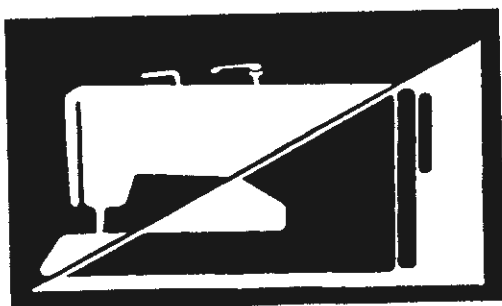
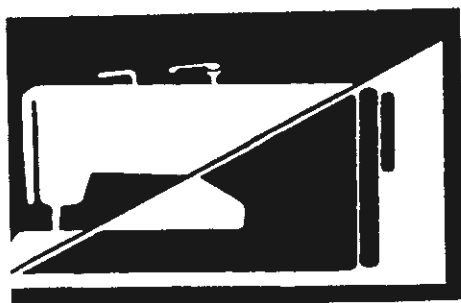


**GLOBAL<sup>®</sup> ZZ 565**

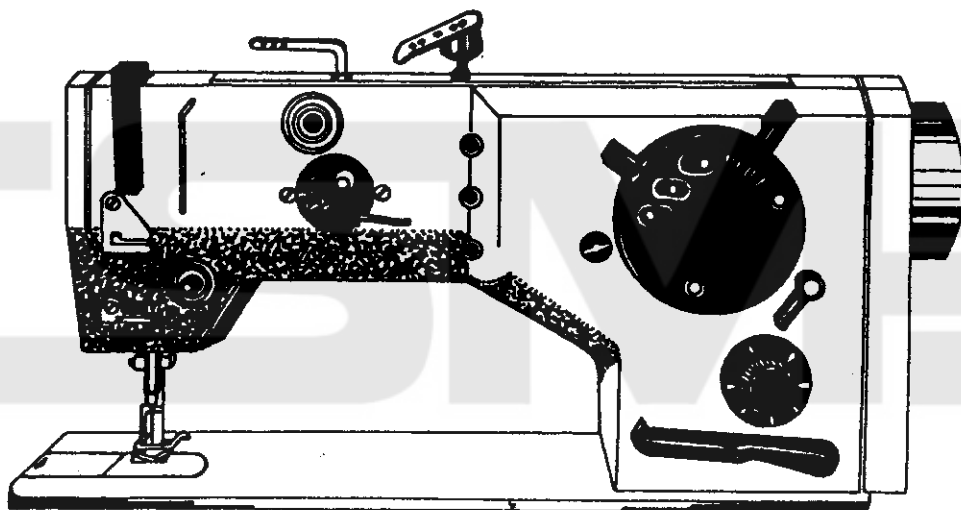


**INSTRUCTIONS MANUAL FOR ADJUSTMENT AND SERVICING AND LIST  
OF PARTS FOR SINGLE-NEEDLE FLAT-BED ZIGZAG INDUSTRIAL  
SEWING MACHINE**

**ZZ 565**

## **SINGLE-NEEDLE FLAT-BED ZIGZAG INDUSTRIAL SEWING MACHINE**

**ZZ 565**



### **Application**

The machine is used for attaching laces and ribbons and for joining operations, for decorative zigzag stitching on ladies' underwear, as well as for sewing ladies' clothes made of cotton fabrics, flannel, barchant, tricotine, poplin, cashmere, etc.

### Technical Data

Speed	up to 5,000 stitches per min. according to sewn material and threads used
Stitch length	up to 5 mm, forward and reverse
Stitch width	up to 6 mm
Zigzag stitch position	right-side, left-side, median
Needle	134 R Nos. 80 to 110 135 x 5 Nos. 80 to 110 135 x 5 special Nos. 80 to 110 135 x 5 super special Nos. 80 to 110 Schmetz 797 CF CF Nos. 80 to 110 R 235
Hook	
Thickness of sewn material	up to 4 mm
Threads	cotton threads: 7.4 tex x 2 x 2 to 12 tex x 2 x 2 synthetic threads: 10 tex x 3; 12 tex x 2; 14.5 tex x 3
Presser foot stroke	5 mm with hand lever 7 mm with knee lever
Clear work space	265 x 128 mm
Machine drive	electric motor 0.4 kW; 3 x 380/220 V
Machine stand	standard profile steel stand
Weight of machine head	35 kg
Weight of machine stand	63 kg

### Technical description

The machine is a single-needle flat-bed twothread zigzag lockstitch sewing machine with horizontal rotary hook driven from the lower shaft by means of a gearing seated in a gear box. The drive is transmitted from the upper shaft to the lower one by a drive belt. The reverse stitching can be actuated by a hand lever or by the left side treadle. The zigzag stitch width and position can be set by means of small levers situated on the front side of the column of the machine arm. The stitch length can be steplessly adjusted by a revolving

knob. The presser foot can be lifted either by a hand lever or by the knee lever. The principal parts of the mechanisms exposed to increased strain are seated in rolling-contact bearings. The machine is fitted with a group wick lubrication and with automatic lubrication of the hook. A suspension-type lighting of the working area is available as Equipment No. 299.

Machine equipments and their use

Equipment No.	Ordering No.	Name
201	522 792 112 010	Incorporated bobbin winder, complete
202	522 791 947 001	Adjusting set
295	522 791 995 014	Plug covering the mounting hole bobbin winder
<del>299</del>	<del>522 794 222 006</del>	<del>Suspension-type lighting for work area</del>

The equipment is supplied on special order only.

## I. INSTRUCTIONS FOR SERVICING THE MACHINE

### A. GENERAL INSTRUCTIONS

1. Read the instructions manual carefully and adhere to them.
2. During transport and while unpacking the machine, proceed in accordance with the instructions and marks on the packing.
3. Report any damage which has occurred during transport to the railway authorities or to the forwarding agents at once. Immediately after unpacking, check the contents against the order and report any discrepancies to us. We cannot recognize claims submitted at a later date.
4. Having transported the machine to its work site, remove the preserving grease coating and all impurities from the machine head. Make sure that no machine part has become loose and that its mechanism is free of any foreign bodies.
5. Lubricate the machine daily. Before lubrication, always check whether the lubrication places are clean. It is advisable to lubricate it frequently in small quantities. Those parts of the machine which are exposed to increased friction or strain should be lubricated several times a day, as needed. Refill oil into the **hook** lubrication tank as required.
6. Clean the machine daily, especially the parts which become choked by impurities from the sewn material. During the cleaning, carefully check whether the machine parts have become loose.

7. Once a week, during thorough cleaning, carefully check the whole machine to see that no parts are damaged and that all machine mechanisms operate correctly. Any faults ascertained must be repaired immediately. Once a year, general overhaul should be carried out. The machine should be dismantled, thoroughly cleaned, individual pieces as well as the parts of the electrical equipment inspected, faulty or worn out pieces repaired or exchanged.

8. Adhere to the safety regulations.

Never clean the machine or repair defects until the machine is at rest. Do not remove covers or other safety devices.

9. The electrical equipment of the machine should be kept in a good and faultless state, in accordance with the electrotechnical and safety regulations. The lead-in cable, supplied as a part of the machine, has a cross section of  $4 \times 1 \text{ mm}^2$  and must be safeguarded accordingly in each phase. If the machine is provided with a plug make sure always before plugging in that all switches are off.

Never try to repair any defects of the electrical equipment by yourself but call in an expert electrician.

10. We cannot assume any responsibility for the consequences resulting from the non-observance of these instructions.

B. PACKING, UNPACKING, CLEANING AND LUBRICATION OF MACHINE

1. Packing of machine

The machine head is placed in a separate case, the stand is either in crating or in another case /for severe climate conditions/.

2. Unpacking of machine

When taking over the machine from the railway authorities or in the works make sure whether it has arrived in good order. Report any damage which has occurred during the transport to the railway authorities or to the forwarding agents immediately. Unpacking should be carried out carefully so as to prevent damage to the machine parts. Further check the accessories of the machine against the order and report any discrepancy immediately, as we cannot consider belated claims.

3. To set the machine on stand

After the machine has been brought to its work site, set it on the rubber washers of the stand. When seated properly, a gap of approximately 1.5 mm will appear between the bed plate and the rim of the stand plate on the whole of its circumference. Check the raising of the presser foot by the knee lever. Otherwise, the machine is furnished in a mounted and ready-to-work state.

4. To set and fix the machine

Fix the machine using the levelling foot of the stand /the right-side rear foot/ fitted with adjusting screw. Otherwise, the machine is designed as a stable unit with the stand, requiring no fixing to the floor.



5. To clean and lubricate the machine /Fig. 1/

Before putting the machine into operation, remove the protective grease coating and clean the machine thoroughly. For lubrication of the machine bearing oil with viscosity of 18 - 21 at 20°C mm<sup>2</sup>.s<sup>-1</sup> is recommended, and for the hook, bearing oil with viscosity of 5 - 9 at 50°C mm<sup>2</sup>.s<sup>-1</sup>. With an oil can, drip oil into the marked holes of the machine arm once a day, before the beginning of the work shift. Check also the oil level at the indicator of the hook oil tank. The gear wheels of the hook gear box receive oil from a felt-like inlay situated on the gear box bottom. The hook and its mechanism should be cleaned several times a day. Apply two or three drops of kerosene to all soiled parts of the hook and of the surrounding mechanism, let the machine run at high speed, then stop it, wipe off flushed-out dirt, and oil the hook with its mechanism with the recommended oil. This cleaning should be carried out daily, especially after the end of the work shift, in order to prevent dirt from drying on the hook and its mechanism. From time to time, use grease nipple to refill the shafts 345.065 and 345.067 /see Table 12/ with lubrication grease. Before proceeding to clean the machine, unthread it and take the hook bobbin out of the hook. Once a week, the machine should be thoroughly freed of settled oil and of all impurities.

6. To adjust the hook lubrication /Fig. 2/

To adjust the oil flow to the hook, turn with a screwdriver the adjusting pin /346.054/, situated on the right

side wall of the oil tank under the bed plate, from zero to maximum /to the left, anticlockwise/. Adjusted at zero, the regulation still provides for a minimum oil flow to the looper, preventing it from seizing. After the machine has been put into service, check at regular intervals the oil level both in the looper oil tank and in the oil tank situated on the machine arm.

Attention:

At the beginning of work after a longer interval, e.g., at the beginning of the morning shift, it is advisable to remove first the gathered superfluous oil from the looper, either by letting the machine run idly for a short period or by producing a few stitches /approximately 20 cm/ on a test material, to prevent the sewn work from getting soiled by oil.

C. PREPARING THE MACHINE FOR SEWING

1. General inspection

Inspect the machine thoroughly for loose parts as well as for the presence of foreign bodies. Rotating the hand wheel by hand, check first whether it revolves freely and whether the machine is adjusted correctly. Further check the correct working of the mechanism controlling the lifting and sinking of the presser foot by means of the knee lever, and the reverse stitching by means of the hand lever or of the left treadle.

2. Sense of rotation

The correct sense of rotation of the machine hand wheel is anticlockwise, viewing the machine from the side of the hand wheel.

### 3. Electrical equipment

An electrician connects the machine to the mains. Switch on the electric motor and check whether the pulley turns in the correct direction, i.e., to the left. If this is not the case, the plug of the lead-in cable must be taken out and the cable must be switched over on the plug or on the terminal board of the electric motor. An incorrect sense of rotation of the pulley is inadmissible.

### 4. V-belt and its tension

V-belt can be easily tensioned by means of the electric motor that can be displaced in the groove of its holder after loosening the two clamping screws. The correct belt tension ensures transmission of full power with losses reduced to minimum. To check the tension of V-belt, depress it lightly in the middle part between the hand wheel and the pulley: if the belt tension is correct, the pressed-on part will yield some 20 mm sideways. Excessive tension of the V-belt reduces the machine output and increases both the power consumption and the wear of the bearings. To mount the V-belt, proceed as follows: Tilt the machine head, screw out the screws /331.145/ and remove the upper belt guard /041.162/ and, from the lower belt guard /screwed onto the bed plate/, the sheet /825.803/. First set the V-belt onto the motor pulley and mount the sheet on /825.803/ to prevent the V-belt from falling out of the pulley groove, then pass the V-belt between the tank and the stand plate, and mount it into the hand wheel groove. Lift the machine head to

its working position, check the V-belt for correct tension, and mount the upper belt guard back.

5. To lift the presser foot /Fig. 8/

The lifting and sinking of the presser foot is controlled by the knee lever mechanism. To lift the presser foot and to lock it in the lifted position, the hand lifting lever /615.024/ situated at the rear side of the machine arm can also be used.

To sink the presser foot onto the sewn work, first slightly depress the knee lever thus disengaging the locking of the lifted presser foot by tilting the hand lever, and then release the knee lever to let the presser foot sink onto the sewn work.

Never start the machine if the presser foot has been sunk onto the throat plate directly, with no material interposed between them.

6. Needles and threads

The machine requires the use of needles 134 R, 135x5 and Schmetz 797 CF CF of current sizes. Considering the high machine performance and the resulting needle heating, it is advised to use chromium plated needles. The size of the needle depends on the size of the thread, since it must pass freely the needle eye. It is advisable to choose a rather thin needle, just permitting the free passage of the thread through the needle eye but partially preventing the upper thread from being threaded out of the needle eye at the beginning of stitching after the previous thread trimming.

The most important factor in choosing the needle size is the thickness of sewn work. A needle too thin with respect to the thickness of sewn material is subject to excessive strain /impacts of the needle punches into the work, upper thread tension, heat generated by friction between the needle and the sewn work, etc./ and exposed to the risk of deviations from the correct needle course followed by irregular formation of upper thread loops and resulting in skipped stitches. Only quality threads should be used. Especially suitable are conical cross-wound bobbins. S-twist thread should be used for the needle, while both S-twist and Z-twist thread is suitable as lower thread. A coarse thread or the one which has to overcome considerable resistance when passing through the needle eye reduces the machine performance and increases its trouble incidence. With synthetic threads, use equipment No. 205 to reduce adequately the machine speed, and apply a needle of the Type "Special" or "Super special" to improve the heat removal from the needle eye in order to avoid melting thread.

7. To insert the needle /Fig. 8/

For easier inserting the needle, sink the presser foot onto the sewn work and rotate the hand wheel toward you until the needle bar has reached its top position, i.e., until the greatest possible distance between the needle bar and the throat plate has been obtained. Loosen the screw /135.029/ of the thread guide /627.170/ and insert the needle into the needle bar up to the stop. Be sure that the long groove of the needle is directed towards the operator. Looking through the cross slot provided in the needle bar check

whether the needle shaft has arrived up to the bottom of the needle channel, and fix the needle by tightening the screw. Each time you insert a new needle check whether it is straight and whether it passes through the centre of the needle hole provided in the throat plate. Never use a needle chosen haphazardly but choose it with respect to the character of sewn material and to the thread size.

8. To thread the upper thread /Fig. 3/

Put the bobbin on the bobbin stand, unwind a sufficient portion of it, and pass it through the thread guide of the bobbin stand, then through the thread guides /313.204/ and /272.039/ between the tensioner discs /828.079/. Then lead it through the adjusting spring /264.294/ and the thread guides /271.184 and 821.077/ into the thread take-up lever /A/, then downwards through the thread guide /821.077/ and the lower thread guide /821.115/ to the thread guide /627.170/ on the needle bar, and from there to the needle. Insert it into the needle eye from the front side /i.e., from the operator/ to the rear side.

Attention:

For overedging, attaching curtains, and for stitching thin materials with the use of equipment 206, the upper thread should be threaded into the lower aperture of the thread guide /627.037/ provided on the needle bar. For current stitching operations, it should be threaded into the upper aperture of the thread guide.

9. To wind the hook bobbin /Fig. 4/

To wind the lower thread on the hook bobbin, a built-in

bobbin winder, supplied separately as equipment No. 201, can be mounted onto the front side of the machine arm. Lead the thread from the bobbin stand through the aperture provided on the arm of the bobbin stand, through the aperture of the thread guide /025.248/, and to the bobbin mounted on the winder shaft, wind it a few times anticlockwise on the bobbin, lead the thread end to the spring /260.483/, insert it between the spring coils, and draw it lightly so as to cut it by the knife located inside the spring. When mounting the bobbin on the winder shaft mind that the carrier spring enters the notch of the bobbin front. By swinging the control lever /613.468/ between the bobbin fronts you render the bobbin winder operative. Switching on the electric motor and depressing the right treadle, you start the machine and the winder as well. During the winding, the thread is evenly distributed along the whole of the bobbin width. As soon as the bobbin is fully wound, the control lever springs off thus disconnecting the winder drive and braking the winder shaft. The winding is now completed. Use the knife situated in the spring /260.483/ to cut off the thread end.

To time the stop of winding, loosen the screw /124.050/ of the control lever /613.468/ mounted on the disconnecting pin /049.830/, hold the disconnecting pin by means of a screwdriver in its position, and change the angular position of the control lever on the disconnecting pin as required.

10. To take out the **hook** bobbin

Rotate the hand wheel until the thread take-up lever has reached its top position. With your left hand, open the lock

of the bobbin case and take the bobbin case out. As long as the bobbin case lock is open, the bobbin is held in the bobbin case. Release the lock, turn the bobbin case so as to direct its open side downwards, and the bobbin will fall out.

Attention:

When taking the bobbin case out of the **hook** , hold your feet away from the stand treadles in order to avoid an incidental start of the machine.

11. To thread the lower thread

Insert the fully wound bobbin into the bobbin case, and the thread and first into the notch of the bobbin case and then under the pressure spring of the bobbin case. Insert the bobbin case with the bobbin into the **hook**. To prevent the bobbin from falling out of the case, while being inserted into the **hook** , tilt the lock fixing the bobbin in the case. With your thumb, push the bobbin case until you hear a distinct click. The correct position of the bobbin case in the **hook** signalled by this sound is very important, because otherwise the needle rupture or another breakdown could occur at the following machine start.

12. To catch the lower thread

Hold lightly with your left hand the end of the upper thread without stretching it. With your right hand revolve the hand wheel towards you until the threaded needle reaches subsequently its bottom and top positions, thereby catching the lower thread. Draw then lightly the upper thread until



the lower thread shows through the aperture provided in the throat plate. Lay the two thread ends in the direction behind the needle. While threaded, the machine may be started only after a bit of material has been inserted under the presser foot. Both when starting and when finishing the sewing, the thread take-up lever should be placed in its top position to avoid the risk that the upper thread will thread out and possibly catch in the hook course.

13. Sewing - work proper

Insert the material to be sewn under the presser foot, switch on the electric motor and start the machine by gradual pressing the right treadle. The sewing speed increases up to the maximum as the treadle is being depressed. Releasing the treadle will disengage the clutch of the electric motor, brake the motor and stop the machine. During the sewing avoid pulling the material but guide it only. By pulling the material, you bend the needle with the risk of breaking it in case of a collision with the edge of the needle aperture provided in the throat plate. Repeated collisions of this kind burr the needle aperture which causes thread ruptures. When the stitching operation is completed, lift the presser foot and remove the sewn work.

Attention:

Having put the new machine in operation do not charge it fully from the very beginning. During the first two or four weeks, when the machine is running-in, increase its speed gradually from about 4,000 stitches per min. and check

cerefully its running. Throughout this time, pay special attention to the machine lubrication. By keeping to these rules a long service life and perfect precision of the machine even at its full performance is guaranteed.



## II. INSTRUCTIONS FOR ADJUSTMENT OF MACHINE MECHANISMS

This section describes those adjustments that can be carried out on the work site. Larger adjustments, requiring more time, should be carried out by a skilled sewing machine mechanic.

### 1. Stitch length adjustment /Fig. 5/


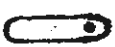


The stitch length can be steplessly adjusted by turning the knob /233.031/ provided on the vertical part of the machine arm, through a range between 0 and 5 mm. By turning it in the sense of the arrow "A" /i.e., to the right/, you increase the stitch length, by turning it in the sense of the arrow "B" /i.e., to the left/, you decrease it. For reverse stitching, depress the lever /044.714/ downwards. When released, the lever automatically resumes its previous position and the machine its forward stitching.

### 2. To adjust the zigzag stitch width and position /Fig. 5/

Before any adjustment of the zigzag stitch width or position, the machine must be stopped with the needle outside the sewn work. The locking lever /612.342/ must be turned to the left /anticlockwise/ and held there until the adjustment is carried out, since its original position /i.e., turned to the right/ serves to lock the adjusted stitch width and position.

The stitch width can be steplessly adjusted from 0 to 6 mm by means of the lever /044.753/ protruding over the cover /954.044/ of the zigzag stitch mechanism. By displacing the lever to the right, i.e., towards the hand wheel, you increase the zigzag stitch width up to its maximum, by displacing it to the left, you decrease the stitch width up to zero. The

zigzag stitch position is controlled by the lever /044.740/ protruding on the side of the cover /954.044/ of the zigzag stitch mechanism.

The basic, i.e., the median position is adjusted by the central position of the lever /044.740/, i.e., on the mark , in which the lever enters the fixing notch. To change the adjustment, slightly depress the lever in the direction away from the operator and displace it either upwards, to the mark  to obtain the right-side or downwards, to the mark  to obtain the left-side, zigzag stitch position. After the adjustment turn the locking lever /612.342/ to the right to lock the adjusted /chosen/ zigzag stitch position. When used for straight stitching, the machine should be set to the median stitch position, i.e., to the mark .

### 3. Thread tension adjustment

The tension of the upper and the lower thread must be so inter-related that the stitch interlacing takes place in the middle layer of sewn material. To adjust the upper thread tension, turn the tensioner nut either to the right /clockwise/ to increase the tension, or inversely, to decrease it. To adjust the lower thread tension, use the screw located in the middle part of the pressure spring on the bobbin case. By turning the screw to the right you increase the pressure of the spring on the bobbin case /the thread passes between the spring and the bobbin case/ and, consequently, the lower thread tension, and inversely. If the lower thread tension has been originally adjusted correctly, the adjustment of the upper thread

tension by means of the tensioner nut will be sufficient, as a rule, to restore the desired quality of stitching.

4. To adjust the feed-dog height above the throat plate

/Fig. 7/

The feed-dog /A/ height should be adjusted so that its teeth show up the throat plate /B/ 0.8 to 1.2 mm, according to the kind of sewn material. To adjust it, loosen the screw /120.229/ of the lifting lever /613.195/ on the shaft /345.065/, adjust the required height of the feed-dog teeth, and retighten the screw thoroughly with a screwdriver. To adjust the teeth horizontally, loosen the screw /111.227/ of the feed lever /613.495/ on the shaft /345.067/ and adjust the rear part of the teeth by correspondingly adjusting the angular position of the eccentric pin /338.069/, then retighten the screw /111.227/.

5. To adjust the movement of needle with respect to feed-dog

Loosen the two screws of the lower belt wheel and turn the lower shaft so as to set the feed-dog to a position in which the feeding ends and the feed-dog teeth are at a level with the throat plate, then rotate the hand wheel to position the needle point, during its downward movement, approximately 4 mm above the throat plate, and retighten the screws of the belt wheel.

6. To adjust the throat plate /Fig. 7/

The throat plate /B/ must be properly seated and fixed by screws /123.117/ in a position ensuring that the needle passes through the centre of the needle aperture even at

the top width of the zigzag stitch. The needle aperture must not be burred or otherwise damaged since it would unfavourably affect the quality of stitching.

7. To adjust the presser bar pressure

The presser bar pressure is actuated by the adjusting screw located under the upper cover of the machine arm and accessible through a hole provided in this cover.

By turning the adjusting screw to the right the pressure is increased, by turning it to the left it is decreased. The pressure of the presser foot must be sufficient to ensure reliable and continuous feeding even at the top speed. On the correct adjustment of the presser bar depends the uniformity of damage-free feeding as well as that of the stitch length.

8. To adjust the height of the needle bar /Fig. 8/

The hook must be so interrelated with the needle that at the moment when the hook point begins to take up the upper thread loop, the upper edge of the needle eye is approximately 1 mm under the hook point, at the maximum stitch width and in the right-side position of the needle bar. If the needle bar height is not adequate to this requirement, loosen the screws of the front plate, remove it, loosen the screw /124.050/ of the carrier /627.165/ of the needle bar /391.153/, adjust the needle bar height correctly, and mount the front plate back.

9. To adjust the hook course

Adjust the stitch width to zero and turn the hand wheel towards you until the needle bar reaches its bottom position and

reascends by  $2.1 + 0.3$  mm. In this position, the hook point must lie in the needle axis, the distance between the needle and the hook being 0.1 mm or less. If it is not the case remove the throat plate, loosen the screws, adjust the angular position of the hook on the hook shaft, retighten the screws, and mount the throat plate.

10. To adjust the looper holder

After the hook course adjustment, loosen the fixing screw and adjust the hook holder so as to obtain a gap of approximately 0.7 mm between the holder lug and the bottom of the inner part of the hook. A gauge of the equipment No. 202 is suitable for this adjustment.

11. To adjust the elliptical path of the feed-dog movement

/Fig. 7/

If the machine is adjusted correctly the feed-dog describes an elliptical path both with forward and with reverse stitching. The adjustable eccentric is positioned by means of a pin in the aperture of the lower shaft and commands the length of feeding. Another eccentric, stationary and situated in front of the adjustable one, commands the correct interrelation between the major and the minor axis of the ellipse. The stationary eccentric is secured by two screws located in its collar. The eccentricity of the stationary eccentric is constant so that the height of the ellipse remains the same regardless of the height adjustment of the feed-dog teeth. The adjustment should be carried out as follows:  
When the eccentricity of the adjustable eccentric equals

zero /so that no feeding takes place/ adjust the feed-dog holder with the feed-dog to the centre of the slot provided in the throat plate, having first loosened the screws of the lever /613.495/ on the feed shaft /345.067/. Ensure that the feed-dog reaches its top height about the middle of the feed-dog movement.

12. To adjust the length of feeding

Loosen the screw of the lever on the pin of the reverse stitching hand lever, set the stitch length regulation knob to its zero position, adjust the traversable sleeve of the adjustable eccentric to a position corresponding to zero eccentricity of this eccentric, retighten the screw of the lever, and check whether the feeding is equally long for both forward and reverse stitching.

13. To adjust the hook opening /Fig. 9/

During the stitching, the gap between the sides of the groove provided in the inner part of the hook and the hook holder /686.020/ is positively periodically opened by means of the opening lever /825.743/ and eccentric /671.153/ for easier lower thread movement out of the hook. The eccentric is situated in the hook box at the end of the lower shaft.

Adjust first the gap between the lug of the hook holder and the recess provided in the inner part of the hook, and simultaneously, the opening lever, i.e., its lug, with respect to the face of the inner part of the hook.

- Loosen the screw /111.094/ fixing the position of the bobbin



case /410.530/ contacted by the pin /323.155/ with the opening lever and adjust a gap of 0.8 mm between the lug of the opening lever and the lower surface of the inner part of the **hook** by tapping lightly on the opening lever.

At the same time, set the opening lever so as to produce a gap of approximately 0.5 mm between the recess of the inner part and the **hook** holder required to let the thread pass. Having adjusted the opening lever, retighten the screw /111.094/. Before proceeding to carry out the adjustment, remove the throat plate. The timing of the opening lever with respect to the **hook** is best carried out only during the running in of the machine.

First screw out the four screws /120.246/ on the cover /827.179/ of the **hook** box, remove the cover, take out the lubrication inlay, loosen the two screws /112.013/ of the eccentric /671.153/ and set its angular position on the lower shaft so as to time the opening of the inner part of the **hook** to begin prior to the moment when the upper thread begins to pass across the recess of the inner part of the **hook** and the lug of the **hook** holder. Check also the correct passage of the upper thread around the **hook** bottom, when the opening lever approaches the opening lug to open the passage around the inner part of the **hook** for the upper thread. The correct adjustment is best checked on the adjusting spring that must only slightly move while the thread passes freely.

After the adjustment of the eccentric, retighten its screws, insert the lubrication inlay, and mount the cover of the **hook** box.

14. To exchange the presser foot /Fig. 8/

To exchange the presser foot /031.586/, first lift the presser bar /392.105/ to its top position and lock it by the hand lifting lever /615.024/. Lift also the needle to its top position, then loosen the attachment screw /120.239/ of the presser foot with the washer /190.528/, and remove first the finger guard /271.393/ and then the presser foot from the presser bar. To insert the presser foot, proceed inversely.

Having fixed a new presser foot check, in its top position, whether the needle bar does not collide with the presser foot during its motion.

15. To dismantle and mount the drive belt /Eig. 10/

Screw out the three screws /120.346/ remove the belt guard /041.162/ from the machine arm, tilt the machine head onto the supporting pin located on the bed plate, take the V-belt out of the hand wheel groove, loosen the two screws /120.006/, and remove the hand wheel /045.359/ out of the machine arm and from the upper shaft /349.147/. Pass the drive belt /272 213 032 015/ through the aperture thus created in the machine arm, set it on the two belt wheels and mount the complete hand wheel on the upper shaft in such a position that the first screw /120.006/ - considered in the sense of rotation of the hand wheel - comes to sit on the small flat surface of the upper shaft when tightened. Retighten the screws /120.006/ of the hand wheel, set the V-belt on the hand wheel, tilt

the machine head back to its working position and mount the belt guard back.

16. To adjust the needle punches into the centre of the slot of the throat plate in longitudinal direction /Fig. 8/

Adjust the zigzag stitch to its median position and to the zero width and turn the hand wheel until the needle bar with the needle reaches its bottom position. The needle should be in the centre of the throat plate slot both longitudinally and transversely. In case of longitudinal deviation in the feed direction of sewn material screw out the two screws of the front plate, remove the latter, loosen the securing screws /111.229, 111.248/ and finely adjust the angular position of the screws /113.115/ both on the front and on the rear side of the machine arm so as to set the needle longitudinally into the centre of the throat plate slot. Retighten the screws /111.229, 111.248/ and mount the front plate back.

Attention:

When adjusting the needle position with respect to the throat plate, do not tighten the adjustment screws /113.115/ completely but leave a minimum play between them and the needle bar holder in order to let the transverse motion of the needle bar holder, required for the zigzag stitch formation, proceed unimpeded.

17. To adjust the needle punches into the centre of the slot of the throat plate in transverse direction

Adjust the zigzag stitch to its median position and to the zero width, and turn the hand wheel until the needle bar

with the needle reaches its bottom position. In case of transverse deviation from the central needle position screw out the four attachment screws, remove the upper cover /813.904, Fig. 4/, take the plug /321 161 001 000, Fig. 4/ out of the machine arm, loosen the screw /120.289/ situated under the upper cover, insert a screwdriver into the hole created by the plug removal, adjust the angular position of the eccentric pin /338.187/ so as to set the needle transversely into the slot centre, retighten the screw /120.289/, insert the plug into its hole and mount the upper cover back. Check the needle punch position at the maximum stitch width and be sure that there is a play between the needle and the slot edge in each lateral position of the needle. With zigzag stitch width adjusted at zero, the needle bar with the needle should react with no lateral movement to the hand wheel rotation. If it does react, the basic zero position of the zigzag stitch should be adjusted by an experienced sewing machine mechanic since such adjustment is rather extensive.

18. To adjust the zigzag stitch mechanism to positions:  
right side - left side /Fig. 6/

After the adjustment of the median position and of the maximum width of the zigzag stitch the left and the right zigzag stitch position can be adjusted. Screw out two attachment screws, remove the cover of the zigzag stitch mechanism, loosen the locking lever /612.342/ and set the zero stitch width by means of the lever /044.753/. Rotating

the hand wheel, set the needle bar with the needle to its bottom position. Displace the lever /044.740/ upwards, i.e., for the right side stitch position, and observe the simultaneously proceeding movement of the needle in the throat plate slot to its extreme right position. Loosen the screw /A/ and adjust the stop /825.858/ so as to let enter its notch into the recess provided in the lever /044.740/, then retighten the screw /A/.

Proceed analogically for adjusting the left side needle position. Displace the lever /044.740/ downwards, towards the bed plate, loosen the screw /B/, set the stop /825.857/ correctly, and retighten the screw /B/.

Having adjusted the right side and the left side position mount the cover of the zigzag stitch mechanism back.

19. To adjust the needle bar lateral movement

If the machine is adjusted properly the needle bar begins to carry out its lateral movement, even at the maximum width of the zigzag stitch, only after the needle, during its upward movement, comes to lie about 4 mm above the throat plate. For correct adjustment, loosen the screws /111.343/ of the gear wheel /045.330/ on the upper shaft /349.147/, adjust the angular position of the hand wheel accordingly, and retighten the screws /111.343/ thoroughly.

20. To adjust the control force required for stepless adjustment of zigzag stitch width

For stepless tilting of the zigzag stitch bracket /646.027/, the inlay of the zigzag stitch mechanism body contains a braking roller /314.058/ with a spring /260.139/ and

an adjustment screw /111.099/. Turning the screw to the right increases the pressure exerted on the roller end, consequently, the force required to adjust the stitch width. A lever /612.342, Fig. 6/ actuated mechanism serves to fix the adjusted stitch width, and must be turned to the left prior to proceeding to the stitch width adjustment which is carried out by the lever /044.753, Fig. 6/ whose extreme left position /up to the stop/ produces the zero zigzag stitch width that can be increased up to 6 mm by shifting the lever to the right. The number marking on the cover /954.044/ shows the approximative stitch width values at the respective lever positions. To adjust the control force, first take the complete zigzag stitch mechanism out of the column, i.e. the vertical part, of the machine arm. Screw out the two screws /123.130/ of this mechanism, remove its cover /954.044/, screw out the three attachment screws /120.276/ from the body of the zigzag stitch mechanism, then screw out the securing screw /120.221/ on the pin /335.101/, remove the pin from the guiding /646.027/, loosen the fixing lever /612.342/, and take the screw /152.099/ out of engagement, thus releasing the body of the zigzag stitch mechanism that can then be taken out of the machine arm. During the assembly, proceed inversely.

21. To adjust the control force required for stepless adjustment of the zigzag stitch position

For adjusting steplessly the zigzag stitch position /and, to some extent, the zigzag stitch width as well/, a nut /174.066, Fig. 6/ with a locking nut /161.229, Fig. 6/

is screwed on the guiding /646.027/. The adequate position of the nut /174.066/ fixed by the locking nut /161.229/ will provide for the required displacement control force and define the force fixing the adjusted zigzag stitch position. Any adjustment of the zigzag stitch position can be carried out only with the locking lever /612.342/ released.

22. To adjust the tooth play of the zigzag transmission mechanism

The tooth play of the zigzag stitch transmission mechanism is actuated by the eccentric pin /335.105, Fig. 6/. To adjust the tooth play, first screw out the four attachment screws /123.117/, remove the upper cover /813.904/, and loosen the screw /120.233/ situated in the lug of the machine arm. Then turn the eccentric pin /335.105/ to adjust the tooth play of the zigzag transmission mechanism, i.e., between the complete cam /035.430/ and the gear wheel /045.330/ mounted on the upper shaft /349.147/. Lock the adjusted position by thoroughly tightening the screw /120.233/.

23. To adjust the needle bar position with respect to that of the hook shaft

After a substantial adjustment of machine mechanisms the median /vertical/ needle bar position with respect to that of the hook shaft should be checked. The hook shaft axis is displaced to the left of the needle bar axis. For adjustment, loosen the two screws /120.235/ ensuring the

locking joint between the bed plate and the **hook** gear box. In correct position, the **hook** gear box is in direct contact with the lug of the bed plate. The stop pin on the front side of the gear box is inserted into the split section of the bed plate lug and is in contact with the upper part of the split lug. Lock the gear box in its position by tightening the two screws /120.235/.

24. To adjust the operation of the adjusting spring

Loosen the screw /111.229, Table 8/ and take the complete upper thread tensioner /025.089, Table 8/ out of the machine arm. To adjust the tension of the adjusting spring /264.223/, loosen the screw /111.227/ on the bushing /416.077/ and adjust the angular position of the pin /335.050/ with a screwdriver. By turning the pin to the left, reduce the spring tension, and inversely. In the same manner is adjusted the value of the spring arm stroke. Sew a few stitches and check the adjustment of the adjusting spring. Displace the right-side sliding plate and check the thread action. With correct adjustment, the thread passing around the **hook** bottom shall produce a slight movement of the adjusting spring without being tensioned.

25. Electrical equipment of machine

The machine is equipped with an electric motor situated in the machine stand. The electrical equipment of the machine should be kept in good state according to the electrotechnical and safety regulations. To change the sense of rotation of the electric motor change over the



lead-in cable either at the plug or at the terminal board of the electric motor. In the latter case, do not omit first to take the plug of the lead-in cable out of the socket.

Attention:

Any failure of the electrical equipment of the machine should be repaired by a skilled electrician.

### III. MAINTENANCE

#### 1. Machine cleaning

Plain machine lines help to keep clean outer machine parts. From time to time, it is necessary to remove the waste between the feed-dog and the throat plate. Otherwise, the machine should be cleaned daily.

#### 2. General overhaul and repair of the machine

should be carried out once a year. The machine should be set out of operation, cleaned, dismantled, faulty pieces exchanged and due repairs carried out. The machine should be then assembled and tested. The electric motor and the electrical equipment should be inspected and tested. The general overhaul of the machine should be carried out so thoroughly as to enable the machine to run without major troubles for another year.

#### 3. To store the machine

After the machine has been set out of operation, it should be cleaned, inspected, and faulty pieces exchanged, if any. The machine should then be tested, coated with protective grease, and stored with all the tools and accessories.

#### IV. FAULTS AND HOW TO REMOVE THEM

<u>Fault</u>	<u>Cause</u>	<u>Remedy</u>
a/ Heavy machine run	The machine has been out of use for considerable time: dried oil and impurities deposited in the bearings	Inject some drops of kerosene into all lubrication holes and on sliding surfaces and let the machine run rapidly so as to clean the lubrication holes in the bearings. Then oil the machine carefully with sewing machine oil /see par.5, page 8/
b/ Slow machine start	Insufficient belt tension	Increase the belt tension by tilting the electric motor
c/ Upper thread breakage	<ol style="list-style-type: none"> <li>1. Slashed thread guides</li> <li>2. Too sharp hook point</li> <li>3. Faulty feeding</li> <li>4. Faulty thread guiding or faulty needle threading</li> <li>5. Incorrect upper thread tension</li> <li>6. Bad needle quality or bent needle</li> <li>7. The thread size is inadequate to the thickness of sewn material</li> <li>8. Machine considerably soiled</li> </ol>	<ol style="list-style-type: none"> <li>1. Ascertain and exchange them</li> <li>2. Repair it</li> <li>3. Adjust it /par.5, page 20/</li> <li>4. Thread the upper thread correctly /see par.8, page 13/</li> <li>5. Adjust it /see par.3, page 19/</li> <li>6. Exchange the needle /see par.7, page 12/</li> <li>7. Use adequate thread</li> <li>8. Unscrew the throat plate, clean the machine</li> </ol>

Fault	Cause	Remedy
		8. mechanism, and set the throat plate /see par. 6, page 20/
	9. Thread wound on the hook	9. Remove the thread
	10. The thread is too thin or not strong enough	10. Use adequate thread
d/ Lower thread breakage	1. The thread is in-correctly threaded into the bobbin case	1. Thread is correctly /see par.11, page 15/
	2. The thread is too thin or not strong enough	2. Use adequate thread
	3. The thread is incorrectly wound on the bobbin	3. Wind it on the bobbin correctly
	4. Damaged bobbin	4. Exchange it
	5. Too sharp pressure spring on the bobbin case	5. Exchange the spring
e/ Skipped stitches	1. Needle inserted incorrectly	1. Insert it correctly /see par.7, page 12/
	2. Blunt or bent needle	2. Exchange it /see par. 7, page 12/
	3. Slashed or broken hook point	3. Exchange the hook
	4. Excessive needle aperture in the throat plate	4. Exchange the throat plate and set it correctly /see par.6, page 20/
	5. Broken adjusting spring for upper thread tension	5. Exchange the spring and adjust the upper thread tension /see par.3, page 19/

Fault	Cause	Remedy
	6. Needle bar positioned too high or too low	6. Adjust it /see par.8, page 21/
	7. Overturned hook incorrect hook course	7. Adjust the hook course /see par.9, page 21/
	8. Soiled hook mechanism	8. Clean it with kerosene and oil it
f/ Needle breakage	1. Feed-dog positioned too high	1. Adjust it in height /see par. 4, page 20/
	2. Faulty attendance - pulling the material	2. Let the material pass freely
	3. Needle too thin with respect to material	3. Exchange the needle /see par. 7, page 12/
	4. Needle inserted incorrectly	4. Insert it correctly /see par. 7, page 12/
	5. Loosened throat plate	5. Set the throat plate correctly /see par. 6, page 20/ and fix it by screws
	6. Excessive upper thread tension	6. Adjust it /see par. 3, page 19/
g/ Heavy and irregular feeding	1. Feed-dog positioned too low	1. Adjust it in height /see par.4, page 20/
	2. Worn-out feed-dog	2. Exchange it
	3. Clogged or blunt teeth of feed-dog	3. Clean or exchange the feed-dog
	4. Insufficient pressure of presser foot	4. Increase the pressure /see par.7, page 20/
h/ Stitch forming below sewn material	1. Tensioner discs slashed by upper thread	1. Exchange them and adjust the upper thread tension /see par.3, page 19/

Fault	Cause	Remedy
	2. The thread does not pass smoothly around the hook or catches the bobbin case	2. Clean the and adjust the bobbin case
	3. The upper thread is not threaded between the tensioner discs	3. Thread it correctly /see par.8, page 13/
	4. Thread broken and caught between the tensioner discs	4. Clean the thread tensioner and adjust it /see par.3, page 19/
	5. Incorrect proportion between the upper and lower thread tensions	5. Correct the proportion /see par.3, page 19/ and check it from time to time
i/ Stitch forming above sewn material	1. Damaged spring on the bobbin case, lower thread is braked insufficiently	1. Exchange the spring
	2. The lower thread is not threaded under the spring of the bobbin case	2. Thread it correctly /see par.11, page 15/
	3. Lower thread broken and caught under the spring of the bobbin case	3. Remove the thread
	4. Incorrect proportion between the upper and lower thread tension	4. Correct the proportion /see par. 3, page 19/

<u>Fault</u>	<u>Cause</u>	<u>Remedy</u>
	5. Premature feeding	5. Adjust it /see par.5, page 20/
j/ Locked hook	Thread rests caught in the hook	Rotate the hand wheel in each direction regardless of the considerable resistance until the caught thread rests are cut to pieces. Remove them and start the unthreaded machine. Let it run for a period, then drip two or three drops of oil recommended in par. 5, page 8 onto the hook .

V. HOW TO ORDER SPARE PARTS

When ordering spare parts, please, specify:

1. Marking of the piece

/a six-digit number for pieces produced in our factory,  
a twelve-digit number for pieces purchased from other  
suppliers/

2. Number of pieces

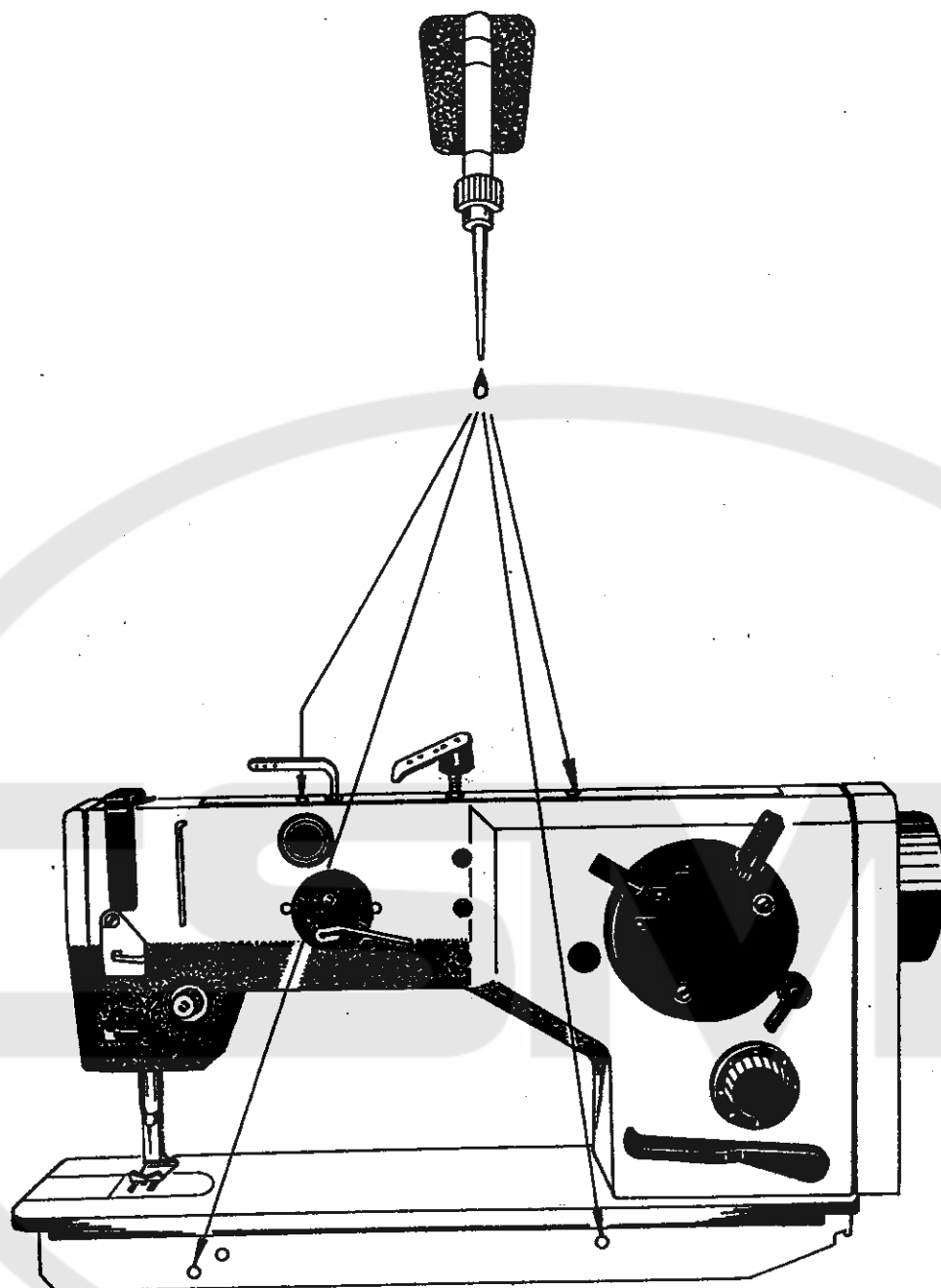
Example of an order:

021.243	2 pieces
828.079	4 pieces
272 213 017 015	1 piece
323 114 618 117	1 piece

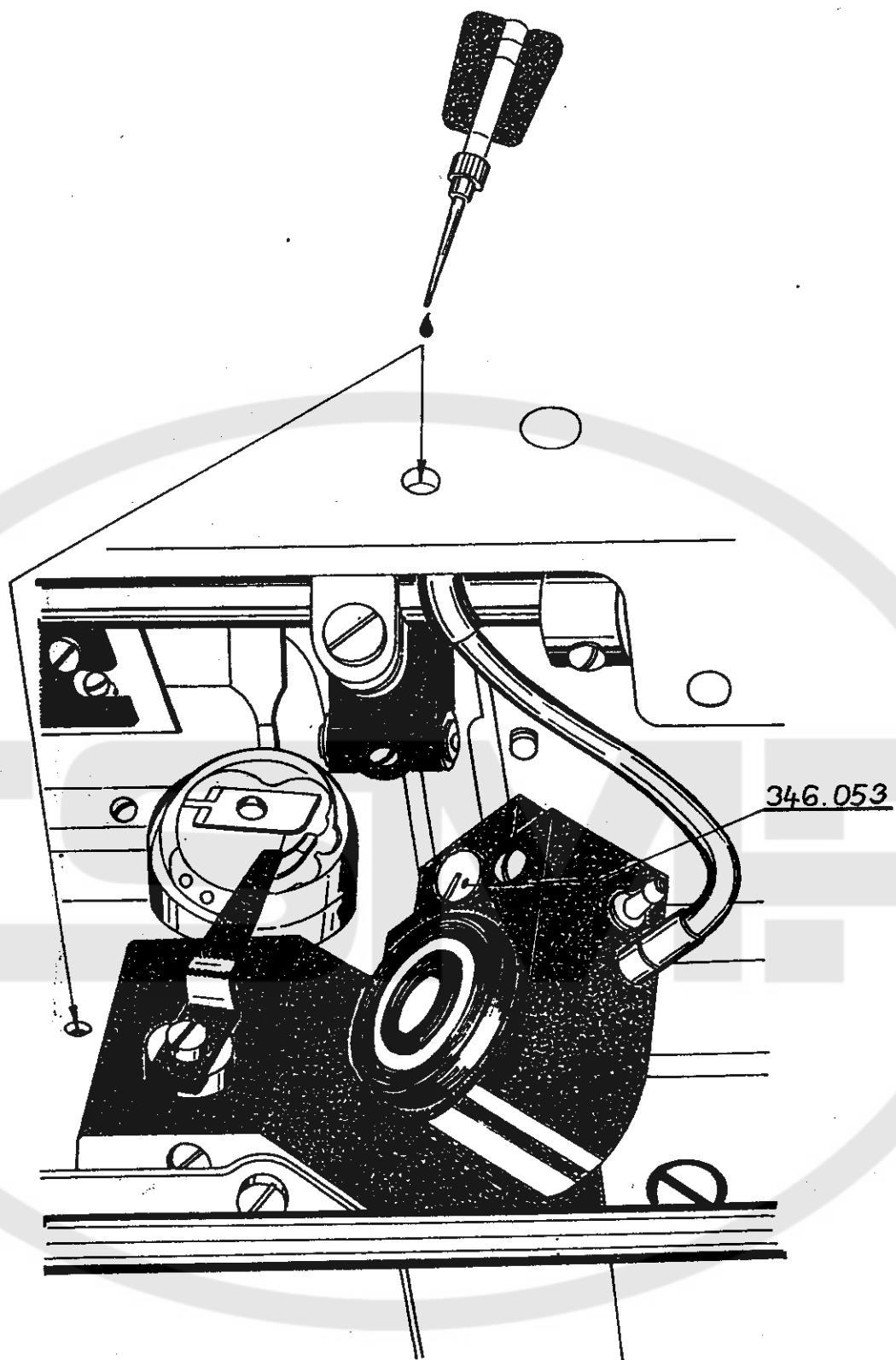
As we are continually endeavouring to improve our machines  
we amend also the accompanying technical documentation  
accordingly. It is, therefore, strongly recommended to  
order spare parts exclusively on the basis of the catalogue  
attached to the machine in question

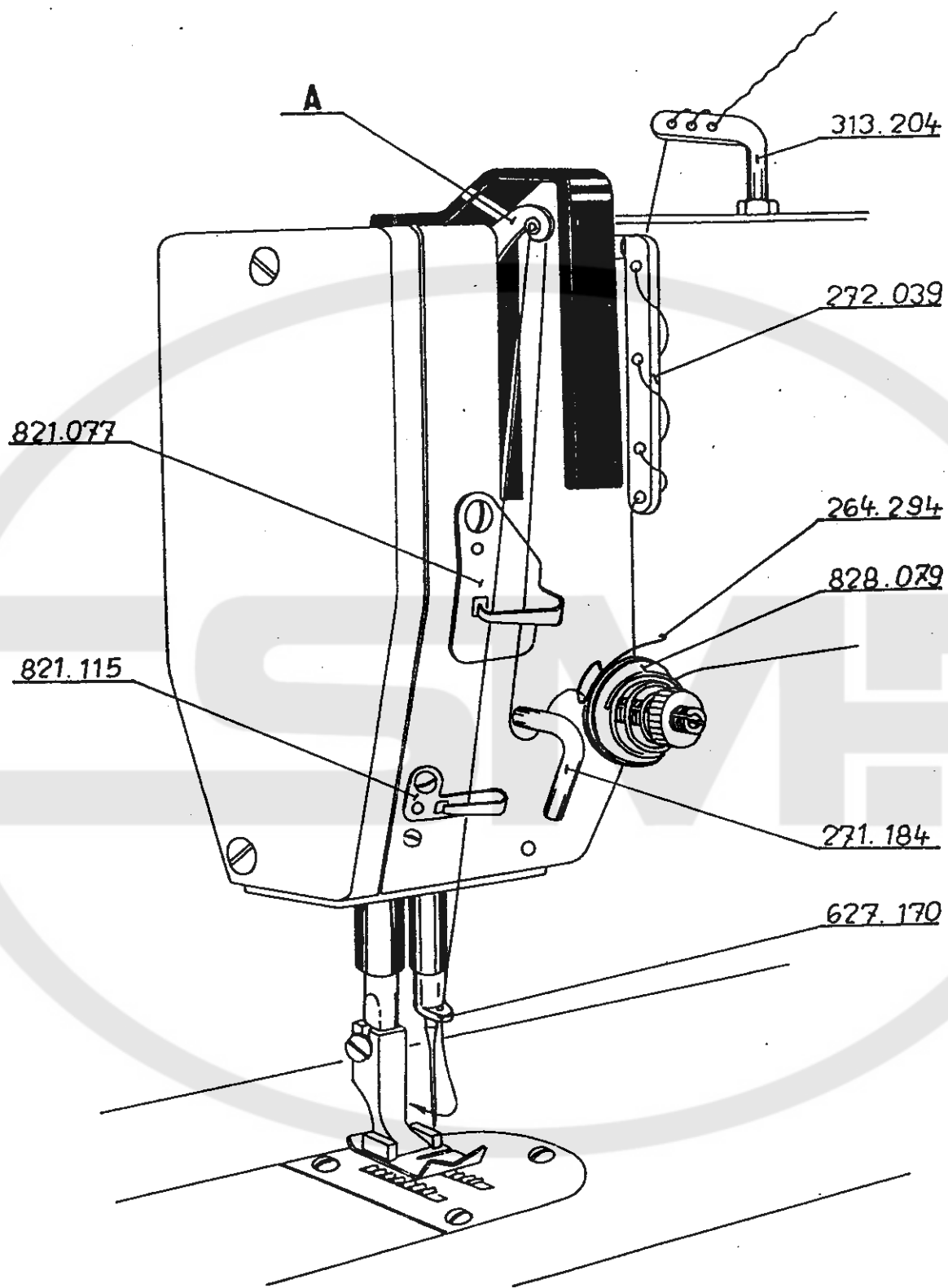
We wish you much success in your work

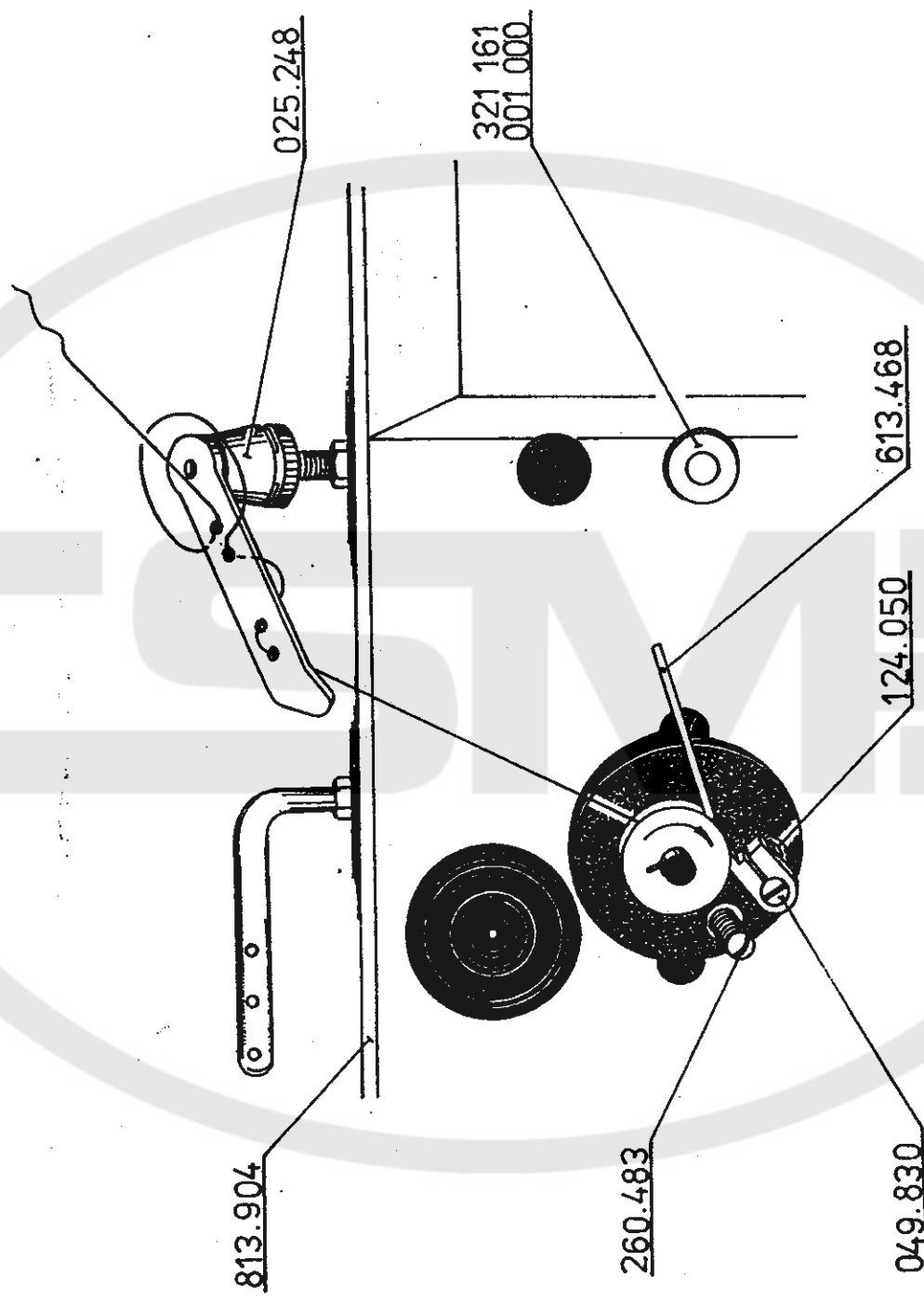


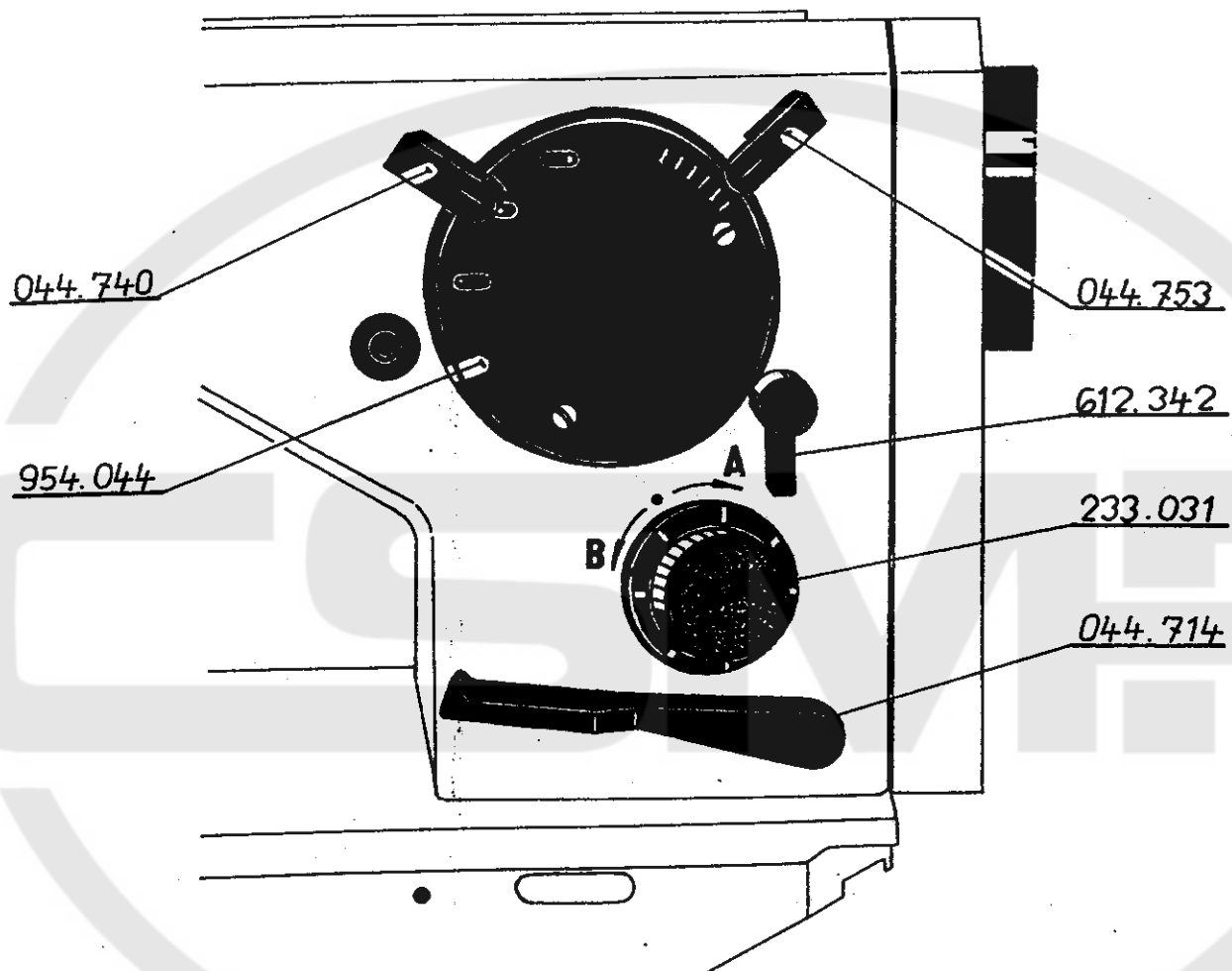


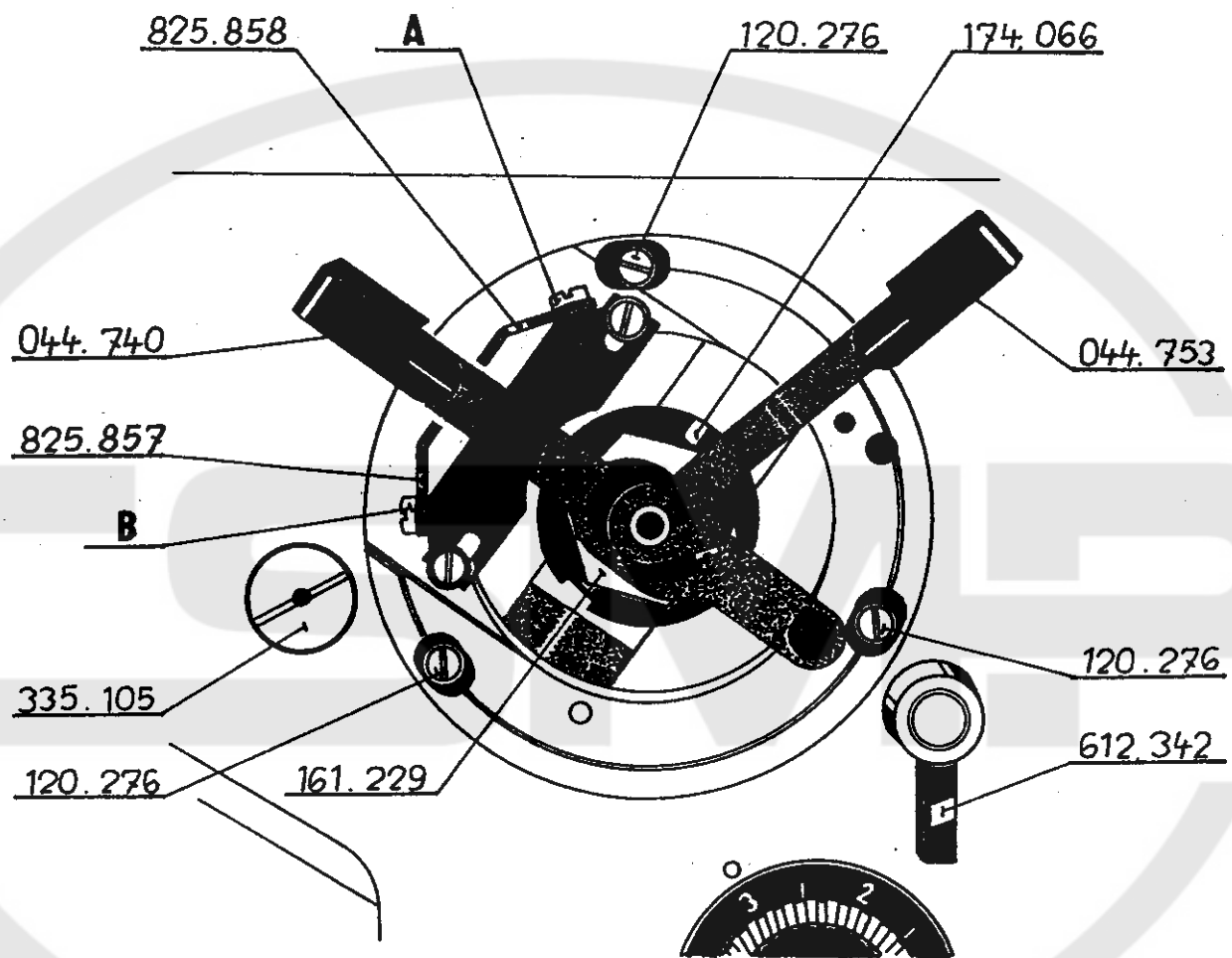
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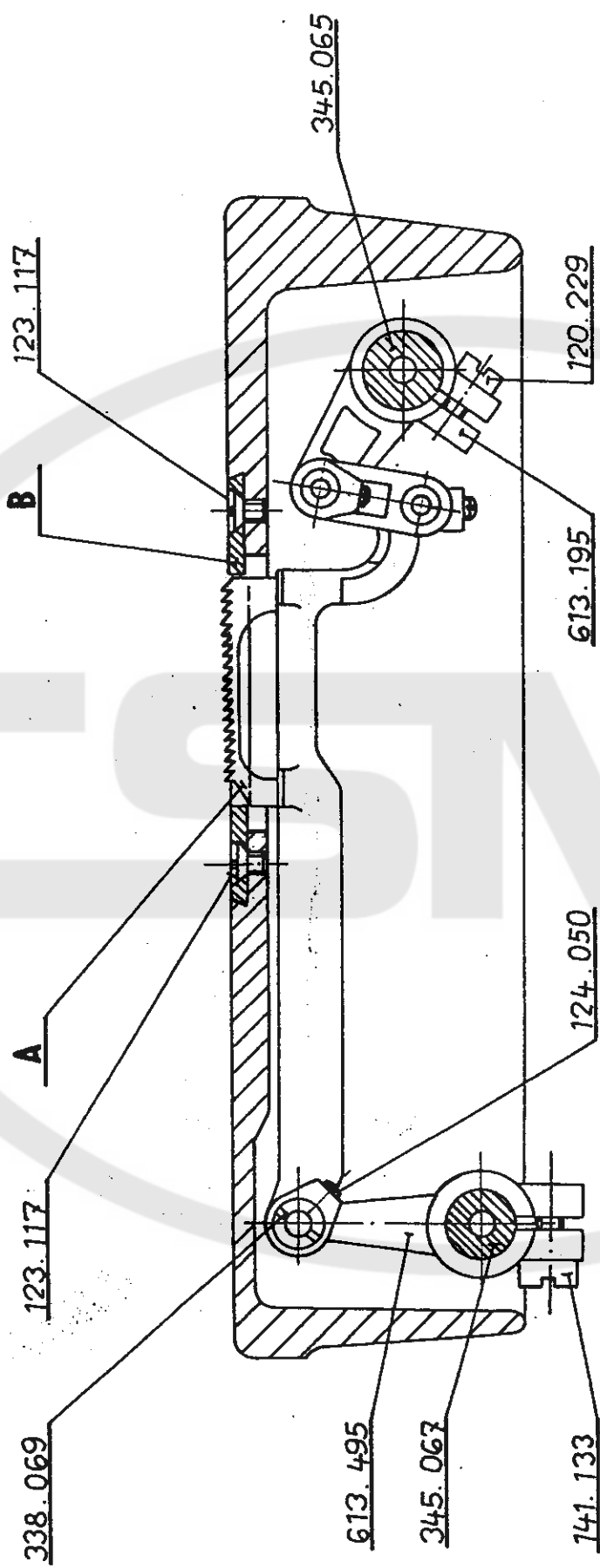


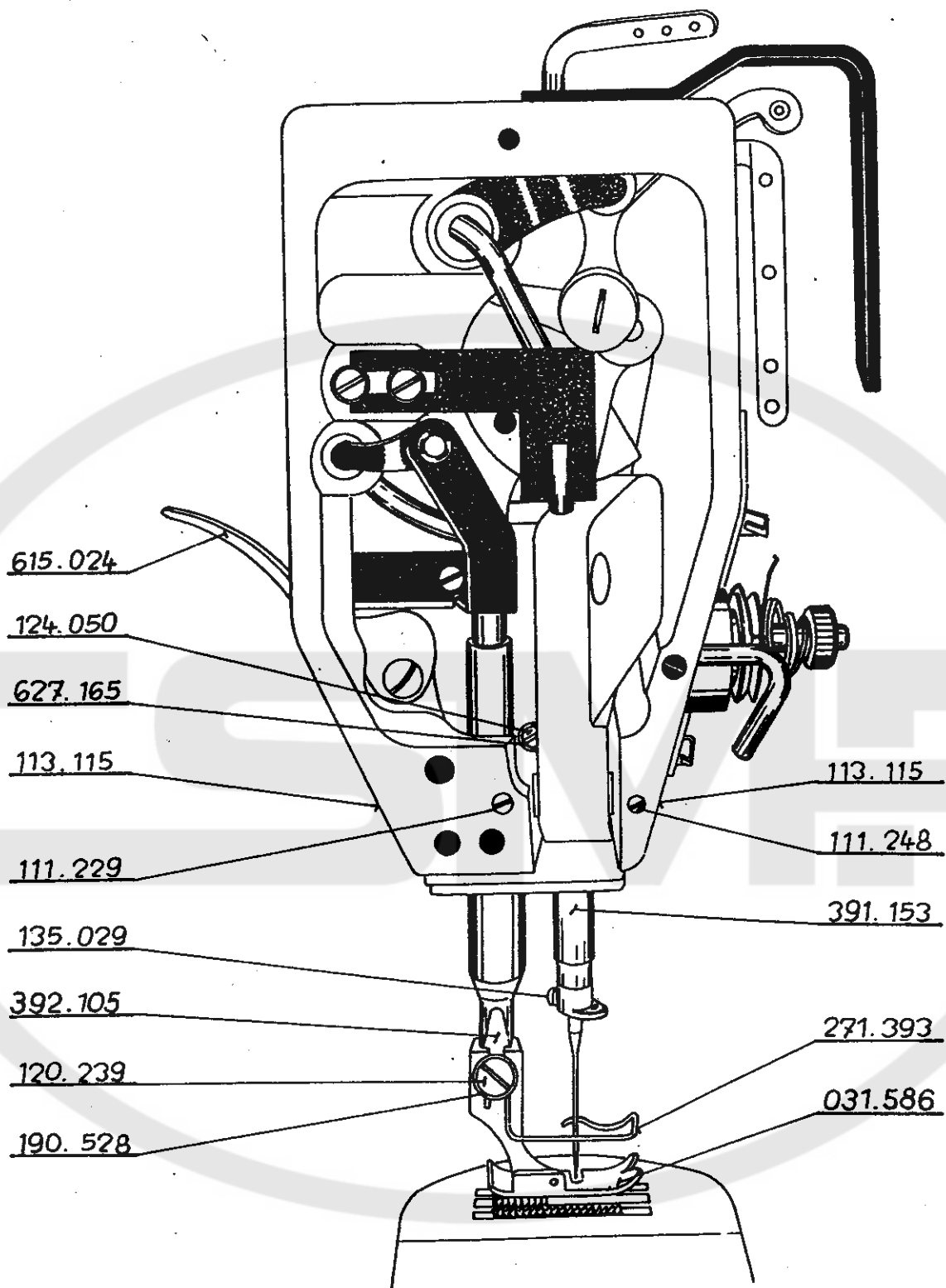




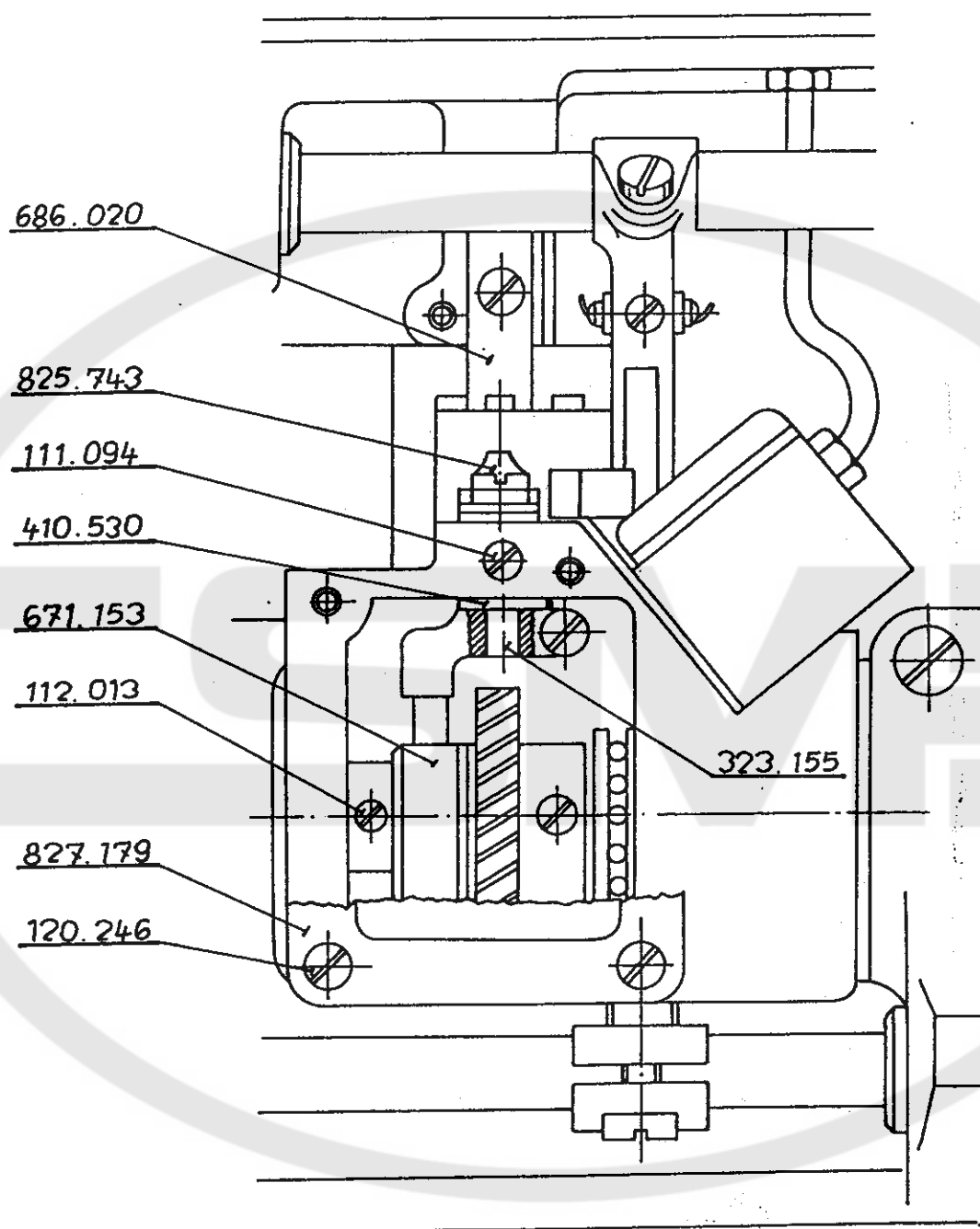


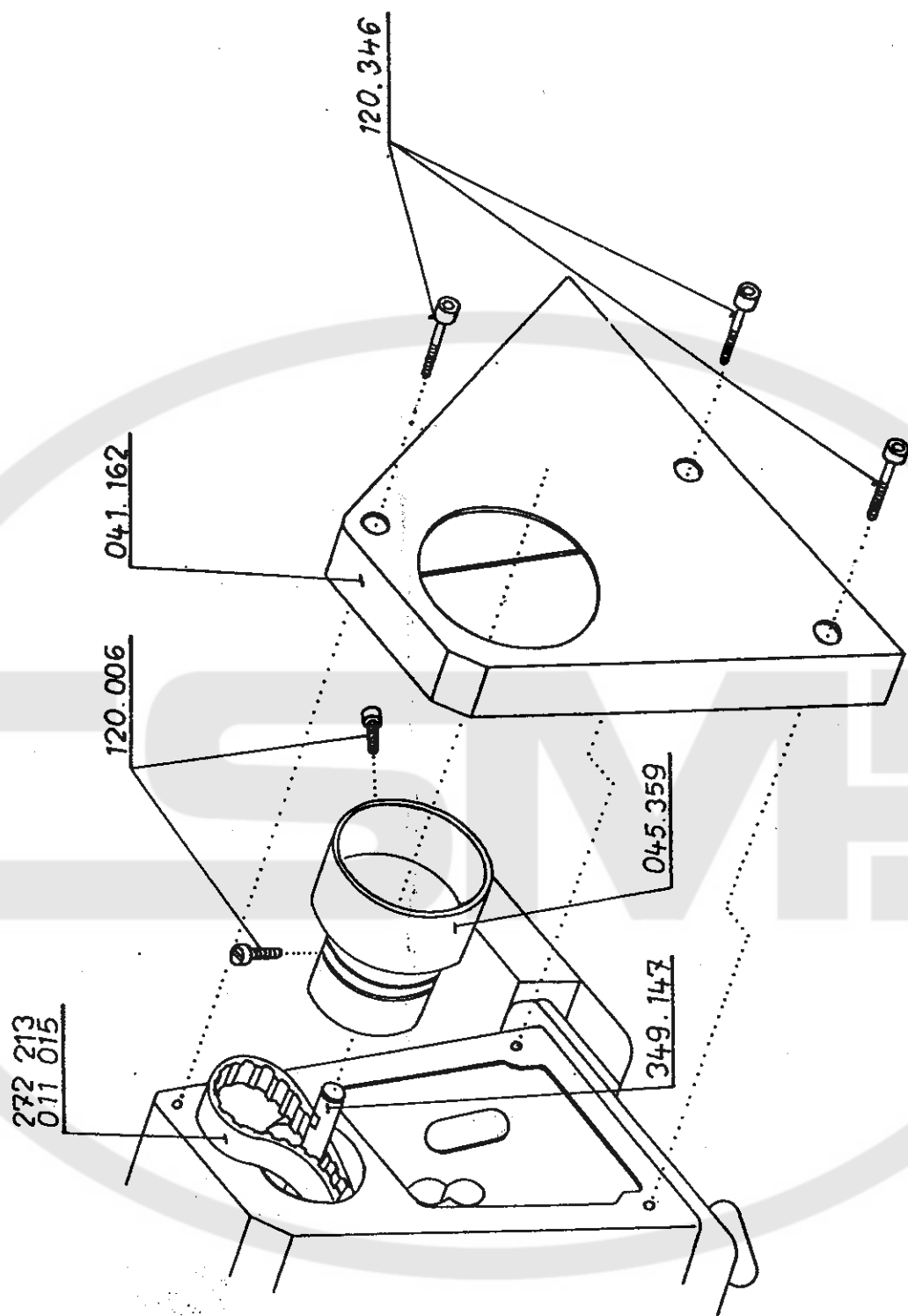












## List of Parts for Single Needle Flat Bed Zigzag Industrial Sewing Machine

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Marking of the Piece	Pieces per 1 Mach.	Name	Ill. in Table	N	A
<b>PARTS PRODUCED</b>					
* 522 980 008.235	1	Hook R 235	5	N	1
** 008.250	1	Hook R 250	5	N	1
* 020.290.10	1	Machine arm with bed plate	1, 2, 5, 7, 8, 10, 13		
** 020.299.10	1	Machine arm with bed plate	1, 2, 5, 7, 8, 10, 13		
021.315	1	Needle bar holder, complete	3, 10		
024.212	1	Complete fork	10		
025.245	1	Complete thread tensioner	8		
** 031.550	1	Complete presser foot	11	N	1
* 031.586	1	Complete presser foot	11	N	1
035.330	1	Complete slide block	5		
** 035.376	1	Complete cam	10	N	1
* 035.405	1	Complete eccentric	5		
** 035.406	1	Complete eccentric	5		
* 035.430	1	Complete cam	10	N	1
035.499	1	Complete carrier	3		
** 035.525	1	Complete tube	6		
* 035.526	1	Complete tube	6		
035.505	1	Complete body	9		
041.162	1	Complete cover	2		
044.045	1	Complete connecting rod	4, 12		
* 044.376	1	Complete lever	13		
044.711	1	Complete crank	3	N	1
044.712	1	Complete connecting rod	3		
044.714	1	Complete lever	13		
** 044.727	1	Complete crank	3	N	1
045.314	1	Complete wheel	4		
045.330	1	Complete gear wheel	4		
049.782	1	Complete guiding	3, 8		
049.785	1	Complete guiding	13		
049.832	1	Complete shaft	10		
049.836	1	Complete cover	4		
522 080 111.094	1	Screw	5		
111.097	1	Screw	13		
111.099	1	Screw	9		
111.126	1	Screw	3		
111.214	1	Screw	3		
111.219	2	Screw	5		
111.222	2	Screw M 6 x 8	3		
111.223	1	Screw	6		
111.224	1	Screw M 5 x 8	10		
111.225	3	Screw M 6 x 6	4, 9		
111.227	7	Screw M 4 x 5	1, 8, 12		
111.229	2	Screw M 4 x 5	3, 8		

Legend: N = spare part

A = number of parts required for one machine for one year

\* for the type ZZ 565

\*\* for the type ZZ 566

## List of Parts for Single Needle Flat Bed Zigzag Industrial Sewing Machine

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522 080	111.238	1	Screw M 5 x 10	3		
	111.245	1	Screw M 4 x 8	7		
	111.248	1	Screw M 3 x 4	3		
	111.252	1	Screw	6		
	111.253	1	Screw M 2,5 x 3	3, 10		
	111.273	1	Screw M 4 x 12	3		
	111.295	1	Screw	3		
	111.343	2	Screw	4	N	2
	112.013	21	Screw	4, 5, 12, 13	N	10
	112.014	2	Screw	3, 11	N	2
	112.015	1	Screw	3		
	112.101	1	Screw M 4 x 8	10		
	113.115	3	Screw	3, 4		
	113.122	1	Screw	11		
	113.123	1	Screw	11		
	113.124	2	Screw	17		
	118.039	1	Screw	8	N	1
	120.006	3	Screw	3, 4		
	120.050	2	Screw M 4 x 0,5	11		
	120.062	1	Screw	3	N	1
	120.106	1	Screw	5		
	120.216	3	Screw M 3 x 5	3, 7, 8		
	120.217	3	Screw M 4 x 6	9, 11		
	120.218	1	Screw M 4 x 8	9		
	120.221	6	Screw M 5 x 12	3, 8, 10, 11, 13		
	120.222	1	Screw M 5 x 30	4		
	120.226	1	Screw M 4 x 10	5		
	120.227	1	Screw M 4 x 12	13		
	120.229	3	Screw M 5 x 10	12		
	120.230	1	Screw M 5 x 12	13		
	120.231	2	Screw M 5 x 14	12		
	120.233	1	Screw M 6 x 12	10		
	120.235	2	Screw M 6 x 18	10		
	120.239	1	Screw M 3,5 x 10	11	N	10
	120.245	1	Screw M 3 x 6	7		
	120.246	9	Screw M 4 x 8	5, 12, 13		
	120.248	2	Screw	1		
	120.259	1	Screw M 5 x 8	4		
	120.261	2	Screw M 3 x 5	3, 10		
	120.269	1	Screw	5, 6		
	120.276	5	Screw M 4 x 14	3, 9		
	120.288	1	Screw	10		
	120.291	1	Screw M 2 x 4	10		
	120.324	2	Screw	9		
	120.346	3	Screw	2		
	120.360	1	Screw	8		
	120.361	1	Screw M 3 x 6	2		
	120.430	2	Screw	5		
	120.543	2	Screw	9, 11	N	2
	120.601	1	Screw	5		
	121.157	2	Screw	12	N	4
	122.001	2	Screw	5		
	122.008	1	Screw	3	N	1
	122.029	4	Screw	4	N	4
	122.031	1	Screw	4		

## List of Parts for Single Needle Flat Bed Zigzag Industrial Sewing Machine

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	123.117	12	Screw	1, 2	N	6
522 080	123.122	3	Screw M 3 x 8	11		
	123.130	2	Screw M 4 x 18	9		
	124.050	1	Screw	3	N	2
	124.062	1	Screw	1		
	126.101	4	Screw M 3 x 12	9		
	131.027	1	Screw	8		
	131.391	1	Screw	10		
	132.112	2	Screw	1		
	135.029	1	Screw	3	N	1
	136.023	1	Screw	11		
	138.009	1	Screw	3		
	141.088	1	Screw	4		
	141.102	2	Screw M 4 x 6	4, 13		
	141.141	1	Screw	12		
	141.223	1	Screw	10		
	152.099	1	Screw	10		
	161.138	1	Nut M 5	1		
	161.140	1	Nut	13		
	161.142	2	Nut M 6	13		
	161.143	3	Nut M 5	5, 13		
	161.159	1	Left handed rotation nut	13		
	161.229	1	Nut	9		
	161.233	2	Nut	10		
	161.237	1	Nut	10		
	163.093	1	Nut	10		
	171.037	1	Nut	8		
	174.066	1	Nut	9		
	190.346	1	Washer 6.4	11		
	190.353	4	Washer 4.3	3, 9		
	190.359	3	Washer 5.3	1, 10		
	190.368	1	Washer 3.2	2		
	190.526	1	Washer	10		
	190.554	1	Washer 3.7	11		
	192.061	2	Washer 6.4	9, 13		
	195.041	1	Washer	8		
522 080	220.011	1	Nail 2 x 6	1		
	233.031	1	Knob	13		
	260.139	1	Spring	9		
	260.383	1	Spring	13		
	260.458	1	Spring	3		
	260.467	1	Spring	4		
	260.479	1	Spring	10		
	262.073	1	Spring	8	N	2
	264.288	1	Spring	11		
	264.294	1	Spring	8	N	5
	271.062	1	Ring	4		
	271.184	1	Thread guide	1		
	271.337	1	Split pin 1.6 x 12	11		
	271.393	1	Guard	11		
	272.039	1	Thread guide	8		
	274.083	4	Ring	12		
	274.084	1	Ring 6	11		
	274.085	2	Ring	13		
	274.090	2	Ring 4	9, 11		

## List of Parts for Single Needle Flat Bed Zigzag Industrial Sewing Machine

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	283.152	1	Lifting spring	11
522 080	310.190	1	Pin	9
	310.428	1	Release pin	8
	313.204	1	Pin	1
	313.322	1	Pin	3, 8
	314.058	1	Pin	9
	314.150	1	Pin	10
	316.038	1	Pin	13
	318.103	1	Pin	4
	318.144	2	Pin	12
	318.191	1	Pin	3, 10
	318.192	1	Pin	3, 10
	320.255	1	Pin	10
	322.347	1	Pin	9, 10
	323.155	1	Pin	5
	326.191	1	Pin	11
	328.005	1	Pin	3
	334.097	1	Safety pin	10
	335.101	1	Pin	10
	335.105	1	Eccentric pin	10
	337.033	1	Carrier	4, 13
	338.069	1	Eccentric pin	12
	338.187	1	Pin	10
	340.166	1	Shaft	13
	342.096	1	Shaft	13
	342.243	1	Shaft	4
	342.258	1	Shaft	13
	344.035	2	Shaft	12
	345.065	1	Shaft	12
	345.067	1	Shaft	12
	346.053	1	Pin	6
	349.147	1	Shaft	3, 4
	383.178	1	Tie rod	11
	391.153	1	Needle bar	3
	392.105	1	Presser bar	11
522 080	410.530	1	Bushing	5
	410.532	1	Bushing	12
	410.538	1	Bushing	12
	410.559	2	Bushing	10
	412.193	1	Bushing	12
	413.251	1	Bushing	12
	413.252	1	Bushing	12
	413.311	1	Bushing	3
	413.328	1	Inlay	9
	416.131	1	Bushing	8
	421.122	1	Bushing	4
	421.321	1	Bushing	3
	421.330	1	Bushing	11
	421.341	1	Bushing	3
	422.184	1	Bushing	10
	424.051	5	End piece	3, 5, 6, 10
	424.055	1	Ring	4
	424.060	2	Inlay	5
	424.068	1	Ring	4

## List of Parts for Single Needle Flat Bed Zigzag Industrial Sewing Machine

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	436.000	4	Ring	10, 12		
522 080	436.331	1	Ring	11		
	436.338	1	Ring	4		
	441.187	1	Bushing	13		
	441.278	1	Ring	5		
	441.287	1	Ring	5		
	441.313	1	Oil tank	7		
	441.541	1	Complete body	4	N	1
	445.045	1	Ring	4		
	445.048	1	Body of eccentric	4		
522 080	511.098	1	Hand wheel	4		
*	552.165	1	Gear wheel	5	N	1
*	552.166	1	Gear wheel	5	N	1
**	552.167	1	Gear wheel	5	N	1
**	552.168	1	Gear wheel	5	N	1
	554.077	1	Belt wheel	4		
522 080	611.101	1	Crank head	3		
	612.109	2	Lever	12		
	612.342	1	Lever	10		
	613.152	1	Lever	12		
	613.195	1	Lever	12		
	613.216	1	Lever	12		
	613.235	1	Lever	13		
	613.328	1	Lever	13		
	613.373	1	Lever	13		
	613.466	1	Lever	5		
	613.469	1	Lever	3, 10		
	613.472	1	Lever	9		
	613.495	1	Lever	12		
	615.024	1	Lifting lever	11		
	622.092	1	Feed-dog holder	12		
	623.249	1	Guiding	11		
	627.023	1	Guiding	4, 13		
	627.170	1	Sleeve	3	N	1
	630.248	1	Connecting rod	4, 12		
	632.019	1	Lever	13		
	633.194	1	Lever	9		
	633.196	1	Lever	11		
	635.152	1	Lever	11		
	646.027	1	Guiding	9, 10		
	646.104	1	Guiding	3		
	647.220	1	Bridge	9		
	647.228	1	Plate	2		
*	651.473	1	Feed-dog	12	N	1
**	651.444	1	Feed-dog	12	N	1
	671.152	1	Eccentric	4		
*	685.017	1	Bobbin	5	N	4
**	685.047	1	Bobbin	5	N	4
*	686.020	1	Holder	5	N	1
522 080	721.173	1	Cover	1		

\* for the type ZZ 565

\*\* for the type ZZ 566

## List of Parts for Single Needle Flat Bed Zigzag Industrial Sewing Machine

Page 6

ZZ 565

ZZ 566

*	724.132	1	Casing	4, 5		
**	522 080 724.134	1	Casing	4, 5		
	725.023	1	Oil tank	6		
	522 080 810.419	1	Lever	3, 10		
*	811.701	1	Throat plate	2	N	1
**	811.637	1	Throat plate	2	N	1
	813.904	1	Cover	1		
	814.014	1	Packing piece	11		
	814.338	1	Washer	4		
	821.077	1	Thread guide	1		
**	821.113	1	Guide	2		
	821.115	1	Guide	1		
	822.424	1	Lever	8		
	824.095	2	Clip	7		
**	825.740	1	Releaser	5	N	1
*	825.743	1	Releaser	5	N	1
**	825.744	1	Holder	5	N	1
	825.857	1	Stop	9		
	825.858	1	Stop	9		
	827.179	1	Cover	5		
	827.180	1	Cover	1		
	828.079	2	Tensioner disc	8	N	2
	828.080	1	Releaser disc	8		
	839.215	1	Lifting piece	11		
	831.342	1	Cover	1		
	839.010	1	Stop	9		
	840.073	1	Lubrication tube	1		
	522 080 945.077	1	Inlay	6		
	945.100	1	Inlay	8		
	945.180	1	Inlay	7		
	945.183	1	Lubrication inlay	6		
	945.185	1	Lubrication inlay	6		
	945.186	1	Lubrication inlay	6		
	945.188	1	Inlay	8		
	945.281	1	Washer	3		
	945.283	1	Lubrication inlay	5		
	945.285	1	Lubrication inlay	5		
	945.286	1	Lubrication inlay	7		
	945.316	3	Inlay	7		
	945.317	1	Inlay	11		
	945.326	1	Inlay	10		
	951.281	1	Plug	3		
	951.327	1	Plug	10		
	952.251	2	Knob	9		
	953.139	1	Inlay	3		
	953.159	1	Inlay	3, 8		
	990.134	1	Packing	5		

\* for the type ZZ 565

\*\* for the type ZZ 566



PARTS PURCHASED FROM OTHER SUPPLIERS

272 213 011 015	1	Drive belt 024.037	4	N	1
273 111 001 000	3	Ring 6 x 2 ČSN 02 9281	6, 10		
273 111 007 000	1	Ring 18 x 14 ČSN 02 9281	10		
273 199 005 000	3	Inlay 940.029	2		
283 366 002 000	1	Tube Ø3.5/4.8 x 60	7		
283 366 002 000	1	Tube Ø3.5/4.8 x 65	7		
283 366 002 000	1	Tube Ø3.5/4.8 x 70	3		
283 366 002 000	1	Tube Ø3.5/4.8 x 75	7		
283 366 002 000	1	Tube Ø3.5/4.8 x 90	4, 7		
283 366 002 000	2	Tube Ø3.5/4.8 x 100	5, 6, 7, 10		
283 366 002 000	1	Tube Ø3.5/4.8 x 150	7		
283 366 002 000	1	Tube Ø3.5/4.8 x 170	5		
283 366 002 000	1	Tube Ø3.5/4.8 x 200	7		
283 366 002 000	1	Tube Ø3.5/4.8 x 210	7, 10		
283 366 002 000	1	Tube 3.5/4.8 x 250	7		
311 515 002 006	1	Pin 2 x 6 ČSN 02 2150.1	3, 9		
311 515 006 014	1	Pin 6 x 14 ČSN 02 2150.1	13		
311 515 006 025	1	Pin Ø	13		
311 515 601 612	1	Pin 1.6 x 12 ČSN 02 2156	5		
311 728 502 537	1	Parallel key	13		
311 733 000 180	1	Ring 18 ČSN 02 2930	4		
311 733 000 300	1	Ring 30 ČSN 02 2930	4		
** 311 733 100 220	1	Ring 22 ČSN 02 2931	5		
* 311 733 100 240	1	Ring 24 ČSN 02 2931	5		
311 733 100 260	2	Ring 26 ČSN 02 2931	5		
311 733 100 620	1	Ring 62 ČSN 02 2931	2		
321 161 001 000	5	Plug PE 12.5	1		
* 321 461 954 044	1	Cover	9		
** 321 461 954 046	1	Cover	9		
321 891 001 000	2	Oil level indicator M 24 x 1.5			
		ČSN 02 7488	6, 7		
324 152 927 796	1	Bearing 629 2Z/C6			
		ČSN 02 4640	5		
* 324 155 920 086	2	Bearing UR 609 2Z/C6			
		ČSN 02 4640	5		
** 324 155 910 796	2	Bearing UR 608 B 2Z/C6			
		ČSN 02 4640	5		
324 162 068 396	1	Bearing UR 6206 2Z/C6			
		ČSN 02 4640	4		
324 165 020 020	2	Bearing UR 6002 2Z/C6			
		ČSN 02 4640	4		
324 165 038 396	4	Bearing UR 6003 2Z/C6			
		ČSN 02 4640	3, 4		
324 311 010 000	2	Bearing 51101			
		ČSN 02 4730	5, 10		
324 592 510 900	1	Bearing K 18 x 22 x 13			
		ČSN 02 4696	4		
425 111 009 000	1	Plug 01 400	10		
425 111 041 000	2	Lubrication head M6 x 1 01 412	12		

\* for the type ZZ 565

\*\* for the type ZZ 566

425 111 061 000	1	Lubrication head M8 x 1 01 378	12
548 232 029 000	1	Label	1
* 548 300 000 130	1	Needle Schmetz 797 CFCF	
		No. 100	3
** 548 300 000 140	1	Needle Schmetz 797 CFCF	
		No. 110	3
708 420 030 002	1	Lubrication wick Ø 2 x 40	10
708 420 030 002	1	Lubrication wick Ø 2 x 60	12
708 420 030 002	1	Lubrication wick Ø 2 x 80	3
708 420 030 002	1	Lubrication wick Ø 2 x 130	4, 7
708 420 030 002	2	Lubrication wick Ø 2 x 140	7, 10
708 420 030 002	1	Lubrication wick Ø 2 x 160	12
708 420 030 002	1	Lubrication wick Ø 2 x 220	12
708 420 030 002	1	Lubrication wick Ø 2 x 250	7
708 420 030 002	1	Lubrication wick Ø 2 x 270	7, 10
708 420 030 002	1	Lubrication wick Ø 2 x 320	7
708 420 030 002	1	Lubrication wick Ø 2 x 350	4, 12
708 420 030 003	1	Lubrication wick Ø 3 x 20	3, 10
708 420 030 003	1	Lubrication wick Ø 3 x 40	5
708 420 030 003	1	Lubrication wick Ø 3 x 50	10
708 420 030 003	1	Lubrication wick Ø 3 x 60	12
708 420 030 003	1	Lubrication wick Ø 3 x 110	7
708 420 030 003	1	Lubrication wick Ø 3 x 150	3
708 420 030 004	1	Lubrication wick Ø 4 x 300	7
708 420 030 005	1	Lubrication wick Ø 5 x 300	5
708 420 030 005	1	Lubrication wick 5 x 640	7
722 923 110 000	1	Packing	1

EQUIPMENT 201

522 792 112 010

Incorporated bobbin winder, complete

522 980 025.248	1	Complete thread guide	14
025.249	1	Thread guide	14
035.654	1	Complete body	14
036.122	1	Frictional bobbin winder,	
		complete	14
049.830	1	Complete lever	14
522 080 111.094	1	Screw	14
112.115	1	Screw	14
124.050	1	Screw	14
161.138	1	Nut M 5 ČSN 02 1401.28	14
163.106	1	Nut	14
260.483	1	Spring	14
260.510	1	Spring	14
264.281	1	Spring	14
265.037	1	Spring	14
310.377	1	Pin	14
343.074	1	Shaft	14
522 080 441.308	1	Body	14
422.198	1	Bushing	14
441.310	1	Body	14
441.560	1	Wheel	14

\* for the type ZZ 565

\*\* for the type ZZ 566

522 080	613.468	1	Lever	14
	827.194	1	Plate	14
	870.170	1	Knife	14
	945.296	1	Lubrication inlay	14
273 111	025 410	1	Ring	14
311 732	910 040	1	Ring 4 ČSN 02 2929.02	14
321 861	953 200	1	Plug	14

**EQUIPMENT 202**

522 791 947 001

Adjusting set

522 980	035.456	1	Adjusting set	15
522 080	131.404	1	Screw	15
	133.112	1	Screw	15
	192.061	1	Washer 6.4 ČSN 02 1733.02	15
	646.148	1	Block	15
	814.364	1	Packing piece	15
	814.365	1	Packing piece	15
	831.412	1	Cover	15

**EQUIPMENT 206**

522 791 149 001

Overedging equipment

522 080	120.037	2	Screw	16
	121.157	1	Screw	16
	271.441	1	Thread guide	16
	627.037	1	Thread guide	16
	646.136	1	Sleeve	16

**EQUIPMENT 295**

522 791 995 014

Plug covering the mounting hole for bobbin winder

522 080	814.355	1	Cover	16
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**EQUIPMENT 299**

522 794 222 006

Suspension-type lighting for work area

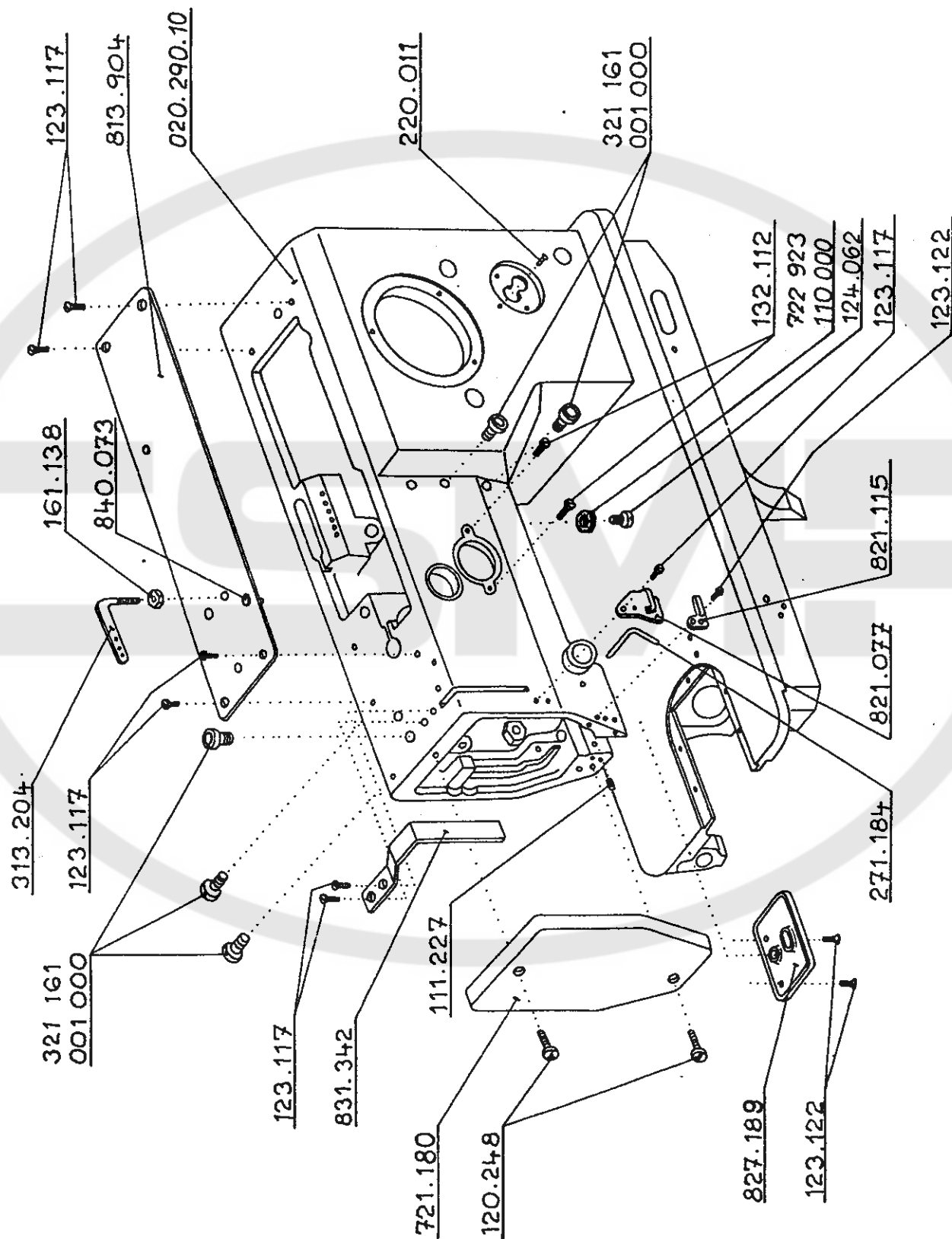
522 980	057.091	1	Complete lampshade	17
	091.660	1	Suspension-type lighting complete	17
522 080	120.261	1	Screw M 3 x 5 ČSN 02 1131.27	17
	120.279	1	Screw M 3 x 8 ČSN 02 1131.27	17
	126.085	2	Screw M 3 x 10 ČSN 02 1151.22	17
	141.253	1	Screw M 6 x 30	17
	141.265	1	Screw M 6 x 16	17
	161.163	1	Nut M 6	17
	171.056	1	Nut	17
	190.347	2	Washer	17

# List of Parts for Single Needle Flat Bed Zigzag Industrial Sewing Machine

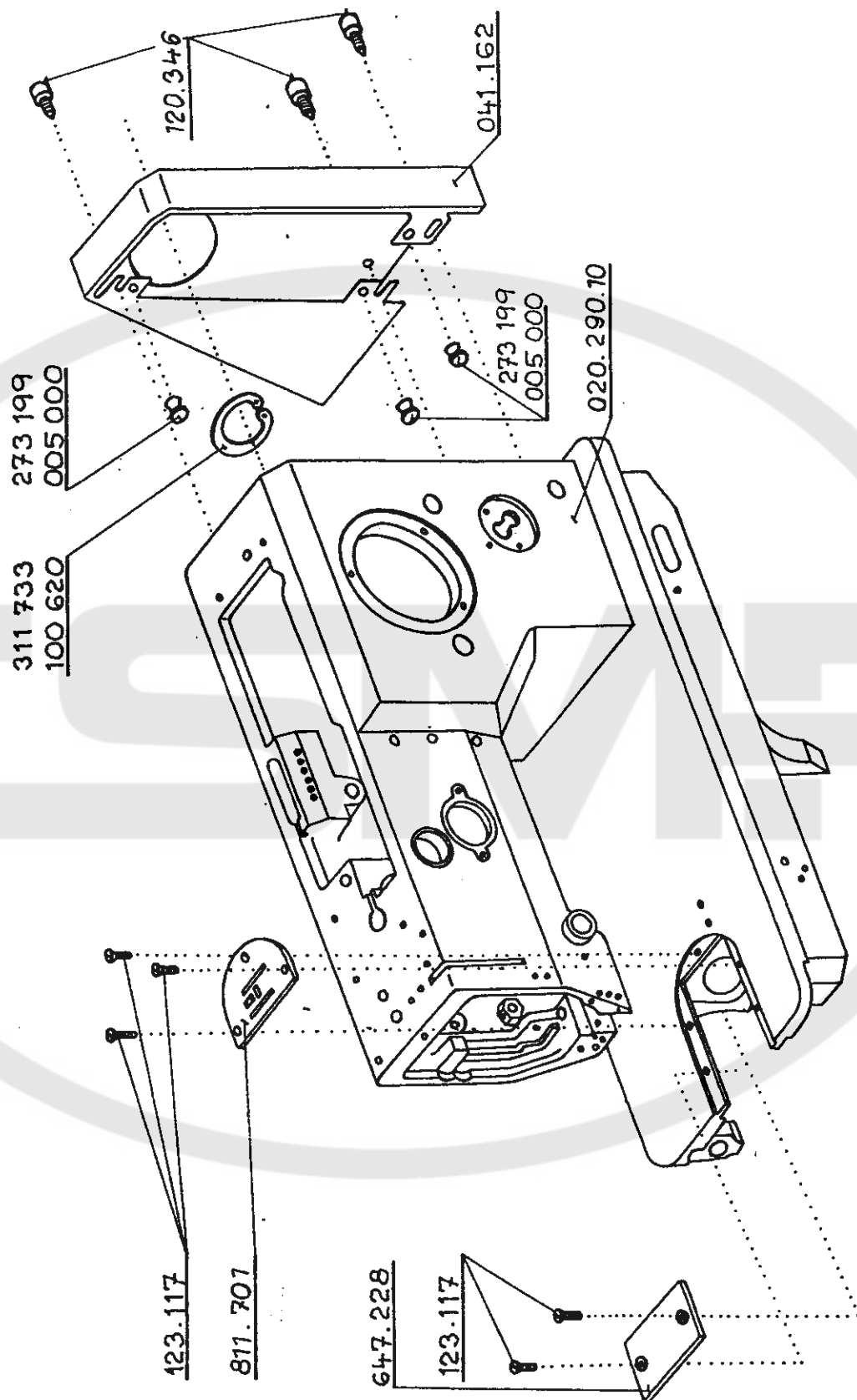
Page 10  
ZZ 565  
ZZ 566

	330.088	1	Pivot	17
522 080	441.501	1	Inlay	17
	441.502	3	Segment	17
	824.095	1	Clip	17
	831.506	1	Guard	17
	839.169	1	Washer	17
	841.541	1	Tube	17
321 161	001 000	1	Plug PE 12.5	17
341 414	028 052	1	Cord YH 2 x 0.35	17
345 111	008 000	1	Socket 1252-036	17
347 170	002 000	1	Bulb 25 V 15 W E 14	17

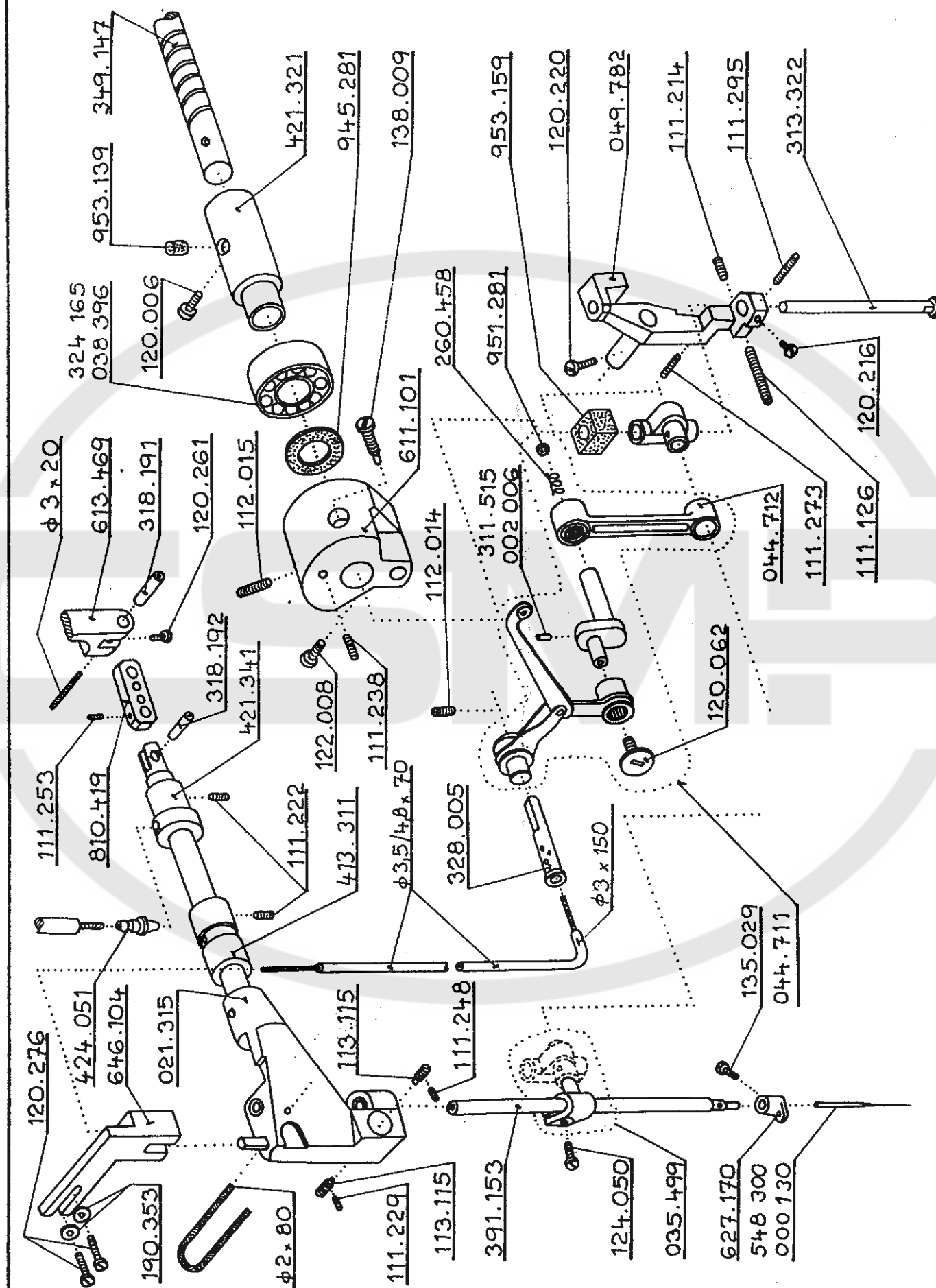
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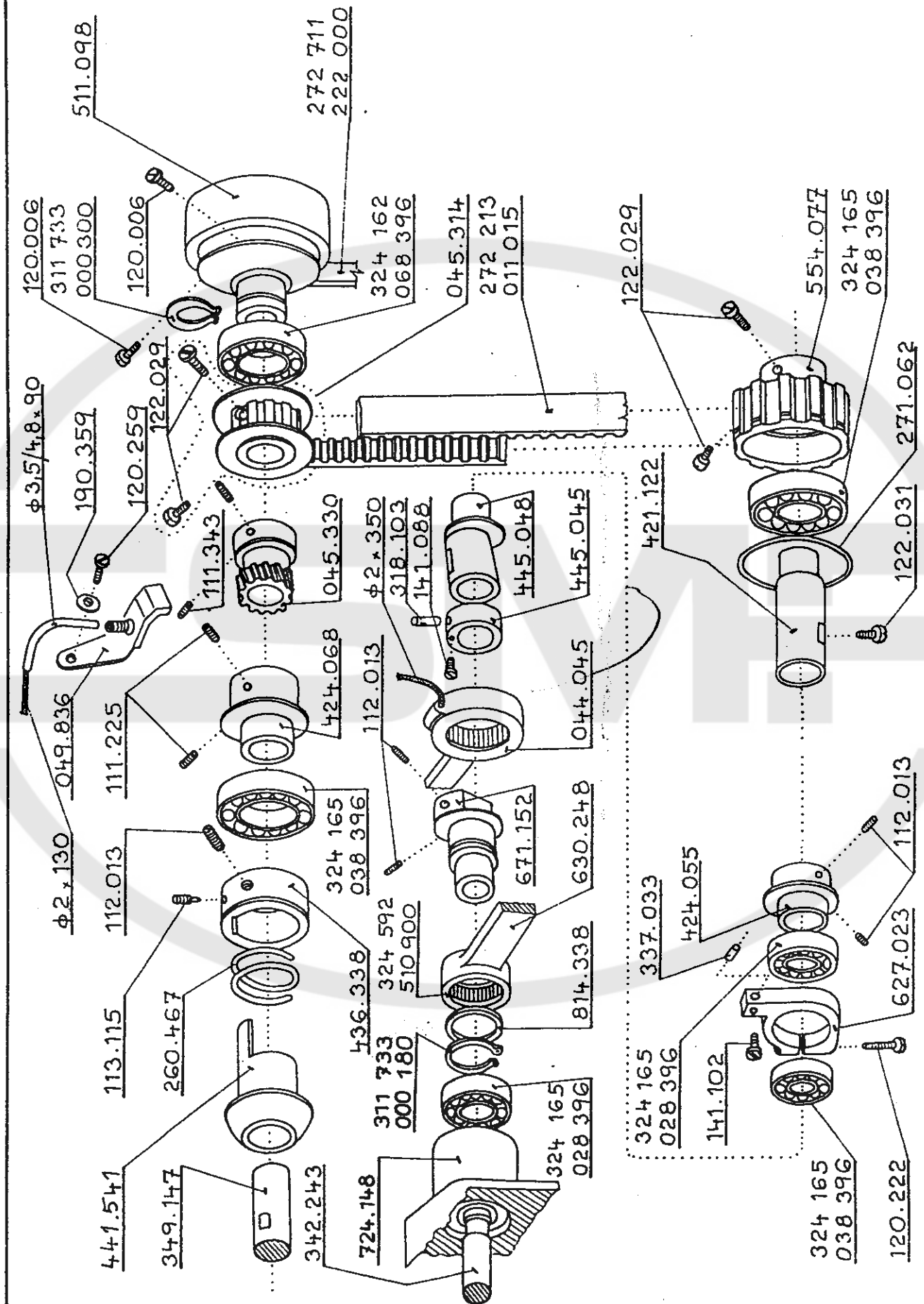


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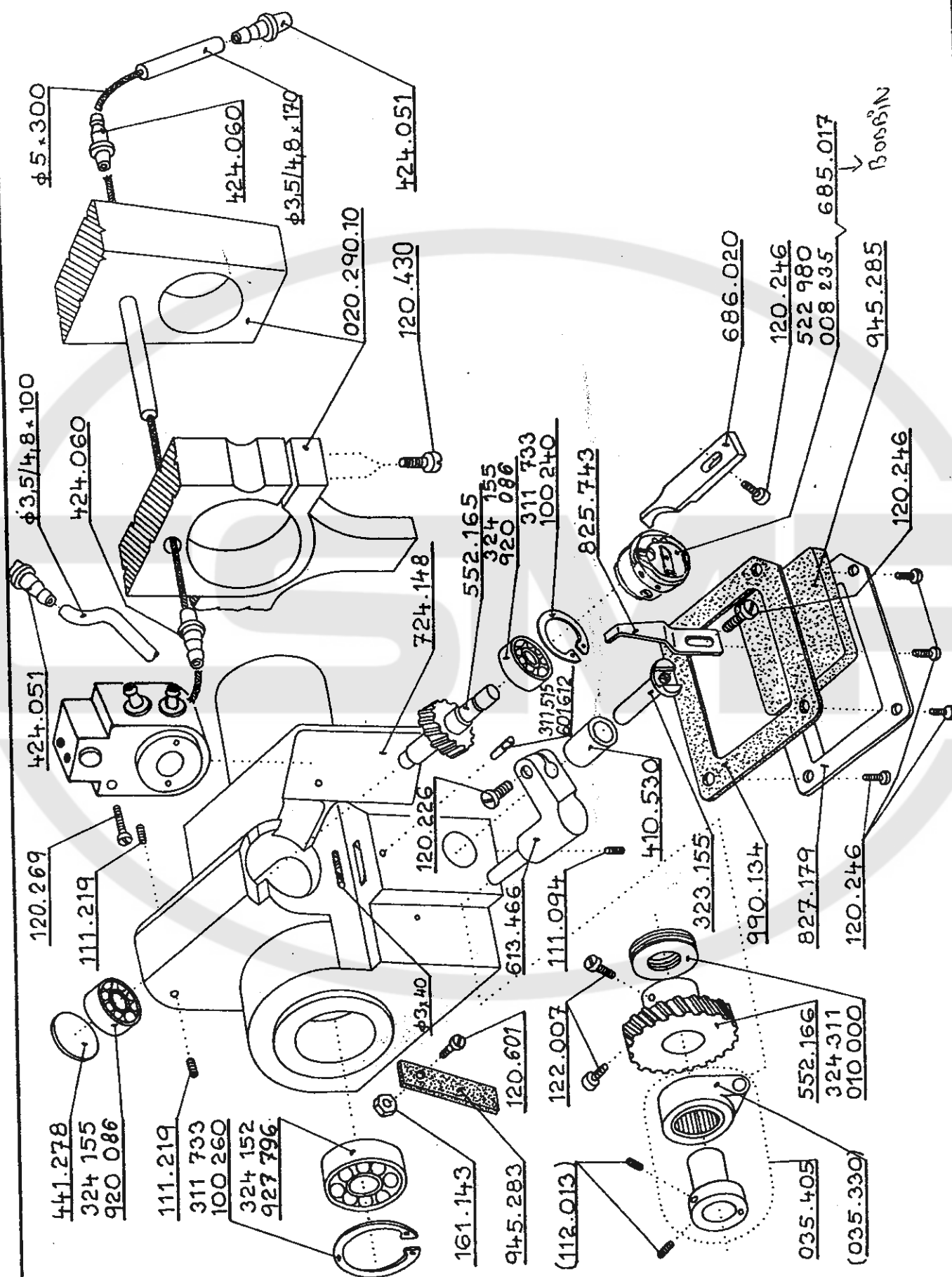


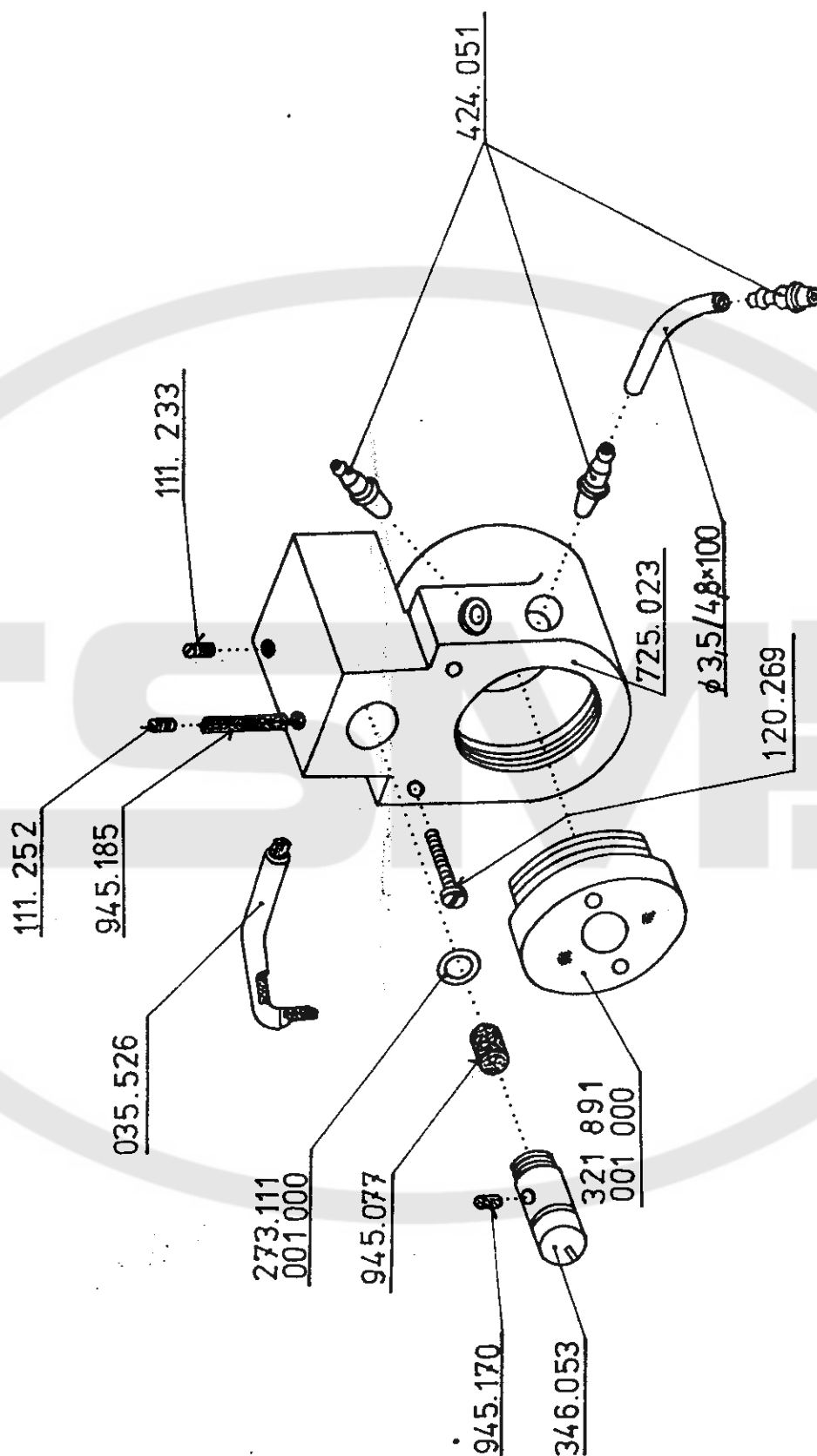
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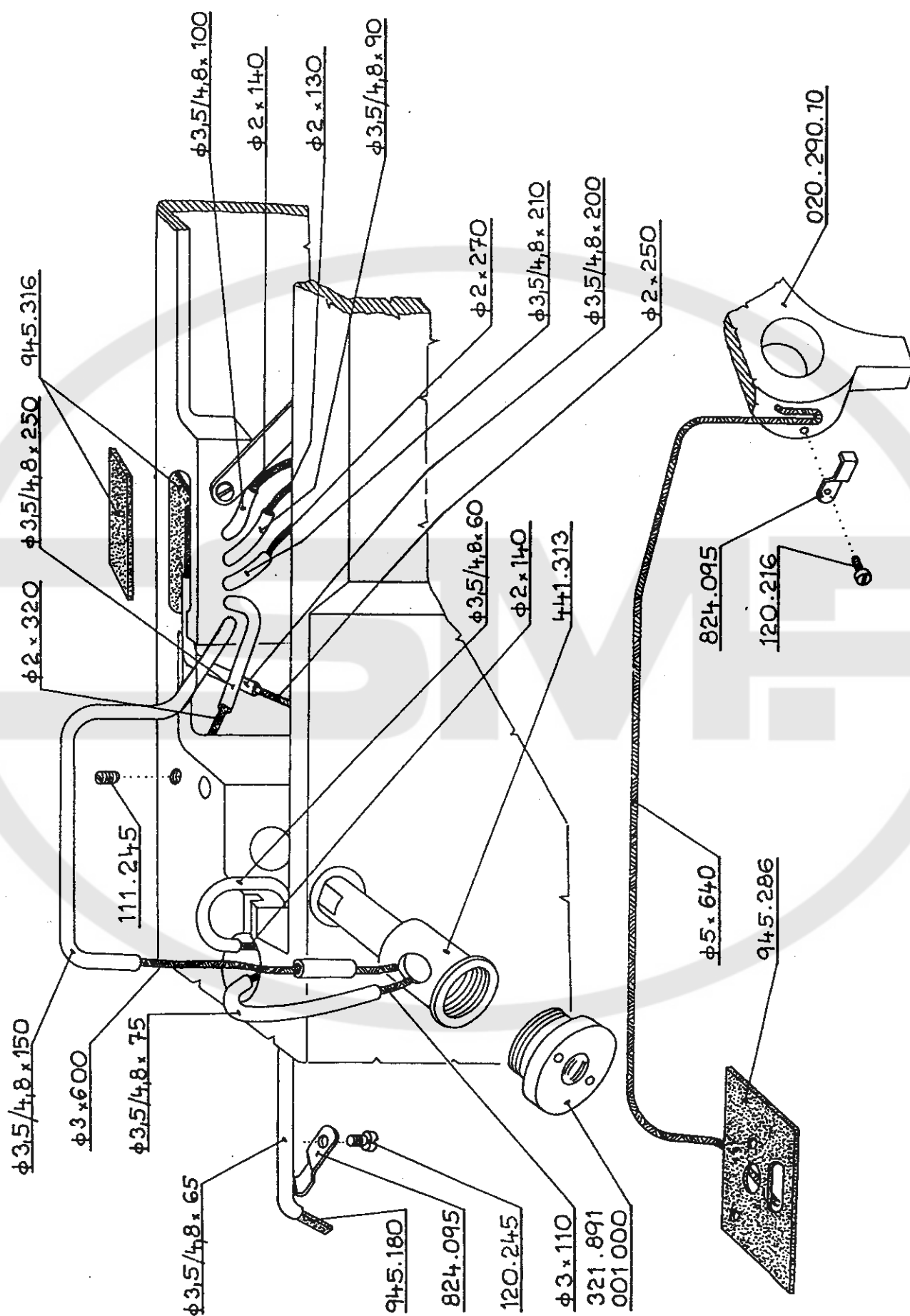




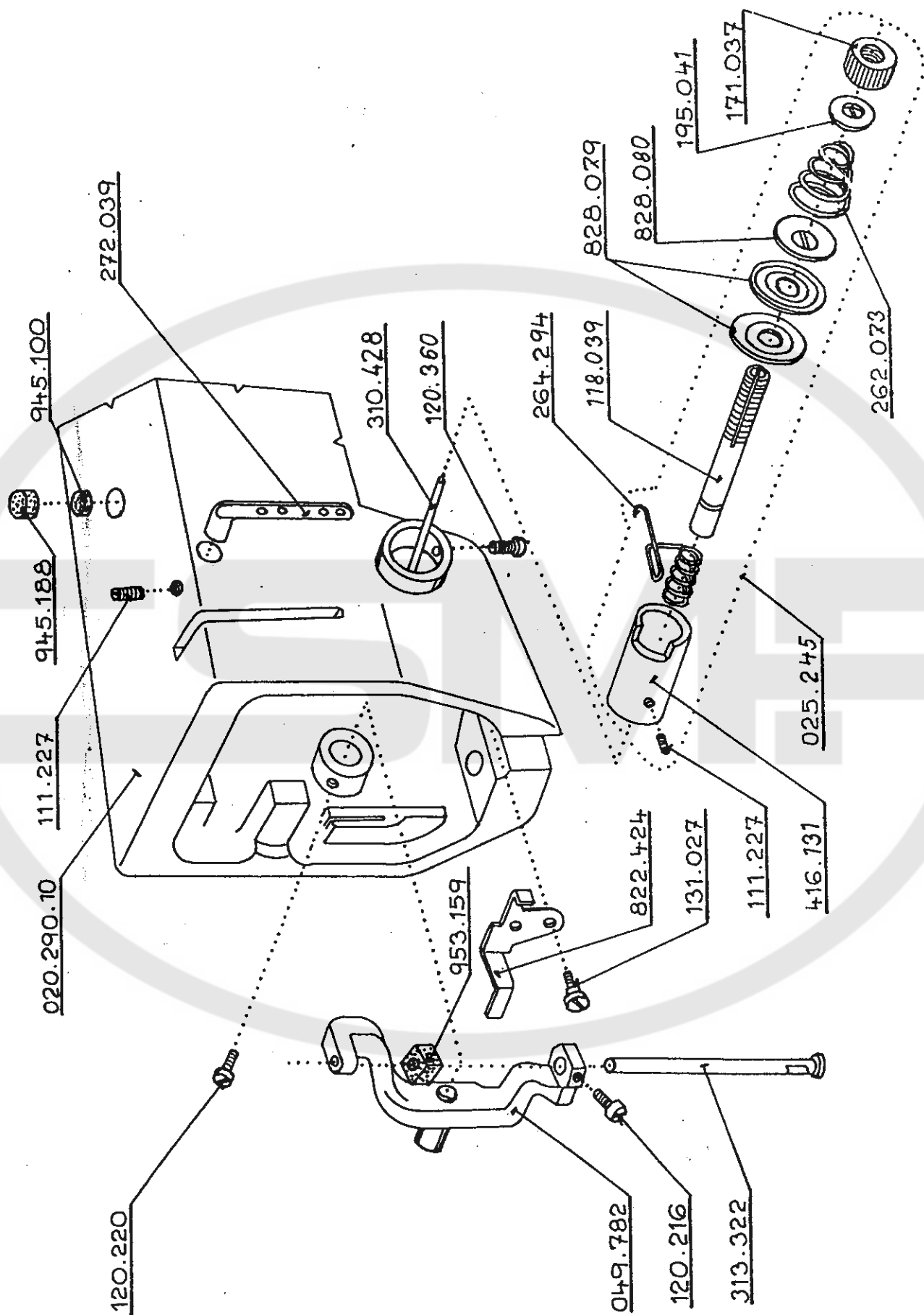


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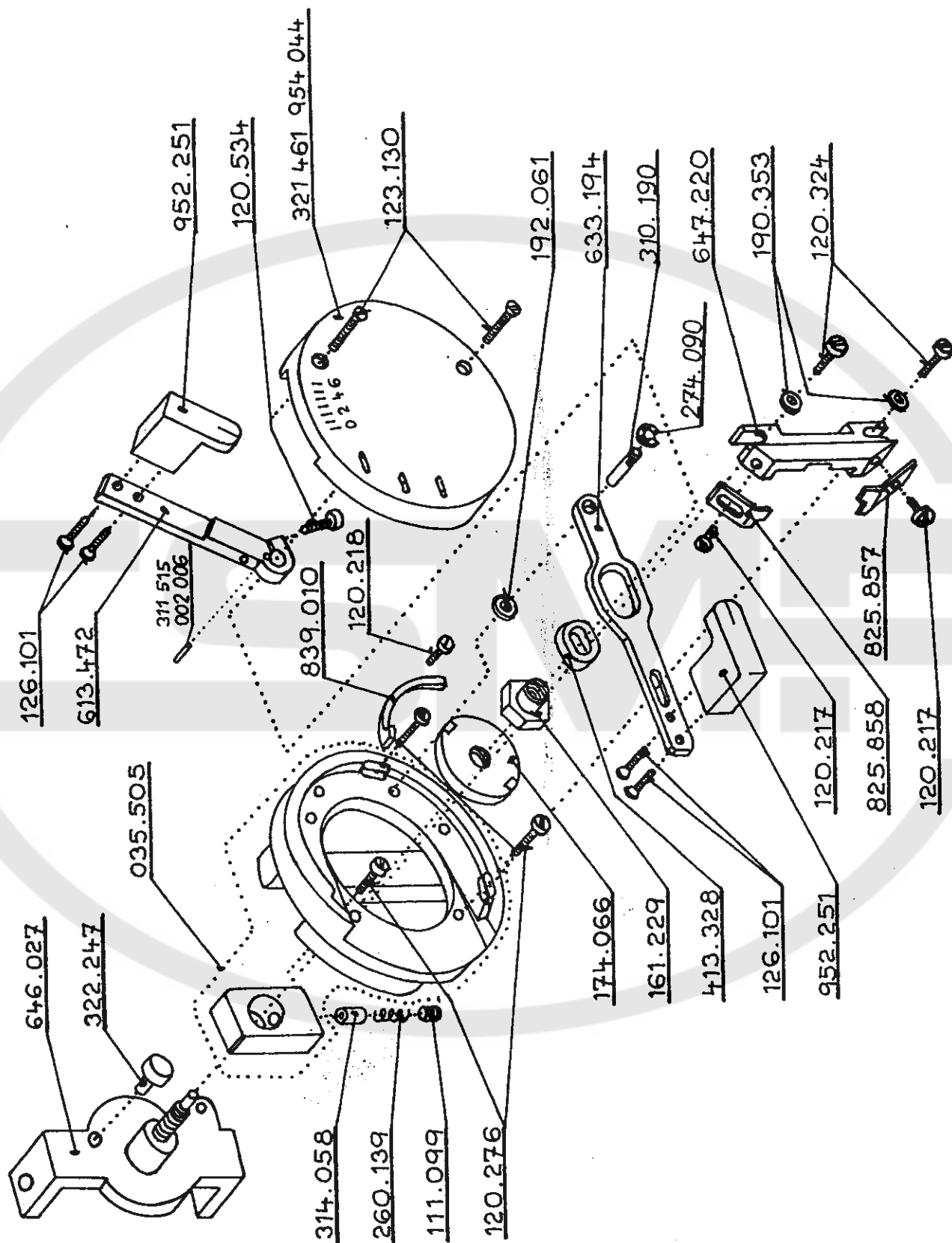


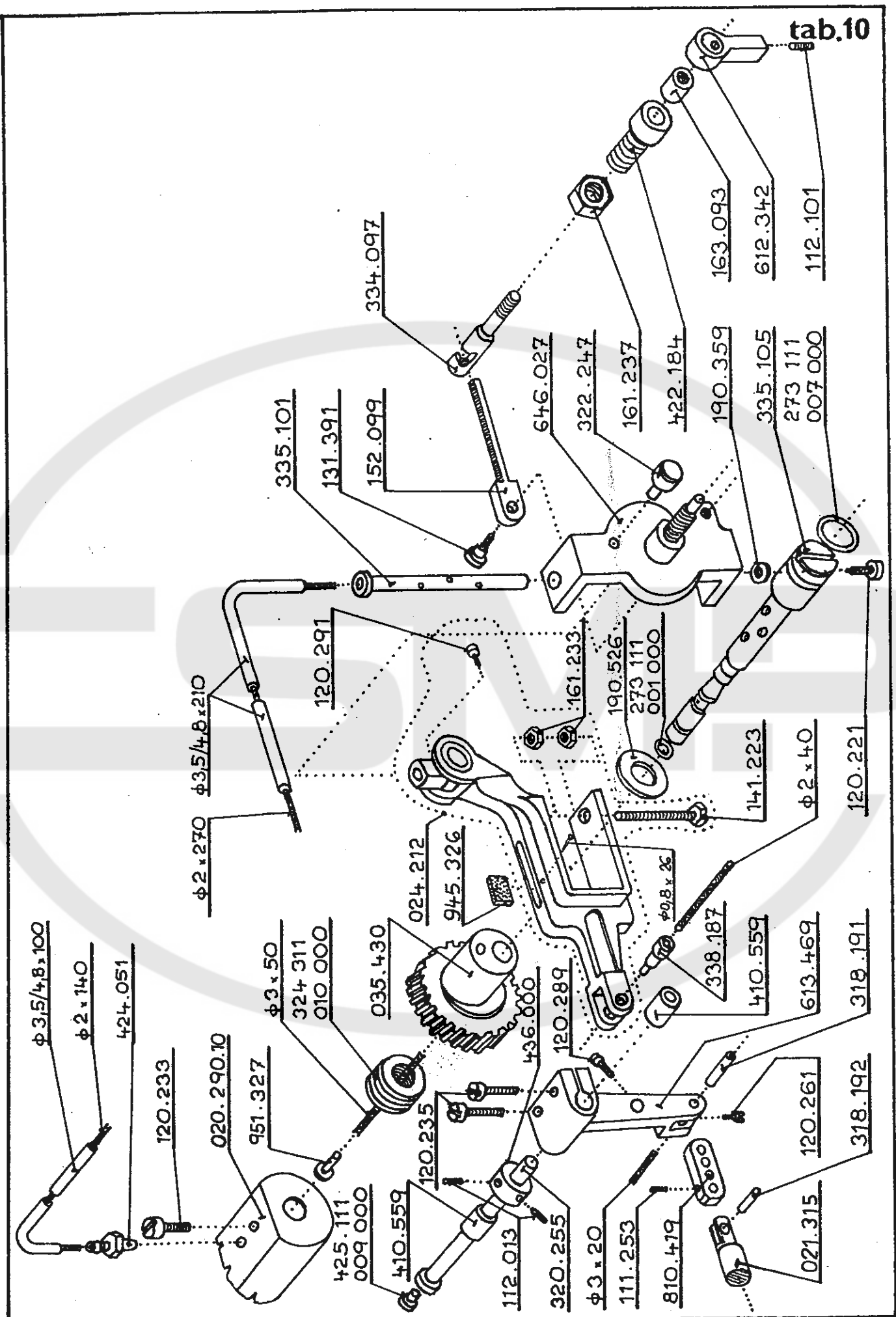


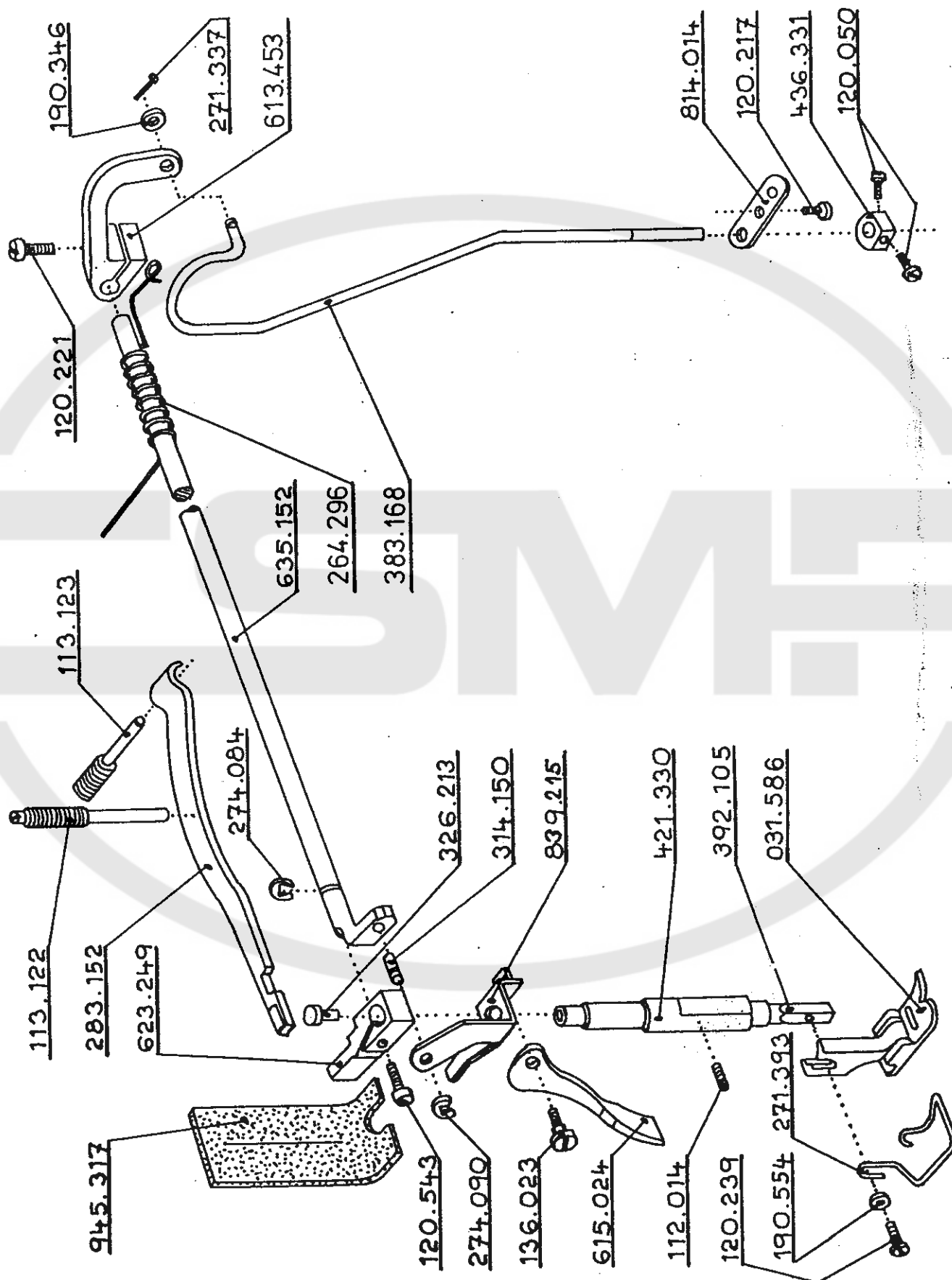
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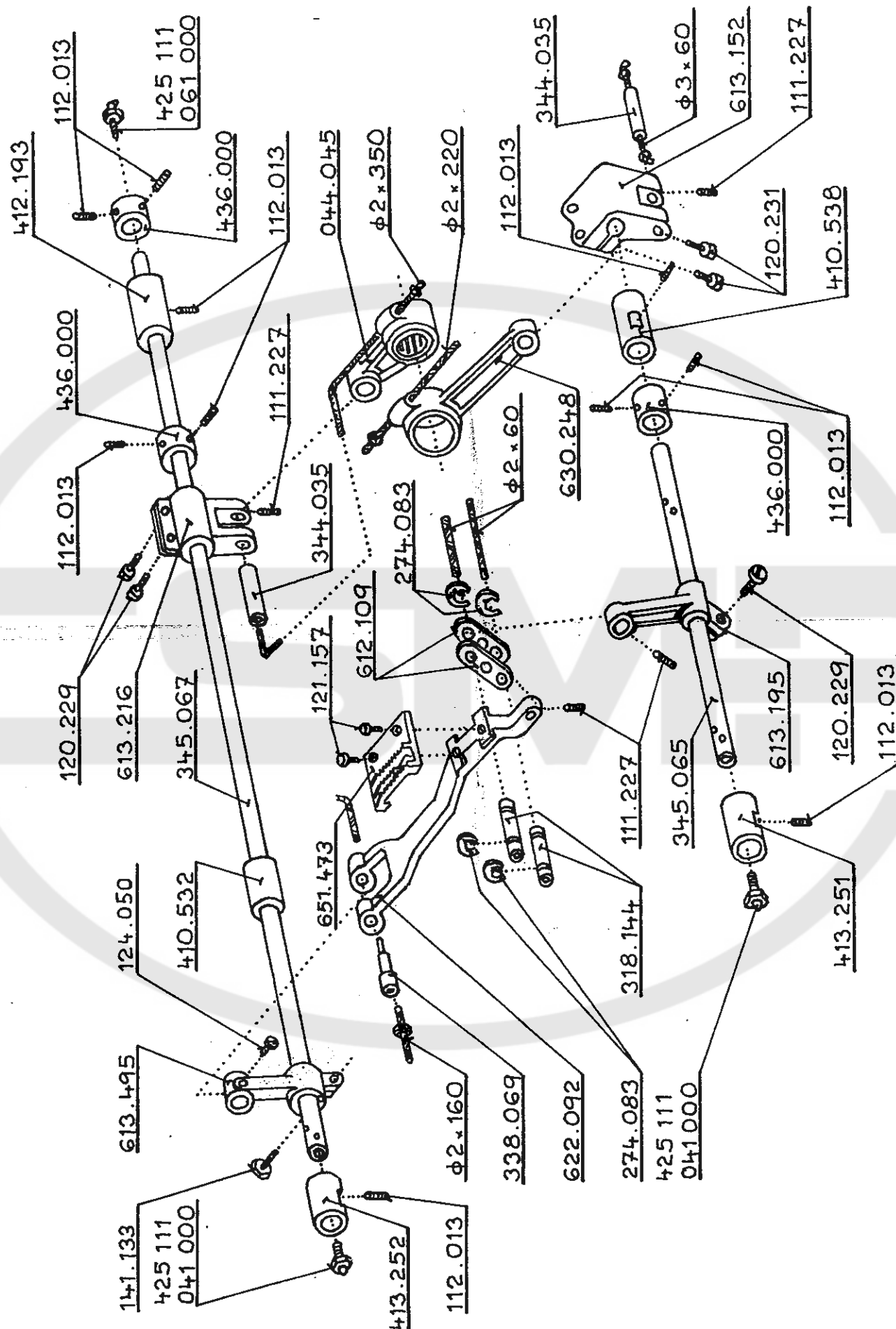
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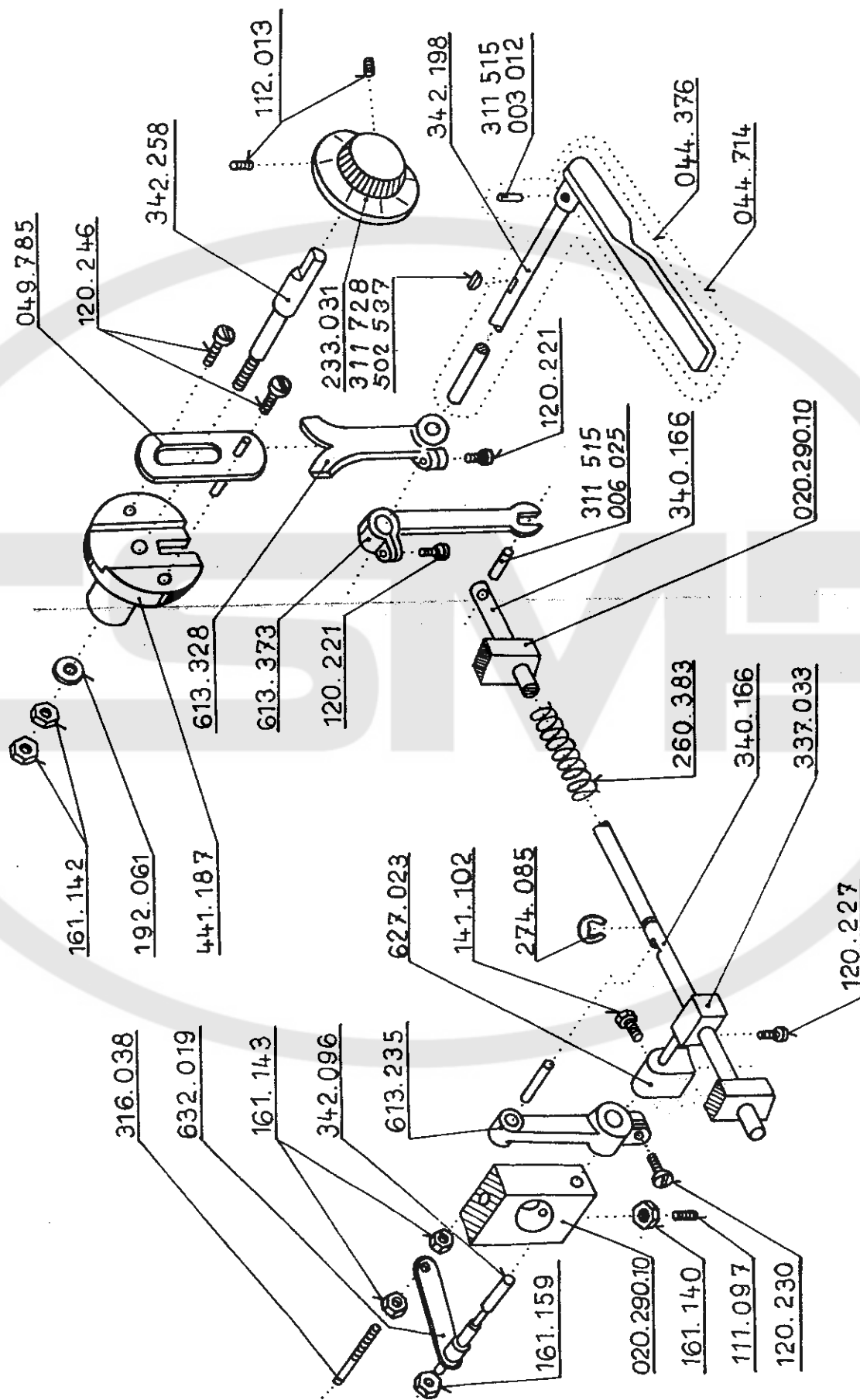


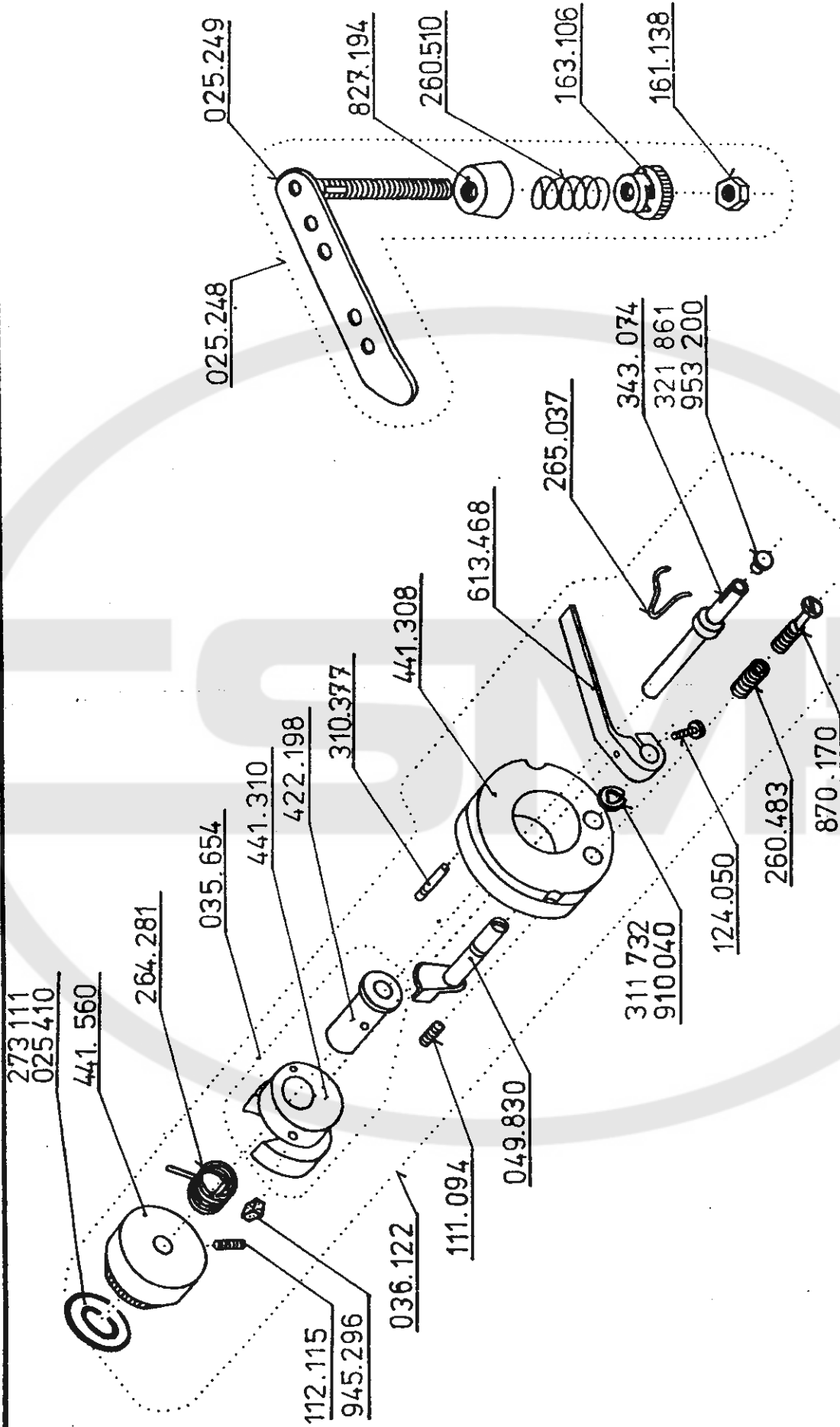


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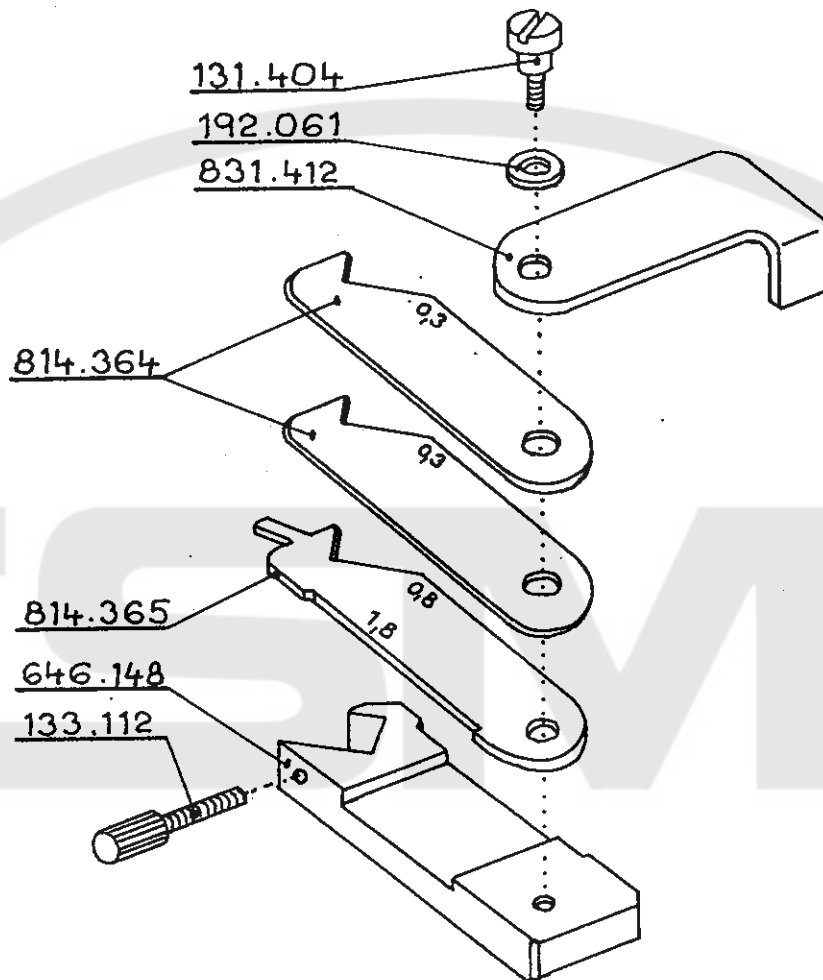




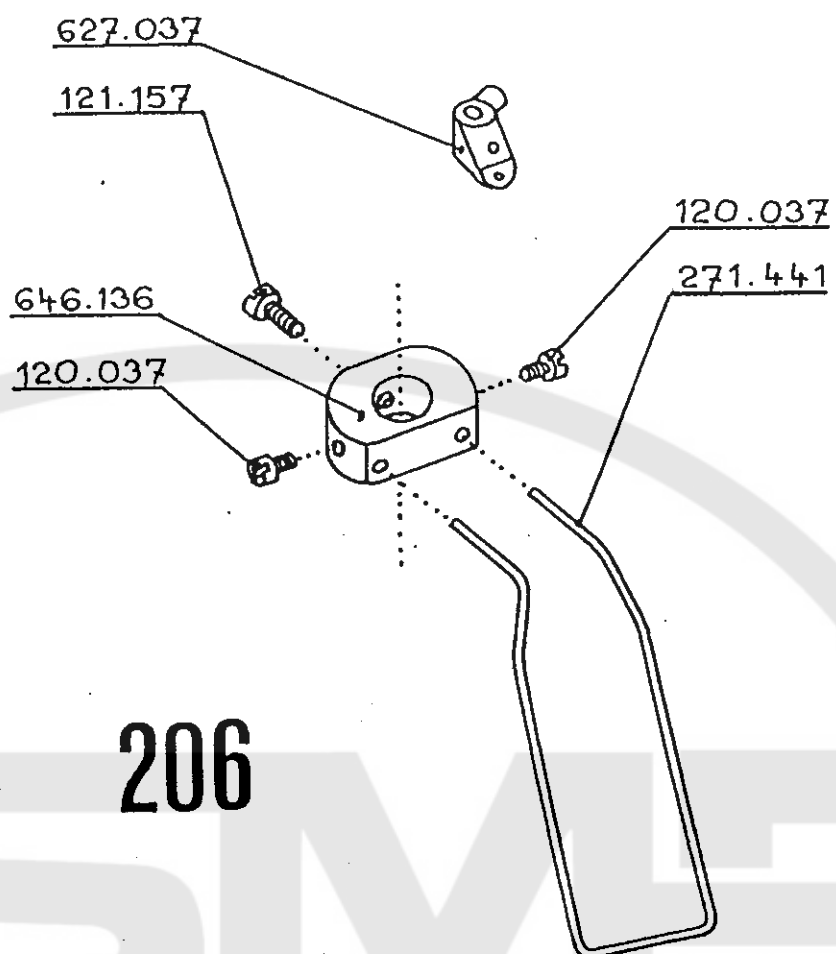




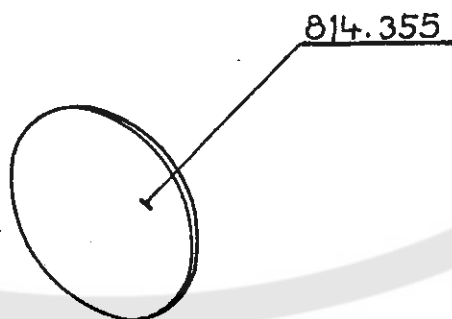
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tab.16



206

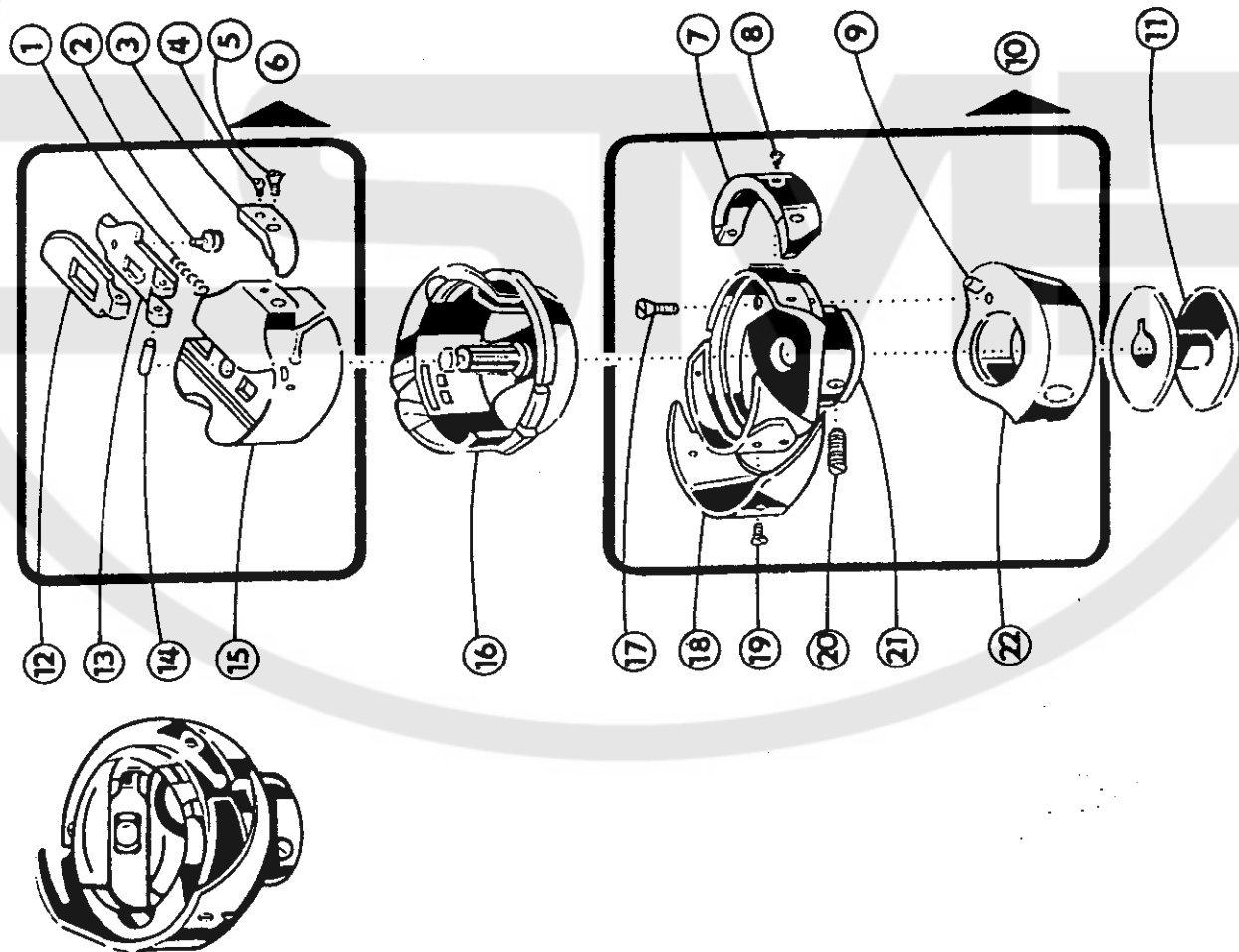


295

# R 235

522 980 008 235

1	315 231	689 009
2	522 080	683 052
3	522 080	690 028
4	522 080	683 051
5	522 080	683 063
6	522 980	081 067 R 235 A
7	522 080	681 035
8	522 080	683 062
9	522 080	688 020
10	522 980	081 098 R 235 A
11	522 080	685 017
12	522 080	687 015
13	522 080	687 014
14	522 080	682 017
15	522 080	678 027
16	522 080	677 027
17	522 080	683 064
18	522 080	680 020
19	522 080	683 054
20	522 080	683 067
21	522 080	676 028
22	522 080	688 021





**522 980 099 049**

**ACCESSORIES**

522 980 099 049 1

413 621 731 023  
413 624 310 002

522 080 811 701  
548 300 000 130

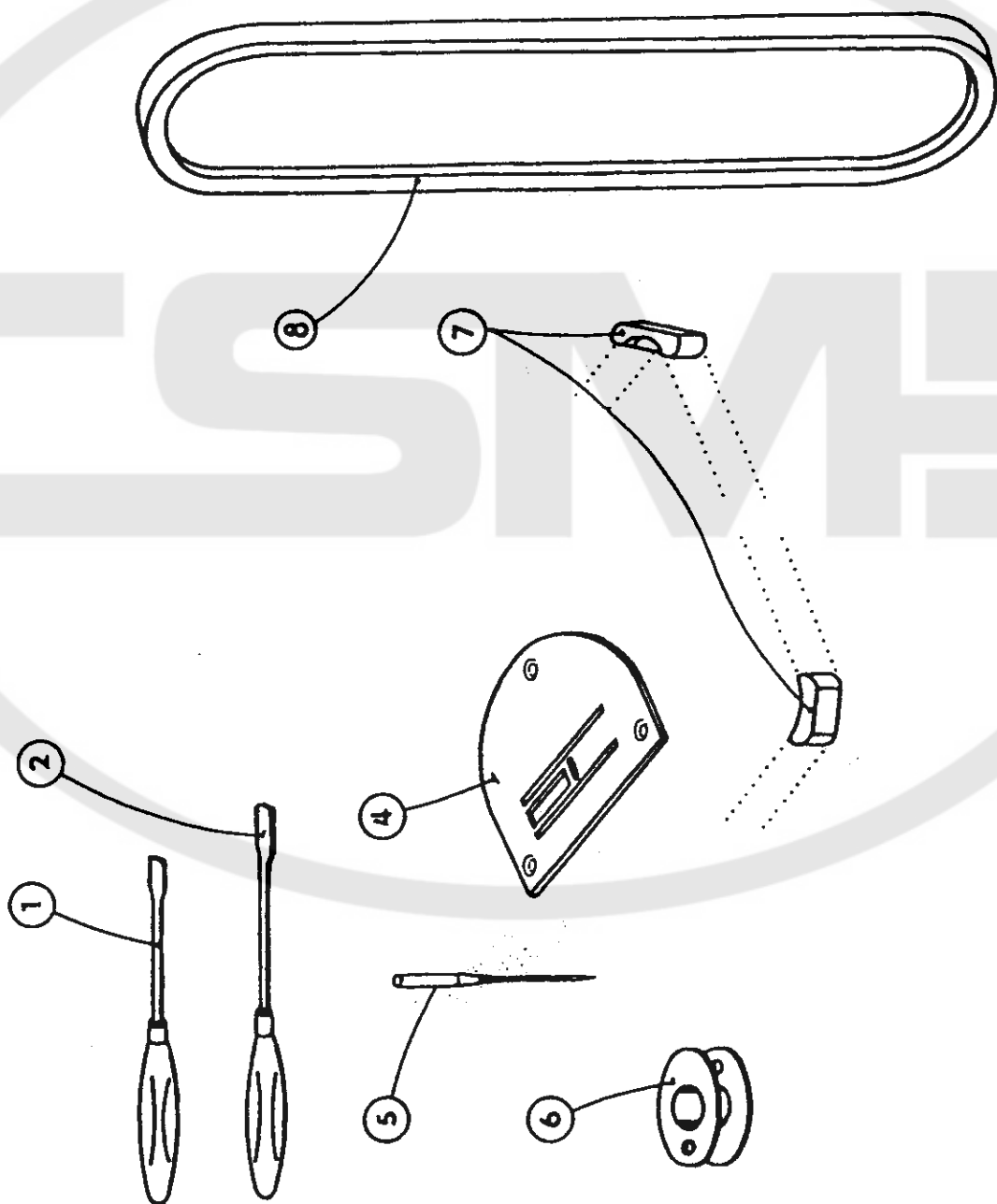
522 080 685 017  
273 141 940 141

272 711 222 000  
10x1120 mm

10 x  
5 x

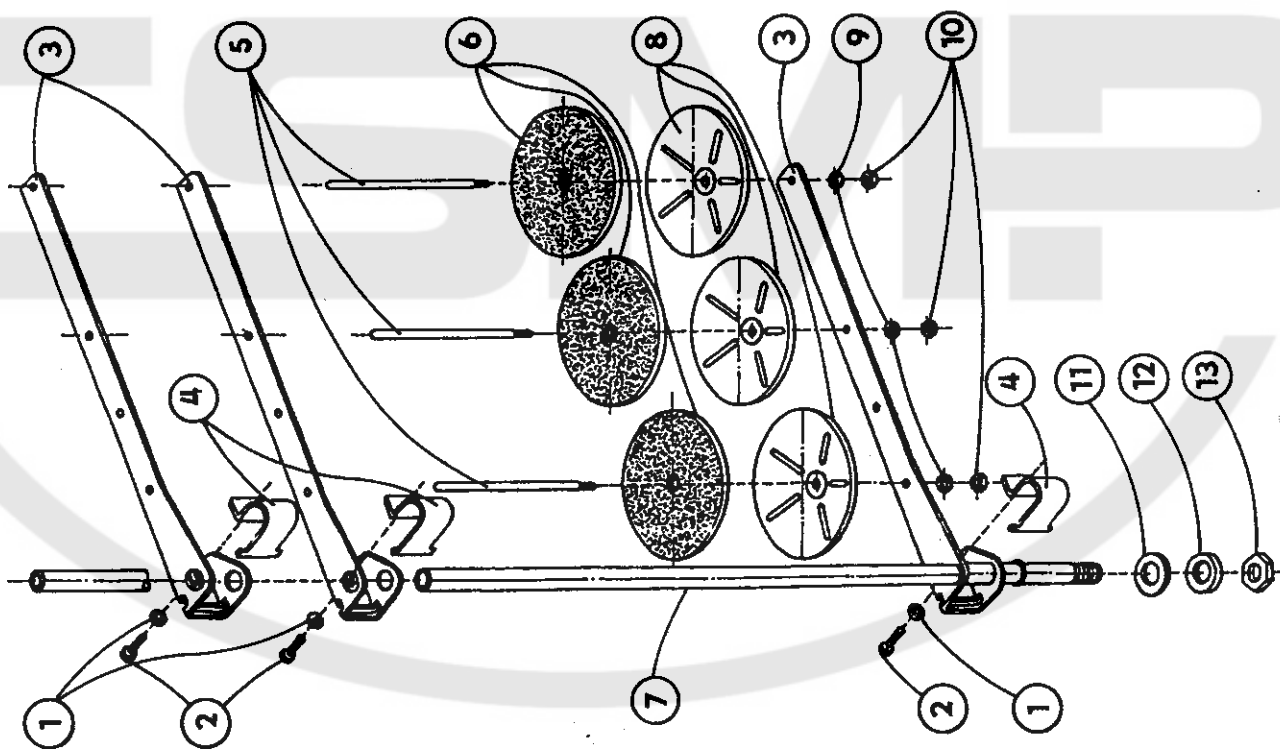
1 2

4 5 6 7 8



522 980 099 049

2

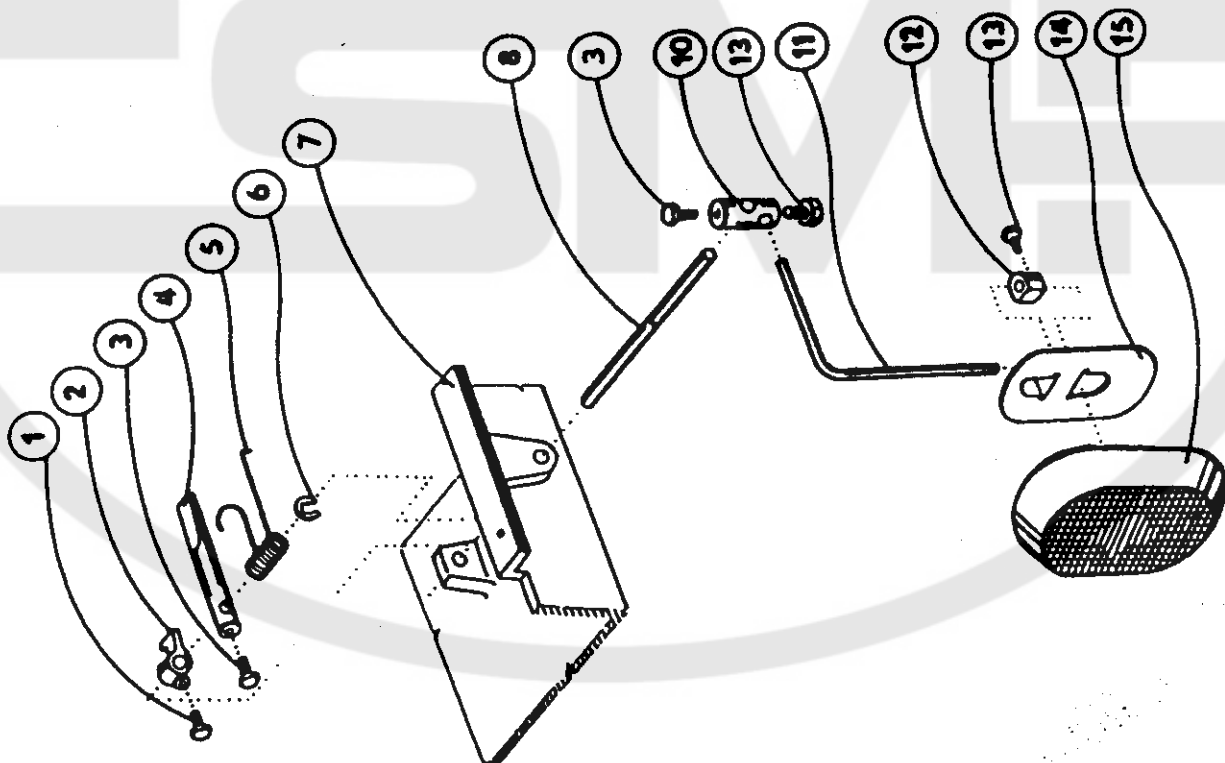


1	523 081	200 025
2	522 080	120 283
3	522 080	826 162
4	522 080	826 159
5	522 080	313 277
6	522 080	953 042
7	522 980	044 969
8	522 080	839 031
9	522 080	191 107
10	522 080	161 137
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12	522 080	190 585
13	522 080	161 255



522 980 099 049

3

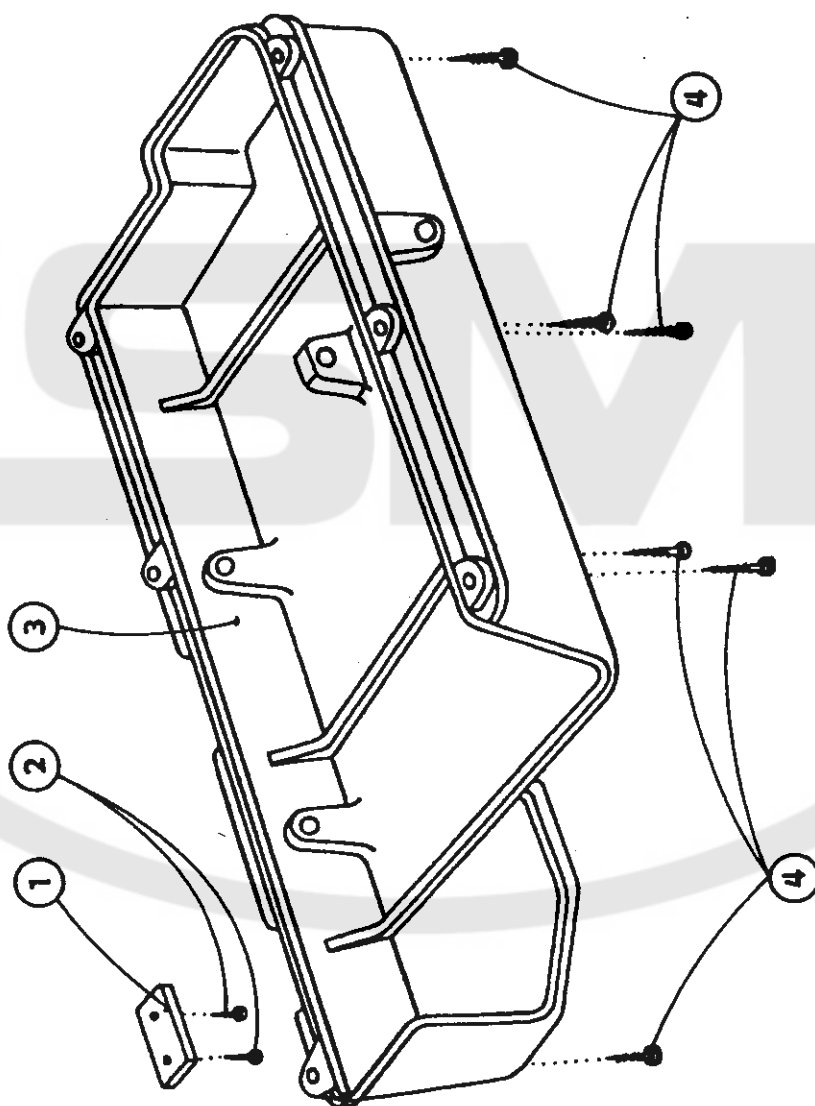


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

522 080 141 141  
522 080 625 022  
522 080 141 108  
522 080 384 052  
522 080 264 168  
311 732 910 070  
522 080 725 074  
522 080 314 065  
522 080 141 123  
522 080 318 069  
522 080 383 022  
522 080 436 271  
522 080 141 112  
522 080 827 173  
273 412 001 000

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314 140 016 020  
522 080 725 074  
522 080 225 031

1 2 3 4

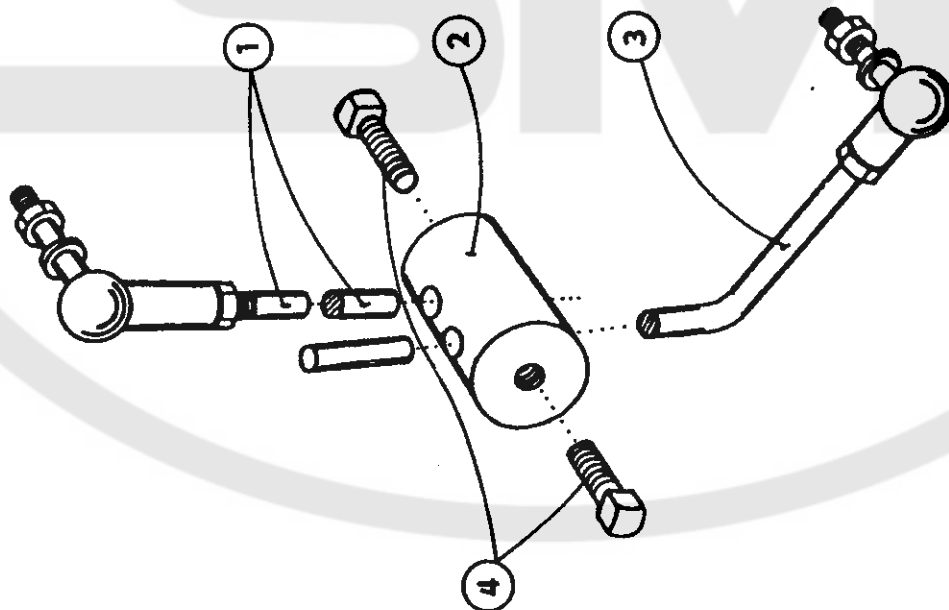


522 980 099 049

5

522 980 044 704  
522 080 336 074  
522 980 044 761  
522 080 144 035

1 2 3 4



522 980 099 049

6

522 080 264 290  
311 732 910 070  
311 515 006 016  
522 080 613 235  
522 080 141 109  
522 080 725 074  
522 980 044 142  
522 980 049 109

1 2 3 4 5 6 7 8

