
2	R2056032	Converter		1	
3	R4201507	Board B		1	
4	C6461510	Drive for Motor of Axis Z		1	
5	R3201507	Power Supply ATX		1	
6	R3081507	PC module G		1	
7	LRS-150-24	Switch-mode Power Supply		1	
10	R1001507	Master Switch		1	
11	R1101507	Circuit Breaker		1	
12	R1201507	Terminal Board (white)		2	
13	R1301507	Terminal Board (blue)		2	
14	R1401507	Terminal Board (yellow-green)		4	
16	R1601507	Surge Suppressors		1	

S. OPTION



S. OPTION					
Ref.No	**Parts No.**	**Name of parts**	**Description**	**Qty**	**Note**
1	S1816032	Holder of cooling needle		1	
2	M5x12 DIN 912	Screw		2	
3	5 DIN 127A	Spring washer		2	
4	5,3 DIN 125A	Washer		2	
5	M5X8 DIN 912	Screw		1	
6	KN-Q06-100	Jet		1	
7	KQ2H04-06	Hose nipple		1	
8	NC0106032	Ring		1	
9	S1806032	Holder of cooling needle		1	
10	AS2001F-04	Choke		1	
11	M3x8 DIN 912	Screw		1	
12	MS3580	Barcode Reader		1	Option
13	S3016032	Holder		1	Option
14	M2.5x6 ISO 7045	Screw		3	Option
15	M5x10 DIN 912	Screw		2	Option
16	A5,3 DIN 125	Washer		2	Option