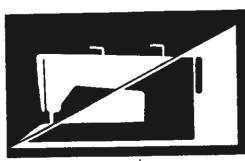
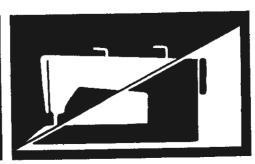
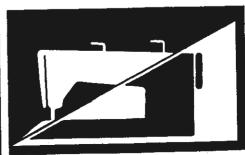


# GLOBAL<sup>®</sup> ZZ 567 - 75 - TD







# INSTRUCTIONS FOR ADJUSTMENT AND SERVICING FOR FLAT - BED, ZIGZAG LONG - ARM INDUSTRIAL SEWING MACHINE FOR DECORATIVE ZIGZAG STITCHING

ZZ 567 - 75 - TD

## INSTRUCTIONS FOR ADJUSTMENT AND SERVICING FOR FLAT-BED, ZIGZAG LONG-ARM INDUSTRIAL SEWING MACHINE FOR DECORATIVE ZIGZAG STITCHING

ZZ 567 - 75 - TD



#### Use of Machine

The machine is used for sewing of capacious materials in the outwear within thickness of 4 mm and for sewing of windsurfing sales, shipp ones and rogalo coats.

#### **Specifications**

Machine speed up to 2,200 stitches per min., according to the Equip-

ment used, threads, sewn material, and overall width

of the pattern

Stitch two-thread lockstitch

Stitch length steplessly adjustable up to 5 mm

Stitching forward stitching with provision for bartacking

Thickness of sewn material up to 5 mm

Single-needle and two-needle arrangement,

the latter with the needle distance 5 mm, 4 mm, 3 mm

Pattern width steplessly adjustable up to 10 mm, according to the

sewn sample

Needle 797 CFCF, 134 No. 80 - 110

Threads cotton threads 7.4 tex x 2 x 2, 10 tex x 2 x 2

synthetic threads: PES 10 tex x 3, 12 tex x 3

25 tex x 1 x 3

Hook rotary hook R 250

Presser foot stroke 5 mm with hand lever,

7 mm with knee lever

Presser foot lift actuation 5 mm - with hand lever

7 mm - with knee lever

Space to right of needle 740 x 120 mm

Machine stand standard profile iron stand

#### **Technical description**

The model ZZ 567 - 75 - TD is a flat-bed, zigzag, long-arm two-thread lockstitch industrial sewing machine for stitching forward feed patterns with one or two needles, equipped with horizontal rotary hook driven from the lower shaft via a gearing situated in the gear box and provided with positive bobbin case opening to facilitate the thread passage, with forward and reverse feed actuated by a hand lever. The drive is transmitted from the upper shaft to the lower one by a drive belt. The stitch length, i.e., the stitch density of the patterns, is adjusted by means of a knob situated on the vertical part of the machine arm. The stitch width and the pattern form are defined by an interchangeable cam, one for each pattern (see the List of Equipments). The presser foot can be raised by a hand lever or by a knee lever.

The trimmer device for the upper and lower threads, situated under the throat plate, cooperates with the stop motor provided for stopping the machine in a predetermined needle position. The stop motor is

equipped with a contactless sensor of the angular position of the machine upper shaft and with an electronic control circuit, thus ensuring long service life and high reliability while requiring only moderate maintenance. The principal parts of mechanisms exposed to increased strain are seated in rolling-contact bearings. The machine is fitted with a group wick lubrication and with an automatic hook lubrication. In its basic version, it is supplied without lighting, but it is adapted to receive a suspension-type lighting.

Outsing No.			1		Single needle		Two needle	
Ordering No. Identification No. of the cam	Comercial designation	Number of stitches per 1 revolu- tion of the cam	Number of stitches Stitch length	Pattern width	Machine top speed admissible stitches per min.)	Pattern	Machine top speed admissible (stitches per min.)	Pattern
522 791 630 002	201	E	quipmen istance 3	t for two-nee , 4 or 5 mm	dle stitching	,needle	<del></del>	
522 791 642 038 522 080 674 113	202	12	4 1-3	4,5 - 10		W		$\frac{\mathcal{W}}{\mathcal{W}}$
522 791 642 047 522 080 674 122	220	12	2 1-3	3,5 - 6	2500	WW	2500	<b>WWW</b>
522 791 642 049 522 080 674 124	224	12	6 1-3	4,5 - 10		W		<b>W</b>
522 791 642 050 522 080 674 125	229	12	4 1-3	2-6		W	/	<b>***</b>

#### INSTRUCTIONS FOR SERVICING OF MACHINE

#### **GENERAL INSTRUCTIONS**

- 1. Read the instructions of the 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 occured during transport to the railway authorities or to the forwarding agents at once. Immediately after unpacking, check the contets 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 body.
- 5. Lubricate the machine daily. Before lubrication, always check whether the lubrication places are clean. It is advisable to lubricate frequently in small quantities rather than contrariwise. 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, in particular the parts which become choked by impurities from the sewn material. During the cleaning, carefully check whether no machine part has become loose.
- 7. Once a week, during thorough cleaning, carefully check the whole machine to see that no machine 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 faultiess state, in accordance with the electrotechnical and safety regulations. If the machine is provided with a plug, make sure always before plugging-in that all switcheds are off. The lead-in cable, supplied as a part of the machine, has a cross section of 4 x 1 mm² and must be protected accordingly in each phase. Do not try to repair any fault of the electrical equipment by yourselves but call in an expert mechanician.
- 10. The forces required for actuating the treadles should lie between 40 and 90 N, those required for the hand control levers of the machine, between 10 and 60 N. The control mechanisms and their respecve actuating forces have been designed and chosen in view of the frequency of their use during the usual technological machine operation.
- 11. 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 head

The machine head is seated in a separate case, the stand 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 ascertain whether it has arrived in good order. Report any damage which has occured 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 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 lifting of the presser foot by means of the knee lever. Insert the connector of the synchronizer cable into the synchronizer socket on the motor and secure it by the coupling nut. Pass the cable with the connector from the thread trimmer device through the machine tank, insert it into the socket provided on the machine bed plate, and secure it as well by the coupling nut. As for the rest, the machine is supplied 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 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 unpacked machine into operation, remove the protective grease coating and clean the machine thoroughly. For lubrication of all machine mechanismus and of hook is recommended oil with viscosity of 50 at 20° C mm2.s.1. With an oil can, drip oil into the marked holes of the machine once a day, before teh begining of the work shift. Check also the oil level at the indicator of the hook oil tank. From time to time, use grease nipple to refil the shafts (5) table 15 with lubricatione grease PM LV2EP. The hook and its mechanism should be cleaned dailiy. Apply two or three drops of kerosene to all soiled parts of the hook and of

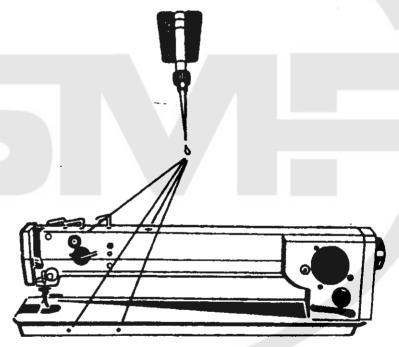


Fig. 1

its 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 oil. This cleaning should be carried out daily, in particular after the end of the work shift, in order to prevent dirt from drying on the hook and its mechanism. Before proceeding to clean the machine unthread it and take the bobbin out of the hook. Once a week the machine should be thoroughly freed of settled oil and of all impurities.

When driving belt is solled do not use trichlor or perchlor for cleaning.

6. To adjust hook lubrication (Fig. 2)

To adjust the oil flow to the hook turn with a screwdriver the adjusting pin /1/, 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 hook preventing it from seizing. After the machine has been put into service, check at regular intervals the oil level both in the hook oil tank and in the oil tank situated on the machine arm.

#### To observe:

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

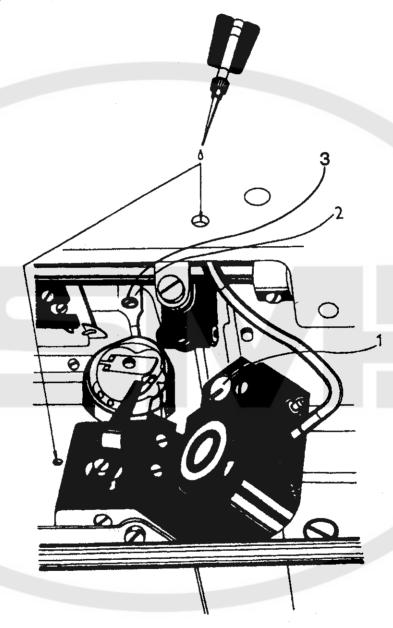


Fig. 2

#### 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 handwheel by hand, first check whether it revolves freely and whether the machine is adjusted correctly. Further check for correct working the mechanism controlling the lifting of the presser foot by means of the left-side treadle, knee lever and the reverse stitching by means of the hand lever.

#### 2. Sense of rotation

The correct sense of rotation of the handwheel is shown by red dart on the belt cover.

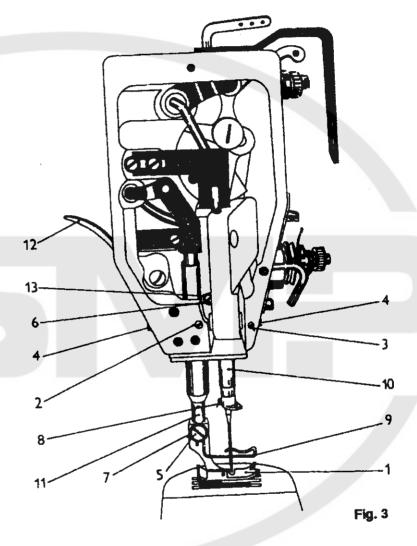
An electrician connects the machine to the mains. Switch on the electric motor and check whether the 3. Electrical equipment pulley turns in the correct direction, i.e., according to the dart on the belt cover. If this is not the case, the plug of the lead-in cablemust be taken out of the socket, and 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. To lift the presser foot (Fig. 3)

The lifting and sinking of the presser foot is controlled by the knee lever . To lift the presser foot and to lock it in the lifted position, the hand lifting lever (12) 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.

#### 5. Needles and threads

The machine requires the use of needles 134 of current sizes or needles Schmetz 797 CFCF Nos. 90 -110. 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



it is advisable to choose a rather thin needle, just permitting the free passage of the thread through the needle eye but to some extent preventing the upper thread from being threaded out of the needle eye at the beginning of stitching after the previous thread trimming. A needle too thin with respect to the thickness of sewn work is subject to excessive strain (impacts at 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 deviation from the correct needle course followed by irregular formation of the upper thread loops and resulting in skipped stitches. Only highclass 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 one which has to overcome considerable resistance when passing through the needle eye reduces the machine performance and increases its trouble incidence. When use heavy synthetic threads it is important to try trimming function. If this one is not in order, please, do not use it.

- 6. To insert needle (Fig. 3)
  For easier inserting the needle, sink the presser foot onto a bit of material and rotate the handwheel 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 reached. Loosen the screw (8) on the lower part of the needle bar and insert the needle up to the stop. Be sure that the long groove of the needle is directed toward the operator. Looking through the cross slot provided in the needle bar check whether the needle shaft has come 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 aperture provided in the throat plate. Never use a needle chosen haphazardly but choose it with respect to the character of sewn work and to the thread size.
- 7. To thread the upper thread (Fig. 4) Put the bobbin on the bobbin stand, unwind a sufficient portion of thread, and pass it through the thread guide of the bobbin stand, then through the thread guides (4 and 1) between the tensioner discs (8), then lead it through the adjusting spring (2) and the thread guides (3,6,9) into the thread take-up lever (A), then downwards through the thread guide (6) and the lower thread guide (7) to the thread guide (5) 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.

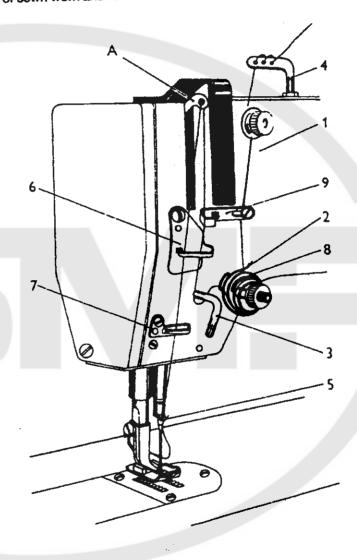


Fig. 4

8. To wind the hook bobbin (Fig. 5)
To wind the lower thread on the hook bobbin, a built-in bobbin winder, supplied separately as Equipment No. 250, can be mounted on 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 thread tensioner (6) and through the thread guide apertures to the bobbin mounted on the winder shaft, wind it a few times anticklockwise on the bobbin, lead the thread end to the spring (2), insert it between the spring

coils, and apply a mild tension so as to cut it by the knife located inside the spring. When mounting the bobbin on the winder shaft be sure that the carrier spring has entered the notch of the bobbin front. By swinging the on-off-lever (5) between the bobbin fronts you render the bobbin winder operative. Switching on the electric motor and depressing the right-side 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 on-off-lever springs off, thus disconnecting the winder drive and braking the winder shaft. The winding is now completed. Using the knife located in the spring (2) cut off the thread end. For timing the winding stop loosen the screw (4) of the on-off-lever (5) mounted on the disconnecting pin (3), hold the disconnecting pin by means of a screwdriver in its position and adjust the angular position of the on-off-lever on the disconnecting pin as required.

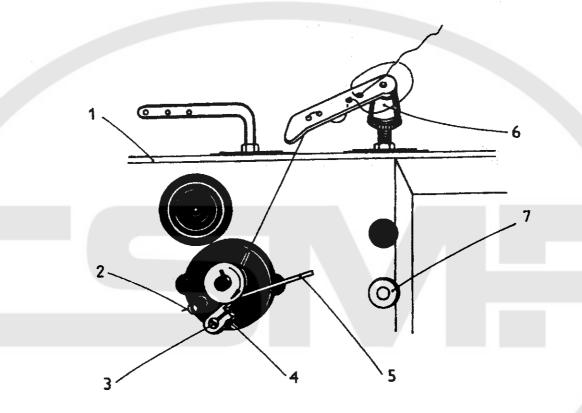


Fig. 5

#### 9. To take out the hook bobbin

Rotate the handwheel 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. Release the lock and take the bobbin out of the bobbin case. As long as the bobbin case lock is open, the bobbin is held in the case. Loosen the lock, turn the bobbin case upside down, and the bobbin will fall out.

To observe: 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.

#### 10. To thread the lower thread

Insert the fully wound bobbin into the bobbin case, and the thread end 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 in until you hear a distinct click sound. The correct position of the bobbin case in the hook signalled by this sound is very important, because otherwise a needle rupture or another breakdown could occur at the following machine start.

11. To catch the lower thread

With your left hand, hold lightly 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 of the throat plate, and 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. If the trimmer device is switched off, the thread take-up lever should be placed in its top position both when starting and when finishing the sewing to avoid the risk of threading out the upper thread and possibly catching it in the hook course.

12. Sewing - work proper

Insert the material to be sewn under the presser foot, switch on the stoop motor, and start the machine by gradually depressing the right-side treadle. The sewing speed increases up to the maximum obtained when the treadle has reached its lowest position. By releasing the treadle, the clutch of the stop motor is disengaged, the drive pulley braked, and the machine stopped in the lower dead position of the needle. 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, in its turn, causes thread ruptures. After the stitching operation is completed, heel the right-side treadle to start the automatic thread trimming operation that will take place during the needle movement from its bottom to its top position. For removing the sewn work, lift the presser foot only after the machine stop in the needle top position to obtain correctly cut threads and the machine ready for next stitching. A premature presser foot lifting can result in thread trimming failure or in threading the needle eye.

## II. INSTRUCTIONS FOR ADJUSTMENT OF MACHINE MECHANISMS

The adjustments described in this section can be carried out on the work site. Larger adjustments, requiring more time, should be carried out by a skilled sewing machine mechanician.

#### 1. Stitch length adjustment (Fig. 6)

The stitch length can be steplessly adjusted from 0 to 5 mm by turning the knob (2) provided on the vertical part of the machine arm. 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, displace the lever (1) downwards. When released, the lever automatically resumes its previous position and the machine restarts forward stitching.

#### 2. To adjust the zigzag stitch width (Fig. 7)

Before any adjustment of the zigzag stitch width, the machine must be stopped with the needle outside the sewn work. Consult the List of Equipments, mount the cam required for the chosen pattern, and adjust the pattern

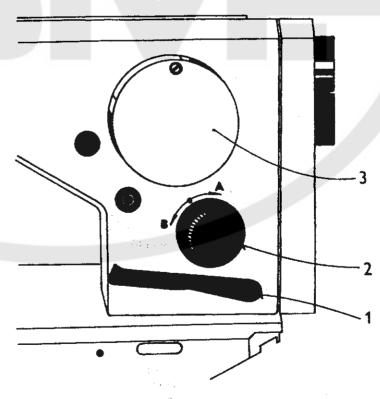


Fig. 6

width within the range prescribed as admissible for the carn in question. The stitch width is steplessly adjustable. To adjust it, remove the cover (3, Fig. 5) on the lever (1) controlling the movement of the needle bar holder, and loosen with a wrench the nut (2) on the bolt (3) on which is mounted the tie rod of the needle bar holder. By displacing the bolt in the notch of the lever downwards, the pattern width is narrowed, by displacing it upwards, it is increased. When increasing the stitch width the to its maximum check that the needle does not collide with the throat plate, and fix the chosen position by means of the bolt with the nut. Be sure that the adjusted pattern width lies within the limits specified for the pattern in question in the List of Equipments. With Equipment No. 236, i.e., with the twoneedle version, adjust the stitch width so as to let sufficient play for the needles passing through the groove provided in the throat plate.

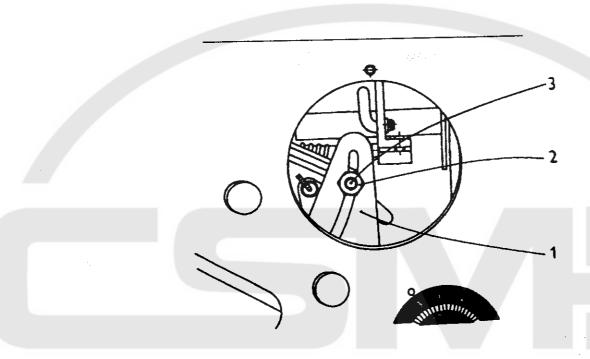


Fig. 7

#### 3. Thread tension adjustment

The tension of the upper and the lower thread must be so interrelated that the stitch binding takes place in the middle layer of the sewn material. To adjust the upper thread tension, turn the tensioner nut either to the right, i.e., 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.

To ensure correct thread trimming operation, special care should be paid to the above described thread tension adjustment. Also adjust the upper thread tension on the ancillary thread tensioner whose influence on the stitching proper and on the stitch formation is negligible but which affects the length of the upper thread end reaching out of the needle eye after the trimming operation. By increasing its tension you shorten the end and increase the quality of the subsequent stitching beginning, however, with increased risk of the thread end getting threaded out of the needle eye in that phase. On the other hand, too small tension of the ancillary tensioner means too long thread ends and impairs the stitch quality on the underside of sewn work at the beginning of the next stitching. Therefore, due care should be paid to the correct tension adjustment on the ancillary thread tensioner.

4. To adjust the feed-dog height above the throat plate (Fig. 8)
The height of the feed-dog (A) 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 (2) of the lifting lever (8) on the shaft (6), 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 (1) of the feed lever (9) on the shaft (7) and adjust the rear part of the teeth by correspondignly adjusting the angular position of the eccentric pin (5), then retighten the screw (1) thoroughly.

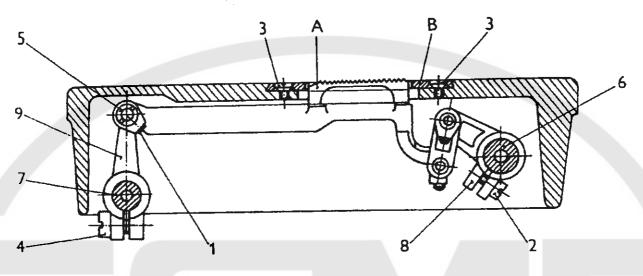


Fig. 8

5. To adjust the movement of needle with respect to feed-dog Loosen the two screws of the lower belt wheel and turn the handwheel by hand so as to set the feed-dog to a position in which the feeding movement ends and the feed-dog teeth are at a level with the throat plate, then rotate the handwheel until the needle point, during the downward movement of the needle, comes to lie about 5 mm above the throat plate, and retighten the screws of the belt wheel.

6. To adjust the throat plate (Fig. 8)
The throat plate (B) must be properly seated and fixed by screws (3) in a position ensuring that the needle passes through the centre of the needle aperture. 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 controlled by the adjusting screw located under the upper cover of the machine arm and accessible through a hole provided in the latter. By turning the adjusting screw to the right increase the pressure, by turning it to the left, decrease it. 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 in height the needle bar (Fig. 3)

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 (6) of the needle bar (10) carrier (13), adjust the needle bar correctly, and mount the front plate.

9. To adjust the hook course

Adjust the stitch width to zero and turn the handwheel 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 hook holder (Fig. 2)

After the hook course adjustment, loosen the fixing jig /3/ and adjust the hook holder (2) so as to obtain a gap of approximately 0.7 mm between the holder lug and the bottom of the groove of the Inner part of the hook.

11. To adjust the elliptical path of the feed-dog movement (Fig. 8)

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 axe 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 is to 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 firts loosened the screws of the lever (9) on the feed shaft (7). Ensure that the feed-dog reaches its top height about the middle of the feed-dog movement.

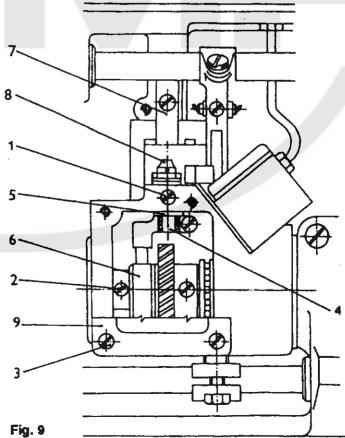
12. To adjust the length of feeding

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, 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 machine run, the gap between the sides of the groove provided in the inner part of the hook and the hook holder (7) is positively periodically opened by means of the opening lever (8) and eccentric (6) 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., the axial play between the lug of the opening lever (8) with respect to the face of the inner part of the hook. Loosen the screw (1) fixing the position of the bobbin case (5) contacted by the pin (4) with the opening lever, and adjust a gap of 0.8, 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 0.5 mm, required to let the thread pass, 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 (1). 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 while sewing off the machine. First screw out the four screws (3) on the cover (9) of the hook box, remove the cover, take out the lubrication inlay, loosen the two screws (2) of the eccentric (6) 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 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. 3)

To exchange the presser foot (1), first raise the presser bar (11) to its top position and lock it by the hand lever (12). Lift also the needle to its top position, then loosen the attachment screw (5) of the presser foot together with the washer (7), and remove first the finger guard (9) 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, during its movement, does not collide with the presser foot.

15. To dismantle and mount the drive belt (Fig. 10)

Remove first the synchronizer (A). Mark the position of the hub with respect to the handwheel (if it is not marked already), screw out the screw (4), remove the belt guard and then the V-belt from the handwheel. Loosen the two screws (2) and remove the handwheel with the bearing (8) out of the machine arm and from the upper shaft (5). Pass the drive belt (7) through the aperture thus createding the machine arm around the upper shaft and engage it on the two belt wheels, and mount the handwheel with the bearing on the upper shaft in such an angular position that the first screw, considered in the sense of rotation of the handwheel, comes to sit on the small flat surface of the upper shaft when tightened. Fix then the handwheel by retightening the screws (2), engage the V-belt on the handwheel, and mount the belt guard and, in its correct angular position indicated by the mark, the synchronizer.

To observe:

After mounting or changing of drive belt adjust space between needle and hook tip and ffeding according to the paragraps above. We recommend to take out the needle from the needle bar before starting this change.

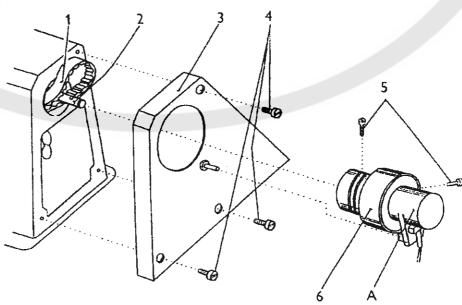


Fig. 10

16. To adjust the needle punches into the centre of the slot of the throat plate in longitudinal di-

The adjustment is to be carried out with the adjusting cam mounted. Turn the handwheel 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 (i.e., in the feed direction of sewn work) screw out the two screws of the front plate, remove the latter, loosen the securing screws (2 and 3), and finely adjust the angular position of the screws (4) both on the front and on the rear side of the machine so as to set the needle longitudinally into the centre of the throat plate slot, without impeding the run of the needle bar holder. Retighten the screws (2 and 3) and mount the front plate.

When adjusting the position of the needle with respect to the throat plate, do not tighten the adjustment screws (4) completely but leave a minimum play between them and the needle bar holder in order to let proceed unimpeded the transverse movement of the needle bar holder required for the zigzag stitch.

17. To adjust the lever and the roller of the zigzag stitch mechanism (Fig. 7,Tab. 13)

The adjustment is to be carried out with the adjusting cam mounted. Remove the cover (12) tab. 13 of the zigzag stitch mechanism and turn the handwheel until the needle bar with the needle reaches its bottom position. Loosen the nut (2) on the screw (3) Fig. 7 on which is mounted the tie rod of the needle bar holder, displace the screw (3) in the slot of the lever between the two end positions and check whether the needle moves in the throat plate groove. In positive case, remove the plug (26) tab. 1. on the rear side of the machine arm, loosen the screw (6) tab. 13 on the lever (5), and adjust with a screwdriver the complete roller by its repeated turning and by displacing the screw (3) Fig. 7 turn the roller and displace the screw (3) in the lever groove until you find the position in which no displacement of the needle in the groove of the throat plate takes place, then retighten the screw (6) tab. 13, put in the plug (26) tab. 1, retighten the nut (2) Fig. 7 and mount the cover (12) tab. 13.

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

The adjustment is to be carried out with the adjusting cam mounted. Turn the handwheel until the needle bar with the needle reaches its bottom position. In case of transverse deviation from the central needle position, remove first the circular cover (26) tab. 1 situated on the front side of the machine arm opposite which, on the rear side of the machine arm, is situated another adjusting hole fitted with a plug. Loosen the nut (1) tab. 3a and rolling of the pin (6) adjust the needle bar holder so as to let the needle pass through the centre of the needle aperture of the throat plate, then retighten the screws carefully, and mount the covers.

To adjust the tooth play of the zigzag stitch transmission mechanism (Tab.1, 5)

The tooth play of the zigzag stitch transmission mechanism is controlled by the conical worm (20) tab. 5. To adjust the play, first screw out the four attachment screws (2) tab. 1, remove the upper cover (7) tab 1, and loosen the screws (14) tab. 5 on the set ring (19) and the four screws (15) on the worm. The mechanism is now ready for adjustment. By displacing the conical worm (20) tab. 5 nearer to the thread take-up lever mechanism, you increase the tooth play, by displacing it to the handwheel you reduce it. The play of the worm transmission mechanism should be adjusted to as low a value as possible on the whole circumference of the worm wheel. The play can well be checked on the cam circumference. Fix the worm position with screws (15), displace the set ring (19) into contact with the worm, and fix it with screws (14) tab. 5

20. To adjust the transverse movement of the needle bar holder (Tab. 1,5)

The transverse movement of the needle bar holder must take place only at intervals when the needle is outside the sewn material. To meet the requirement, coordinate the movementm of the needle bar holder produced by the cam and the worm. Any pattern cam mounted can be used for this adjustment. Remove the upper cover (7) tab. 1 and loosen the screws of the worm wheel (the set ring (19) defines the axial position of the worm and by means of this also the tooth play). Adjust the angular position of the worm on the upper shaft so as to ensure that no transverse movement of the needle bar holder takes place while the needle is punched in sewn material, then retighten the screws of the worm and mount the upper cover.

21. To adjust the needle bar position with respect to the hook shaft (Tab. 7)

After a rather extensive machine repair is recommended to check to check the mutual position of the needle bar in its central position with respect to the hook shaft. The hook shaft axis is displaced to the left of the needle bar axis. For adjustment, loosen the two screws (20) joining the gear box of the hook to the bed plate. In its correct position, the gear box of the hook is in direct contact with the lug of the bed plate. The stop pin on the front of the gear box is inserted into the slit part of the bed plate lug and is in contact with its upper part. Fix the gear box position by retightening the two screws (20).

22. To adjust the operation of the adjusting spring (Tab. 11)

Loosen the screw (29) and take the complete upper thread tensioner (36) out of the machine arm. To adjust the tension of the adjusting spring (21), loosen the screw (19) on the bushing (20) and adjust the angular position of the pin (21) with a screwdriver. Turn the pin to the left to reduce the spring tension, and inversely. Adjust in the same manner the value of the spring arm stroke. Sew a few stitches and check the adjustment of the adjusting spring. Slide away the right-side slide plate and check the thread passing around the hook. With correct adjustment, the thread passing around the hook bottom shall produce a slight movement of the adjusting spring without being tensioned.

23. To time the trimmer actuating cam (Table 6, 19)

The correct and trouble-free function of the thread trimmer device requires the correct setting of the trimmer actuating cam mounted on the lower shaft and commanding the movement of the moving cutter which serves also to catch and draw out the threads prior to their trimming, as well as the mechanism for loosening the thread tensioner. With the machine switched off, rotate the handwheel until the thread take-up lever reaches its top position. Mark this position on the handwheel and on the machine arm (on the beit guard) by provisional signs, then tilt the machine and rotate the handwheel until the two provisional signs are aligned. Loosen the two screws (29) tab. 6 of the cam (21) tab. 6 and set the cam thus loosened so that its index line (marked in red) coincides with the axis of the pin (32)tab. 19, then lock the cam by tightening the screws (29) tab. 6. This is the basic position of the camwhich, however, can require some adjustment depending on the kind of threads, sewn work, etc. The timing of the drawing hook movement is governed by the angular position of the cam on the lower shaft. Tilt the machine head and insert the pin (32) tab. 19 into the straight section of the carn groove by depressing the lever transmitting motion from the electromagnet. Turning then the handwheel towards the operator (anticlockwise) you can time the beginning of the drawing hook movement from its initial to its rear position. If adjusted correctly, the point of the drawing hook comes to lie in immediate vicinity of the throw-away section of the sewing hook at the moment when the lower thread leaves the latter, thus forming the typical triangle. During the subsequent rotation of the hand wheel, the drawing hook point shall pass through the triangle, with one arm of the upper thread together with the lower thread lying on one side, and with the other arm of the upper thread lying on the other side, of the drawing hook. The threads lying on the notched side of the drawing shall enter the notch. For adjustment, loosen the two screws (29) tab. 6 on the cam (21) and turn the cam either in the sense of the lower shaft rotation, to speed up the beginning of the drawing hook movement, or inversely. After the adjustment of the cam check whether upon depression of the lever (27) tab. 19 the pin (32) tab. 19 enters freely the straight section of the cam (21) tab. 6, press the carrier ring (20) onto the cam thus adjusted, and retighten it by screws (8) tab. 6 on the lower shaft.

24. To adjust the starting position of the drawing hook (Table 18, 21)

The starting position of the drawing hook (5) tab. 18 shall ensure a distance of 2 to 3 mm between its outer edge and the outer edge of the removable slide plate(1) (aligned with the outer edge of the bed plate). The slide plate should be attached to the bed plate in a position leaving no gap between the slide plate and the throat plate (4). To adjust the drawing hook position, loosen the locking nuts (4), tab. 21 and turn the connecting tie rod (5), tab. 21 so as to obtain its length required for fixing the correct position of the drawing hook, then retighten the locking nuts.

25. To adjust the stroke of the drawing hook (Table 6, 19)

Insert the pin (32) tab. 19 into the cam (21), tab. 6 and rotate the handwheel towards you until the lower thread and one arm of the upper thread enter the notch provided on the side of the drawing hook. If they do not enter, loosen the nut (12) on the swinging lever (6) and displace the tie rod(4) in the groove

of the lever (6). To increase the drawing hook stroke, increase the length of the lever arm, and inversely. Fix the adjusted position by retightening the nut (12).

26. To adjust the pressure of the stationary knife (Table 18)

The correct trimming operation depends among others on the pressure force of the stationary knife (18). The pressure force can be increased by screwing in the screw (3) in the slide plate (1), and reduced by screwing it out. The pressure force should be just sufficient for proper trimming to avoid excessive wear of both the stationary knife and the drawing hook (moving knife). If in spite of this adjustment the trimming operation remains unsatisfactory, check the cutting blade of the stationary knife improve it, or exchange the knife.

27. To adjust the loosening of the upper thread tensioner (Table 11)

For correct operation, the main upper thread tensioner must be loosened during the thread trimming cycle. This loosening is actuated automatically in due phase of thread trimming operation, via a bowden and a lever system during the activation of the trimmer device. If the loosening fails to take place use the displaceable bushing (6) to adjust the mutual position of the two bowden ends and, consequently, the stroke value, having first loosened the screw (14) in the machine arm. The gap between the disks of the tensioner when loosened must ensure free passage of upper thread.

28. Available length of upper thread

The available upper thread length depends on the following factors:

a) Tension of the ancillary thread tesnioner:

- b) Machine stop with respect to thread take-up position: The sooner (before the upper dead point of the thread take-up lever) the machine is stopped, the smaller is the available upper thread length, and inversely.
- 29. To remove and insert the slide plate (Table 18) If it is necessary to remove the slide plate (1) it must be borne in mind that it carries the trimmer mechanism. First loosen the screw (13) and disconnect the drive of the trimmer mechanism by taking the pin (15) out of the lever (9), then loosen the screws (2) fixing the slide plate to the machine bed plate, and take the slide plate out. Proceed inversely to insert the slide plate (1).
- 30. To remove and to mount the moving trimmer knife (the drawing hook) (Table 18) Tilt the machine head onto the support pin located on the stand plate, loosen the screw (13) and disconnect the drive of the trimmer mechanism by taking the pin (15) out of the lever (9). Than afix screws /2/ assuring the binding of the plate and flat-bed and take out the plate with trimming knife.

#### 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 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 defects 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. Then, the machine should be tested, coated with protective grease, and stored with all the tools and accessories.

## IV. FAULTS AND HOW TO REMOVE THEM

Fault	Cause	Remedy
1. General faults		
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 kero- sene into all lubrication holes and on sliding sur- faces and let the machine run rapidly so as to clean the lubrication holes in the
		bearings. Then clean the machinem carefully with sewing machine oil (see par. 5, page 5)
b) Slow machine start	Insufficient tension of belt connecting machine to electric motor	Increase the belt tension by tilting the electric motor
c) Upper thread breakage	1. Slashed thread guides	Ascertain and exchange them
	2. Too sharp looper point	2. Repair it
	3. Faulty feeding	3. Adjust it (see par. 5, pa- ge 12)
	4. Faulty guiding or threading of upper thread	4. Thread the upper thread correctly (see par. 7, page 8)
	5. Incorrect upper thread tension	5. Adjust it (see par. 3, pa- ge
	6. Bad needle quality or bent needle	6. Exchange the needle (see par. 8, page 8)
	<ol><li>The thread size is inadequate to the thick- ness of sewn material</li></ol>	7.Use adequate thread
	8. Machine considerably soiled	8. Unscrew the throat plate, clean the mechanism, and set the throat plate (see par. 6, page 12)
	<ol><li>Thread wound on the hook</li><li>The thread is too thin or not strong enough</li></ol>	Remove the thread     Nuse adequate thread
d) Lower thread breakage	The thread is incorrectly threaded into the bobbin case	1.Thread it correctly (see par. 9, page 9)
	<ol> <li>The thread is too thin or not strong enough</li> <li>The thread is wound incorrectly on the bobbin</li> <li>Damaged bobbin</li> <li>Too sharp pressure spring on the bobbin case</li> </ol>	2.Use adequate thread     3.Wind it on the bobbin correctly     4.Exchangethe it
e) Skipped stitches	1. Needle inserted incorrectly	1.Insert it correctly (see par. 5, page 7)
	2. Blunt or bent needle	2. Exchange it (see par. 5, page 7)
	3. Slashed or broken hook point	3. Exchange the hook

Fault	Cause	Remedy
	Excessive needle aperture in the throat plate	<ol> <li>Exchange the throat plate and set it correct- ly (see par. 6, page 12)</li> </ol>
	Broken adjusting spring for upper thread tension	<ol> <li>Exchange the spring and adjust the uppper thread tesnion (see par 3, page 11)</li> </ol>
	<ul><li>6. Needle bar positioned too high or too low</li><li>7. Overturned hook, incorrect hook course</li><li>8. Soiled hook mechanism</li></ul>	6. Adjust it (see par. 8, page 12) 7. Adjust the hook course (see par. 9, page 13) 8. Clean it with kerosene and oil it with oil J1.
f) Needle breakage	1. Feed-dog positioned too high	Adjust it in height (see par. 4, page 12)     Let the material pass
	Faulty attendance - pulling the material     Needle too thin with respect to material	freely 3. Exchange the needle
	4. Needle inserted incorrectly	(see par. 5, page 7) 4. Insert it correctly (see par. 5, page 7)
	5. Loosened throat plate	5. Set the throat plate correctly (see par. 6, page 12 and fix it by
	6. Excessive upper thread tension	screws 6. Adjust it (see par. 4, page 12)
g) Heavy and irregular feeding	<ol> <li>Feed-dog positioned too low</li> <li>Worn-out feed-dog</li> <li>Clogged or blunt teeth of feed-dog</li> <li>Insufficient pressure of presser foot</li> </ol>	<ol> <li>Adjust it in height (see par. 4, page 12)</li> <li>Exchange it</li> <li>Clean or exchange the feed-dog</li> <li>Increase the pressure (see par. 7, page 12)</li> </ol>
h) Stitch forming below sewn material	Tensioner discs slashed by upper thread	Exchange them and adjust the upper thread tension
	<ol> <li>Thread fails to pass smoothly around the hook or catches the bobbin case</li> <li>Upper thread is not threaded between the tensioner discs</li> <li>Thread broken and caught between the tensioner discs</li> <li>Incorrect proportion between the upper and lower thread tensions</li> </ol>	<ol> <li>Clean the hook and adjust the bobbin case</li> <li>Thread it correctly (see par. 7, page 8)</li> <li>Clean the thread tensioner and adjust it (see par. 3, page 11)</li> <li>Correct the proportion (see par. 3, page 11) and check it from time to time</li> </ol>

Fault	Cause	Remedy
i) Stitch forming above	<ol> <li>Damaged spring on the bobbin case, lower thread is braked insufficiently</li> <li>Lower thread is not threaded under the spring of the bobbin case</li> <li>Lower thread broken and caught under the spring of the bobbin case</li> <li>Incorrect proportion between the upper and lower thread tensions</li> <li>Premature feeding</li> </ol>	<ol> <li>Exchange the spring</li> <li>Thread it correctly (see par. 9, page 9)</li> <li>Remove the thread</li> <li>Correct the proportion (see par. 3, page 11)</li> <li>Adjust par. 5, page 12)</li> </ol>
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 in run for a period, then drip two or three drops of oil recommended in par. 5 page 5
		onto the hook
2. Basic faults referring to	thread trimmer device	
a) Insufficient length of upper thread available resulting in threading out of upper thread out of the needle eye at the machine start: the machine fails to start stitching  b) Insufficient amount of lower thread, the machine fails to start stitching	Excessive speed prior to machine stop     Excessive lower thread tension	<ol> <li>Reduce the tension</li> <li>Adjust the timing</li> <li>Adjust it correctly</li> <li>Ascertain the cause and repair the trouble</li> <li>Repair it</li> <li>Polish the edge</li> <li>Polish it.</li> <li>Increase the lower thread tension while being wound on the bobbin</li> <li>Set it at 140 r.p.m. or less</li> <li>Reduce it</li> </ol>
c) Thread ends are poorly cut or are not at all	<ol> <li>Burs on the cover sheet of the hook</li> <li>Maladjusted (insufficient) pressure of stationary knife</li> <li>The stationary or the moving knife (the drawing hook) is blunt</li> </ol>	<ol> <li>Polish it</li> <li>Repair it</li> <li>Sharpen it</li> </ol>

	Ocupa	Remedy
Fault	Cause	
d) Poor seam beginning at the underside of sewn work	Too long upper thread	<ol> <li>Increase the tension of of the ancillary thread tensioner</li> <li>Adjust the cam timing</li> </ol>
e) The upper or the low-	1. Incorrect cam timing	1. Time it correctly
er thread falls to be cut	Skipped stitches at reduced speed     Poor thread separation by the draw-	Adjust the mechanism     Adjust or exchange the drawing hook
	ing hook 4. Insufficient stroke of drawing hook	4. Adjust it (see par. 24, page 16)
f) Neither thread is cut but the needle movement from the lower to the upper position does take place	<ol> <li>Incorrect cam timing</li> <li>The electromagnet controlling         the thread cutting fails to operate         correctly (gets stuck)</li> <li>Insufficient stroke of drawing hook</li> </ol>	<ol> <li>Time it correctly</li> <li>Check the wiring of the electromagnet or exchange it</li> <li>Adjust it (see par. 24, page 16)</li> </ol>
•	Insufficient supply of upper thread	1. Increase it (see par. 28,
g) Stitch begins only after a few skipped stitches	Insufficient supply of lower thread hook and the hook	page 17) 2. Re-polish the drawing
h) At the seam beginn, the upper thread end protrudes above sewn work	Excessive supply of upper thread	<ol> <li>increase the tension of</li> <li>Adjust the cam timing</li> <li>Adjust the machine stop in the needle up position</li> </ol>

## V. HOW TO USE THIS CATALOGUE AND ORDER SPARE PARTS

For effective use of the Catalogue, carefully study the following information: The Catalogue is divided into two sections:

- 1. Instructions for servicing with figures and technical data
- 2. Tables of spare parts with spare part list

Please, specify in each order for spare parts:

- a) the twelve-digit No. of the part
- b) number of parts

Example of an order:

311 515 306 025 - two pieces 522 080 811 699 - one piece

· .

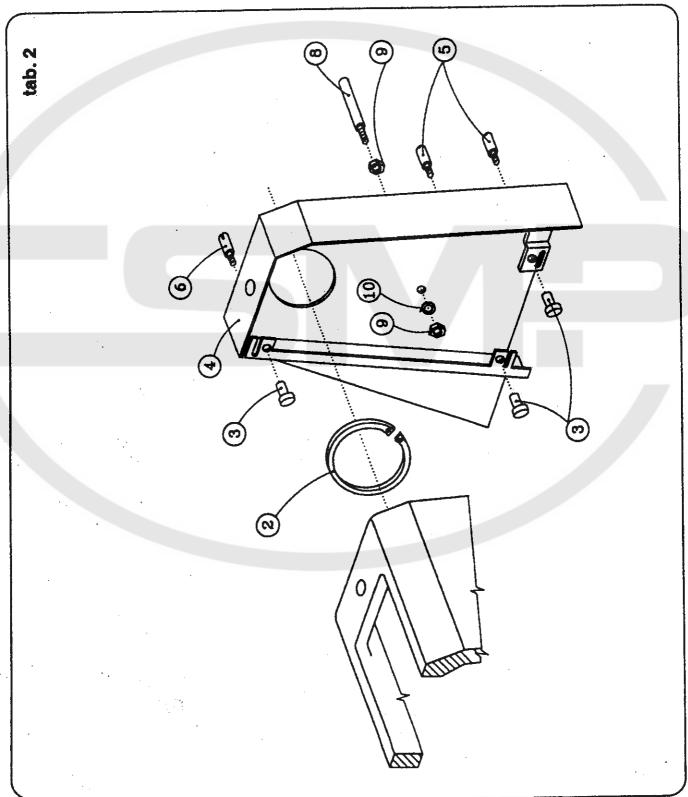
TABLES OF SPARE PARTS WITH SPARE PART LIST

647 228 123 117 001 000 840 073 313 204 161 138 815 271 811 637 821 173 827 180 123 122 126 095 127 184 821 115 821 115 821 115 821 113 120 361 132 112 306 025 627 088 831 494 114 007 124 070

ZZ 567-75-TD

2Z 567-75-TD

2 311 733 100 620
3 273 199 005 000
4 522 980 041 162
5 522 080 120 346
6 522 080 156 049
8 522 080 161 151
10 522 080 191 110

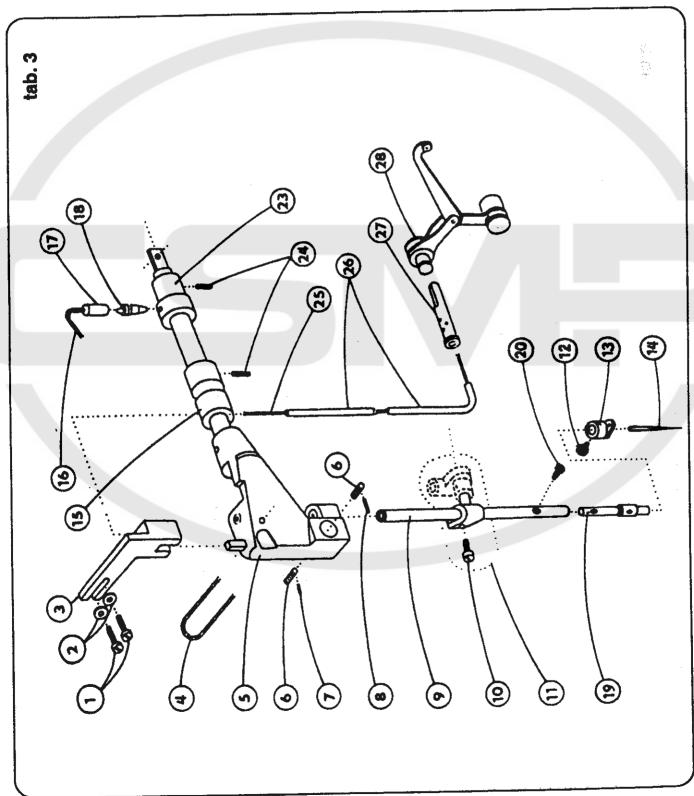


72 567 - 75 - TD

1 522 080 120 278
2 522 080 190 353
3 522 080 190 353
3 522 080 646 104
4 708 420 030 002
1 = 80 mm
5 522 080 113 115
7 522 080 113 115
7 522 080 111 248
9 522 080 111 248
9 522 080 111 248
9 522 080 113 115
11 522 980 035 499
12 522 080 135 029
13 522 080 131 155
14 548 300 000 140
15 522 080 413 311
16 522 080 421 331
17 283 396 002 000
4 3,5/4,8 × 190
18 522 080 421 341
24 522 080 111 222
25 708 420 030 003
1 = 250 mm

17 283 396 003 003
1 = 250 mm

26 522 080 111 222
25 708 420 030 003
1 = 147
27 522 080 328 005
28 522 080 328 005
28 522 980 044 830

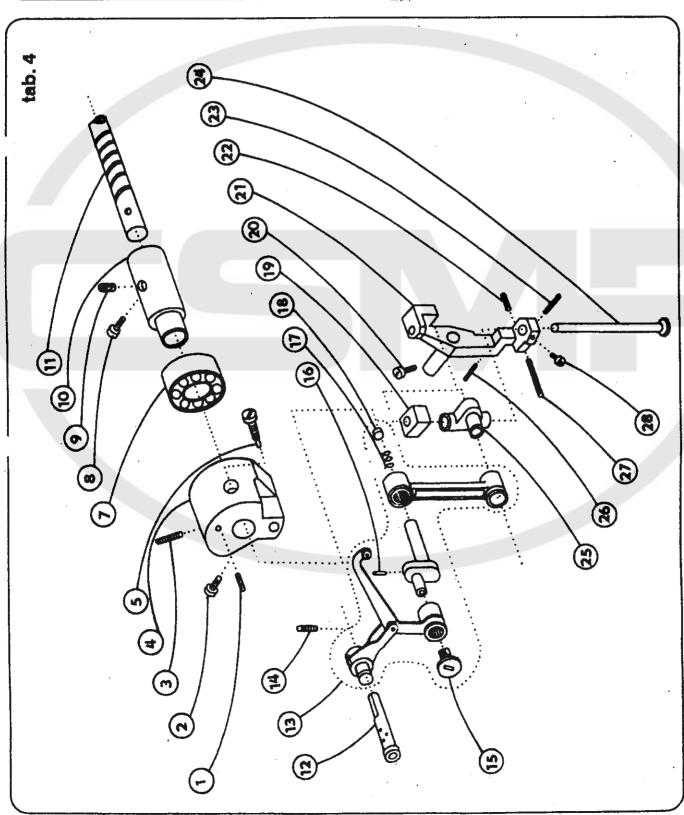


ZZ 567 - 75 - TD

161 325 190 502 060 158 613 519 021 338 131 462 274 083 612 108 349 202 349 203 318 144

72 567-75-TD

1 522 080 111 238
2 522 080 112 015
4 522 080 112 015
5 522 080 112 015
5 522 080 112 015
7 324 165 038 396
8 522 080 120 006
9 522 080 120 006
9 522 080 120 006
11 522 080 340 197
12 522 080 340 197
13 522 080 120 062
14 522 080 112 014
15 522 080 120 062
16 522 080 120 062
17 522 080 120 062
18 522 080 120 220
21 522 080 111 214
22 522 080 111 214
23 522 080 111 214
23 522 080 111 235
24 522 080 111 235
25 522 080 111 235
26 522 080 111 235
27 522 080 111 235
28 522 080 111 273
28 522 080 111 273
29 522 080 111 273
27 522 080 111 273
28 522 080 111 273
29 522 080 111 273
20 522 080 111 273
20 522 080 111 273
21 522 080 111 273
22 522 080 111 273
23 522 080 111 273
24 522 080 111 273
25 522 080 111 273
26 522 080 111 273
27 522 080 111 126



ZZ 567 - 75 - TD

340 197 122 029 413 375 340 198 342 325 412 218

72 567-75-TD

1 522 080 340 199

2 522 080 441 541

3 522 080 260 467

4 522 080 436 338

5 522 080 113 115

6 324 165 038 396

7 522 080 111 225

8 522 080 112 25

1 = 130 mm

11 522 080 120 259

12 522 080 120 259

13 522 080 112 013

14 522 080 112 013

15 522 080 112 013

16 522 080 112 013

17 522 080 112 013

18 311 733 000 300

19 522 080 570 051

22 324 162 068 396

23 22 080 511 121

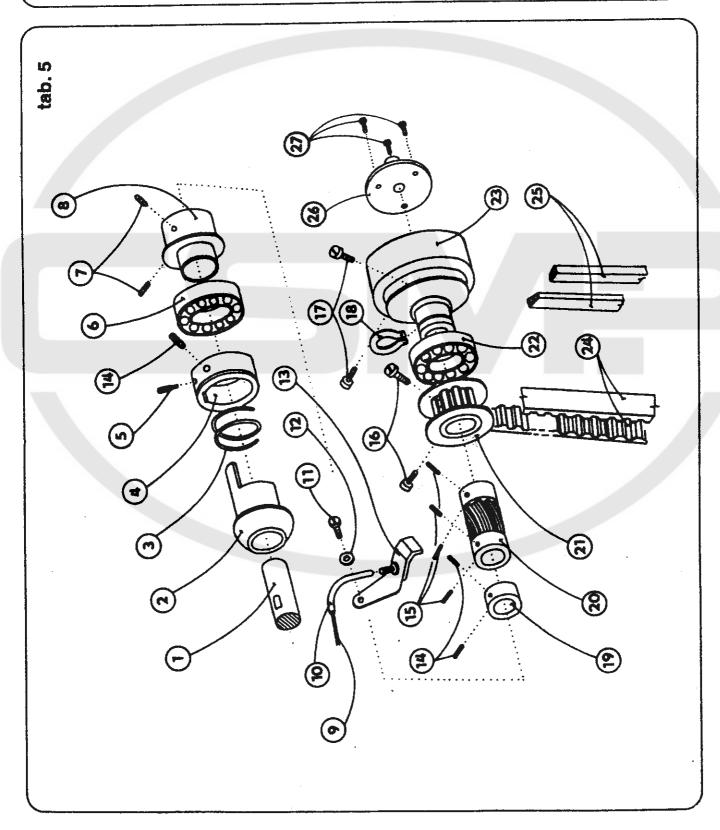
24 272 213 011 015

25 272 213 011 015

26 522 080 510 000

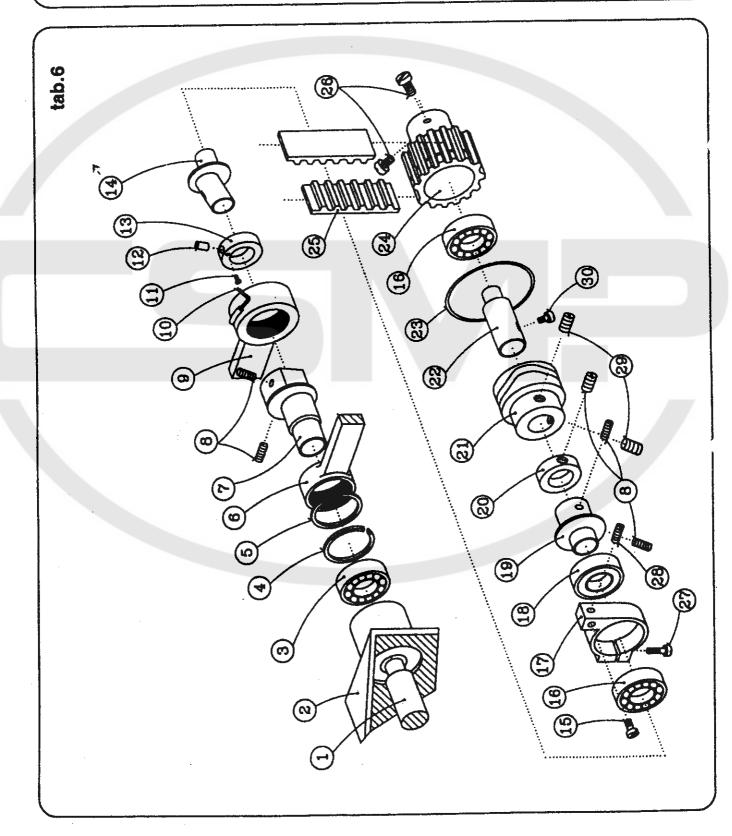
10 x 1060 mm

26 522 080 120 252



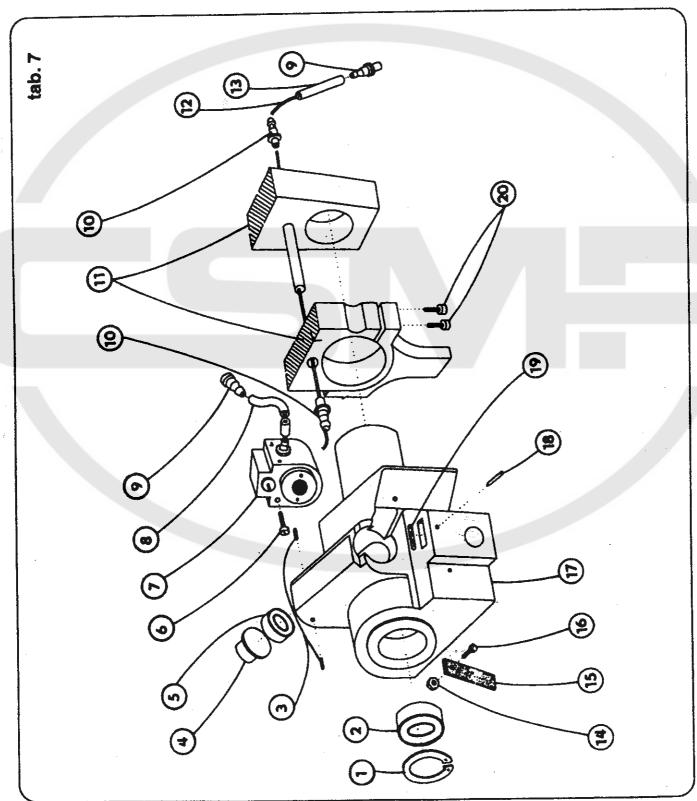
72 567-75-TD

1 522 080 342 326
2 522 980 020 386.10
3 324 165 028 396
4 311 733 000 180
5 522 080 814 338
6 522 080 814 338
6 522 080 630 248
7 522 080 672 151
8 522 080 112 013
9 522 980 044 045
10 702 420 030 002
11 = 350 mm
11 522 080 141 088
12 522 080 141 088
14 522 080 140 045
15 522 080 140 045
16 522 080 140 045
17 522 080 120 222
18 522 080 141 102
18 324 165 028 396
19 522 080 445 045
21 522 080 424 055
22 522 080 672 166
22 522 080 672 166
23 522 080 672 166
24 522 080 122 019
25 522 080 120 019
26 522 080 120 019
27 522 080 120 019
27 522 080 120 019
27 522 080 120 019
27 522 080 120 019
27 522 080 120 019
28 522 080 120 022
29 522 080 120 019
20 522 080 120 019
20 522 080 120 019



72 567-75-TD

1 311 733 100 280
2 324 152 927 796
3 522 080 111 219
4 522 080 111 219
5 324 155 920 020
6 522 080 120 289
7 522 980 035 528
8 283 366 002 000
11 522 980 020 386.10
12 708 420 030 005
8 522 080 424 060
11 522 980 020 386.10
12 708 420 030 005
8 522 080 161 143
15 522 080 161 143
15 522 080 724 134
18 311 515 601 612
19 708 420 030 003
8 3 x 40 mm
20 522 080 120 430



 7.2 567-75-TD

 1
 311 733
 100 260

 2
 324 152
 927 796

 3
 522 080
 111 219

 4
 522 080
 120 269

 7
 324 155
 920 020

 6
 522 080
 120 269

 7
 522 980
 035 528

 8
 522 080
 120 266

 10
 522 080
 120 226

 11
 311 515
 601 612

 12
 324 155
 920 020

 13
 311 733
 100 220

 14
 522 080
 120 226

 15
 522 080
 120 246

 522 080
 120 246

 20
 522 080
 120 246

 21
 522 080
 120 047

 22
 522 080
 112 013

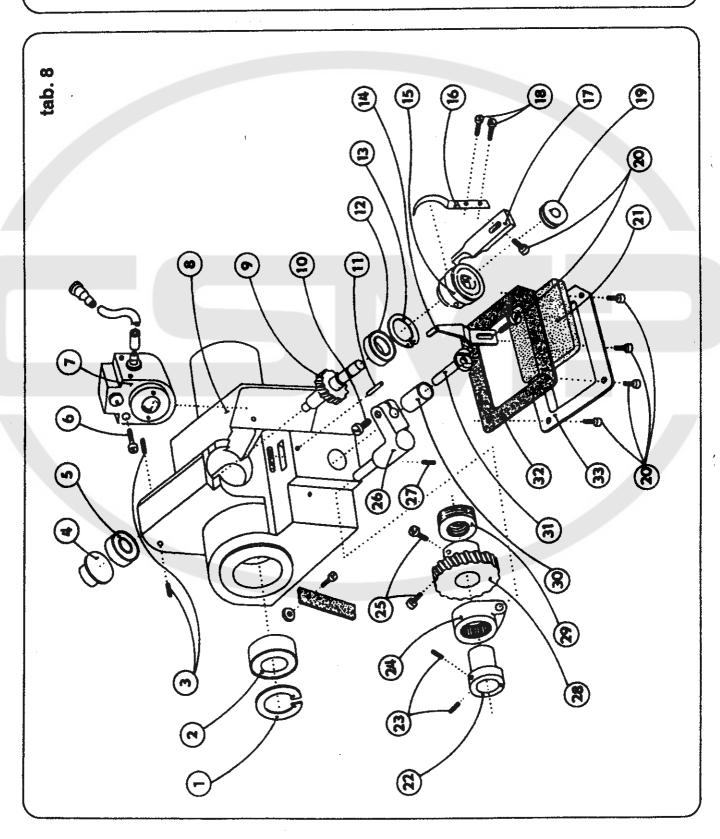
 24
 522 080
 112 013

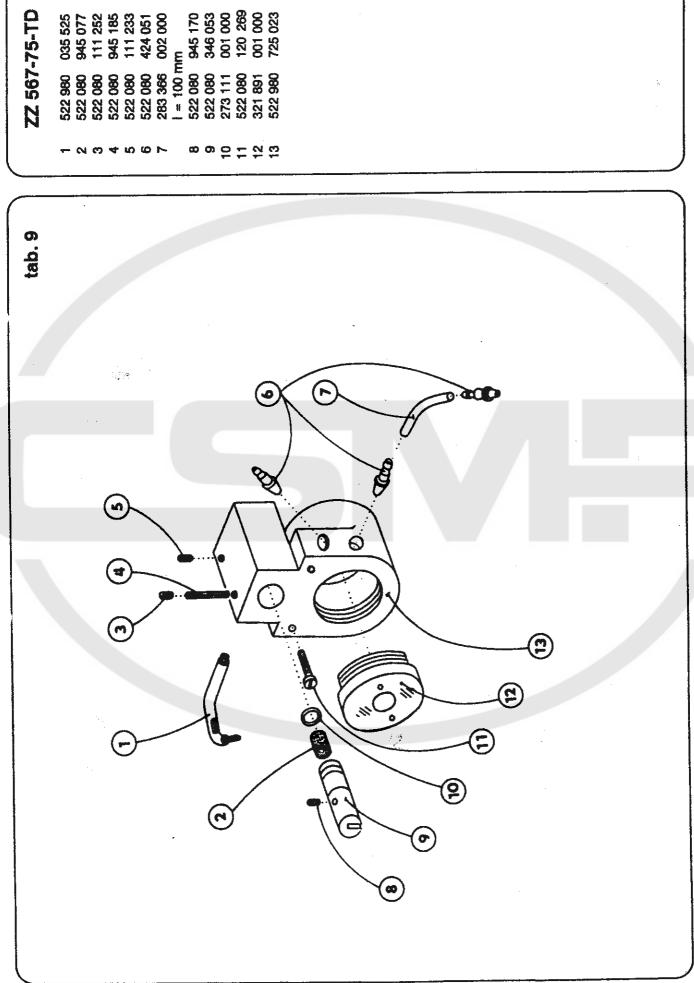
 25
 522 080
 112 013

 26
 522 080
 110 000

 27
 522 080
 111 014

 28
 522 080
 <t

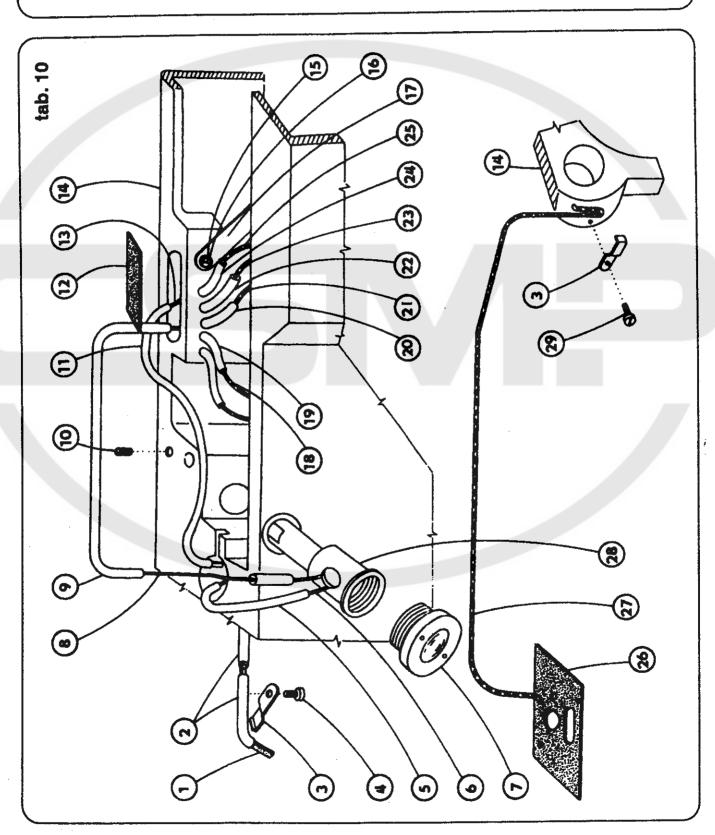




ZZ 567-75-TD

72 567-75-TD

1 522 060 945 180
2 283 366 002 000
4 3,5/4,8 × 65 mm
3 522 060 120 245
5 283 366 002 000
6 3,5/4,8 × 75 mm
6 708 420 030 003
1 = 110 mm
7 321 881 001 000
8 708 420 030 004
1 = 300 mm
12 33.66 002 000
9 3,5/4,8 × 150 mm
12 283 366 002 000
9 3,5/4,8 × 20 mm
12 283 366 002 000
9 3,5/4,8 × 20 mm
12 283 366 002 000
9 3,5/4,8 × 20 mm
12 522 080 120 258
16 522 080 120 258
16 522 080 120 258
16 522 080 041 176
17 522 980 002 000
9 3,5/4,8 × 20 mm
20 283 366 002 000
18 3,5/4,8 × 20 mm
20 283 366 002 000
19 3,5/4,8 × 20 mm
20 283 366 002 000
1 = 270 mm
20 283 366 002 000
1 = 270 mm
21 280 386 002 000
1 = 270 mm
22 283 386 002 000
1 = 130 mm
23 3,5/4,8 × 20 mm
24 283 366 002 000
1 = 140 mm
25 708 420 030 002
1 = 140 mm
28 522 080 945 228
27 708 420 030 004
1 = 640 mm
28 522 080 120 216



 72 567-75-TD

 1
 522 080
 945 188

 2
 522 080
 111 227

 3
 522 080
 111 227

 6
 522 080
 278 012

 6
 522 080
 274 104

 9
 522 980
 049 782

 10
 522 980
 049 782

 11
 522 980
 049 782

 12
 522 080
 274 104

 9
 522 080
 264 274

 11
 522 080
 111 245

 12
 522 080
 111 245

 13
 522 080
 111 245

 14
 522 080
 111 245

 15
 522 080
 111 245

 16
 522 080
 111 245

 17
 522 080
 111 227

 20
 522 080
 111 227

 20
 522 080
 118 039

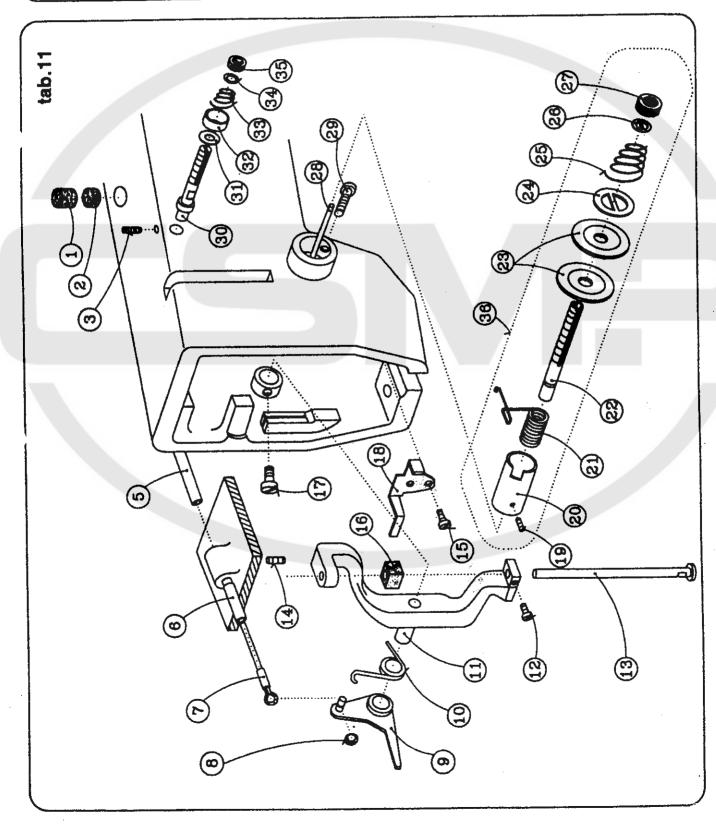
 21
 522 080
 118 039

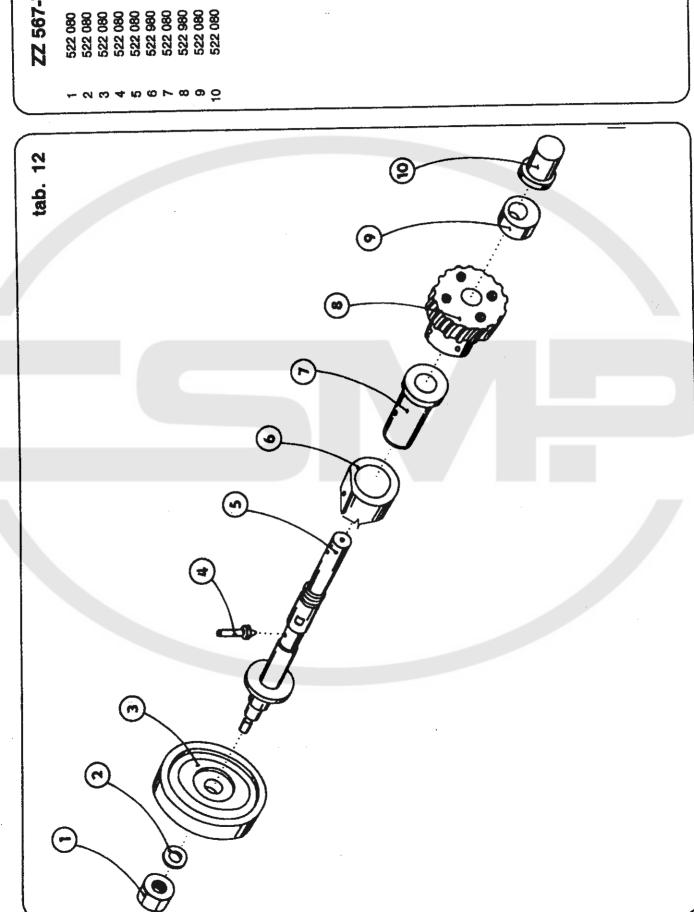
 22
 522 080
 120 201

 23
 522 080
 120 360

 24
 522 080
 120 360

 25
 522 080
 120 360





ZZ 567-75-TD

161 234 191 117 674 124 441 251 043 380 020 386.10 413 358 045 422 046 984 422 190

7Z 567-75-TD

1 522 080 674 124

2 522 080 338 160

3 522 080 442 567

4 522 080 141 157

7 522 080 141 157

7 522 080 141 157

7 522 080 141 157

7 522 080 141 157

7 522 080 141 157

7 522 080 141 157

10 522 080 141 157

11 522 080 193 346

11 522 080 193 346

11 522 080 193 346

11 522 080 133 022

14 425 111 041 000

15 522 080 132 203

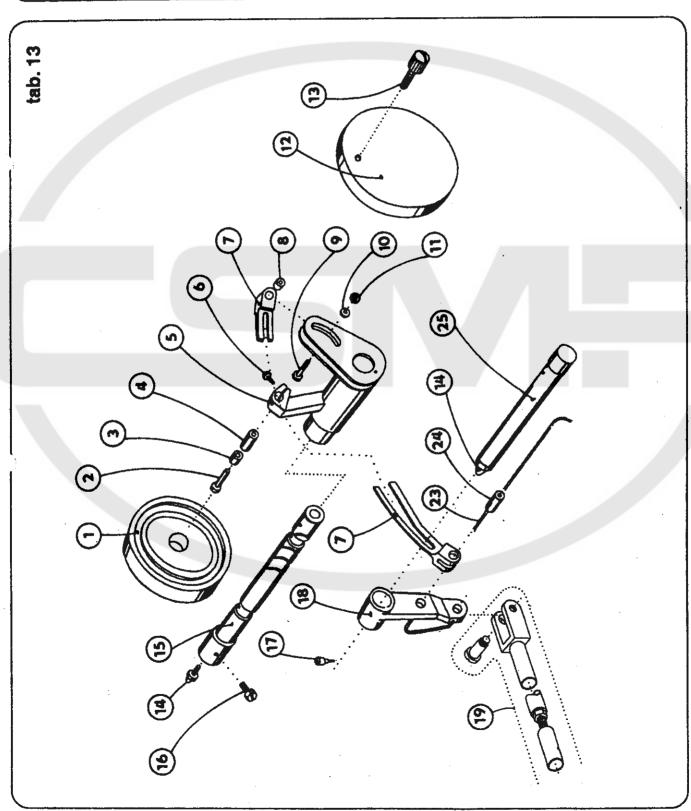
18 522 080 132 203

18 522 080 132 203

19 522 080 318 210

24 522 080 318 210

25 522 080 320 289



tab. 14 3 (2) **(E)** (3) **3** 9

ZZ 567-75-TD

945 317 120 543 623 249 326 213 283 152 113 123 274 084 910 040 839 215 314 150 136 023 615 024 421 330 112 014 031 550 120 239 190 554 271 393 043 480 264 288 120 221 633 196 190 346 271 337 383 178 814 014 120 217 436 331

522 080 522 080

72 567-75-TD

1 425 111 041 000

2 522 080 413 252

3 522 080 141 133

4 522 080 124 050

6 522 080 124 050

6 522 080 120 229

9 522 080 120 229

10 522 080 120 229

11 522 080 112 013

12 522 080 112 013

13 425 111 061 000

14 708 420 030 002

15 522 080 338 069

16 522 080 338 069

17 708 420 030 002

18 522 080 111 227

19 522 080 612 109

21 708 420 030 002

21 708 420 030 002

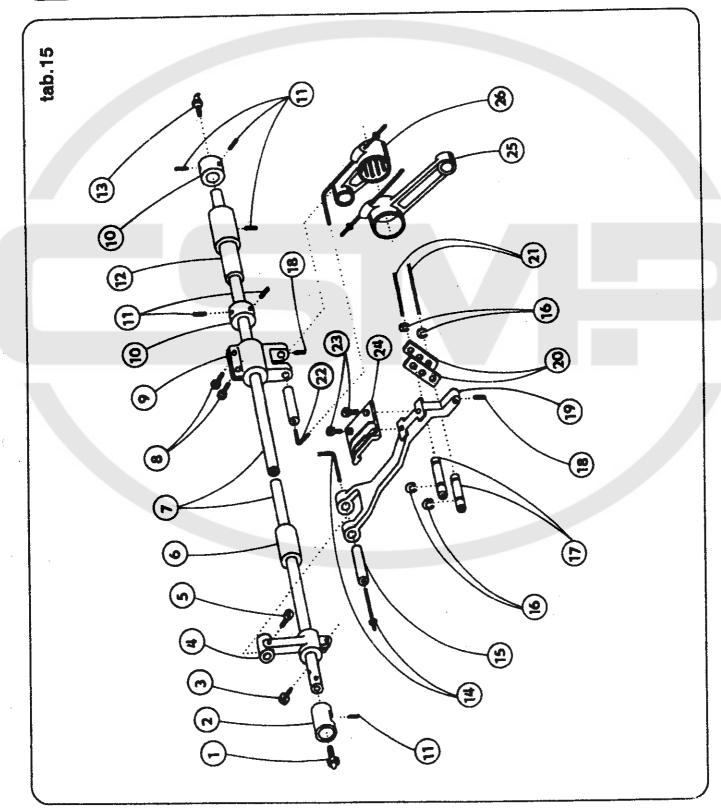
22 080 612 109

23 522 080 121 157

24 522 080 651 472

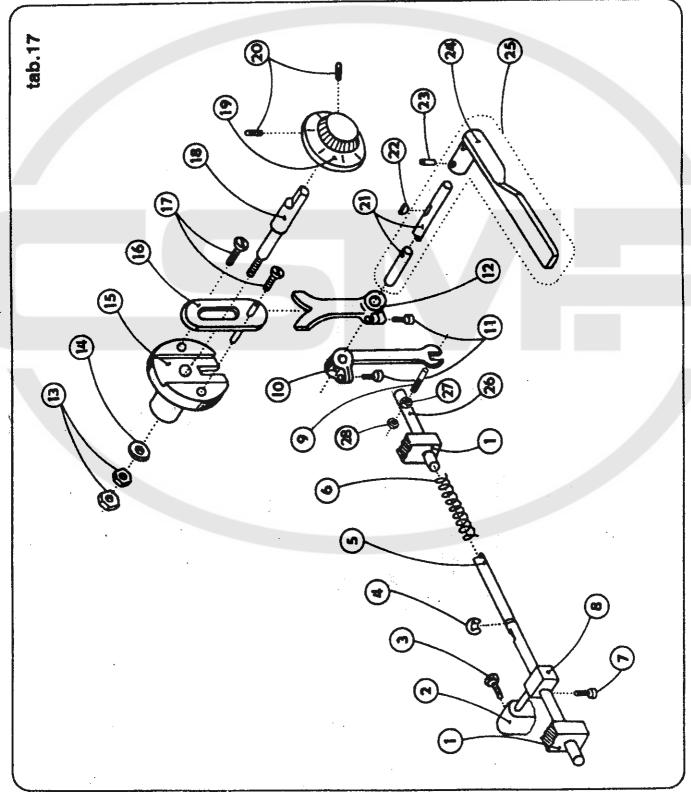
25 522 080 651 472

26 522 080 651 472

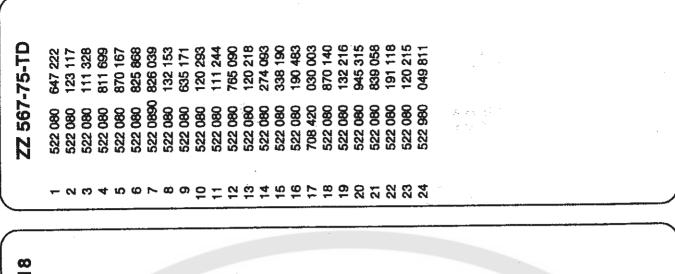


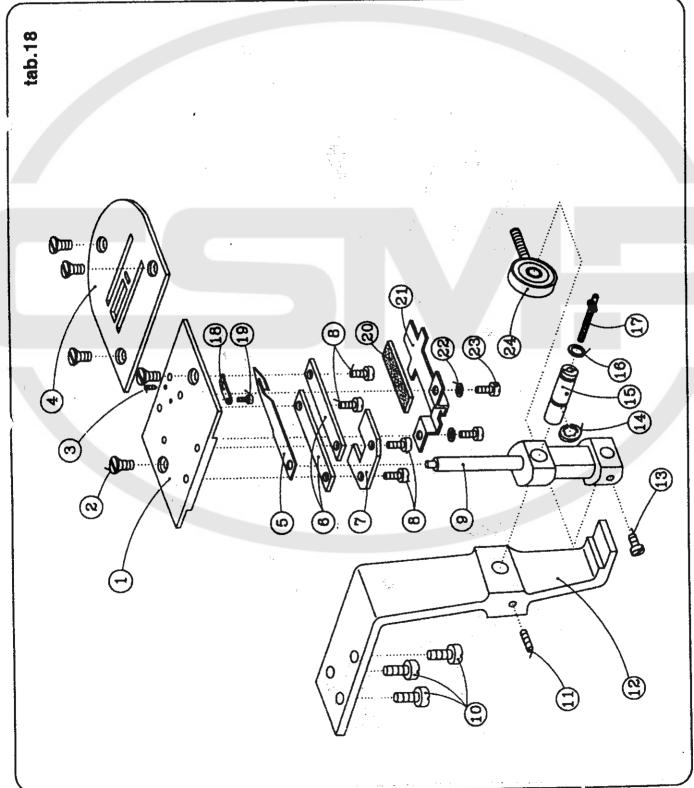
ZZ 567-75-TD

52 580 020 386.10
2 522 980 020 386.10
2 522 080 627 023
3 522 080 141 102
4 311 732 910 070
5 52 080 120 227
7 522 080 120 227
8 522 080 120 227
10 522 080 120 227
11 522 080 110 100
10 522 080 120 221
11 522 080 120 221
12 522 080 120 221
14 522 080 120 221
15 522 080 141 187
16 522 080 120 246
17 522 080 120 13
21 522 080 120 246
18 522 080 120 13
20 522 080 120 13
21 522 080 120 13
22 311 728 502 537
23 311 515 003 012
24 522 080 349 202
25 522 080 349 202
27 522 080 161 142
28 522 080 161 142



ZZ 567 - 75 - TD



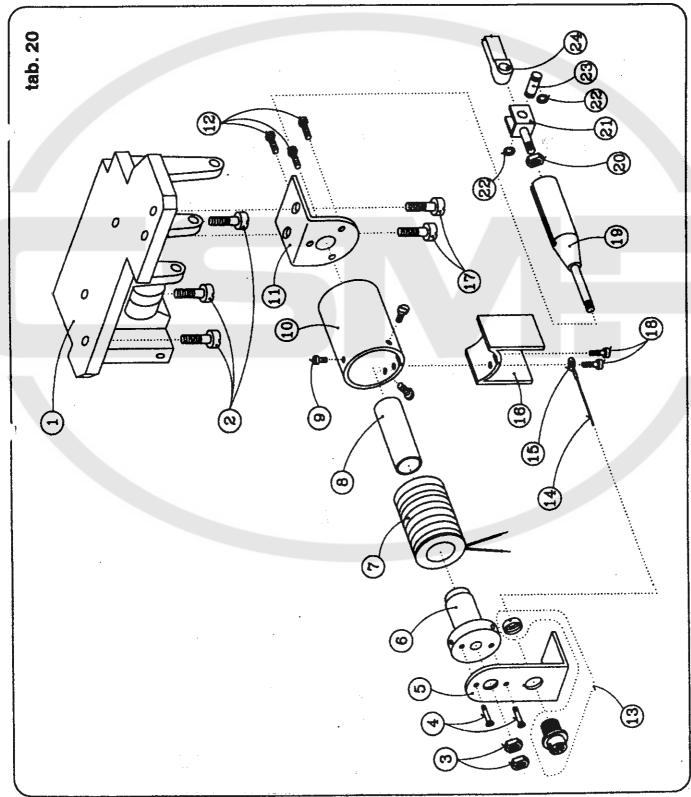


tab. 19 0 **(a)** (**©** က (N

141 142 141 204 274 090 632 147 333 121 646 145 320 257 260 434 190 353 190 353 190 353 120 218 825 587 120 218 825 587 131 378 320 258 274 104 825 586 120 319 131 378 314 167 263 103 278 012 310 364 625 132 613 420 334 106 120 246 341 202 341 202 120 220 120 220 120 220 120 220 120 220

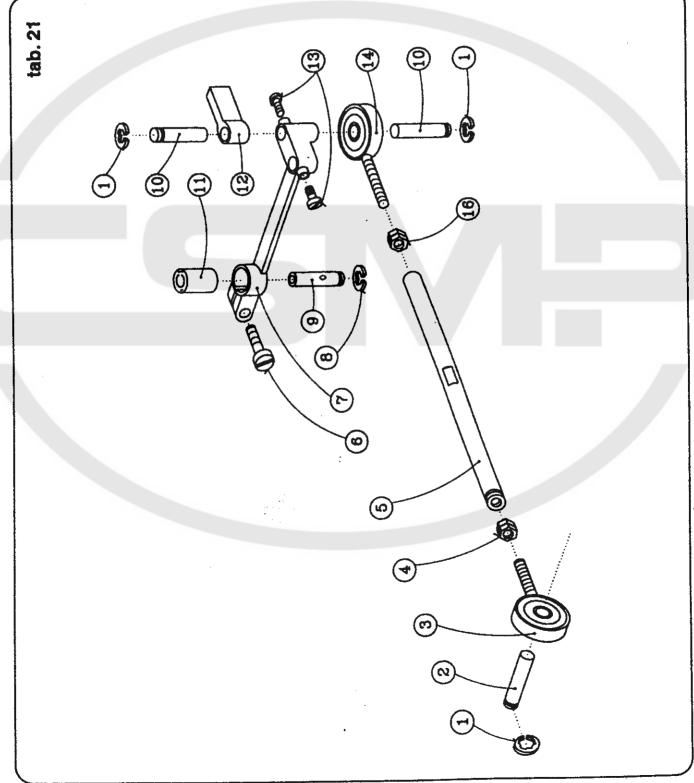
522 080 522 080

ZZ 567-75-TD

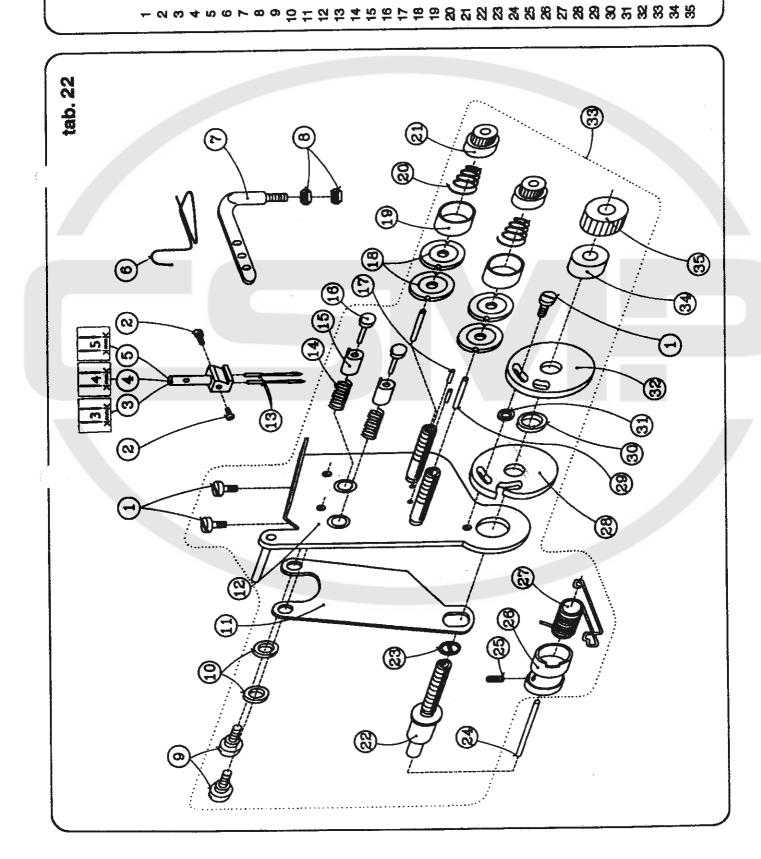


72 567-75-TD

1 522 080 274 090
2 522 080 314 165
3 522 980 049 811
4 522 080 161 227
5 522 080 181 227
6 522 080 120 229
7 522 080 120 229
7 522 080 120 229
10 522 080 120 217
11 522 080 120 217
14 522 080 161 144
16 522 080 161 144



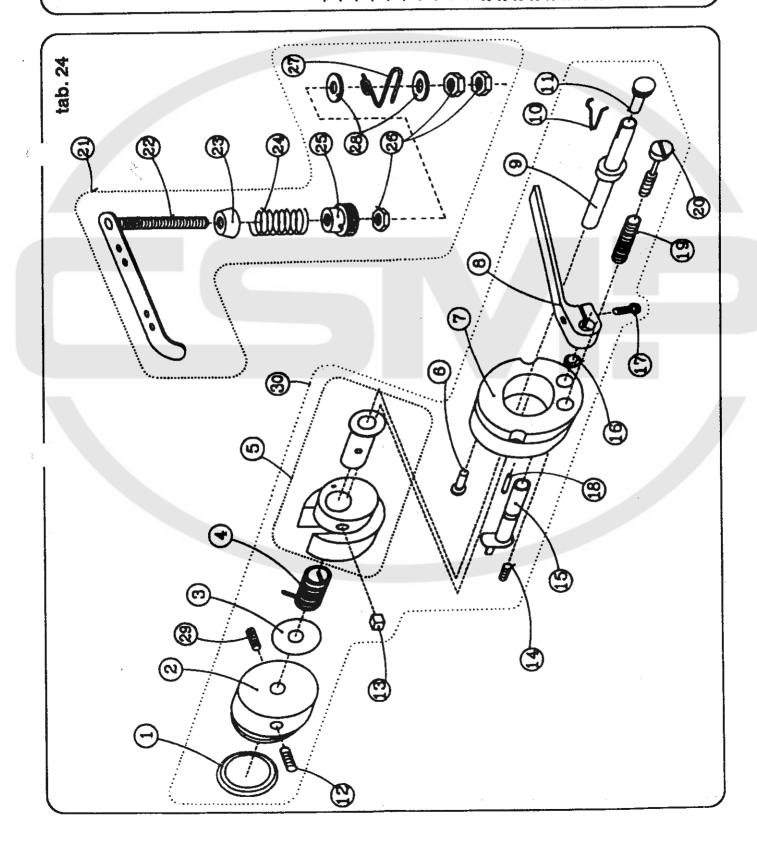
522 791 630 002
522 080 129 245
522 080 124 051 6x
522 080 124 051 6x
522 080 124 051 6x
522 080 394 158
522 080 313 204
522 080 313 204
522 080 156 023
522 080 161 146
522 080 156 023
522 080 165 023
522 080 165 022
522 080 027 414 2x
522 080 027 414 2x
522 080 173 017 2x
522 080 118 003
522 080 118 003
522 080 118 003
522 080 118 003
522 080 118 003
522 080 115 012
522 080 115 012
522 080 115 012
522 080 115 012
522 080 115 012
522 080 115 020
522 080 115 012
522 080 115 012
522 080 115 012
522 080 115 020
522 080 115 012
522 080 115 020
522 080 115 012
522 080 117 023
522 080 127 023
522 080 127 023
522 080 127 023
522 080 127 023
522 080 127 023
522 080 127 023
522 080 127 023



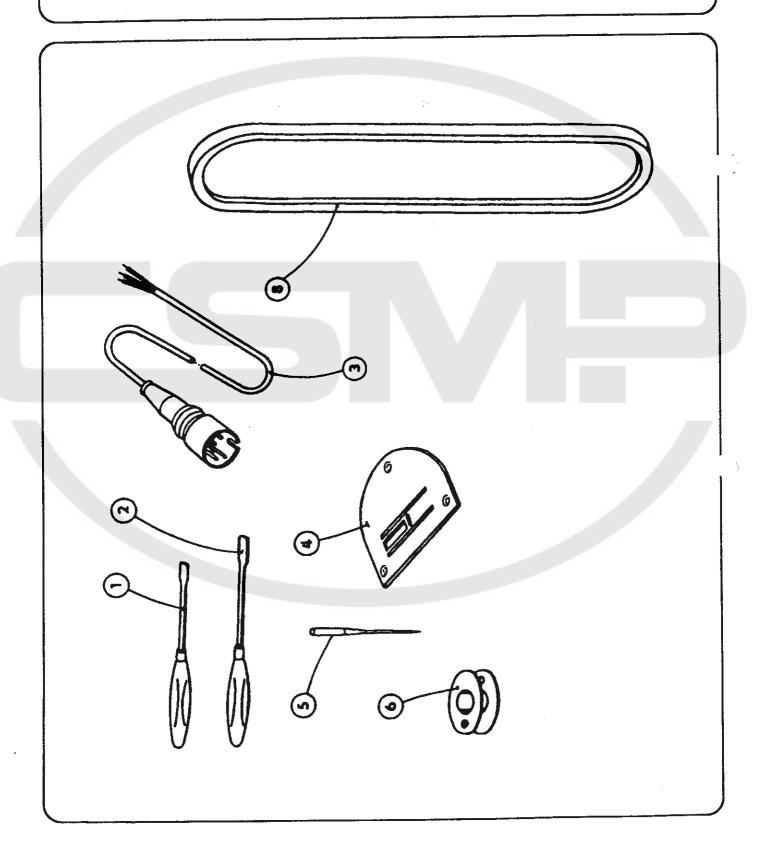
ZZ 567 - 75 - TD

ZZ 567 - 75 - TD

273111 025410 522080 441560 522080 190593 522080 264281 522080 310377 522080 441308 522080 613468 522080 613468 522080 111094 522080 111094 522080 111094 522080 111094 522080 124050 311732 910040 522080 124050 311732 910040 522080 124050 522080 124050 522080 124050 522080 124050 522080 124050 522080 124050 522080 124050 522080 124050 522080 124050 522080 124050 522080 124050



ACCESSORIES
ACCESSORIES
1 413 621 731 023
2 413 624 310 002
3 522 980 090 058
522 080 811 699
5248 300 000 140
6 522 080 685 047
8 272 711 225 000
10x 1250 mm



R 250

522 080 682 017
315 231 689 009
522 080 683 063
522 080 683 063
522 080 683 063
522 080 683 064
522 080 683 073
522 080 683 073
522 080 683 073
522 080 688 020
522 080 686 020
522 080 687 021
522 080 687 021
522 080 687 023
522 080 683 063
522 080 683 063
522 080 683 063
522 080 683 063
522 080 683 063
522 080 683 063
522 080 683 063
522 080 683 083
522 080 683 083

