

265 • 267 • 269

Special sewing-machine

Instructions for operating

GB

Instructions for service

Postfach 17 03 51, D-33703 Bielefeld • Potsdamer Straße 190, D-33719 Bielefeld
Telefon (05 21) 9 25-0 • Telefax (05 21) 9 25 24 35

Foreword

This instruction manual is intended to help the user to become familiar with the machine and take advantage of its application possibilities in accordance with the recommendations.

The instruction manual contains important information on how to operate the machine securely, properly and economically. Observation of the instructions eliminates danger, reduces costs for repair and down-times, and increases the reliability and life of the machine.

The instruction manual is intended to complement existing national accident prevention and environment protection regulations.

The instruction manual must always be available at the machine/sewing unit.

The instruction manual must be read and applied by any person that is authorized to work on the machine/sewing unit. This means:

- Operation, including equipping, troubleshooting during the work cycle, removing of fabric waste,
- Service (maintenance, inspection, repair and/or
- Transport.

The user also has to assure that only authorized personnel work on the machine.

The user is obliged to check the machine at least once per shift for apparent damages and to immediately report any changes (including the performance in service), which impair the safety.

The user company must ensure that the machine is only operated in perfect working order.

Never remove or disable any safety devices.

If safety devices need to be removed for equipping, repairing or maintaining, the safety devices must be remounted directly after completion of the maintenance and repair work.

Unauthorized modification of the machine rules out liability of the manufacturer for damage resulting from this.

Observe all safety and danger recommendations on the machine/unit! The yellow-and-black striped surfaces designate permanent danger areas, eg danger of squashing, cutting, shearing or collision.

Besides the recommendations in this instruction manual also observe the general safety and accident prevention regulations!

General safety instructions

The non-observance of the following safety instructions can cause bodily injuries or damages to the machine.

1. The machine must only be commissioned in full knowledge of the instruction book and operated by persons with appropriate training.
2. Before putting into service also read the safety rules and instructions of the motor supplier.
3. The machine must be used only for the purpose intended. Use of the machine without the safety devices is not permitted. Observe all the relevant safety regulations.
4. When gauge parts are exchanged (e.g. needle, presser foot, needle plate, feed dog and bobbin) when threading, when the workplace is left, and during service work, the machine must be disconnected from the mains by switching off the master switch or disconnecting the mains plug.
5. Daily servicing work must be carried out only by appropriately trained persons.
6. Repairs, conversion and special maintenance work must only be carried out by technicians or persons with appropriate training.
7. For service or repair work on pneumatic systems, disconnect the machine from the compressed air supply system (max. 7-10 bar). Before disconnecting, reduce the pressure of the maintenance unit. Exceptions to this are only adjustments and functions checks made by appropriately trained technicians.
8. Work on the electrical equipment must be carried out only by electricians or appropriately trained persons.
9. Work on parts and systems under electric current is not permitted, except as specified in regulations DIN VDE 0105.
10. Conversion or changes to the machine must be authorized by us and made only in adherence to all safety regulations.
11. For repairs, only replacement parts approved by us must be used.
12. Commissioning of the sewing head is prohibited until such time as the entire sewing unit is found to comply with EC directives.



It is absolutely necessary to respect the safety instructions marked by these signs.

Danger of bodily injuries !

Please note also the general safety instructions.



Description of proper use or proper application:

The **265/267/269** is a sewing head which can be used for sewing light to medium heavy sewing material. In general, such sewing material is made up of textile fibres but also leather. Such sewing materials are used by the clothing and upholstery industry. It would also be possible to make so called technical seams with these sewing machines. However, for this application the operator of the machine(s) must have the possible dangers assessed (cooperation with Dürkopp Adler would be welcomed), as such applications are, on the one hand, relatively rare and, on the other hand, have an immensely wide range of possibilities. Depending on the results of this assessment suitable safety measures might have to be implemented.

In general, only dry sewing material may be used on this machine. The material must not exceed 5 mm in thickness when compressed by the lowered needle butt. The material must not contain any hard objects as eye shields would otherwise have to be worn when operating the machine. However, such eye shields are currently not available.

In general, the seam will be sewn with sewing threads made of textile fibres in sizes of up to 60/3 NeB (cotton threads), 65/2 Nm (synthetic thread), or 65/2 Nm (covering twists). Using other threads would also require an assessment of the related possible dangers and risks in advance, and the implementation, where necessary, of suitable safety measures.

This sewing machine may only be put up and used in dry and clean rooms. Should the machine be used in other rooms which are not dry and clean, further measures may have to be taken which have to be agreed (see EN 60204-31: 1999).

As a manufacturer of industrial sewing machines we assume that operators who are at least semi-skilled will work at our products, so that it can be assumed that all standard operations and, where applicable, the dangers are known.

Noise level Lc

Workstation related emission according to DIN 45635-48-A-I-KL2

Subclass:	-15135	-203; -15203; -115203
Number of stitches:	1.800 min-1	4.200 min -1
Stitch lenght:	2,0 mm	3,2 mm
Throw-gauge:	2,4 mm	4,8 mm
Sewing material:	G1 DIN 23328 2x	G1 DIN 23328 2x

Lc =	69 dB (A)	85 dB (A)
-------------	------------------	------------------

Contents

DÜRKOPP 265, 267 and 269	5
1. Installing the machine	6

Instructions for Operators	12
2. Raising the presser foot	12
3. Maintenance of the machine	13
a) Cleaning	13
b) Oiling	14
4. Needles and threads	14
5. Removing the bobbin case top with bobbin	16
6. Winding the bobbin	17
7. Threading the bobbin	17
8. Inserting the bobbin case top with bobbin	18
9. Threading the needle	19
10. Drawing up the bobbin thread	20
11. Regulating the thread tensions	20
a) Upper thread	20
b) Lower thread	20
12. Regulating the sewing foot pressure	20
13. Adjusting the feeding length and changing over to reverse feed	21
a) On DÜRKOPP 265 (except -15135)	21
b) On DÜRKOPP 265-15135	23
c) Adjusting the feeding length of the upper puller feed on DÜRKOPP 265-10204	23
14. Adjusting the zigzag stitch width (except on DÜRKOPP 265-15135)	23
On DÜRKOPP 265-15135	24
15. Adjusting the stitch position	24
a) On DÜRKOPP 265 (except 265-4103, -15135 and -18103)	24
b) On DÜRKOPP 265-4103, -15135 and -18103	24
16. Switching on and off the upper knife on DÜRKOPP 265-4103 and -18103	25
17. Adjusting the knife stroke on DÜRKOPP 265-4103 and -18103	25
18. Sewing	26

Instructions for Mechanics	27
19. Lubrication	27
a) Adjusting the oil supply to the hook	27
b) Lubricating the hook driving gears	29
20. Adjusting the sewing foot stroke and the puller stroke	29
a) Limiting the lifting movement of the cloth presser bar	29
b) Adjusting the height of the cloth presser bar	30
c) Eliminating the play in the knee lever action	30

d) Adjusting the height of the cloth presser bar for the puller stroke in 265-10204	30
e) Adjusting the sewing foot stroke in 265-10204	31
f) Adjusting the transmission lever for lifting the puller for reverse feed (applies only to 265-10204)	31
21. Adjusting the drop feed	32
a) Adjusting the drop feed motion	32
b) Adjusting the feed zero point and the equal feed length for forward and reverse feed	32
c) Adjusting the final feeding movement	33
22. Adjusting the feed dog	34
a) Adjusting the height of the feed dog	34
b) Longitudinal adjustment of the feed dog	35
23. Adjusting the needle oscillation	35
24. Adjusting the zigzag crank for setting the position and the width of stitches	37
a) Adjusting the maximum throw width	37
b) Setting the stitch position	37
c) Setting the needle with respect to the needle hole	38
d) Setting the needle zero position for straight stitches	38
e) Adjusting the "middle" stitch position	39
25. Adjusting the hook and the height of the needle bar	40
a) Adjusting the height of the needle bar	40
b) Adjusting the loop stroke	41
c) Adjusting the distance between the hook point and the needle in the sewing direction	42
26. Adjusting the distance between the bobbin case retaining lug and the bottom of the bobbin case	43
27 The bobbin case lifter	43
a) Purpose of the bobbin case lifter	43
b) Adjusting the distance between the lifter finger of the bobbin case and the bobbin case base	43
c) Adjusting the movement of the bobbin case lifter	43
28. Adjusting the bobbin winder	46
29. Changing the hook	49
30. Dismounting the hook	49
31. Changing the belt	50
32. Changing and adjusting the thread pulling spring	51
a) Changing the thread pulling spring	51
b) Adjusting the thread pulling spring	51
33. Adjusting the teeth play and changing the worm wheel in the hook gear case	52
a) Adjusting the tooth play between the worm and the worm wheel	52
b) Changing the worm and the worm wheel	54
34. Setting the hook gear case	55
35. Adjusting the tooth play of the bevel gears for the zigzag drive . . .	56

Additional Instructions for DÜRKOPP 265-4103 and -18103	57
36. Changing the knives	57
a) Upper knife	57
b) Lower knife	58
37. Adjusting the lifting movement of the upper knife	58
a) Zero position of the switching bush	58
b) Lowest position of the lifting movement	58
c) Highest position of the lifting movement	60
38. Adjusting the neutral position for the upper knife	60
39. Adjusting the set collar	60
 Additional Instructions for DÜRKOPP 265-208	 61
40. Needles and threads	61
41. Threading the needle	62
42. Regulating the sewing foot pressure	62
43. Adjusting the drop feed (the final movement) (applies also to class 265-203)	62
44. Adjusting the needle bar height and the hook	63
a) When using the hook 2654021 and the needle system 265-5 (Up to machine number 26510322)	63
b) When using the hook 2654024 and 2654029 and the needle system 265-50 EO (including and above machine number 26510323) . .	64
45. Adjusting the hook gear case	64
 Instructions for DÜRKOPP 267	 65
46. Regulating the sewing foot pressure	65
47. Adjusting the pushing and lifting motion of the drop feed	65
a) Pushing eccentric	65
b) Lifting eccentric	66
48. Adjusting the needle oscillation	66
49. Adjusting the needle bar height and the hook	67
a) Needle bar height	67
b) Hook stroke	68
c) Distance of the hook point with respect to the needle in the sewing direction	68
 Instructions for DÜRKOPP 269	 68
50. Adjusting the feed length	68
51. Adjusting the pushing and lifting motion of the drop feed	70
Pushing cam	70
Lifting eccentric	70
52. Adjusting the needle oscillation	71
53. Adjusting the needle bar height and the hook	72
Needle bar height	72
Hook stroke	72
Distance of the hook point with respect to the needle in the sewing direction	72

Instructions for DÜRKOPP 265-15000 and 267-15000 in their different sub-classes	73
54. Installing the machine	74
a) Motor	74
b) Coinnecting to the motor control	75
c) Treadle rods and pedal	75
d) Positioner	75
55. Operation	79
56. Adjusting the thread cutter	80
a) Timing the knife motion	80
b) Adjusting the roller bolt 54	82
c) Adjusting the tension release	82
d) Adjusting the safety pin 60	84
e) Adjusting the engagement stroke	84
f) Adjusting the hook shaped knife, the counter knife and the clamping sheet	84
Instructions for DÜRKOPP 265 and 267 above -100000	87
57. Installing the machine	87
a) Motor	88
b) Connecting to the motor control	88
c) Positioner	90
58. Backtacking	90
Initial backtacking	90
Backtacking speed	90
Adjusting the seam pattern for double backtacking	91
Final backtacking	91
Backtacking speed	91
Cutting stitch	92
59. Operation	92
60. Remedy in case of trouble	93
61. Instructions for DÜRKOPP 265-4903 and -18903	95

DÜRKOPP 265, 267 and 269

are high speed lockstitch zigzag sewing machines with central oil wick lubrication and individual lubrication of the hook.

DÜRKOPP 265 with drop feed.

Throw width up to 10 mm, depending on the sub-class.

DÜRKOPP 267 with drop feed and upper stitch pattern control.

Throw width up to 8 mm, depending on the sub-class.

DÜRKOPP 269 with drop feed, upper and lower stitch pattern control.

Throw width up to 6 mm.

These basic models are subdivided into sub-classes according to their use. The sub-class designation is indicated on the type plate on the machine base.

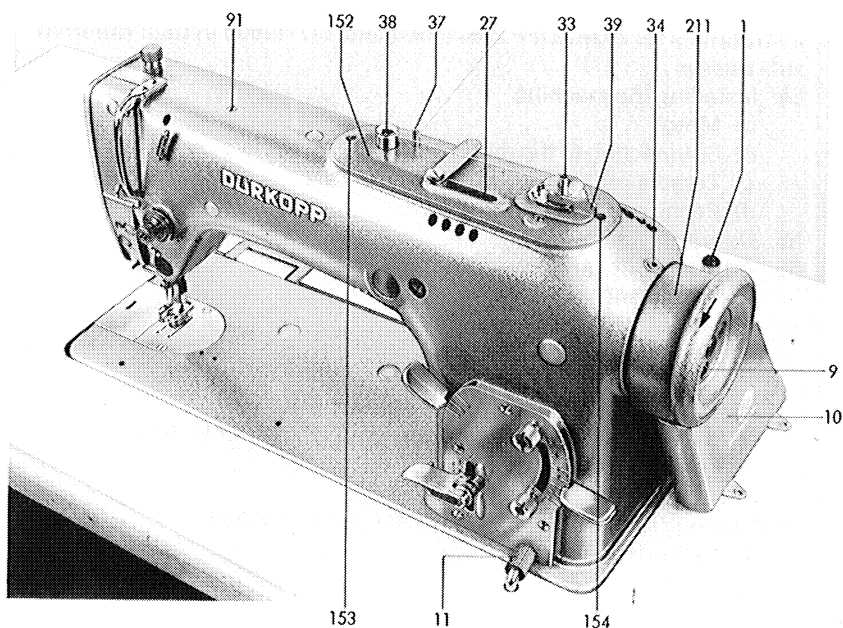


fig. 1

1. Installing the machine

All parts required for installing are included in the accessories.

Table top and stand

The table cutout, the drilled holes and the location of the screw-in nuts must correspond to the measurements indicated in the dimensioned table top sketch.

Fasten the prepared table top on the stand according to the reference marks on the bottom.

Insert the prepared rubber rests for the machine hinges and the front corner rubber rests in the prepared table top.

By means of wood screws fasten the oil drip pan under the table top so that the distance between the right edge of the oil drip pan and the right edge of the table top cutout amounts to 55 mm.

The knee lever should not touch the oil drip pan, taking into account all adjustment possibilities.



Einzelheit X
Detail X



It serves for conducting the static charge from the machine head via motor to the mass.

8

Motor

Fasten the motor to the screw-in nuts (DIN 7965) in the table top by using hexagon screws M 8x35, washers and nuts.

The size of the motor foot and the distance between the motor suspension and the middle of the belt pulley must correspond to DIN 42706.

The motors are wired for the 3 phase a.c. 220/380 V 50/60 Hz. Motors for other voltages at request.

Connect the power supply cable of the motor according to the motor wiring diagram and in compliance with the available mains voltage.

The respective sub-classes should not exceed the speed indicated hereinafter.

Machine type	Max. speed st/min.	Recommended speed* (number of stitches set in the factory)
265-15135	5000	1500
265-305, -15305	4000	4000
265-101, -201, -203, -4103, -4903, -10204, -15203, -18103, 18903, -115203 267-508 SM 4, -703 SM 9, -15508 SM 4	5000	4500
-15205 SM 5, -115205 SM 5	4200	4000

*When using these machines for special sewing operations it is recommended, for technical reasons, to sew at the speed recommended.

To obtain the required sewing speed with a current of 50 cycles, driving pulleys with the following medium diameters should be used:

1400 rpm motor	1500 st/min. = 63 mm
2800 rpm motor	3800 st/min. = 80 mm
	4000 st/min. = 85 mm
	4200 st/min. = 90 mm
	4500 st/min. = 95 mm
	4700 st/min. = 100 mm
	5000 st/min. = 106 mm

In case of any other frequency, a driving pulley of corresponding dimensions must be used.

Motor protective switch

Depending on the motor type set the motor protective switch as follows:

Motor type	220 V Mains voltage380 V	
	220 V Mains	380 V
KOKD 23	2,7 A	1,6 A
NDK 600 V/22	2,7 A	1,6 A
DQ ... QD 552/.....	3,3 A	1,9 A
VD 374/.....	3,5 A	2,2 A
VD 552/.....	4,2 A	2,5 A

Setting up the machine head

Insert the machine head in the table top. Ensure that there is no contact with the wood.

For placing the V-belt remove the right half of the handwheel. By swinging the motor tension the V-belt so that the belt can still be pressed towards the centre by approx. 10 mm.

Check the proper alignment of the belt.

When fastening the belt guard ensure that the passage in the table top is fully covered and that the V-belt does not touch its guard.

Note:

If the table top is veneered with plastic material, the fastening holes for the belt guard must be pre-drilled so that the wood screws have free passage.

In machines with thread cutter remove the protective bow 10 (fig. 4). Therefore remove screw 20.

Knee lever (fig. 4)

The knee lever is connected to its joint by a bayonet type union and, therefore, it is easy to detach. It must be removed before tilting the machine head backwards.

The pressure pad of the knee lever can be adjusted according to the requirements of the operator.

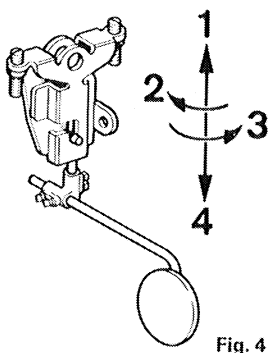


Fig. 4

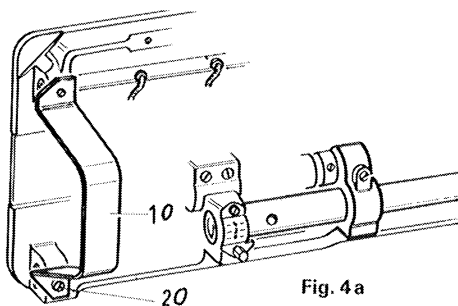


Fig. 4a

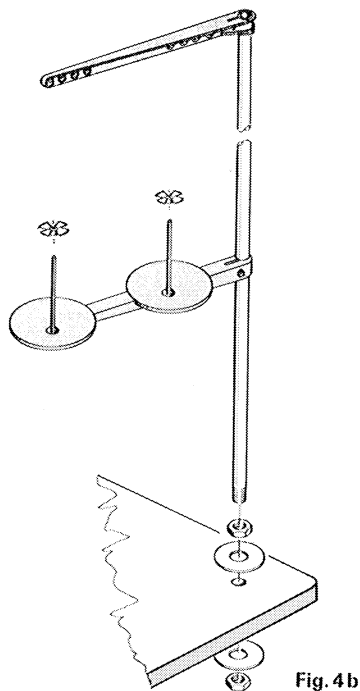


Fig. 4b

Fastening the thread unwinder (fig. 4b)

Fasten the thread unwinder to the table top according to the sketch.

Fitting the treadle rods

On DÜRKOPP 265 with S-equipment fit the treadle rods to the coulisse block 12 (fig. 5) by means of a ball joint and adjust it so that the machine can be freely tilted backwards and that there is no excessive dead travel when operating the pedal.

The figs. 6 and 7 show the location of the treadle rods on the DÜRKOPP 265-135.

Test run

Operate the machines with thread cutter only if the positioner is properly set. See chapter 54. d).

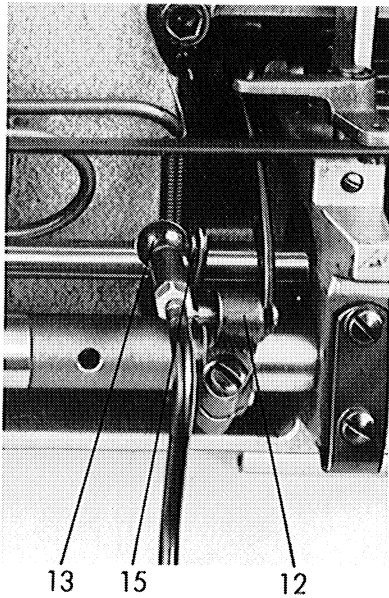


Fig. 5

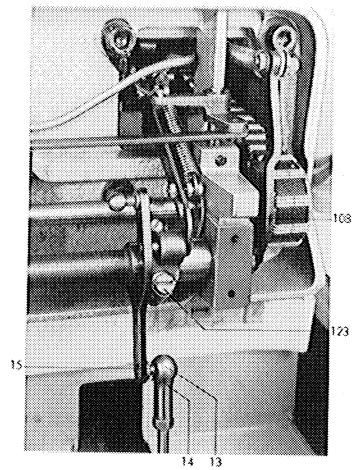


Fig. 6

Clean and lubricate the machine, fill the oil container up to the "maximum" mark. Use Spinesso 10 oil or an equivalent quality. See chapter 3.

The arrow in fig. 1 shows the proper direction of rotation. If required, repole the motor.

Note:

Do not remove the protective devices while the machine is in operation.

Instructions for Operators

2. Raising the presser foot (fig. 12)

To retain the presser foot in the raised position, the knob 22 on the face plate should be depressed while actuating the knee lever which, in turn, locks the presser bar in position.

Slight pressure against the lever will cause the knob 22 to jump back, thus releasing the locking position.

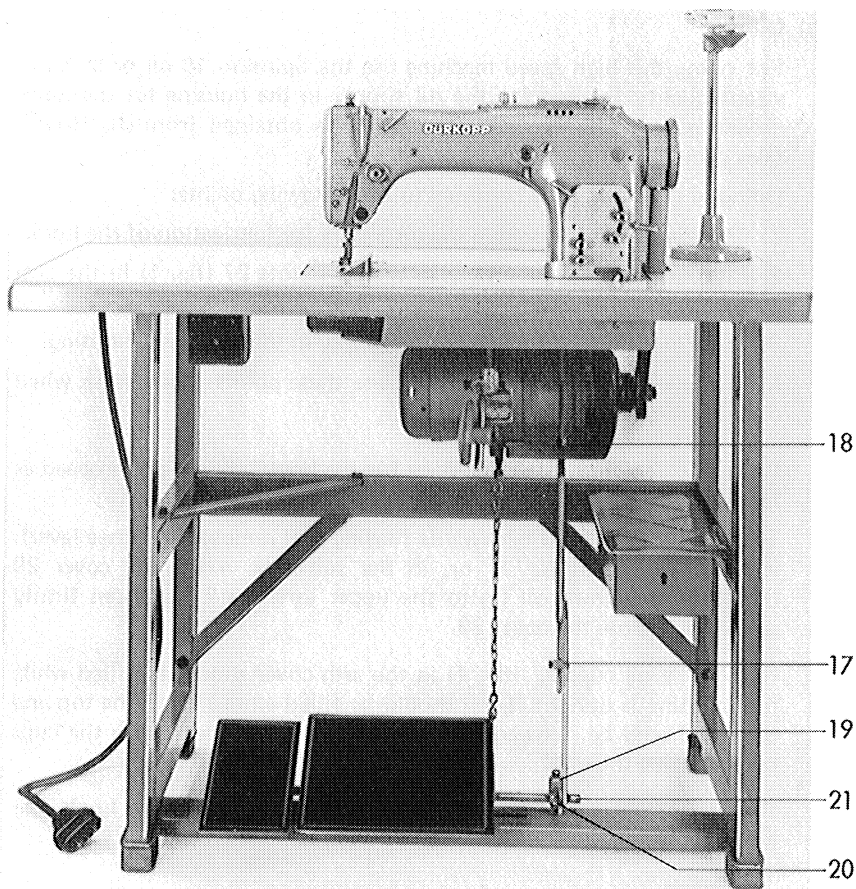


Fig. 7

3. Maintenance of the machine

a) Cleaning

A machine which is kept clean is unlikely to give any trouble. Therefore, clean regularly the vicinity of the hook and of the thread cutter and the space below the throat plate.

For cleaning the parts located below the base plate tilt the machine head backwards (remove first the knee lever!). The oil gathered behind the sight glass 23 (fig. 12) will return to the machine arm, so that there will never be too much oil in the arm head if the cleaning is done regularly.

b) Oiling

For oiling this high speed machine use the **Spinesso 10** oil or an equivalent quality (except for the oil supply in the housing for the hook driving gears). The **Spinesso 10** oil can be obtained from DÜRKOPP sales centers.

Oiling of the machine is confined to the following points:

1. Checking and replenishing the oil supply for lubrication of the hook.
2. Replenishing the oil supply in the oil points 27 (fig. 1) in the arm cover.
3. Checking and replenishing the oil supply in the hook gear housing.

Normally it will be enough to lubricate these points once a week when cleaning the machine.

Re. 1: To replenish the oil supply for the hook lubrication, proceed as follows:

Tilt the machine head backwards (having first removed the knee lever). Remove screw 28 (fig. 8) or, in the sub-class -4103, lift cover 29 (fig. 20). Replenish oil up to the upper long mark, retighten firmly screw 28 or close the cover 29.

Re. 2: The oil cups 27 (fig. 1) in the arm cover should be filled while the machine is upright. They should be filled almost up to the top and the oil should be allowed to soak into the wick underneath the cups before tilting the machine backwards.

Re. 3: For checking and replenishing the oil supply in the hook gear housing see chapter 19.b).

4. Needles and threads

Proper operation of the machine and the quality of the seam depend to a large extent on the needles and threads used. The size of the needle is determined by the size of the thread. The needle eye should be wide enough for the thread to pass tightly and easily. This is very important when using rough and irregular threads.

The machine being suitable for a great variety of operations, it is impossible to suggest with any degree of accuracy what threads and needles should be used together.

The needle system to be used depends on the basic model of the machine. See the following table.

The following needles will normally be used:

Maschine type	Needle system
265-101, 265-101 267-15205 SM 5, 267-115205 SM 5	265-5
265-15135	797 kK
265-305, 265-15305	265-5 EO
265-203, 265-4103, 265-4903, 265-10204, 265-15203, 265-18103, 265-18903, 265-115203 267-508 SM 4, 267-703 SM 9, 267-15508 SM 4 269-208 SM 12	265-50 EO SI* with special point for elastic material

* The designation of the point shape is, varying with the supplier, as follows: Lammerts 265-50 EO SIN; Rheinnadel 265-50 EO R-SUK; Schmetz 265-50 EO SUK.

Needle systems will have an additional designation if the points of the needles are different from those mentioned above.

The additional designation "EO" means **narrow eye**.

This signifies that the needle Nm 90 has an eye of Nm 80 and the needle Nm 100 has an eye of Nm 90 etc.

When inserting a new needle ensure that the long groove is facing the operator and that is introduced in the needle bar as deep as possible.

5. Removing the bobbin case top with bobbin (figs. 9 and 10)

When removing or inserting the bobbin case top the motor should be disconnected and braked down.

Set thread take-up lever to its topmost position. Lift then latch 35 and take out at the same time the bobbin case 36 together with the bobbin. As long as latch 35 is lifted, the bobbin will be automatically held in the case. The bobbin will fall out of the case as soon as the latch is released and the open side of the case is held downwards.

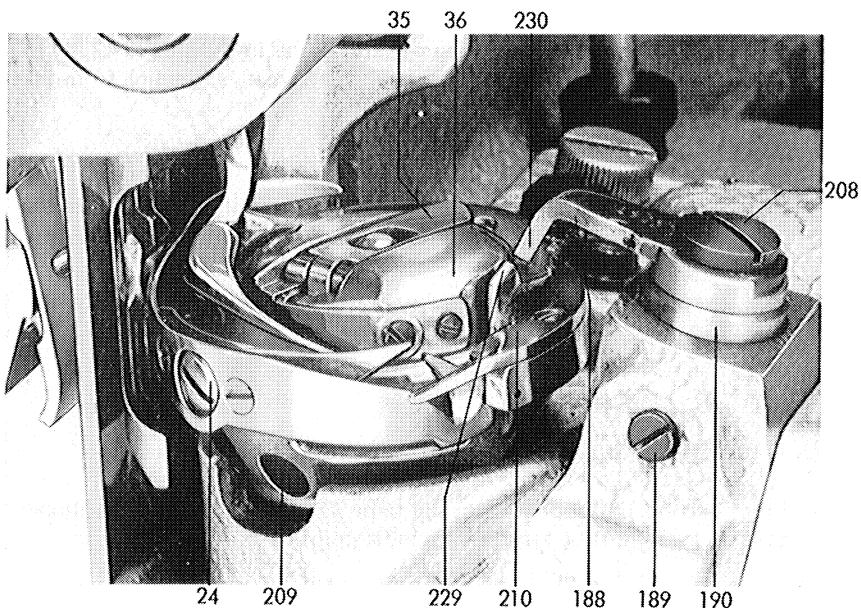


Fig. 9

6. Winding the bobbin (fig. 1)

The bobbin winder is positioned inside the arm plate and is operated by the upper belt pulley via a friction disk.

To save time, the thread can be wound while sewing.

The thread extends from the thread unwinder, through the hole in the thread guide pin 37, round the spindle of the thread tension 38 to the bobbin winder.

To wind the bobbin, first push it on the winder spindle as far as it will go, wind the end of the thread clockwise several times around the bobbin and press the bobbin flap 39 against the bobbin winder hub until it snaps. The winding process takes place while the machine is in operation, the winding device cutting out automatically as soon as the bobbin is fully wound. If a fully wound bobbin is not required, the winding device can be cut out prematurely by pulling back the flap 39.

7. Threading the bobbin (figs. 10 and 11)

Hold the bobbin between the finger tips of the right hand so that the free end of the thread extends from the front to the left (see fig. 11) into bobbin case 36. Pull then the thread through the slot 40 and

underneath thread tension spring 41, until it lies in the groove 42 at the end of the tension spring 41. Pass then the thread, extending from the rear, in the hole 44.

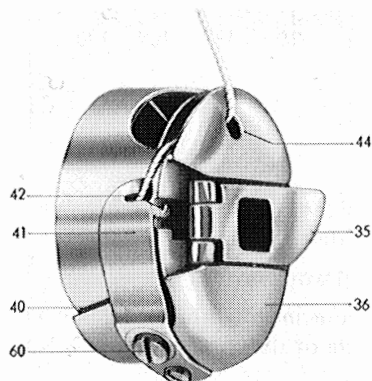
Note:

If you want the machine to sew mainly with straight stitches, pass the bobbin thread only up to the groove 42 of the tension spring 41, and do not pass it through the hole 44.

This will produce a considerably better stitch pattern.

8. Inserting the bobbin case top with bobbin

For inserting the bobbin case, the same as for removing it, the thread take up lever must be set to its topmost point.



With thumb and index finger of the right hand seize the flap 35 (fig. 10) so that with the completely lifted flap the bobbin is held in the case. Slip the case onto the centre pin of the bobbin case base so that the end of the flap shows right down. Press the bobbin case firmly with the thumb. If the bobbin case is not closed properly, damage may be caused to the needle and to the case.

Fig. 10

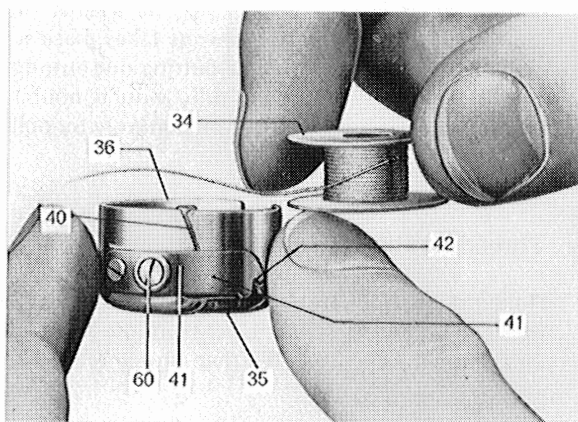


Fig. 11

9. Threading the needle

Before threading, the motor should be switched off and braked.

The path of the needle thread is shown in fig. 12. For threading, the thread take up lever should be set to its topmost point.

Pass then the thread:

1. through the guide on the thread pull-off arm of the thread unwinder (without illustration),
2. through the thread guide 45, from left to right and from right to left through the holes,
3. from right between main tension disks 47,
4. to the left over thread take up spring 48,
5. upwards through thread guide 49,
6. from right to left through the eye of the lever 50,
7. downwards through thread guide 49,
8. through thread guide 51,
9. underneath the wire 52 and through the hole 53 (see fig. 12); in 265-15135 according to fig. 13 through the guide 66 and synthetic threads should be passed additionally (fig. 13) between the guide and the leaf spring.
10. from face to rear through the eye of the needle.

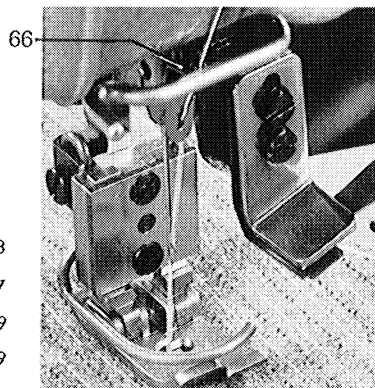
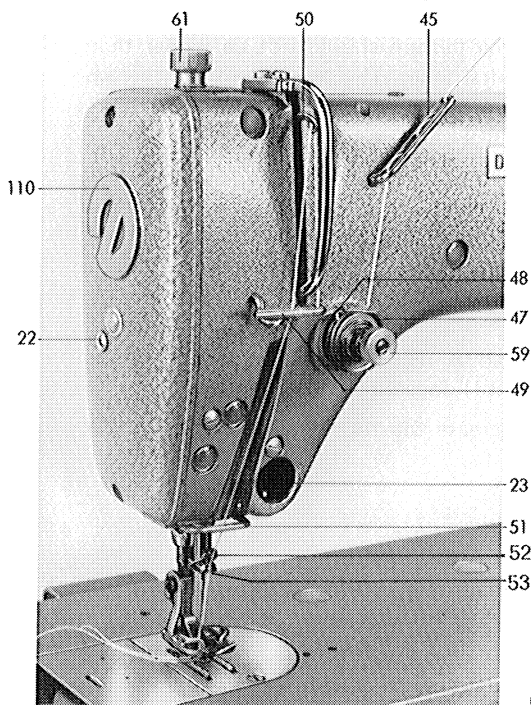


Fig. 13

Fig. 12

10. Drawing up the bobbin thread

Having threaded the needle thread, hold its free end loosely between the fingers of the left hand and make a so-called empty stitch by turning the handwheel clockwise with your right hand in order to bring the thread take up lever to its highest point. With the left hand, draw up the needle thread which, in turn, will pull up the bobbin thread looped round it. Pass some suitable object underneath the raised presser foot, bringing both threads under the foot to the rear.

11. Regulating the thread tensions

Both upper and lower threads are properly tensioned if the stitches lock exactly in the middle of material.

If the interlocking of stitches is visible on the surface of material, then there is too much tension on the upper thread or insufficient tension on the lower thread.

If the interlocking is visible on the lower face of the work, then there is too much tension on the lower thread or insufficient on the upper one.

Thick and hard cloth require a stronger thread tension than light and soft materials.

Too tight thread tensions may cause undesirable puckering of the material or thread breakage. The tension should not be higher than required for a good formation of stitches. The tensions of the threads can be regulated as follows:

a) Upper thread

The tension of the upper thread is regulated by turning the knurled nut 59 (fig. 12). Turn to the right to increase the tension and to the left to reduce it.

b) Lower thread

The tension of the lower thread is regulated by the tension spring regulating screw 60 (figs. 10 and 11), located on the bobbin case.

Turn the screw clockwise to increase the thread tension and counter clockwise to reduce it.

12. Regulating the sewing foot pressure (fig. 12)

The pressure exerted by the sewing foot must be adapted to the kind of work. Thick and rough materials require higher pressure than thin and soft materials. The foot pressure should be such as to ensure even feeding of the material without damaging its lower side by the feed dog. Increase the tension by screwing down the bush 61 and viceversa.

In 265-10204 the foot pressure is adjusted by knurled nut 295 (fig. 23). The presser exerted by the feeding roller on the fabric is adjusted by the bush 61 (fig. 12).

13. Adjusting the feeding length and changing over to reverse feed

a) On DÜRKOPP 265 (except -15135)

The stitch length is regulated by the lever 62 (fig. 15). A spring pulls said lever upwards up to a stop, adjustable by knurled nut 63.

By moving the lever from its topmost position to the centre, the for-

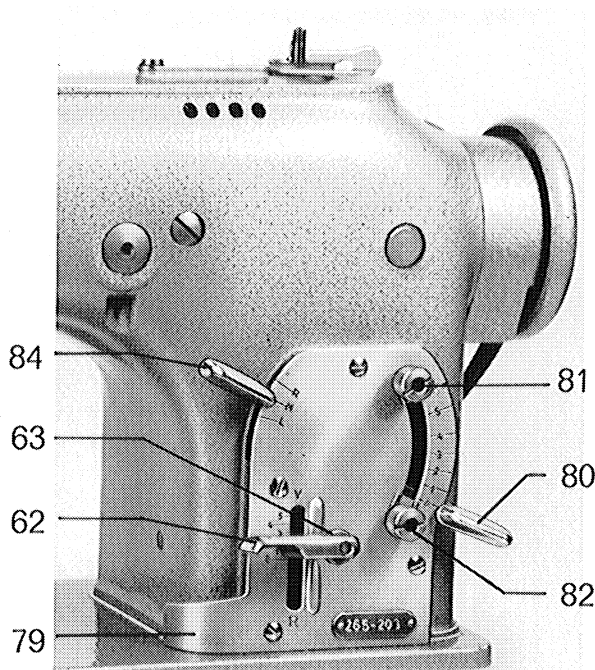


Fig. 15

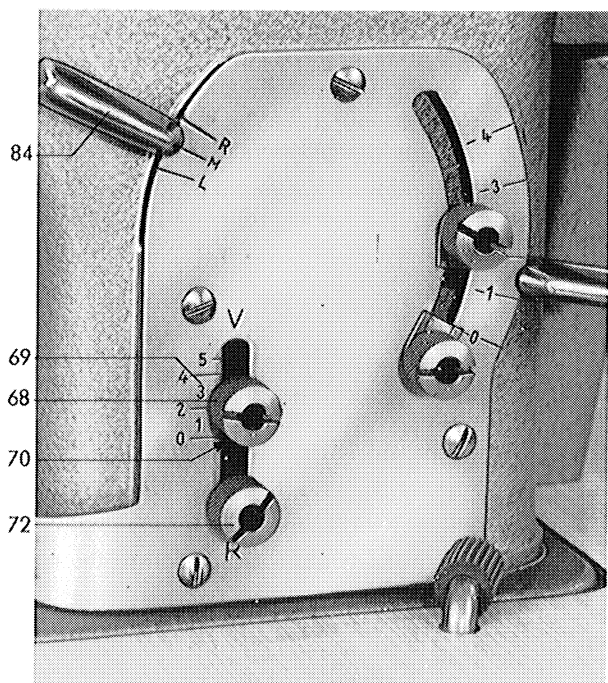


Fig. 16

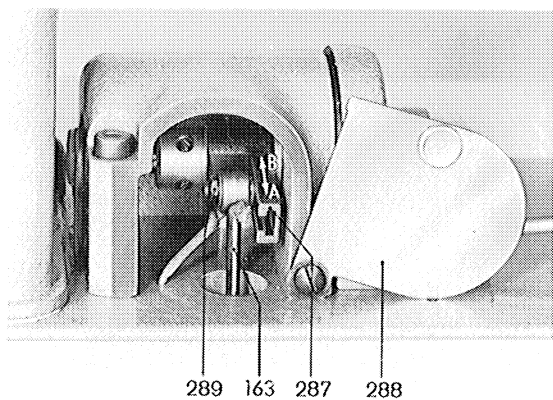


Fig. 17

ward stitch becomes shorter until, at "0" position, feeding of the work ceases altogether. When the lever is pushed downwards below "0", the machine sews reverse.

By lowering the lever as far as it will go, the machine will produce reverse stitches of the same length as those sewn forwards.

The change from forward to reverse stitch can be done with the machine stopped and in operation.

When switching over while sewing, the lever must be moved very quickly past the "0" position, because otherwise the needle might cut the thread.

On machines with S-equipment the change from forward to reverse stitches can be done not only by hand but also by a pedal operated by the left foot. When using this equipment both hands are free for guiding the material.

b) On DÜRKOPP 265-15135

The length of the forward feed can be set by the knurled nut 68 (fig. 16). The state of adjustment is shown by the scale 69 in conjunction with top edge of the stitch regulator pin 70.

A spring pulls the pin 70 constantly against the knurled nut 68.

For sewing backwards, treadle the left pedal to the front. The width of throw will then be equal to 0.

The length of the reverse feed is regulated by the knurled nut 72 (fig. 16).

c) Adjusting the length of the upper puller feed on DÜRKOPP 265-10204

The drop feed and the intermittent upper puller feed of this machine are individually adjustable.

The drop feed is adjusted as described under item a) of the present chapter.

The length of the upper puller feed is adjusted by displacing the traction bar 163 (fig. 17) in the coulisse 287. Displace the bar in the arrow direction "A" for reducing the feed length and in the arrow direction "B" for increasing it.

Following the adjustment, retighten the nut 289.

14. Adjusting the zigzag stitch width (except DÜRKOPP 265-15135)

The zigzag stitch width is regulated by the lever 80 (fig. 15). The range of adjustment can be limited by the stop screws 81 and 82.

By pressing back the springy stitch width regulator lever it is possible to exceed the range limited by stop screws 81 and 82.

On DÜRKOPP 265-15135

On this sub-class the stitch width regulator lever 80 (fig. 15) is constantly adjusted — by a traction spring — to the zigzag stitch width limited by the stop screws 81.

By treading the pedal to the front the machine will be switched for straight stitches and for reverse feed, permitting thus neat bartacking of the seam extremities.

15. Adjusting the stitch position

a) On DÜRKOPP 265 (except 265-4103, -15135 and -18103)

The needle zero position is regulated by the lever 84 (fig. 15).

For the normal straight and zigzag stitches the stitch position regulator lever is set on the mark "M".

To make the needle oscillate to one or the other side, set the springy stitch position regulator lever on "R" or "L".

Legend:

M = needle zero position in the middle

R = needle zero position on the right

L = needle zero position on the left

b) On DÜRKOPP 265-4103, -15135 and -18103

On these sub-classes the stitch position regulator lever 84 (fig. 16) is continuously adjustable.

On the sub-class 265-15135 said lever is used for the fine adjustment of the needle penetration and on the sub-class 265-4103 for adjusting the distance to the cutting edge.

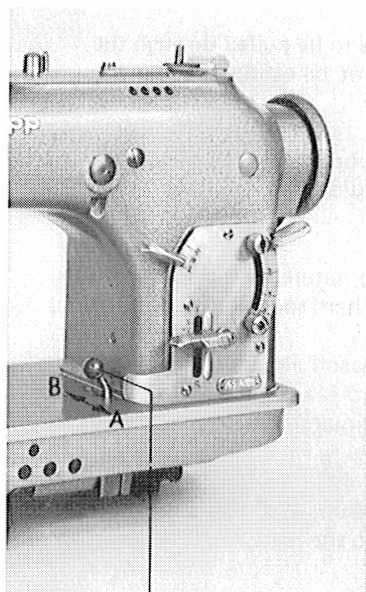
16. Switching on and off the upper knife on DÜRKOPP 265-4103 and -18103

The upper knife can be switched on and off by the lever 85 (fig. 19). The switching can be done both at the standstill of the machine and during its operation at any speed.

Move the lever 85 in the A direction of the arrow for switching on the knife and in the B direction for switching it off.

17. Adjusting the knife stroke on DÜRKOPP 265-4103 and -18103

The knife stroke should be adjusted according to the thickness of the material to be cut. An excessive stroke will deteriorate the feeding of the upper material (lace). The stroke can be adjusted by turning the knurled nut 86 (fig. 20). Turn the nut 86 counter-clockwise for reducing the knife stroke and clockwise for increasing it.



85

Fig. 19

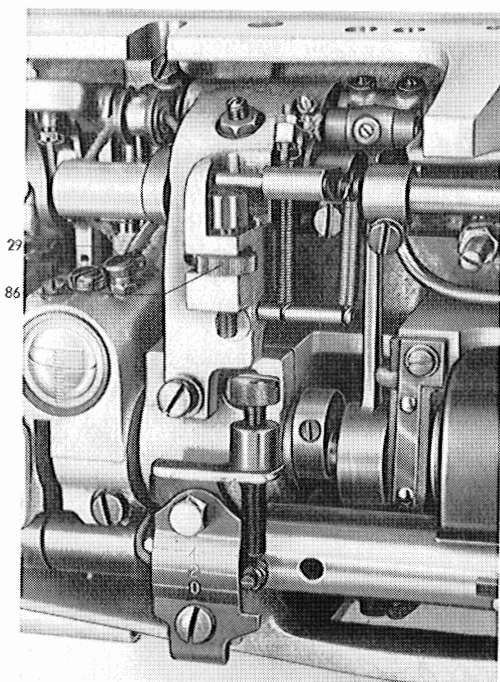


Fig. 20

18. Sewing

Before positioning the workpiece or starting to sew a new seam, and when removing the work the thread take-up lever must be in its topmost position. The machine should only be operated with the work in position and with the presser foot lowered.

Ensure that the handwheel rotates in the proper direction, because otherwise the thread will be broken and the hook race will be jammed.

Since the machine operates at a relatively high speed, it is advisable first to practise guiding the work without threading the machine. Only after having attained sufficient practice in guiding the work the real working can be started.

Now thread the needle, replace the bobbin with its case and draw up the bobbin thread. Position the work and lower the sewing foot by the knee lever.

Hold the free ends of upper and lower threads loosely while sewing the first stitches. If the lower thread is covered by the work, then it is only necessary to hold the upper thread.

If, at the seam beginning, the needle thread is to be pulled through the fabric on to the underside, then it should not be clamped under the sewing foot.

The work should be feed by the feed dog only. Do not pull while sewing forwards or backwards, because this could cause needle breakage or damage to the throat plate.

Adapt the speed to the type of work and the nature of the operation. Reduce the speed when sewing over thick and hard spots.

For sewing sharp corners, let the needle descend almost to its lowest position, lift the presser foot and turn the work around the needle as required. Then lower the foot again and continue sewing in the desired direction.

For removing the work, set the thread take-up lever to its topmost point, lift the presser foot and pull the work to the rear.

Instructions for Mechanics

The following chapters describe the function and the adjustment of the main components.

19. Lubrication (see chapter 3b)

All working parts, except the hook, are lubricated centrally from four oiling points in the arm plate, containing enough oil for about 50 service hours. The left oil point ensures the lubrication of the parts in the arm head and of the front and middle arm shaft bearing. The two middle oiling points lubricate the zigzag equipment and the right hand oiling point ensures the lubrication of the parts below the base plate. The hook is lubricated by the oil which flows from an oil chamber 90 (fig. 8), located beside the hook, ensuring thus a constant supply of perfectly clean oil to the hook. Here also, one filling will normally suffice for at least 50 hours of operation.

a) Adjusting the oil supply to the hook

The amount of oil required for lubrication of the hook depends on the type of material and the thread used. The oil supply should therefore be adjusted as required.

If the hook gets very warm, runs noisily or breaks the thread, this indicates that it is not receiving enough oil. In such cases loosen slightly the regulating screw 96 (figs. 8 and 21).

Note:

For more oil turn the regulating screw counter-clockwise.

For less oil, turn the regulating screw clockwise.

If, after a certain period of service, the vicinity of the hook becomes excessively contaminated with oil, then, in case of delicate materials, it is necessary to reduce the oil supply by tightening the adjusting screw 96.

The fig. 21 shows the arrangement of the hook lubrication system.

The oil is fed from the oil chamber 90 through oil wick 97 to a felt ring 98 on the hook shaft. From here it is fed through felt-filled ducts 99 to the rear surface of the hook collar 100. The oil disk 101 with oil ducts 99 does not follow the rotation of the hook, so that the oil which accumulates on the felt protruding from the ducts is picked up by the

rear surface of the hook collar 100, whence, by centrifugal force, it is projected into cavity 102.

From this cavity the oil is fed, also by centrifugal force, through oil duct 103 to hook base 104, where from it passes to the hook race 109.

The spring disk 105 keeps the oil disk 101 slightly pressed against the rear surface of the hook collar 100, ensuring thus a steady contact between the latter and the felt, projecting from oil ducts 99. The fig. 21 shows the way of reducing the oil supply. The regulating screw 96 presses with its pin 106 against a flexible tube 107, containing oil wick 97. The deeper the screw is turned, the lower will be the permeability of the oil at this place.

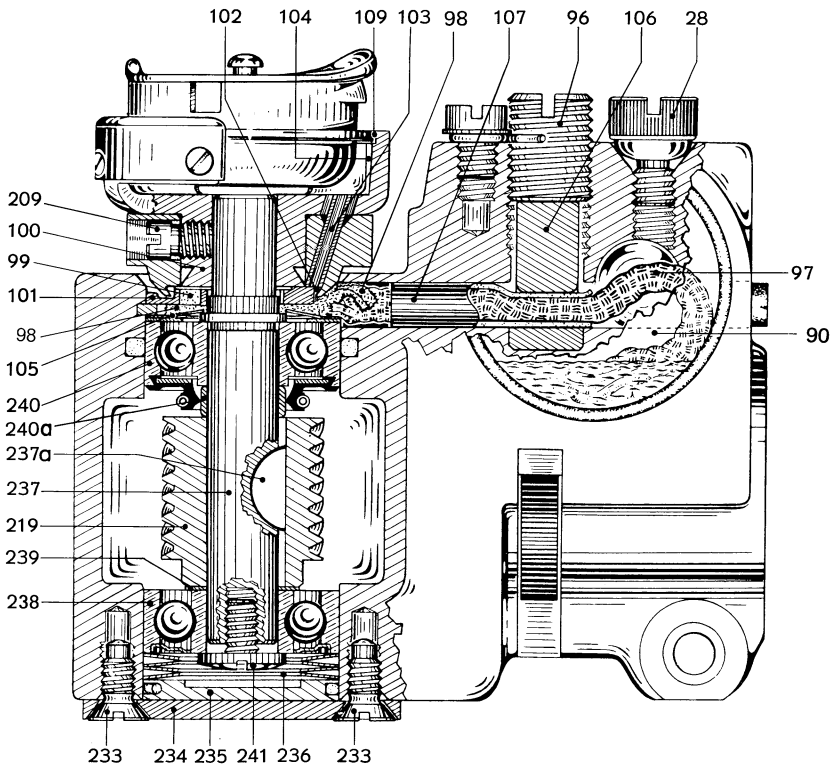


Fig. 21

b) Lubrication of the hook driving gears

When the machine head is tilted backwards, the gear housing should be filled with oil at least up to the "minimum" mark, but not above the "maximum" mark.

Use the high pressure oil **Esso Spartan EP 150**, supplied by DÜRKOPP sales centers. For filling, remove the screw 191 (fig. 29).

20. Adjusting the sewing foot stroke and the puller stroke

a) Limiting the lifting movement of the cloth presser bar

The movement of the knee lever to the right and the lifting movement of the presser bar should be limited by adjusting the stop screw 115 (fig. 8) so that the presser bar, when locked by push button 22 (fig. 12), cannot be raised higher than is necessary for disengaging the support spring 117 (fig. 22) and for releasing the tension of the upper thread.

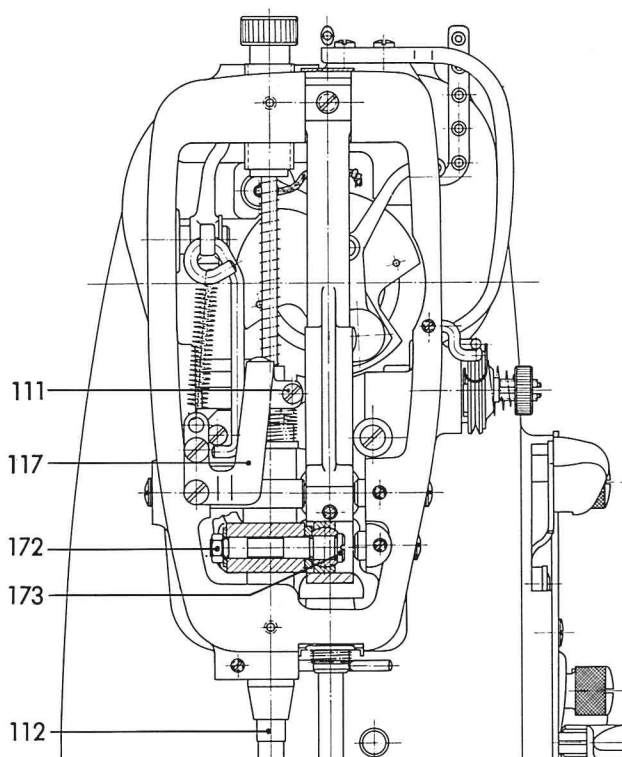


Fig. 22

b) Adjusting the height of the presser bar (figs. 12 and 22)

For adjusting the presser foot stroke, the height of the presser bar must be modified accordingly. Unscrew face plate 110, loosen screw 111, and set presser bar 112 slightly higher or lower. Before retightening screw 111 adjust the presser foot laterally so that when being in the zero position, the needle passes through the middle of the stitch hole in the foot. In no case should the stroke of the presser foot be adjusted so that the needle bar of needle clamp can strike against the presser foot raised to its topmost position by the knee lever.

c) Eliminating the play in the knee lever action

Excessive play in the knee lever action can be eliminated by adjusting the screw 113 (fig. 8), located underneath the base plate. This screw has been adjusted in the factory for a normal stroke. Any subsequent alteration of the stroke requires readjustment of this screw.

Proceed to the adjustment as follows:

1. Set the feed dog to its lowest position by turning the handwheel.
2. Loosen the counter-nut 114.
3. Tighten or loosen the screw 113 as required until the presser foot rests **on the throat plate** and only a slight play is perceptible in the knee lever action. This reduced play in the knee lever action ensures that the fines material is properly held between the throat plate and the foot at the moment when the feed dog is underneath the throat plate.
4. Retighten firmly the counter nut 114.

d) Adjusting the height of the cloth presser bar for the puller stroke in 265-10204

The puller stroke of this machine results from the intercepted position of the feeding roller.

The supporting sheet under the head cover should intercept the roller above the throat plate so that the distance between the teeth points of the roller and the surface of the throat plate ranges between 0.1 and 0.2 mm.

For adjusting, loosen screw 111 (fig. 22) and displace the cloth presser bar towards the blocks on the supporting sheet.

e) Adjusting the sewing foot stroke in 265-10204

Make the adjustment so that the sewing foot is not lifted before the puller is about 2 mm above the throat plate.

The adjustment can be made by displacing the stop screw 291 after having loosened the counter nut 290 (fig. 23). For sewing materials of different thicknesses and in case of bulky cross seams, the aforementioned adjustment must be modified.

Make then the adjustment so that with the puller on the transversal seam, the presser foot still keeps down the material.

f) Adjusting the transmission lever for lifting the puller for reverse feed (applies only to 265-10204)

When the stitch regulator lever, lowered for reversing the feed, reaches the mark "0", e.g. when there is no transport, the puller should be high enough above the throat plate to permit free passage of the material between the puller and the throat plate.

This lifting of the puller is determined by the position of the transmission lever 293 (fig. 24) on the stitch regulator coulisse 292. Its position must be adapted to the thickness of the material sewn. The transmission lever 293 can be adjusted after having loosened the screws 294.

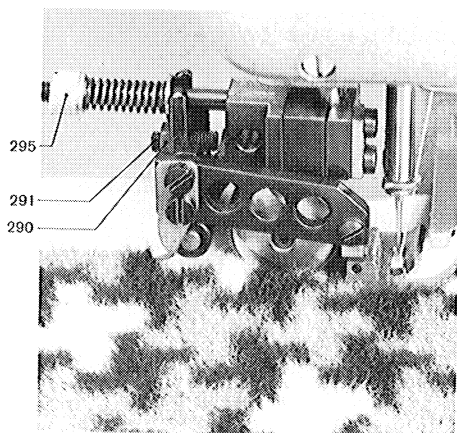


Fig. 23

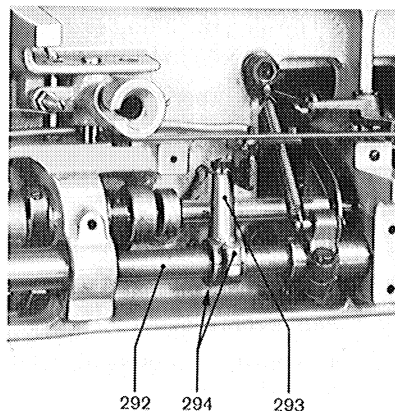


Fig. 24

21. Adjusting the drop feed

Sub-class	Stitch length
265-101, -201, -203, -15203, -115203 267-703 SM 9	forwards up to 4 mm backwards up to 4 mm
265-10204	forwards up to 4 mm backwards up to 2 mm
265-305, -15305 267-15205 SM 5, -115205 SM 5	forwards up to 5 mm backwards up to 5 mm
265-4103, -18103, 265-4903, -18903	forwards up to 2.5 mm backwards up to 2.5 mm
265-15135	forwards up to 2.5 mm backwards up to 2 mm
267-508 SM 4, -15508 SM 4	forwards up to 1.5 mm backwards up to 1.5 mm
269-208 SM 12	only forwards 1–3 mm

a) Adjusting the drop feed motion

By turning the lifting and pushing eccentric on the lower shaft adjust the drop feed motion as follows:

With the thread take-up lever being at its upper dead point the lifting and pushing eccentric should stand reciprocally so that the first screw of the lifting eccentric (left eccentric) and the second screw of the pushing eccentric, seen in the direction of rotation are flush with the fastening screw of the medium bearing of the lower shaft.

b) Adjusting the feed zero point and the equal feed length for forward and reverse feed

To adjust the drop feed, set this first to its zero position. This means that when turning the handwheel in the direction of rotation, the stitch regulating lever standing on zero, the lever 125 (fig. 8) should oscillate as little as possible, i.e. there should be not feed.

Should it be necessary to correct this adjustment, proceed as follows:

Set the stitch regulator lever 62 (fig. 15) on "0" by turning the knurled

nut 63 and loosen the thumb screw 123 (fig. 8). While turning the handwheel in the direction of rotation, revolve crank 124 so that the lever 125 has its minimum side movement (zero position).

Following the adjustment, retighten firmly thumb screw 123. To revolve crank 124 use a pin introducing it into the bore 126.

For balancing any stitch length difference when sewing forwards and backwards proceed as follows:

Set stitch position lever 84 (fig. 15) on "M", the stitch width lever 80 on "0", and the stitch length regulator lever 62 for a certain forward or reverse stitch length (preferably for about 2 mm). Furthermore, insert a perfect, straight needle.

Place a piece of stiff paper under the presser foot and make 10 forward stitches by revolving the handwheel in the direction of rotation. Lower the stitch regulator lever 62 as deep as possible and sew 10 reverse stitches.

The distance covered by the 10 reverse stitches should be of the same length as that covered by 10 forward stitches. If these distances are of different length, loosen clamp screw 123 (fig. 8) and turn the coulisse 124 accordingly. Retighten then the clamp screw.

c) Adjusting the final feeding movement

The drop feed must have finished its advance movement above the throat plate when the point of the descending needle is level with the surface of the throat plate.

Check with the maximum stitch length. If the adjustment is not correct, loosen the two fastening screws 143 (fig. 8) and turn the lower pulley 214 on the lower shaft.

Prior to retightening the two fastening screws ensure that the lower pulley is in line with the upper pulley. Following the adjustment, verify and, if necessary, rectify the position of the hook according to the chapter 25 and that of the bobbin case lifter according to the chapter 27.

For adjusting the final feeding movement adjust first the feed dog height according to the following chapter 22a).

Note:

When sewing reverse (backtacking) over bulky spots, the needle may be

deflected by the final movement and may, therefore, touch the throat plate and break.

This can happen particularly when backtacking at slow speed with long stitches. In order to avoid this, the machine must be adjusted so that there is no final movement.

Indication for sub-classes 265-203, -208, -15203 and -115203

In these sub-classes the final feeding movement is adjusted not according to the preceding description but according to chapter 43 of the present instructions.

22. Adjusting the feed dog

a) Adjusting the height of the feed dog

The extent to which the feed dog should project above the surface of the throat plate when being at its topmost point depends on the thickness and on the type of the material to be sewn. On white goods machines it should project normally by 0.9 mm and on clothing machines by 1.2 mm, except the sub-classes 265-305 and -15305 on which the feed dog should project by 0.9 mm.

For adjusting the feed dog height loosen the thumb screw 145 (fig. 8). Following the adjustment retighten the screw.

The adjustment of the feed dog height can also be made by the gauge no. 2653055.

This gauge is used to adjust the height of the **feed dog carrier**. Proceed to the adjustment as follows:

1. Remove needle, sewing foot, throat plate slide, throat plate and feed dog.
2. Loosen thumb screw 145 and lower slightly feed dog carrier 148 (fig. 25), so that the gauge can be easily screwed on.
3. Fasten the gauge (ref. no. 2653055) for the feed dog carrier with the throat plate fastening screws as shown in fig. 25.
4. Set feed dog carrier 148 so that the feed dog bearing surface is in contact with the gauge (see also fig. 25).
5. Retighten the thumb screw 145.

After having adjusted the feed dog carrier as described above, screw on it a feed dog suitable for the sewing equipment. The feed dog height will then be correct.

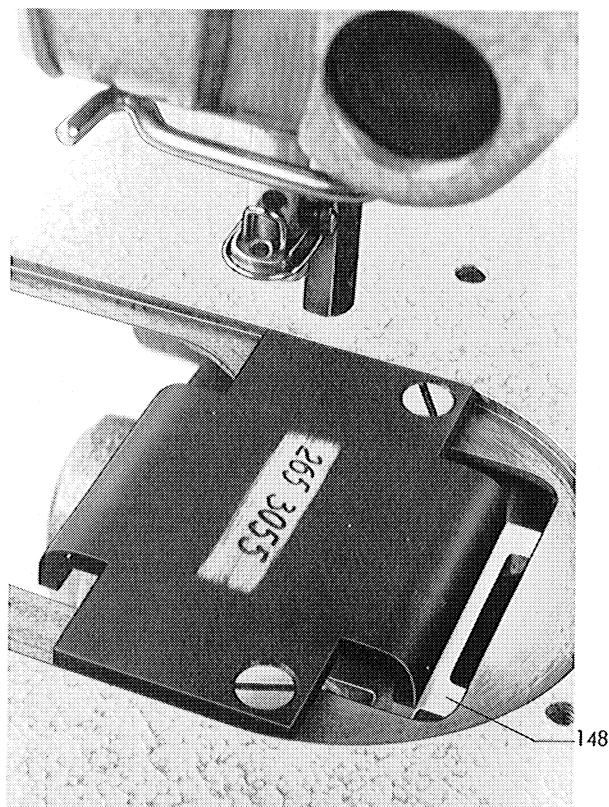


Fig. 25

b) Longitudinal adjustment of the feed dog

The feed dogs should be adjusted in the longitudinal direction so that with the machine set for the maximum stitch length they do not touch the table top. This adjustment can be made after having loosened the thumb screw 149 (fig. 8).

23. Adjusting the needle oscillation

The needle oscillation must be adjusted in accordance with the upwards and downwards movement of the needle, i.e. the needle should not oscillate when it is in the material.

To adjust the needle oscillation, proceed as follows:

1. Set stitch width regulator lever 80 (fig. 15) for the maximum throw width.
2. Set stitch position regulator lever 84 on "M".
3. Remove the screws 153 and 154 and take off the cover 152 (fig. 1).

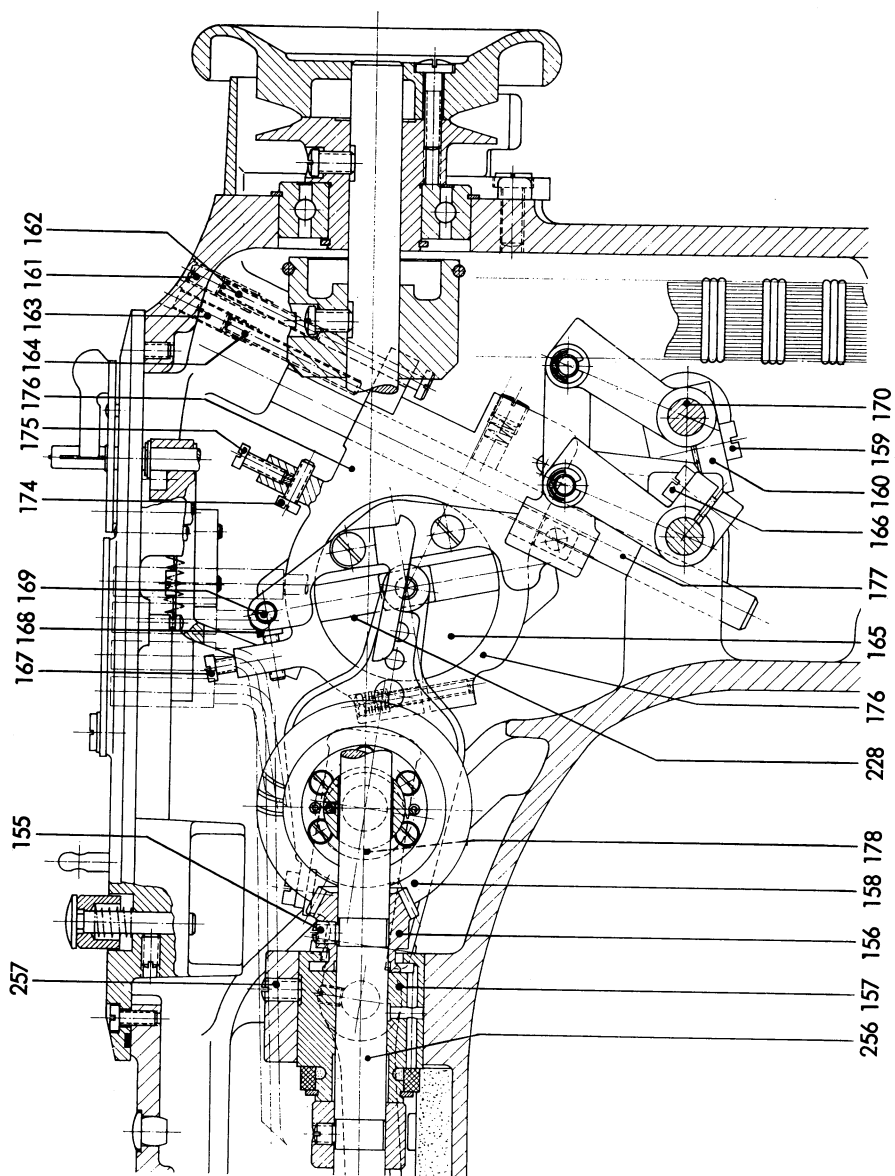


Fig. 26

4. Loosen thumb screws 155 (fig. 26), hold in position the bevel gear 156 and, by turning the handwheel, set the arm shaft so that the needle oscillates as explained in the preceeding description.

5. When retightening the thumb screws 155 ensure that the bevel gear 156 is pressed to the left against the bearing 157, eliminating thus any axial play in the arm shaft. Check also the teeth play of the bevel gears 156 and 158 and adjust, if required, according to chapter 35.

Checking the proper needle oscillation

The needle oscillation is correct if the needle bar, set to its topmost point, is absolutely immobile when stitch width regulator lever 80 (fig. 15) is moved from the maximum to the minimum throw.

24. Adjusting the zigzag crank for setting the position and the width of stitches

a) Adjusting the maximum throw width (fig. 26)

The maximum throw width is obtained when the guide 228 of the zigzag crank is parallel to the guide 177 of the crank bearing 176. In this position the stop 169 should touch the stop screw 174.

To effect the adjustment, remove the arm cover 152 (fig. 1), loosen the clamp screw 175 and turn the stop screw 174.

For checking the maximum throw width, set crank 165 by means of the stitch width regulator lever 80 (fig. 15) so that the stop 169 touches the stop screw 174.

If the adjustment is correct, the needle bar should not make any material movement when stitch position regulator lever 84 is shifted from "R" to "L".

Following the adjustment, retighten firmly the clamp screw 175.

b) Setting the stitch position

To set needle zero position **on the right**, shift stitch position regulator lever 84 (fig. 15) on "R" up to the stop and lift eccentric 178 (fig. 26) to its **topmost point** by turning the handwheel in the direction of rotation.

To set the zero position **on the left**, shift stitch position regulator lever

on "L" up to the stop and lower the eccentric 178 to its **lowest** position by turning the handwheel in the direction of rotation. If the adjustments are correct, the needle bar should make no lateral movement when stitch width regulator lever 80 (fig. 15) is shifted from the maximum to the minimum throw width.

To correct this adjustment for the needle position on the right, remove counter screw 163 (fig. 26) and turn, as required, stop screw 164, to correct it for the needle position on the left, remove screw 161 and turn the stop screw 162 as required.

To check the adjustment made, set crank bearing 176 by stitch position regulator lever against the respective stop screw.

Following the adjustment, retighten firmly the counter screws 161 and 163. To adjust the needle zero position in the middle, proceed as described under item e) of the present instructions.

c) Setting the needle with respect to the needle hole

When turning the machine and with the stitch width regulator lever 80 (fig. 15) adjusted for the maximum stitch width, the needle should penetrate at equal distance to either side of the stitch hole.

For correcting this adjustment, proceed as follows:

1. Remove face plate 110 (fig. 12),
2. Remove plug 171 (fig. 27),
3. Loosen nut 172 (fig. 22), and
4. Adjust the needle accordingly by turning the eccentric bolt 173,.
5. Following the adjustment, retighten firmly the nut 172, replace the plug 171 and the face plate.

d) Setting the needle zero position for straight stitches

With the stitch position regulator lever 84 (fig. 15) set on "M" and stitch width regulator lever 80 set on "0", adjust the zigzag coulisse 165 (fig. 26) so that by turning the machine the needle bar makes no lateral movement.

To make an adjustment, proceed as follows:

1. Set stitch position regulator lever 84 (fig. 15) on "M" and stitch width regulator lever 80 on "0" and lock the latter by the stop 82.
2. Loosen thumb screws 166 and 167 (fig. 26),
3. Adjust correspondingly the crank 165 by regulating the stop screw

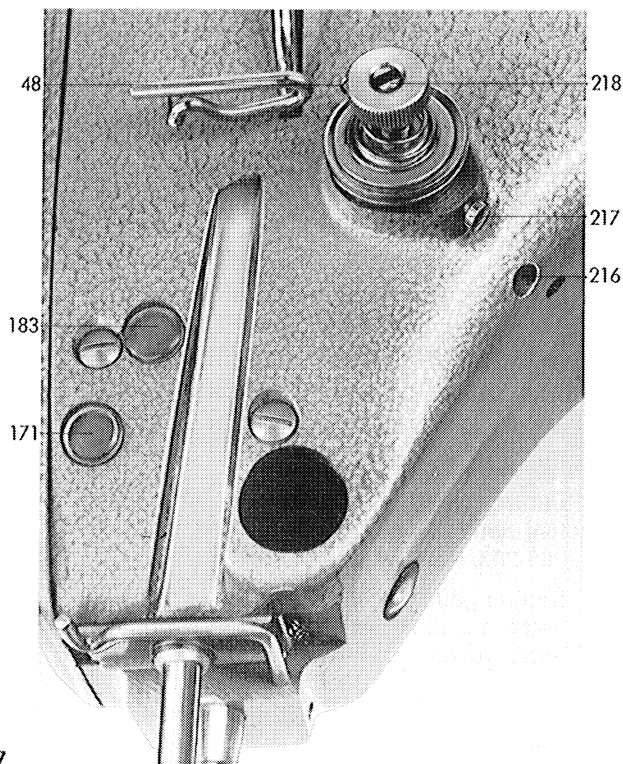


Fig. 27

168 and pressing the stop 169 against the stop screw 168,

4. Following the adjustment, retighten firmly the thumb screws 166 and 167.

The position of the needle with respect to the centre of the stitch hole is unimportant. It must be adjusted as described under the following chapter e).

e) Adjusting the "middle" stitch position

With the stitch width regulator lever 80 (fig. 15) set on "0" and stitch position regulator lever 84 set on "M", the needle should be exactly in the centre of the stitch hole.

To make an adjustment, loosen thumb screw 159 (fig. 26) and turn the block 160 on the axle 170 as required. Retighten the thumb screw 159 after having completed the adjustment.

25. Adjusting the hook and the height of the needle bar

In order to obtain with this high speed machine an impeccable formation of stitches it is absolutely necessary to correctly adjust the needle bar with respect to the sewing hook. This means that the needle bar stroke, loop height and the distance between the hook point and the needle, seen in the sewing direction, should be adjusted as described hereinafter.

Such an adjustment is, however, only possible if the hook gear case has been adjusted according to the description under the chapter 34.

a) Adjusting the height of the needle bar

The lower dead point of the needle bar depends on the sub-class.

For precise adjustment use needle bar setting gauges, which can be obtained from the factory.

Setting gauge ref. 2653041, consisting of the gauge no. 2653042 and five setting pins specified hereinafter, for all sub-classes, except 265-203, -15203 and -115203.

Setting gauge ref. no. 2653057, consisting of the gauge no. 2653058 and the setting pin no. 2653050, for the sub-classes 265-203, -15203 and -115203.

Sub-class	Setting pin
265-101, -4103, -4903, -15135, -18103, -18903	265 3049
265-201, -203, -10204, -15203, -115203	265 3050
265-305, -15305	265 3051
267-508 SM 4, 267-703 SM 9, 267-15508 SM 4, 269-208 SM 12	265 3052
267-15205 SM 5, 267-115205 SM 5	268 1073

For adjusting, proceed as follows:

1. Remove sewing foot, needle, throat plate slide, throat plate, feed dog, and bobbin case holder 179 (fig. 28). Loosen to this effect only the screw 180.
2. Set stitch width regulator lever 80 (fig. 15) on "0" and stitch position regulator lever 84 on "M".
3. Introduce the respective setting pin 181 (fig. 31) in the drilled hole of the base plate 182, so that it is positioned under the needle bore of

the needle bar.

Lift for this purpose the cloth presser bar by pushing the knee lever to the right as far as possible.

4. Set needle bar cross head to its lowest point by turning handwheel in the direction of rotation.
5. Remove plug 183 (fig. 27) from the arm head and loosen needle bar fastening screw which is accessible through the plug hole.
6. Push the needle bar downwards until it rests with the end of the needle bore on the setting pin. Retighten then firmly the needle bar fastening screw, making sure that the thread catch is faced to the front and the needle bar fastening screw to the right/rear.
7. Fit the bobbin case holder 179.

b) Adjusting the loop stroke

The loop stroke means the way which the needle bar, ascending from its lowest point, must cover until the moment when the hook tip coincides with the middle of the needle and enters the loop. For a good formation of the loop, the loop stroke must be, depending on the subclass, as follows:

Loope stroke	Stroke setting gauge, ref. no.	Sub-classes
2 mm	223 536 c	265-101, -201, -208, -15135 267-508 SM 4, -15205 SM 5 -15508 SM 4, -115205 SM 5 269-208 SM 12
1.8 mm	223 536 b	265-203, -305, -4103, -4903, -15203, -15305, -18103, -18903, 115203, 266-703 SM 9
1.4 mm	223 536 l	265-10204

By using a setting block 184 (fig. 32), ref. no. 223531, and the respective setting gauge set the loop stroke as follows:

1. Set stich position regulator lever on "M" and stitch width regulator lever on "0",
2. Fit a new, straight needle in the needle bar,
3. Loosen hook fastening screws,
4. Set needle bar to its lowest point by turning the handwheel,

5. Slip block 184 on the needle bar and press with it the lift measuring gauge of 1.8 or 2.0 mm against the needle bar coulisse,
6. Fasten the block 184 by screws and remove the setting gauge 185.
7. By turning the handwheel in the direction of rotation lift the needle bar until said block touches the needle bar coulisse.
8. Turn the hook until its tip coincides with the middle of the needle and retighten firmly the hook fastening screws.

c) Adjusting the distance between the hook point and the needle in the sewing direction

Seen in the sewing direction, the hook should pass along the needle as close as possible, but without touching it. For adjusting, loosen hook fastening screws and turn the hook on its shaft as required. Note that the hook should be in contact with the oil disk, as otherwise the lubrication will be interrupted.

To control the contact between the hook collar and the oil disk, hold under the hook, while sewing, a mirror or a piece of unprinted paper.

If after a short while the mirror or the paper is sprayed with oil, there is the required contact between the hook and the oil disk.

Retighten the hook fastening screws.

Following the adjustment, replace the plug 183 (fig. 27) in the arm head, the feed dog, the throat plate, the throat plate slide and the foot.

Note:

After having carried out the adjustments of the needle bar height, of the loop stroke and of the distance between the hook point and the needle in the sewing direction and when using the **needle system 265-50 EO**, the hook point should pass very closely along the hump above the eye of the needle when the needle stitches on the extreme left hand side. The hind part of the hook point can deflect said hump. Therefore, it must be ensured that the **front part of the hook point does not touch the needle**.

If necessary, modify the height of the needle bar.

26. Adjusting the distance between the bobbin case retaining lug and the bottom of the bobbin case

When the distance between the hook point and the needle is correct, the distance between the bobbin case retaining lug and the base of the bobbin case should amount to about 0.5 mm.

To adjust this distance, loosen the screw 180 (fig. 28) as required to shift bobbin case holder 179 on the shifting plate. Retighten fastening screws 180 and 186.

For removing the bobbin case support it is only necessary to remove the screw 180. This ensures that the bobbin case support will always be fitted correctly.

27. The bobbin case lifter

a) Purpose of the bobbin case lifter

The high rotational speed of the sewing hook produces considerable friction between the hook race and the bobbin base and, consequently in case of machines without this device, a certain degree of pressure at the thread exit exists between the bobbin case retaining lug 179 (fig. 32) and the contact surface 187 of the bobbin base. The purpose of this lifter is to pull the bobbin case slightly contrary to the direction of rotation of the hook at the moment when the upper thread loop passes the retaining lug, in order to allow the thread to slide past this point unhindered.

b) Adjusting the distance between the lifter finger of the bobbin case and the bobbin case base

Seen in the sewing direction, the distance between the lug 230 of the lifter finger 188 (figs. 9 and 28) and the base of the bobbin case should be of 0.8 mm = $\frac{1}{32}$, corresponding to about half the height of the cam 229 of the bobbin case base.

For adjusting the correct distance, loosen the stud 189 and displace the bush 190 with lifter finger 188 as required. After having completed the adjustment, retighten firmly the stud 189.

c) Adjusting the movement of the bobbin case lifter

Adjust the bobbin case lifter so that when turning the machine and pressing the bobbin case in the turning direction of the hook, the loop

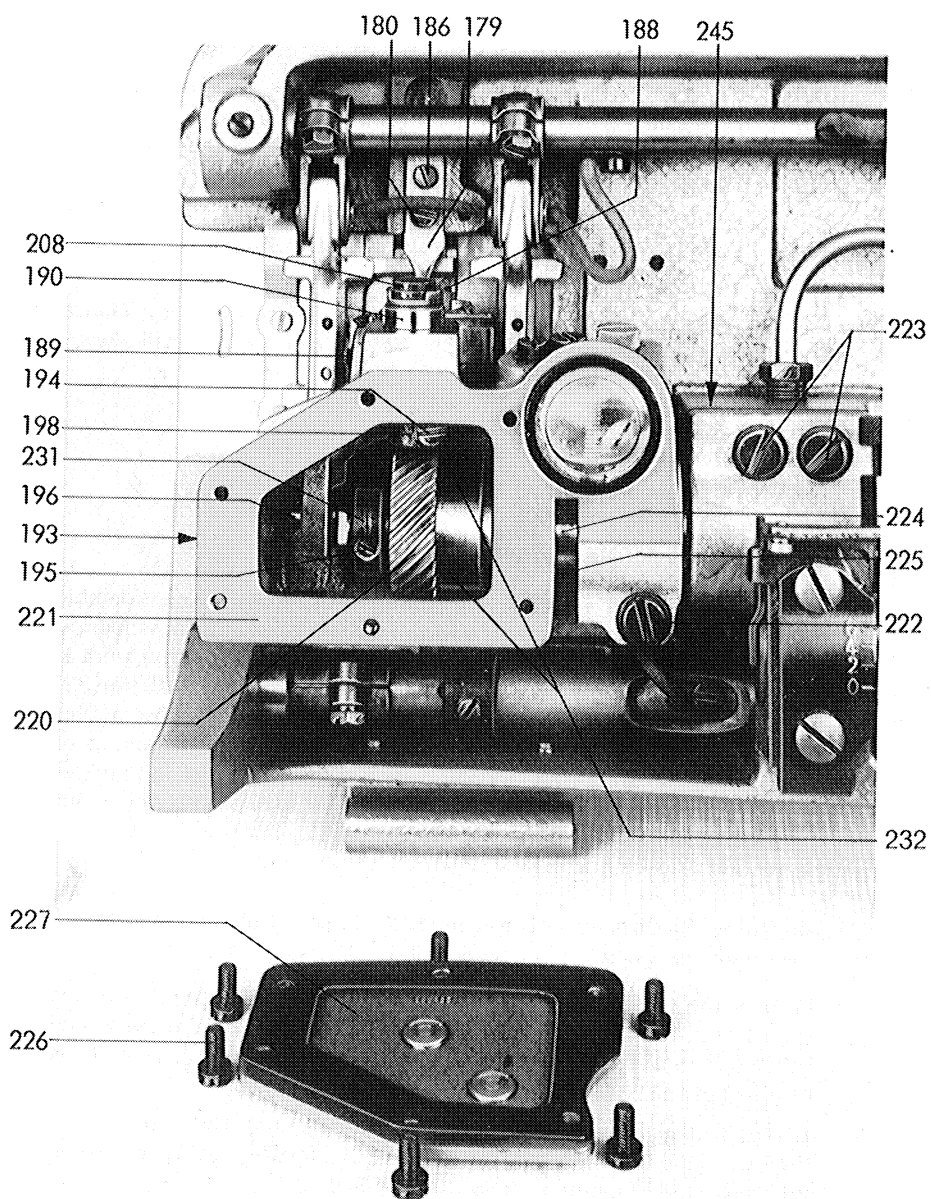


Fig. 28

of the upper thread can freely pass along the lug 230 of the lifter finger 188 (fig. 9) and the lug of the bobbin case holder 179 (fig. 32). To adjust the movement of the bobbin case lifter — this should be adjusted very precisely — proceed as follows:

1. Take out the two screws 191 and 192 (fig. 29) with the gaskets and remove plug 193. If the hook gear box is filled with oil, lift slightly the left hand side of the backwards tilted machine, so that no oil can leak from the open hole of the plug 193.
2. Loosen the thumb screw 194 (fig. 28) through the hole of screw 191 and the thumb screw 195 through the hole of the screw 192.
3. Adjust the bobbin case lifter by turning the eccentric bolt 196 (by a screwdriver, introduced through the hole of the plug 193) and lifter finger 188 so that at the moment when the needle has reached its top-most position and with the bobbin case pressed in the direction of the sewing hook, lifter finger 188 touches the stop cam 229 (fig. 9) and pulls bobbin case base to the left until on either side of the lug of the bobbin case support 179 there is an equal distance between the surface 187 and 197 (fig. 32) and the bobbin case base.

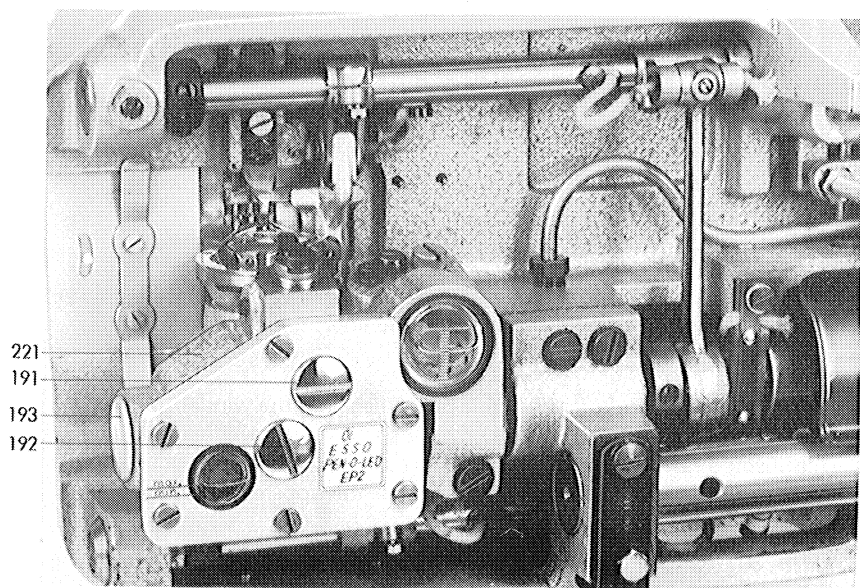


Fig. 29

4. After having completed the adjustment retighten firmly the clamp screws 194 and 195, ensuring that the transmission lever 198 is pressed upwards and that, therefore, the lifter finger shaft has no axial plays.

5. Replace the screws 191 and 192 with gaskets and plug 193.

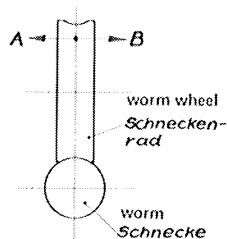


Fig. 30

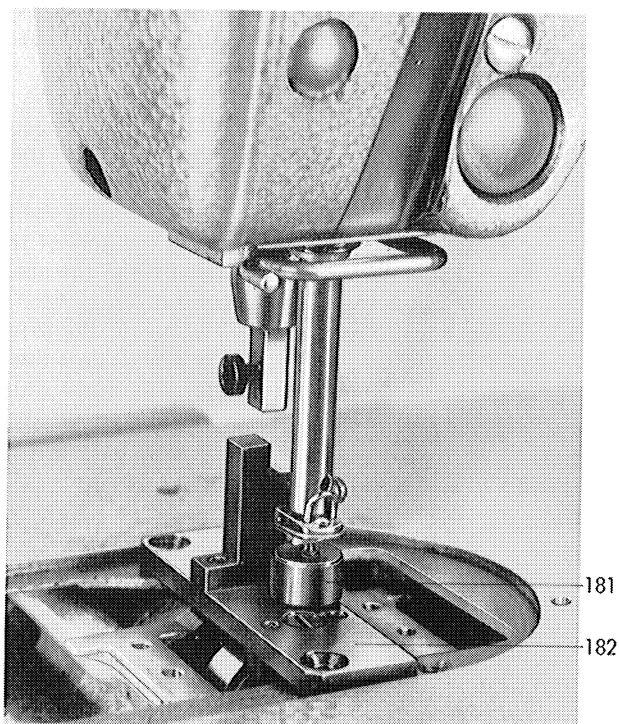


Fig. 31

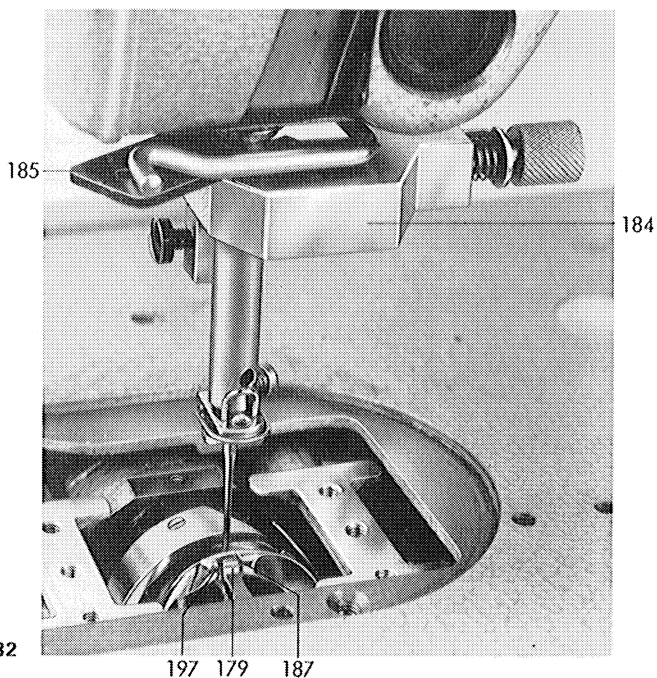
28. Adjusting the bobbin winder (figs. 33 and 34)

In order to adjust the bobbin winder in the arm cover 152 it is necessary to remove the arm cover from the machine.

The bobbin winder operates as follows:

When the bobbin winder flap 39 is pushed against the winder spindle 199, the tripping cam 200, fastened to the spindle, lifts the leaf spring 202 connected to the spring bearing 201 and forces the bobbin spindle wheel 204 with a friction ring 203 against the upper belt pulley.

As the bobbin is being wound, it gradually forces back the bobbin flap 39. The back of the cam 200 slides along underneath the spring 202 until the bobbin is fully wound. At this moment, the spring 202 should slip off the cam 200, allowing the wheel 204 to be drawn back



from the upper belt pulley by tension spring 205. To prevent the bobbin winder from running on further, it is held in position by the pin 206. The moment when the bobbin winder should cut out can be timed by loosening the screw 207 and by turning the cam 200.

When the bobbin winder is in operation, rubber ring 203 should only press slightly against the belt pulley. This adjustment can be made by shifting the upper belt pulley laterally on the arm shaft.

In order to avoid that when the handwheel revolves counter clockwise the thread unwinds from the bobbin and winds around the bobbin spindle, the bobbin winder is fitted with a device preventing the bobbin winder from turning reverse. This is obtained by a torsion spring ref. no. 211535 (see fig. 35), surrounding the bobbin spindle. When fitting a new torsion spring, make sure that the bobbin spindle is not impeded when it revolves clockwise and that it is retained when it has the tendency to revolve counter clockwise.

In machines of the latest design the back-run is impeded by an incorporated clamp roller.

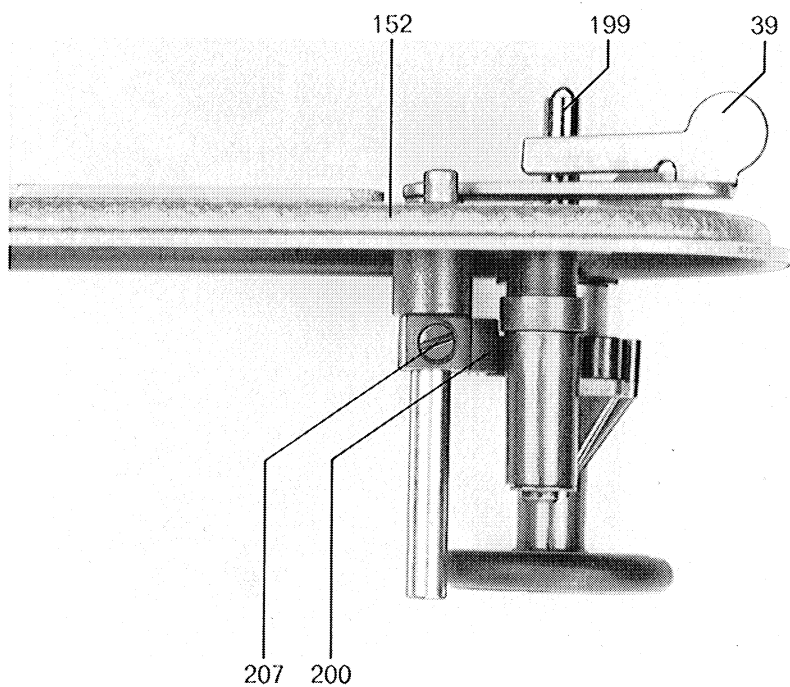


Fig. 33

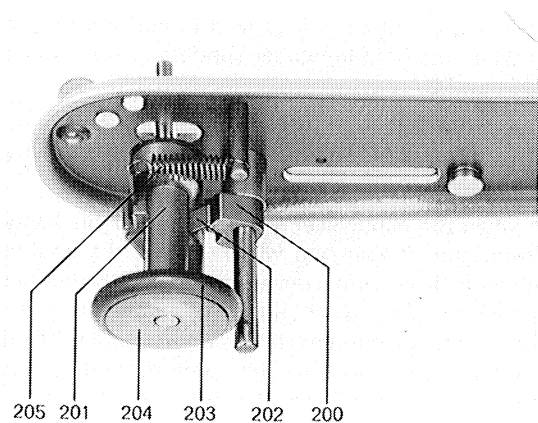


Fig. 34

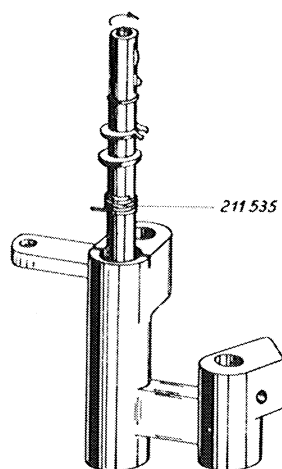


Fig. 35

29. Changing the hook (fig. 28)

Before changing the sewing hook, bobbin case lifter 188 and bobbin case holder 179 must be removed.

To remove the bobbin case lifter, simply take out the screw 208.

The bobbin case holder can be removed after removing the screw 180. Do not loosen the screw 186.

Having set the feed dog at its topmost position and loosened the fastening screws 209 (figs. 9 and 21), the hook can be pulled off the hook shaft and can be replaced by a new hook. When replacing the bobbin case holder 179, make sure that the retaining lug fits into the groove of the bobbin case.

Adjust the sewing hook according to chapter 25, replace the bobbin case lifter and check the adjustment of the latter according to chapter 27.

30. Dismounting the hook

It is not necessary to take the hook out of the machine in order to remove the base of the bobbin case from the hook.

Proceed as follows:

1. Remove bobbin case top 36 (fig. 9).
2. Turn out the screw 208 and remove the bobbin case lifter 188.
3. Remove the screws of the hook cover 210 (fig. 9) and take off the hook cover.
4. Set the hook so that its tip is just a little over 45° beyond its topmost point.
5. With the hook in this position and while turning the handwheel gently to and fro, take out the base of the bobbin case.

To re-assemble the hook, proceed in the reverse order, making sure that the lug of the bobbin case holder 179 (fig. 32) fits into the notch in the base of the bobbin case.

31. Changing the belt

To change the belt 144 (fig. 8), proceed as follows:

1. Remove the positioner (if any), the handwheel, the belt guard, the arm cover, the head cover, the needle, and the throat plate.
2. Remove the V-belt, remove the two retaining springs 211 (fig. 36a) and refasten the handwheel.
3. Remove the belt from the upper pulley to the left.

Loosen the screws 213 and 212. The screw 213 (first screw in the direction of rotation) presses against the surface of the arm shaft. Therefore, it must be unscrewed sufficiently.

Note:

When carrying out any work specified hereinafter under the items 4., 5., 6. and 7. be careful not to exert a considerable pressure against the arm shaft in the axial direction of the arm head and not to displace it because this might cause damages to the driving parts in the arm head sector. When exerting an axial pressure against the arm shaft it is necessary to balance it by a corresponding counter pressure against the arm shaft crank.

4. By giving the handwheel a short and sharp jerk, pull the entire arm shaft bearing (ball bearing) out of the machine. If there are difficulties, pull out the arm shaft bearing after placing two thick screwdrivers between the machine and the belt pulley.

5. Lift the belt off the lower belt pulley and pull it out through the opening of the arm shaft bearing.

6. Insert the new belt through the opening of the bearing. Ensure that the open side of the belt sprockets is pointing outwards and that the ends of the threads of which the belt is made are showing to the rear in the direction of rotation. Place the belt on the arm shaft on the left of the upper pulley.

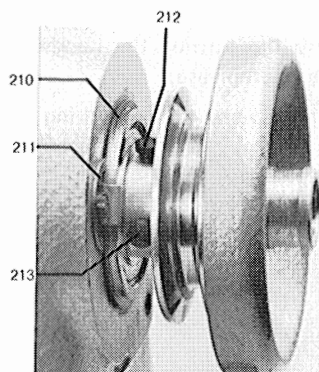


Fig. 36 a

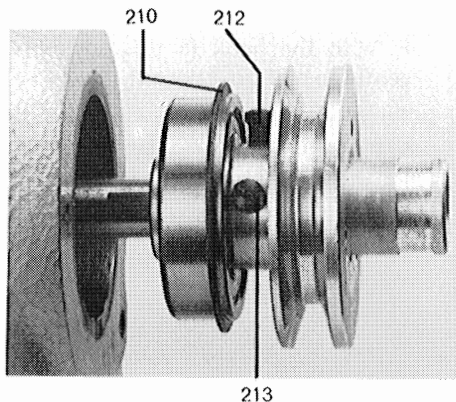


Fig. 36 b

7. Insert again the arm shaft bearing, ensuring that the safety ring 210 (fig. 36b) touches the machine arm. Fasten the retaining springs 211.
 8. Retighten the screws 213 and 212 (first screw 213 in the direction of rotation on the surface). **Press against the crank of the arm shaft, so that the latter operates without any play.**
 9. Set the stitch regulator lever 62 (fig. 15) for the maximum feeding length.
 10. Set the thread take-up lever 50 (fig. 12) to its topmost point by revolving the handwheel.
 11. Turn the lower belt pulley 214 (fig. 8) with the lower shaft in the direction of rotation, so that when the feed dog is descending, its surface is level with the surface of the throat plate.
 12. Turn back the belt pulley 214 according to the required measure of the feed dog final movement (see chapter 21, item c) and, while maintaining the thread take-up lever in the position described under 10., slip the belt onto the upper and lower belt pulley.
 13. Replace the needle, check the loop stroke according to 25b) and rectify it, if necessary.
 14. Remove the handwheel, fit again the removed parts, place the V-belt in position and re-mount the handwheel.
- Mount and adjust the positioner, if available.

32. Changing and adjusting the thread pulling spring

a) Changing the thread pulling spring

To change the thread pulling spring 48 (fig. 27) loosen the screw 216 and take out the entire thread pulling device.

Having changed the pulling spring, replace the thread pulling device, ensuring that it rests against the collar of the tension axle.

b) Adjusting the thread pulling spring

The thread pulling spring should exert slight tension on the upper thread until the needle penetrates in the fabric. If, at this moment, the

thread is too slack, the descending needle might pierce in its own thread. Both the deflection and the tension of the pulling spring can be regulated.

To adjust the deflection of the thread pulling spring, loosen the screw 217 (fig. 27) and turn as required the tension sleeve behind the thread tension disks.

To adjust the tension of the thread pulling spring, loosen the screw 216 (fig. 27) and turn as required the tension spindle 218. Turn to the right to increase and to the left to decrease the spring tension.

33. Adjusting the teeth play and changing the worm wheel in the hook gear case

a) Adjusting the teeth play between the worm and the worm wheel

A smooth operation of the worm wheel depends on a proper adjustment of the worm wheel with respect to the worm. The adjustment is correct if the center of the worm wheel coincides with the revolving center of the worm (see fig. 30) and if a smooth running is obtained with the minimum teeth play.

For adjusting, proceed as follows:

1. Fasten the gauge 182 (fig. 37), ref. no. 2653042, on the throat plate support as described under chapter 34, items 1 to 8, and turn the hook gear case so that the hook shaft touches the two surfaces of the angular section 251 (fig. 37).

Note:

When carrying out the adjustments described in this chapter ensure that the hook shaft is always in contact with the two surfaces of the angular section 251 (fig. 37) of the gauge 182.

If a rectification is required, it will be necessary to modify the position of the hook gear case and to reset the tooth play.

2. In addition to the thumb screw 222 (fig. 28), already loosened, loosen the thumb screws 223 and 232.

3. Introduce then a mandrel in the hole 225 of the eccentric bush 224, turn the latter by means of the mandrel slowly upwards and downwards (upwards to reduce and downwards to increase the teeth play),

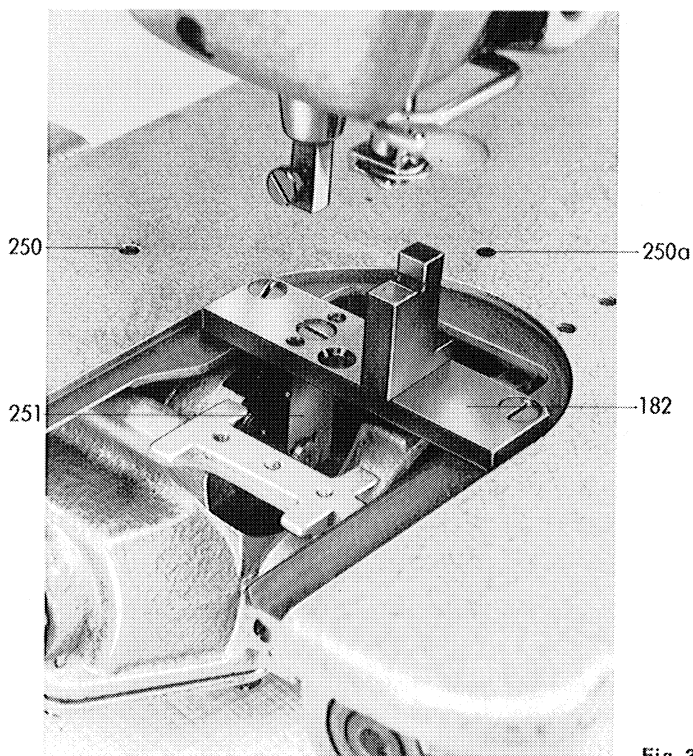


Fig. 37

pushing at the same time with the left hand in axial direction the worm wheel 220 (in fig. 30 after A and B). Turn the eccentric bush 224 upwards until it is no longer possible to displace the worm wheel in the axial direction.

Tighten then the two screws 232, ensuring that seen in the direction of rotation of the lower shaft the first screw presses on the surface of the lower shaft. In this position, the centre of the wheel will coincide with the revolving centre of the worm (fig. 30).

4. Now, by turning the lower shaft, set the worm drive for the most sluggish point. While maintaining this position, turn the eccentric bush downwards and set the minimum but perceptible play between the teeth of the two gears.

5. Retighten then the screws 222 and 223, set the stop screws, located under the counter screws 250 and 250a (fig. 37), against the hook gear case and secure them by tightening the counter screws.

6. Remove the gauge 182 (fig. 37) from the throat plate support.

7. Replace the parts and adjust the hook, the bobbin case lifter and the feed dog as described in the preceding chapters.

b) Changing the worm and the worm wheel

For changing the worm and the worm wheel in the hook driving gear case, proceed as follows:

1. Remove the cover plate 227 after having removed the screws 226 (fig. 28) and clean the case from grease or oil.
2. Loosen the screws 195 and 232 so that when pulling off the hook gear case, set the collar 231 and the screw wheel 220 can be easily removed.
3. Remove the bobbin case holder 179 and the hook with the oil disk 101 (fig. 21).
4. Remove the counter screws 250 and 250a (fig. 37) and loosen by some threads the stop screws for the hook gear case.
5. Loosen the thumb screw 222 (fig. 28), turn the hook gear case gently to and fro and pull it off the eccentric bush 224 to the left.
6. Turn out the screws 233 (fig. 21).
7. Remove the cover plate 234, the gasket plate 235 and the cup spring 236.
8. Remove the hook shaft 237 with ball bearing 238, worm 219 and ball bearing 240 from the case by pushing it from front to rear.

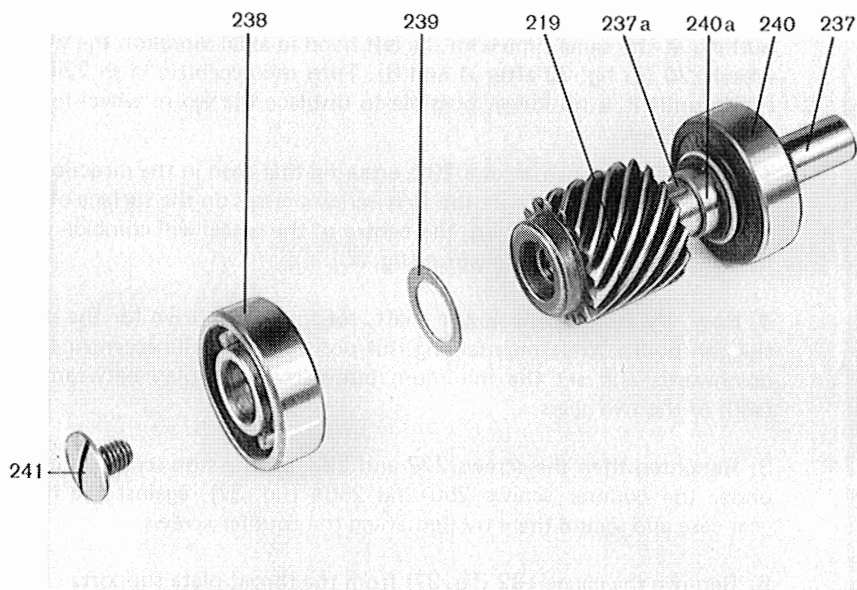


Fig. 38

9. Turn out the screw 241 (lefthand thread), remove ball bearing 238, disk 239 and worm 219 and change the latter against a new one. Replace the removed parts in reverse sequence. (See fig. 38.)

The rotation of the hook shaft 237 and the worm 219 is ensured by the spring 237a, and the distance between the worm 219 and the ball bearing 240 is determined by the ring 240a.

10. Change also the worm wheel 220 (fig. 28) against a new one and replace the parts removed in reverse sequence.

Note:

The teeth play of the worm 219 and the worm wheel 220 must be adjusted as described under item a) of the present chapter.

Adjust the hook gear case as described under chapter 34 and refill it with grease or oil as described under chapter 19, item d).

34. Setting the hook gear case

As already mentioned in chapter 25, the position of the hook gear case is of great importance for the adjustment of the needle bar height and of the hook.

For a precise adjustment proceed as follows:

1. Remove needle, presser foot, throat plate slide and feed dog.
2. Turn out the screw 180 (fig. 28) of the bobbin case holder 179 and take off the latter.
3. Turn out the screw 208 of the bobbin case lifter and remove the lifter 188.
4. Loosen the hook fastening screws and slip the hook off its shaft.
5. Remove the counter screws 250 and 250a (fig. 37) and loosen by some threads the stop screws.
6. Loosen the thumb screw 222 (fig. 28) of the hook gear case and turn the latter slightly to the left.
7. Depending on the sub-class — with small hook of about 35 Ø or big hook of about 42 Ø — screw the gauge 182 (fig. 37), ref. no. 2653042, with throat plate fastening screws onto the throat plate support, so that

the respective angular section for setting the case with small hook is marked "Kl. Greifer ca. 35 Ø", and the angular section 251 for setting the case with the big hook is marked "Gr. Greifer ca. 42 Ø".

For the sub-classes 265-203, -15203 and -115203 use the gauge no. 2653058, because, compared to other sub-classes, the hook and its gear are located 1.5 mm farther to the left.

8. Turn then the case so that the stop screws touch both surfaces of the angular section (see fig. 37).

9. Retighten the thumb screw 222, set stop screws, located under the counter screws 250 and 250a, against the surfaces of the case and tighten the counter screws.

10. Replace the parts removed and ensure that the needle bar, the hook and the bobbin case lifter are adjusted as described in the preceding chapters.

35. Adjusting the teeth play in the bevel gears for the zigzag drive

When the teeth play is correctly adjusted, the outer edges of the gears 156 and 158 (fig. 26) should be flush and the bevel gear 156 should snag against the arm shaft bearing 157. Adjust the teeth play so that with a minimum possible play a smooth and silent operation is obtained.

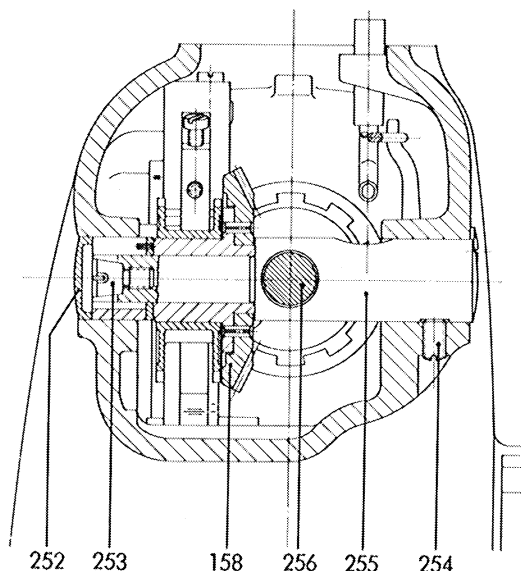


Fig. 39

For adjusting the teeth play, proceed as follows:

In case of a minor adjustment remove the plug 252 (fig. 39), loosen thumb screws 253 and 254 and displace the bearing shaft 255 to the front or to the rear.

The bearing shaft 255 should be adjusted so that the arm shaft 256 does not touch the hole of the bearing shaft and the bevel gear 158 does not rub against the traction bar or the fork.

If a major adjustment of the teeth play is required, loosen the three thumb screws 155 (fig. 26) and adjust the bevel gear 156 on the arm shaft. Furthermore, it is necessary to adjust correspondingly the arm shaft bearing after having loosened the screw 257 so that a properly adjusted bevel gear snags against the arm shaft bearing.

Additional Instructions for DÜRKOPP 265-4103 and -18103

36. Changing the knives

a) Upper knife

To change the spring-loaded upper knife 258 (fig. 40) shift slightly the knife carrier 259 to the right, hold it in this position, remove the screw 260 and fit a new knife.

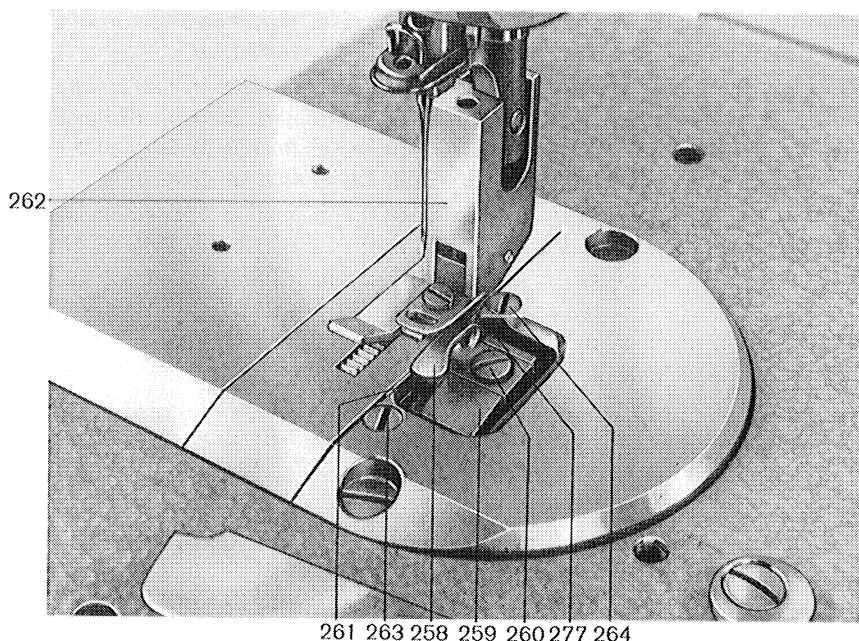


Fig. 40

b) Lower knife

The lower knife 261 (fig. 40) can be removed after having taken off the presser foot 262 and turned out the screws 263 and 264 from the throat plate. When replacing the lower knife ensure that the stellited side is showing to the right, i.e. to the upper knife.

37. Adjusting the lifting movement of the upper knife

To adjust the lifting movement for the upper knife it is necessary to set the following:

- a) the **zero position of the switch bush**,
- b) the **lowest position of the lifting movement** and
- c) the **topmost position of the lifting movement**.

Proceed to the adjustment as follows:

a) Zero position of the switching bush

In order to adjust the lowest position of the lifting movement which at the same time is also the lowest operation position of the upper knife, set first switch bush 265 (fig. 41) at zero. That means that in this position the eccentricity of the switch bush is not effective.

With the upper knife engaged and the stop screw 266 completely loosened the approximate zero position is attained when the distance between the front lower edge 267 of the switch bush lever arm and the top side 268 of the switch lever 269 amounts to approx. 8 mm.

The adjustment can be made by turning the stud 271 after having loosened the counter nut 270.

Following the adjustment retighten the counter nut 270.

b) Lowest position of the lifting movement

Engage the upper knife and set it to its lowest position by turning the handwheel in the direction of rotation.

After loosening the thumb screw 272 (fig. 41) of the lifting lever 273 and the thumb screw 274 of the switch lever turn the lifting lever 273 on the lifting shaft so that the upper knife does not move when the floating axle 275 or the rocker arm is turned back and forth.

Loosen the counter nut 270 and turn the threaded pin 271 so

1. that in case of the upper knife, ref. no. 2652174, the blade is located under the upper edge of the lower knife blade, ensuring thus that the knife cuts about 2 mm in front of the needles.

2. that in case of the upper knife, ref. no. 2652182, the front point of the blade is situated about 0.5 mm below the upper edge of the lower knife blade.

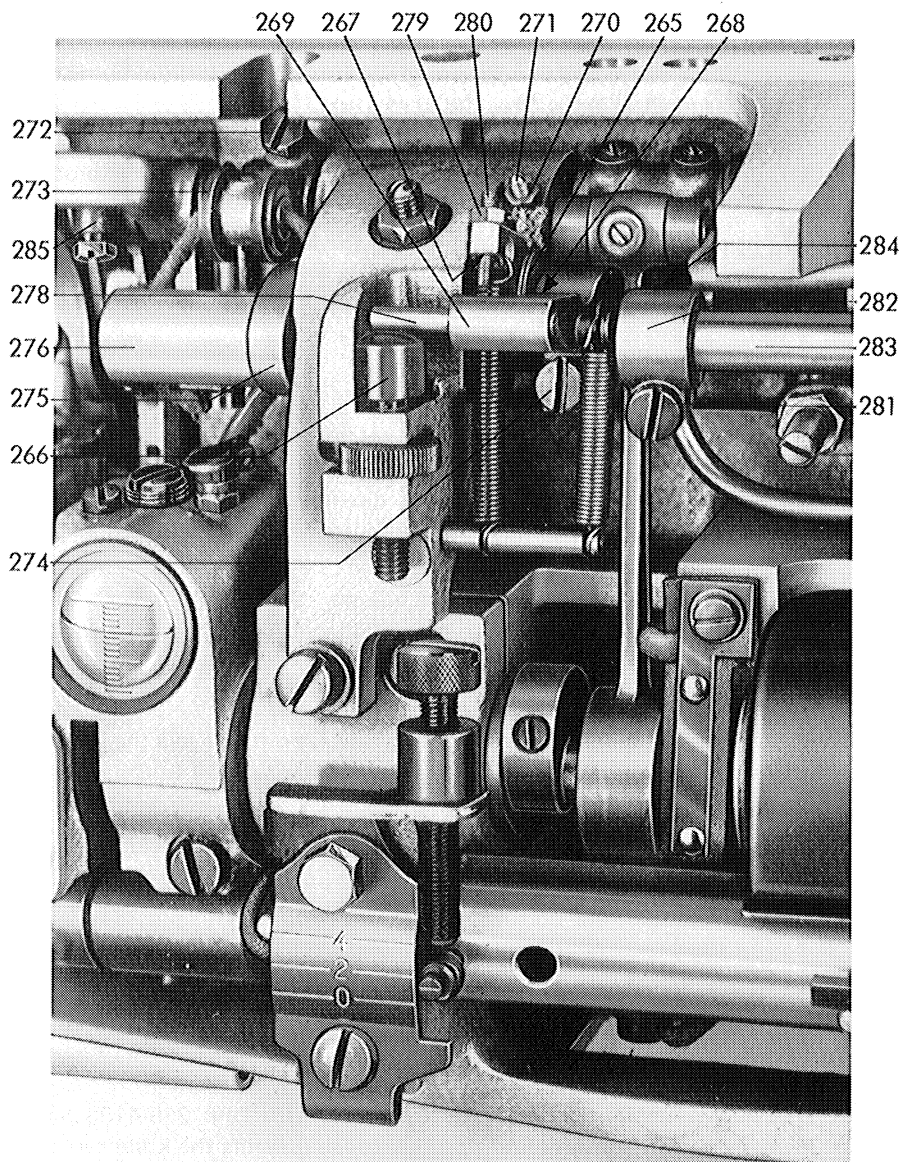


Fig. 41

After this adjustment, turn the rocker arm 276 back and forth in order to be sure that the upper knife is not moving. Correct the adjustment, if required. Following the adjustment, retighten firmly the counter nut 270 and the thumb screw 272. Note that in the lowest position of the upper knife the rocker arm must be easily pulled in its lowest position by the spring action.

c) Highest position of the lifting movement

When the lowest position of the lifting movement has been adjusted as described above, set the upper knife to its topmost position by turning the handwheel in the direction of rotation.

Turn the floating axle 275 (fig. 41) so that the rear upper edge 277 (fig. 40) of the knife carrier 259 is flush with the surface of the throat plate.

In this position, the pin 278 (fig. 41) of the switch lever 269 must rest on the stop screw 266 which is now in its lowest position. Following the adjustment retighten firmly the thumb screw 274 of the switch lever.

38. Adjusting the neutral position of the upper knife

When the upper knife 258 (fig. 40) is disconnected, its left upper edge should stand about 0.5 mm above the upper edge of the lower knife 261.

To effect the adjustment, proceed as follows:

1. Disengage the upper knife by swinging the handlever 85 (fig. 19) as intimated by the arrow B.
2. Loosen the counter nut 279 (fig. 41).
3. Adjust the stud 280 so that it extends about 5 mm below the switch bush 265.
4. Retighten the counter nut 279.
5. Loosen the thumb screw 281 of the lever 282.
6. Swing the disconnecting lever 269 in this position.
7. Turn the lever 282 on the switch shaft 283 so that the pin 284 snags against the lever 269. Retighten the thumb screw 281.

39. Adjusting the set collar

Instead of the lifting lever 285 (fig. 41) DÜRKOPP 265-4103 has a set collar on the lifting shaft. This collar prevents the knife carrier

259 (fig. 40) from being pushed to far to the left by the spring action when the throat plate is removed. Adjust the set collar so that with the knife adjacent the distance between the right hand contact surface and the set collar of the knife lever amounts to about 1 mm.

Additional Instructions for DÜRKOPP 265-208

DÜRKOPP 265-208 is a high speed lockstitch zigzag machine for stitching elastic material.

Following chapters complete or replace the preceding chapters of the same numbers.

40. Needles and threads

When this machine is fitted with the hook 2654021 (up to and including the machine number 26510322), **needles of the system 265-5**, having a special point for sewing elastic material, must be used.

The designation of the point shape is, varying with the supplier, as follows:

Lammertz	265-5 SI
Rheinnadel	265-5 R- SUK
Schmetz	265-5 SUK

In case of machines with the number 26510323 or higher, fitted with the hook 2654024, use **needles of the system 265-50 EO** with the point slightly rounded off.

The designation of the point is, varying with the supplier, as follows:

Lammertz	265-50 EO SIN
Rheinnadel	265-50 EO R-SES
Schmetz	265-50 EO SES

As to the needle threads, we recommend core threads (polyester end-less core covered with cotton) or twofold threads with Z or S torsion.

Plain threads, which normally are supplied with Z torsion, are liable to break particularly when sewing with straight stitches.

Better results will be obtained here with plain threads of S torsion. For foundation garments, we recommend (for the needle) a 60/6 Z torsion thread.

41. Threading the needle (fig. 42)

Pass the thread:

1. from the bobbin upwards through the thread guide in the thread unwinder arm (without illustration),
2. from left to right and from right to left through the holes of pretension 54 and downwards to the left of axle 55 behind the pretension cap 56,
3. from right to left between main tension disks 47,
4. to the left over take-up spring 48,
5. upwards through thread guide 49,
6. from right to left through the eye 49a of the thread length regulator 49b,
7. upwards and from right to left through the eye of the lever 50,
8. downwards through thread guides 49 and 51,
9. underneath the wire 52 and through the hole 53,
10. from front to rear through the eye of the needle.

42. Regulating the sewing foot pressure

When sewing elastic material, the foot pressure should be as low as possible, so as to avoid the formation of waves.

43. Adjusting the drop feed (the final movement) (applies also to class 265-203)

In this machine, the final feeding movement is shorter as compared to the normal adjustment, described under 21c). It is set so that the feed dog finishes its final movement above the throat plate when the descending needle is 4 mm above the throat plate.

This adjustment avoids needle deflection and consequently needle breakage and skipped stitches — particularly when backtacking seams in thick material.

If this machine is used for sewing thin material or mainly for sewing with straight stitches, perfect stitches will be obtained if the final movement is adjusted so that the feed dog stops above the throat plate when the descending needle is level with the surface of the throat plate.

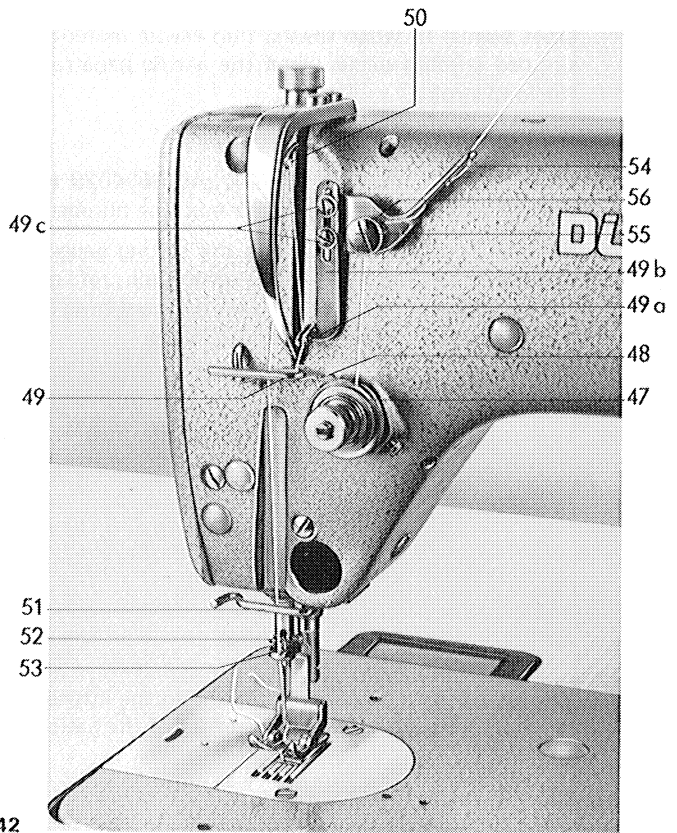


Fig. 42

44. Adjusting the needle bar height and the hook

For obtaining perfect stitches in elastic material it is necessary to consider the respective loop stroke when timing the thread take-up lever movement with respect to the needle bar movement.

The height of the needle bar and the hook should be adjusted as described below:

- a) **When using the hook 2654021 and the needle system 265-5**
(up to machine number 26510322)

Set the needle bar so that with the maximum throw width and when the needle penetrates on the left, the hook point still safely catches the loop of the upper thread. Set the loop stroke for 3.4 mm. This value will render the best results when sewing elastic material and such with

cross seams. If, when sewing thin elastic materials or current material, skipped stitches occur when the needle penetrates on the left, reduce the loop stroke.

b) When using the hook 265 4024 and 2654029 and the needle system 265-50 EO (including and above machine number 265 10323)

Set the needle bar height by the setting gauge, consisting of a base plate, ref. no. 2653042, and a setting pin, ref. no. 2653052. The loop stroke amounts to 2 mm. It is set by the setting block, ref. no. 223531, and the stroke tongue, ref. no. 223536c.

Seen in the sewing direction, adjust the hook in relation to the needle so that when the loop is being formed, the hook point passes as close as possible along the needle, without, however, touching same.

45. Adjusting the hook gear case

Adjust the hook gear case according to the instructions for the big 42 Ø hook, as described under chapter 34 of the basic instructions for DÜRKOPP 265.

Adjusting the thread length regulator (fig. 42)

The thread take-up lever of this machine supplies a sufficient length of the upper thread for the formation of stitches when sewing thick material and applying the maximum throw width (6 mm).

The length of the upper thread should be such that the thread passing over the hook is neither too tight nor too loose. For regulating, loosen the screws 49c and set the thread length regulator 49b accordingly.

The upper thread will become shorter by resetting the thread length regulator 49b upwards.

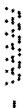
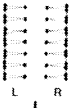
Reset the thread length regulator only if essential differences in the material thickness and in the width throw make it necessary.

Instructions for DÜRKOPP 267

The following instructions complete or replace the instructions of the preceding chapters of the same number.

DÜRKOPP 267 is a lockstitch zigzag machine with drop feed and upper stitch pattern control.

The stitch patterns (SM) produced by the different sub-classes are shown by the following table.

Sub-class	SM 4		SM 5		SM 9		Max. speed	Needle system	Hook		Loop stroke
									small	big	
	B*	L*	B	L	B	L					
-508 SM 4	8	1,5					5000	265-50 EO Sin		●	2 mm
-703 SM 9					6	4	5000	265-50 EO Sin	●		1.8 mm
-15205 SM 5			6	5			4200	265-5		●	2 mm
-15508 SM 4	8	1,5					5000	265-50 EO Sin		●	2 mm
-115205 SM 5			6	5			4200	265-5		●	2 mm

* B = throw width

* L = stitch length forwards and reverse

46. Regulating the sewing foot pressure

When sewing elastic material, the foot pressure should be set as low as possible, so as to avoid the formation of waves.

47. Adjusting the pushing and lifting motion of the drop feed

a) Pushing eccentric

Adjust the pushing eccentric so that the pushing motion in the feeding direction has been finished when the thread take-up lever stands at its

topmost point. For obtaining this adjustment, loosen the fastening screws of the lower belt pulley and turn the lower shaft with respect to the upper shaft.

b) Lifting eccentric

Adjust the lifting eccentric so that with the needle bar being in its lowest position the feed dog stands at its lower dead point. In this position, the eccentricity of the lifting eccentric is facing to the front or, if the tilted machine is resting on its support, said eccentricity is facing upwards. For obtaining this adjustment, loosen the eccentric fastening screws and turn the lifting eccentric on the lower shaft.

For checking the above adjustments, place an about 4 mm thick fabric under the sewing foot, lower the latter and turn the handwheel in the direction of rotation until the point of the needle just stitches in the fabric.

With the machine being set for its maximum feed length and with the feed dog being set for its appropriate height move the stitch regulator lever from the forward to the reverse feed. The fabric should rest below the foot without being moved, i.e. it should not be seized by the feed dog. If required, modify the adjustment of the lifting eccentric accordingly.

48. Adjusting the needle oscillation

The needle oscillation must comply with the upwards and downwards movement of the needle, i.e. it should begin when the needle leaves the fabric and it should end when the needle stitches again in the fabric.

For adjusting, proceed as follows:

1. Remove the arm cover (bobbin winder cover),
2. Set the throw width lever 80 (fig. 15) for the maximum throw width,
3. Loosen the worm fastening screws 155 (fig. 43) of the worm 156a, hold the worm and, by turning the handwheel, turn the arm shaft accordingly.
4. When retightening the screws 155, press the worm to the left against the bearing and tighten the arm shaft in the axial direction.

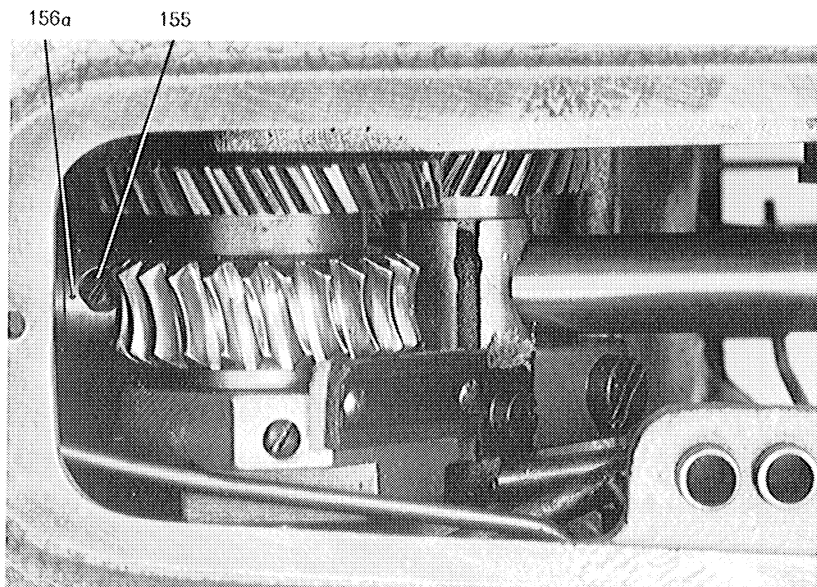


Fig. 43

49. Adjusting the needle bar height and the hook

a) Needle bar height

The adjustment gauge consists of a base plate, ref. no. 265 3042, and of a setting pin, corresponding to the sub-class.

Setting pin, ref. no.	265 3052
for the sub-classes	-508 SM 4
	-703 SM 9
	-11508 SM 4

Setting pin, ref. no.	268 1073
for the sub-classes	-15205 SM 5
	-115205 SM 5

With the maximum throw width, with the needle penetrating on the left and with the loop stroke set according to the item b), the bottom of the hook point, coinciding with the middle of the needle, should be approximately flush with the top edge of the eye of the needle.

When continuing to turn the hook, the needles of the system 265-50 EO, having a groove, will be slightly pushed to the front.

b) Loop stroke

In 267-703 SM 9 the loop stroke amounts to 1.8 mm. In all other sub-classes it amounts to 2 mm. For this purpose we can supply a setting block, ref. no. 223531, and a stroke tongue of 1.8 mm, ref. no. 223536b.

The 2 mm thick stroke tongue has a ref. no. 223536c.

c) Distance of the hook point from the needle in the sewing direction

Seen in the sewing direction, set the hook with respect to the needle so that, in the loop formation position, the hook point is as close to the needle as possible, but without touching the latter.

Instructions for DÜRKOPP 269

The following instructions complete or replace the respective instructions of the preceding chapters.

DÜRKOPP 269 is a lockstitch zigzag machine with drop feed, with upper and lower stitch pattern control.

The class 269-208 SM 12 is particularly suitable for joining two fabric edges by elastic and decorative stitches (faggot stitches).



SM 12

Stitch length: 1—3 mm, only forwards
Throw width: up to 6 mm
Speed: up to 4500 st/min.
Needle system: 265-50 EO Sin
Loop stroke: 2 mm

50. Adjusting the feed length

The feed length (stitch length) can be modified by shifting the traction rod 301 in the coulisse 302 after loosening the nut 300 (fig. 44).

Shift in the A direction of the arrow for increasing the feed length

Shift in the B direction of the arrow for reducing the feed length

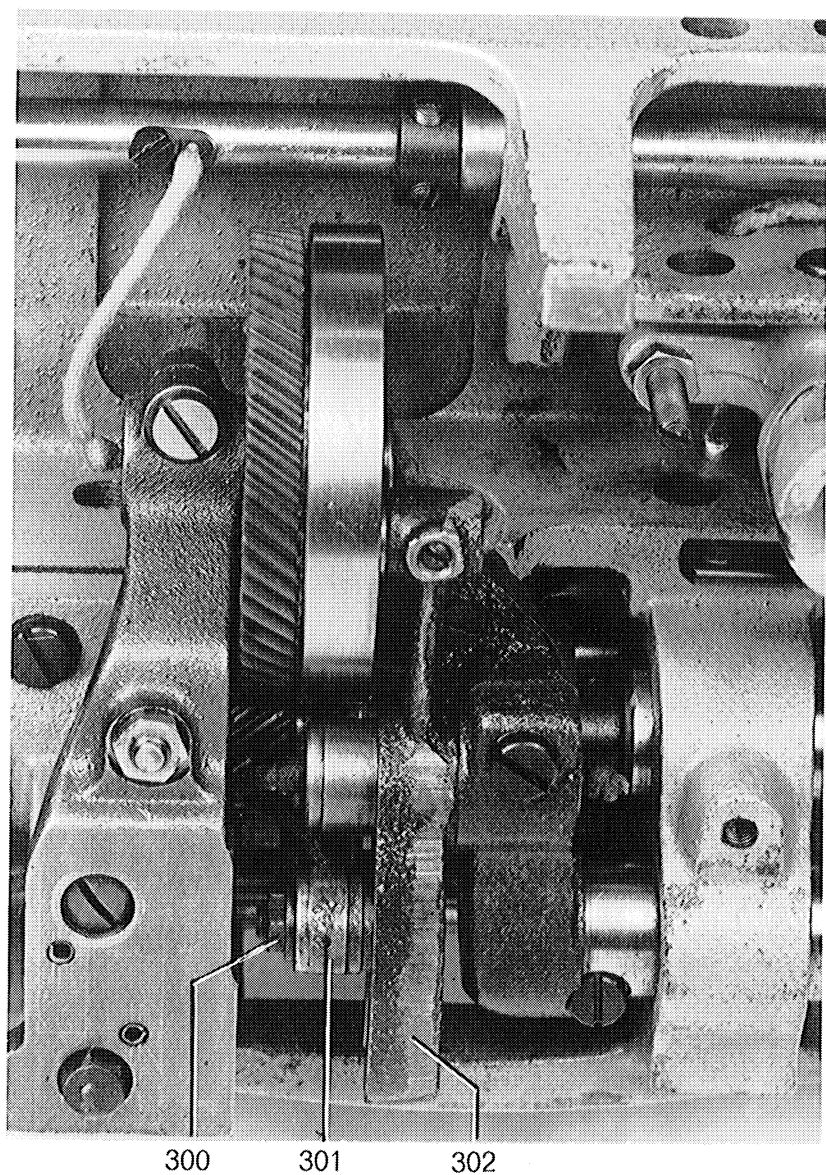


Fig. 44

51. Adjusting the pushing and lifting motion of the drop feed

The pushing motion is controlled by the cam 303 (fig. 45) below the base plate and the lifting motion by the eccentric 304.

The feed dog height and the maximum feed length being properly adjusted, set the pushing cam and the lifting eccentric as follows:

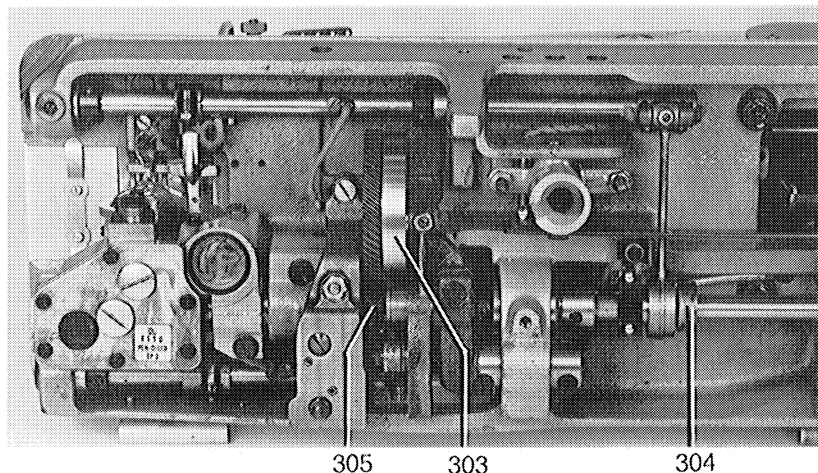


Fig. 45

Pushing cam

Set the pushing cam 303 so that when turning the handwheel the machine produces a reverse stitch when the needle, after stitching on the left or on the right, starts rising from its lower dead point.

Furthermore, the pushing motion in the feeding direction must have been completed when the thread take-up lever stands at its upper dead point.

This adjustment can be obtained by turning the cam 303 after loosening the three fastening screws of the spur wheel 305.

Lifting eccentric

With the pushing cam being properly adjusted, set the lifting eccentric 304 so that the feed dog will have finished its lifting motion above

the throat plate when the point of the descending needle is level with the surface of the throat plate.

This adjustment exists when the feed dog stands at its lower dead point while the needle is in its lowest position.

For adjusting, turn the eccentric 304 on the lower shaft after loosening its fastening screws.

52. Adjusting the needle oscillation.

The needle oscillation must comply with the upwards and downwards movement of the needle, i.e. it should begin when the needle leaves the fabric and it should end when the needle stitches again in the fabric.

For adjusting, proceed as follows:

1. Remove the arm cover (bobbin winder cover),
2. Set the throw width regulating lever 80 (fig. 46) for the maximum throw width,

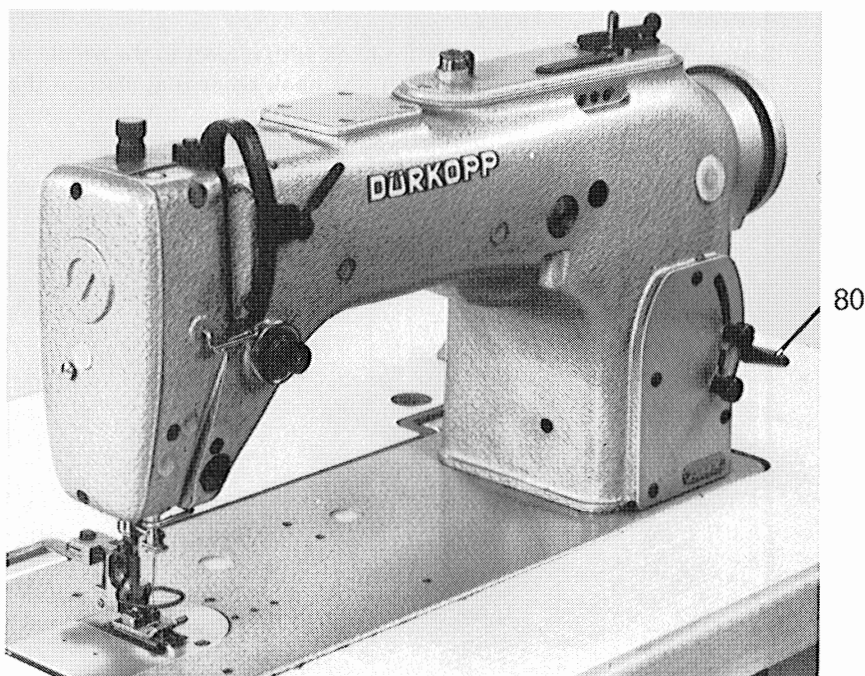


Fig. 46

3. Loosen the fastening screws 155 (fig. 43) of the worm 156a, hold the worm, and, by turning the handwheel, rotate the arm shaft accordingly.
4. When retightening the screws 155, push the worm to the left against the bearing, tightening thus the arm shaft in the axial direction.

53. Adjusting the needle bar height and the hook

Needle bar height

Set the needle bar height by the gauge, consisting of the base plate, ref. no. 2653042, and of the setting pin, ref. no. 2653052.

Loop stroke

The loop stroke amounts to 2 mm.

It can be adjusted by the setting block, ref. no. 223531 and the stroke tongue, ref. no. 223536c.

Distance of the hook point with respect to the needle in the sewing direction

Seen in the sewing direction, set the hook with respect to the needle so that, in the loop formation position, the hook point is as close to the needle as possible, but without touching the latter.

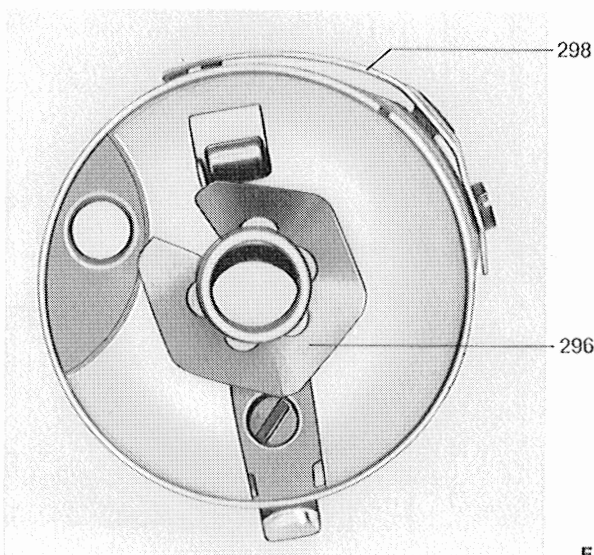


Fig. 47

Instructions for DÜRKOPP 265-15000 and 267-15000 in their different sub-classes

DÜRKOPP 265-15000 and 267-15000 are single needle lockstitch zigzag machines with electro-mechanical thread cutter, trimming the upper and the lower thread on the reverse of material, no matter whether the seam ends on the edge or at any other point in the material.

Following sub-classes can be supplied:

Sub-class	Needle system	Stitches/ min.	Stitch length
265-15135	797 KK	max. 5000 recom. 1500	forwards up to 2.5 mm backwards up to 2 mm
265-15203	265-50 EO SI	up to 5000	forwards up to 4 mm backwards up to 4 mm
265-15208	265-50 EO SI	up to 5000	forwards up to 4 mm backwards up to 4 mm
265-15305	265-5 EO	up to 4000	forwards up to 5 mm backwards up to 5 mm
267-15205/SM 5	265-5	up to 4200	forwards up to 5 mm backwards up to 5 mm
267-15508/SM 4	265-50 EO SIN	up to 5000	forwards up to 1.5 mm backwards up to 1.5 mm
265-18103 265-18903	265-50 EO SI	up to 5000	forwards up to 2.5 mm backwards up to 2.5 mm

Note:

In order to obtain the maximum security of stitching and cutting, observe the following:

- Use bobbin case upper part with brake disk 296 (fig. 47). The purpose of said disk is to avoid an after-running of the bobbin when the thread in unwound by jerks. For checking the braking effect on the bobbin, ensure when regulating the tension spring 298 that the tension of the lower thread is not too tight.

- b) Use aluminium bobbins for the lower thread.
ref. no. 204230 a for the small hook,
ref. no. 265789 for the large hook.
- c) Operate the machine only if the positioner has been adjusted according to the chapter 54, item d).
- d) Check the positioner adjustment before introducing the 6-pole plug in the motor control.

54. Setting up the machine

When setting up the machine, remove the transit safety device below the base plate, in the sector of the thread cutter. See the red label on the machine.

a) **Motor**

For driving the machine and for operating the thread cutter use a positioning motor, arresting the needle automatically in the lower position when stopping the machine and arresting the needle automatically in the upper position after the cutting process.

At the time of printing the present instructions following motors are available:

Quick-Digital-stop motor QD554/D30K01 and QD552/D30 K01
Efka Variostop motor VD 374/6F310 and VD 552/6 F 31 D.

The motors produce impulsions for lifting the sewing foot and for operating the thread wiper.

Quick Electronic stop motor DQ 58-2A and
Efka Variostop motor VD 552/6F30

without impulsions for the sewing foot and for the thread wiper.

Note:

The modification of the maximum speed should be done exclusively by changing the belt pulley.

Re: Quick Electronic Stopmotor

The Quick Electronic stop motor is an electronically controlled and continuously adjustable positioning motor with electro-magnetically controlled clutch.

Normally it is wired for three-phase a.c. 3x380 V, 50 cycles.

The speed of the models QD 552/.... and DQ 58-2A amounts to 2800 rpm at 50 cycles and to 3400 rpm at 60 cycles. The model QD 554/.. produces 1400 and 1700 rpm.

Motors for other voltages at request.

Do not modify the cutting speed of 150 rpm. See also the motor operating instructions.

Re: Efka Variostop motor

The Efka Variostop motor is a positioning motor with several speed ranges and with an electromagnetic clutch. As can be seen from the instructions for the Variostop motor, the speed within the respective speed range can be quickly modified.

But the cutting speed = positioning speed (1st stitch step) of 150 rpm should not be modified.

Normally the motor is wired for three-phase a.c. 3x380 V, 50 Hz.

In the model VD 552/.. the speed amounts to 2800 rpm at 50 Hz and to 3400 rpm at 60 Hz.

Motors for other voltages at request.

Motor protective switch

Depending on the motor type, set the motor protective switch as follows:

Motor type	Mains voltage	
	220 V	380 V
DQ QD/552....	3,3 A	1,9 A
VD 374/	3,5 A	2,2 A
VD 552/	4,2 A	2,5 A

b) Connecting to the motor control

Introduce the 6-pole plug of the thread cutter magnet, the plug of the positioner and the plug of the magnetic clutch and brake into respective sockets of the motor control.

c) Pedal rods and pedal

Adjust the pedal rods 124 (fig. 48) so that the pedal 125 stands at an angle of about 10° with respect to the horizontal line.

d) Positioner

Fasten the positioner on the handwheel flange and secure against distortion by a pin.

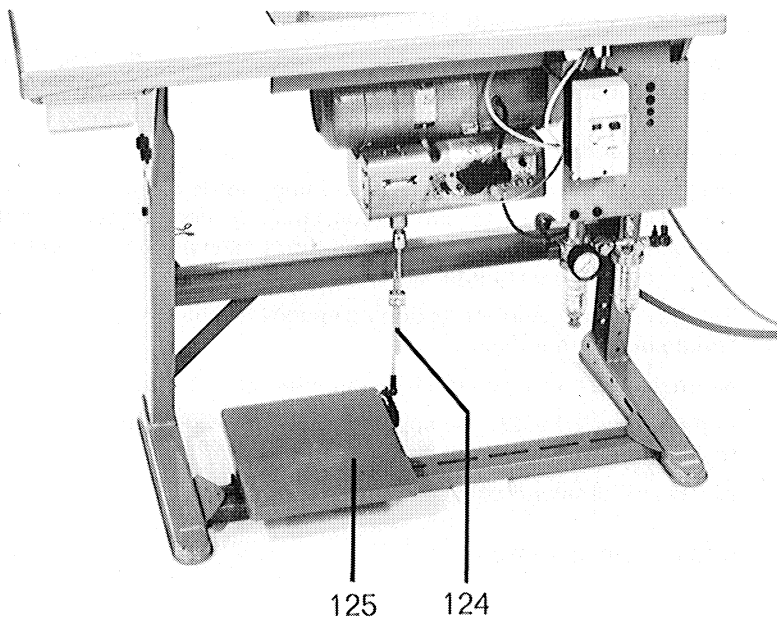


Fig. 48

Needle position 1

When the machine is stopped, the needle bar should be 2 to 3 mm **behind** its lower dead point, i.e. the hook point should safely catch the loop of the needle thread.

For adjusting, conduct the machine in this position by turning the handwheel and remove the cover from the positioner.

According to the motor type, proceed then as follows:

In case of a Quick Electronic Stop motor loosen the screw 88 (fig. 49) and set the tripping edge 89 of the screen 90 on the tripping point 91.

In case of an Efka Variostop motor set the control cam 119 (fig. 50) so that the control slit 120 stands behind the screen 121 (fig. 51) and that the two white points 122 are visible on the right and on the left of the screen.

Needle position 2

When at the end of the seam the threads have been cut off by heeling down the pedal and the machine has positioned, the distance between

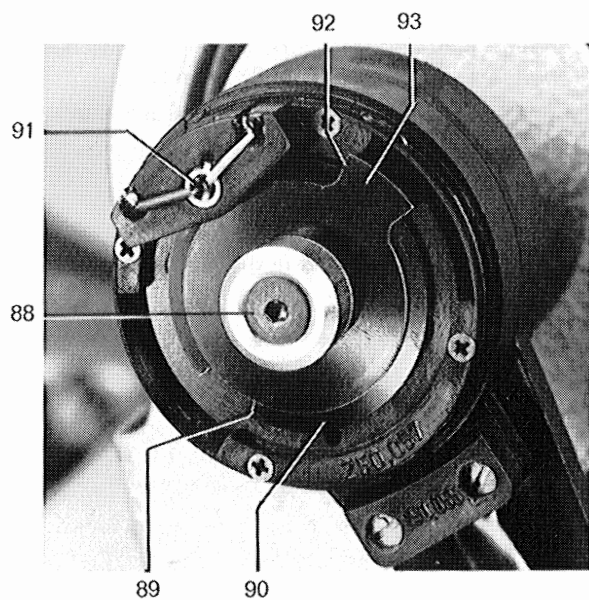


Fig. 49

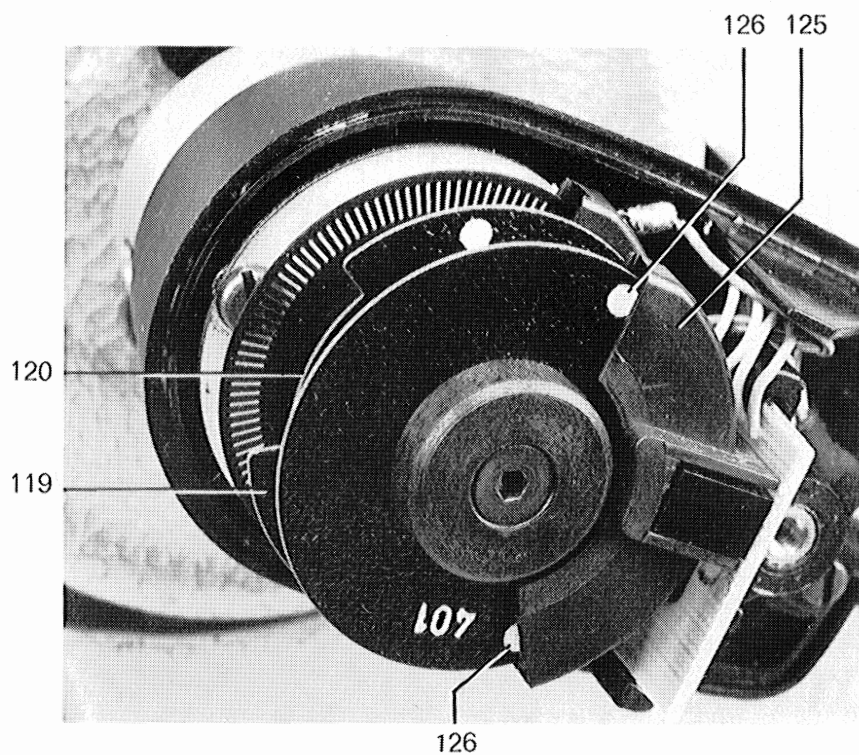


Fig. 50

the throat plate slide and the bottom of the descending needle bar should amount to 40 mm (in 265-15135 to 43.5 mm).

For checking this distance, use the available gauge as shown in fig. 52.

Ref. no. of the gauge: 3726950 for DÜRKOPP 265-15135

Ref. no. of the gauge: 26510192b for all other sub-classes.

For adjusting the 2nd needle position, proceed as follows:

By means of the gauge set the needle bar in the indicated position.

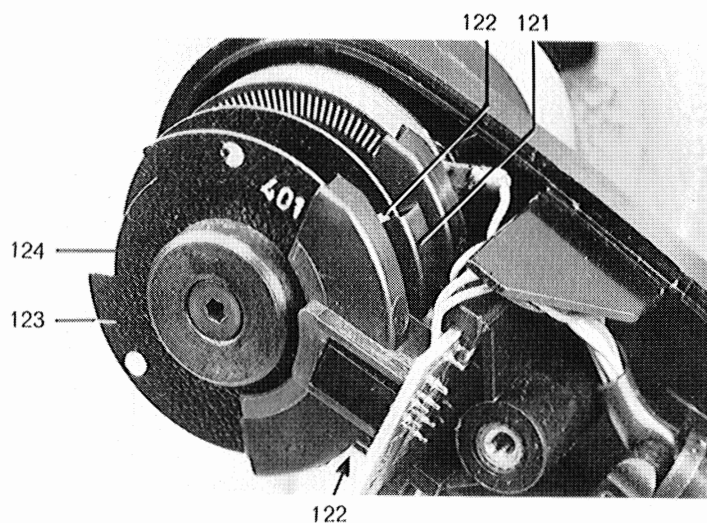


Fig. 51

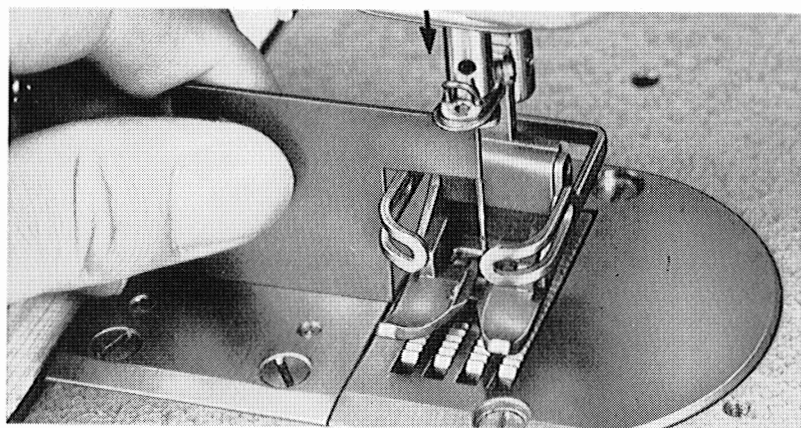


Fig. 52

In case of a Quick Electronic stop motor set the tripping edge 92 (fig. 49) of the screen 93 on the tripping point 91.

In case of an Efka Variostop motor set the control cam 123 (fig. 51) so that the control slit 124 stands behind the light screen 125 and that the two white points 126 (fig. 50) are visible on the right and on the left of the screen.

55. Operation

Only one pedal is used for operating the sewing motor and the thread cutter. This greatly simplifies the control of the machine.

By the operation of this pedal following machine functions will be obtained:

1. The pedal is in its neutral position when it is in no way operated.
2. By lowering the pedal from its neutral position slightly forwards, the machine will sew at a reduced speed.
3. By lowering the pedal forwards still further, the machine speed will increase until reaching the top speed.
4. By returning the pedal to its neutral position the machine will stop and the needle, for sewing a corner, will be arrested in the position where the hook has safely caught the thread loop.
5. By heeling down the pedal beyond its neutral position, down to the stop, the needle will be lifted to its topmost point and the threads will be cut off. A further cutting will not be possible before the machine has performed a revolution.

For cutting the threads, the pedal can be heeled down at any time, no matter whether the machine is running or not.

The needle, arrested in the fabric when stopping the machine, can be lifted to its topmost point by turning the handwheel, without releasing the cutting action.

Note:

If at the start of a new seam the needle thread end is to be pulled through the fabric, ensure that it is not clamped between the presser foot and the fabric. It should hang loose out of the eye of the needle. This can be obtained by removing and introducing the fabric or by fitting a DÜRKOPP thread wiper.

56. Adjusting the thread cutter

Adjust the thread cutter in the following sequence. The machine must be adjusted ready for sewing, the stitch position lever must stand on "Mitte" (middle) and the throw width lever must stand on "0".

a) Timing the knife motion

The time of the knife motion is determined by the position of the control cam 26 (fig. 53) on the lower shaft.

Set first the control cam 26 on the lower shaft in the longitudinal direction so that with the tripping plate 53 touching the stop 53a (fig. 53) the roller bolt can be freely pushed into the straight part of the cam race.

Time the knife motion as follows:

The knife should begin to move to the right when the needle bar has risen 25 mm from its lowest point, in $265-15135 = 27$ mm.

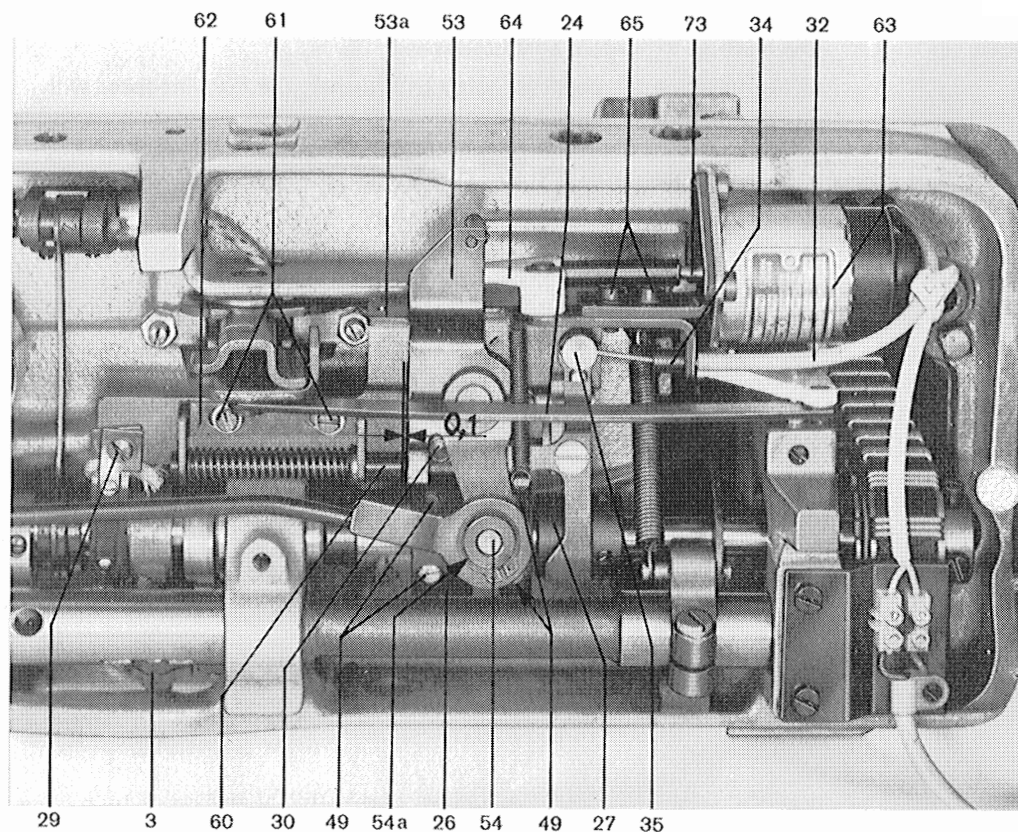


Fig. 53

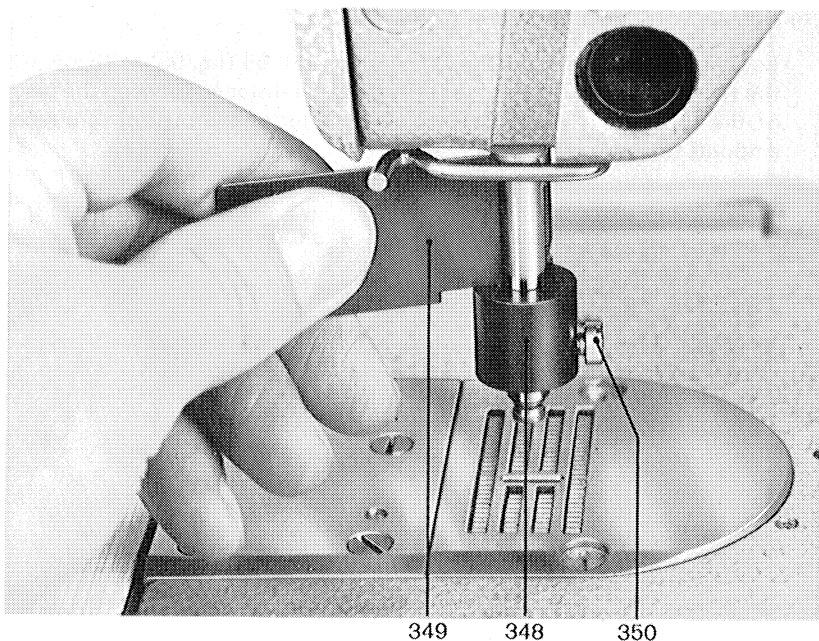


Fig. 54

For precise adjustment use the adjustment bush no. 2119775 and the setting gauges, no. 26512719 for 265-15135 and 2658789 for all other sub-classes.

When adjusting with said gauge, proceed as follows:

Slip the setting bush 348 (fig. 54) on the needle bar, conduct the needle bar to its lowest point by turning the handwheel and, by means of the setting bush 348, press the setting gauge 349 against the needle bar coulis, as shown in fig. 54.

While maintaining this position, tighten the fastening screw 350 of the setting bush 348 and ensure that it is fully pressed down by the spring in the bush. Remove then the setting gauge 349.

Lift the needle bar by turning the handwheel until the setting bush 348 slightly touches the bottom of the needle bar coulis. Now the knife should begin to move. Time by turning the control cam 26 (fig. 53) on the lower shaft.

When turning the control cam it is advisable to introduce the roller bolt 54 in the cam race by lowering the tripping plate 53, because the cam should not be displaced in the longitudinal direction. Maintain the control cam in this position and tighten the fastening screws 49 cross-wise.

b) Adjusting the roller bolt 54 (fig. 55)

Loosen the stud 54a and adjust the roller bolt 54 (fig. 55) so that with the tripping plate 53 being not operated, the distance between the face of the roller bolt 54 and the outer diameter of the control cam race amounts to about 0.5 mm.

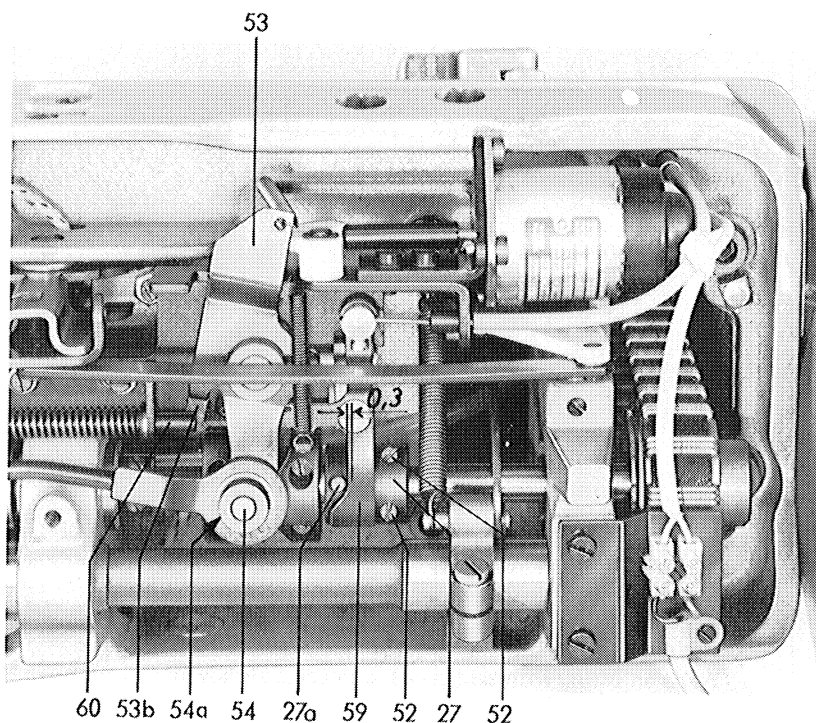


Fig. 55

c) Adjusting the tension release

When the clamping part 55 (fig. 56) is in its neutral position, its point should be flush with the front edge 56 of the releasing plate 44. See fig. 56. Adjust by introducing the Bowden cable 32 (fig. 53) in the clamping part 35 accordingly.

By turning the screw 57 (fig. 56) set the distance between the clamping part 55 and the releasing plate 44 for about 0.1 mm (without threading).

Tighten finally the nut 58.

The thread guide 43 (fig. 57) should be so deep in the reception hole that the distance between the front edge of the holding plate 38 and

the rear edge of the releasing plate, pulled by hand up to the thread guide 43, amounts to about 9 mm. See fig. 57.

Timing the tension release

When the roller bolt 54 (fig. 55) is in the cam race and the hook-shaped knife begins to move from right to left, the clamping part 55 (fig. 56) also should begin to move in order to open the thread tension device 40 (fig. 57). When the hook-shaped knife has travelled 2—4 mm to the left, the thread tension device should be fully open.

Set for this purpose the releasing bush 27 (fig. 55) so that the moment when the hook-shaped knife begins to move from right to left, the distance between the pin 27a and the left hand edge of the releasing lever 59 amounts to about 0,3 mm and the pin 27a touches at the same time the beginning of the bias edge. See fig. 55.

Tighten then firmly the fastening screws 52.

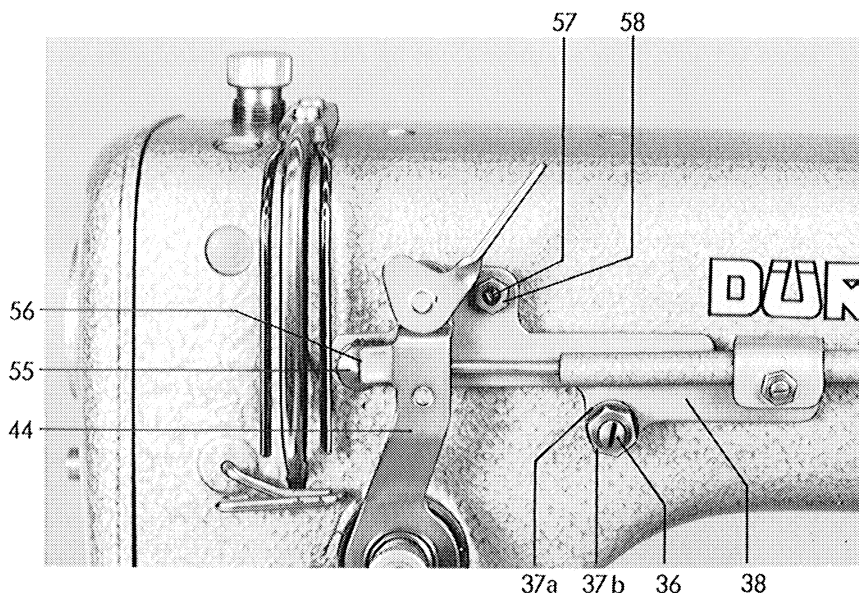


Fig. 56

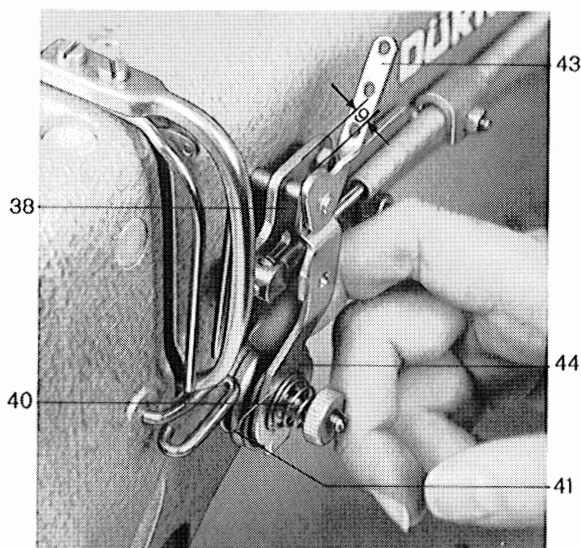


Fig. 57

d) Adjusting the safety pin 60 (fig. 53)

When the tripping plate 53 touches the stop 53a (fig. 53), the distance between the tripping plate 53 and the safety pin should amount to about 0.1 mm. This adjustment can be obtained by resetting the pin guide 62 after having loosened the fastening screws 61.

e) Adjusting the engagement stroke

Press the roller bolt 54 (fig. 53) up to the stop in the cam race. After pushing the tappet 73 of the magnet 63 by hand through the rubber cap to the left up to the stop, then it should move the square 64 to the left so far that the latter touches the tripping plate 53. Loosen for this purpose the fastening screws 65 of the magnet holder and adjust the holder accordingly.

f) Adjusting the hook shaped knife, the counter knife and the clamping sheet

For a perfect function of the cutting process it is necessary that the hook shaped knife 66 (fig. 58) moves easily and that the cutting edges of the hook shaped knife 66 and of the counter knife 68 are sharp. Now adjust the counter knife 68 so that the distance between the left hand edge of the holding plate 76 and the front edge of the counter knife 68 amounts to 52 mm (fig. 58). Furthermore, in this position of the counter knife 68, the two edges 75 should be equidistant from the right edge of the holding plate.

The counter knife 68 can be adjusted accordingly after loosening the screws 79.

After loosening the screw adjust the thread clamping sheet 77 (fig. 58) so that the threads, prior to being cut, are safely held between the surface of the hook shaped knife 66 and the thread clamping sheet 77. The fastening screw of the clamping sheet is accessible when the hook shaped knife 66 is in its final position on the right.

After loosening its fastening screws, accessible from the top of the holding plate 76, adjust the hook shaped knife 66 (fig. 58) so that its point coincides exactly with the middle of the needle. But some threads may render it necessary to deviate from this adjustment and it may be necessary to reset the hook shaped knife laterally.

For a perfect cutting of the hook shaped knife 66 it is necessary that, in cutting position, it is parallel to the cutting edge of the counter knife 68 and that it is slightly pressed against the latter.

This pressure can be regulated by turning the screw 80 after loosening the nut 67. Following this adjustment make a thread test and retighten the nut 67.

The movement of the hook shaped knife 66 to the right and to the left is determined by the race of the control cam 26 (fig. 53).

When turning the machine by hand, the hook shaped knife should move to the left so far that its cutting edge stands about 1 mm from the cutting edge of the counter knife.

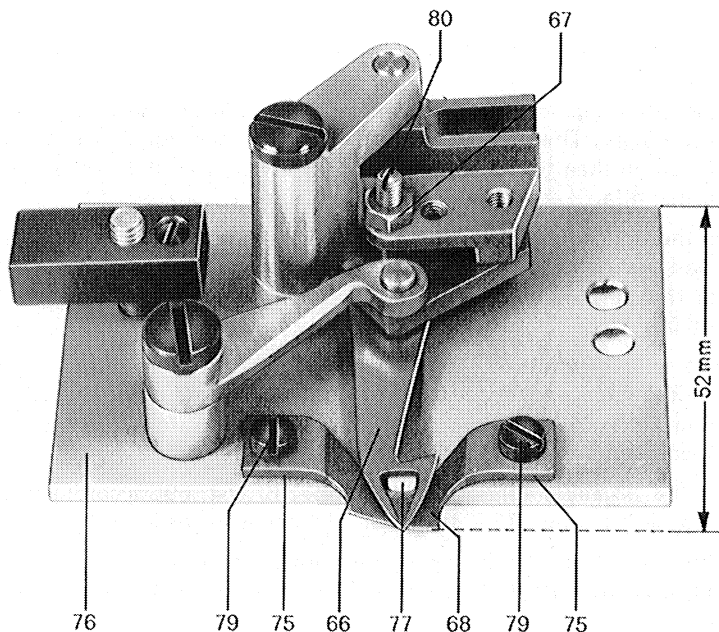


Fig. 58

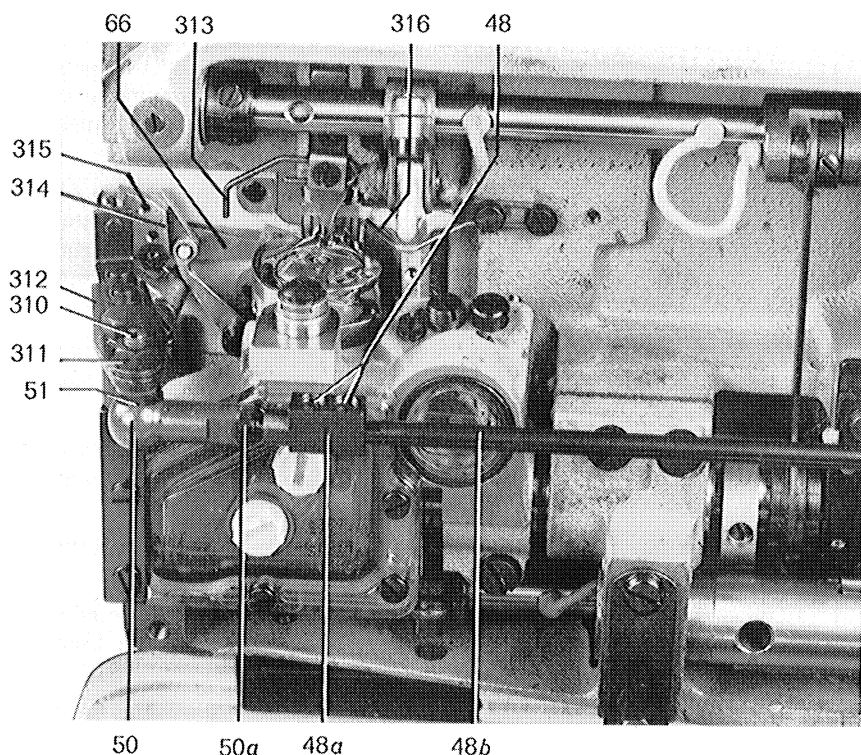


Fig. 59

For adjusting, loosen the screws 48 (fig. 59) and turn the bar 48a accordingly. The tripping sheet 53 (fig. 53) must touch the stop 53a. Retighten then the screws 48 (fig. 59). Ensure that the screws press on the bar 48a.

If the adjustment possibility in the block 48b is not sufficient, the hook shaped knife 66 can be preset by turning the ball cup 50. Loosen for this purpose the counter nut 50a and remove the cup 50 from the ball 51.

The right hand position of the hook shaped knife is determined automatically by adjusting its left final position. The hook shaped knife should move to the right so far that the threads are still safely caught when the needle stitches at the extreme right hand side.

In the negative, adjust the ball bolt 310 (fig. 59) accordingly after loosening the nut 311 in the longitudinal hole of the lever 312.

Displace upwards for increasing the knife movement

Displace downwards for reducing the knife movement

Do not move the hook shaped knife more that is required for safely catching the threads.

Check then and, if required, correct the left final position.

The stop 313 avoids deflection of the thread cutter. Adjust it so that in the extreme right end position of the hook shaped knife the bridge 314 of the guide plate 315 touches the stop 313.

The wire 316 (fig. 59) avoids that the thread loop is pressed away when the threads are being caught.

Set the wire approximately against the middle of the bobbin case base. Between the wire and the bobbin case base there should be a distance of about 0.5 mm. Increase this value in case of thicker threads.

Instructions for DÜRKOPP 265 and 267 above -100000

DÜRKOPP 265 and 267 of the sub-classes above -100000 are single needle zigzag locktitch machines with an electro-pneumatic automatic device. Operated by the clutch pedal, it ensures following operations:

Lowering the presser foot, backtacking the seam beginning, backtacking the seam end, cutting off upper and lower thread, lifting the presser foot.

In addition to the following special instructions for the sub-classes above -100000 please note also the preceding chapters "Machine, stand and drive", "Instructions for Operators", "Instructions for Mechanics", and "Instructions for thread cutter -15000".

57. Installing the machine

When installing the machine head, remove the transit protection below the base plate, in the area of the thread cutter.

a) Motor

The machines can be driven
by the Quick Digital stop motor QD552/D40K02

Efka Variostop motor VD552/6F52F

Efka Variostop motor VD552/6F43V

Georgii Posistop motor P0KD13/A411

Normally they are wired for three-phase a.c. 3x380 V, 50 Hz.

Motors for another voltages at request.

Note:

The maximum speed should be modified exclusively by the change of the belt pulley.

The Efka Variostop motor is a positioning motor with several speed ranges and with an electromagnetic clutch. As can be seen from the motor instructions, the speed within the respective speed range can be quickly modified.

The cutting speed = positioning speed (1st stitch range) of 150 rpm should not be modified.

The Quick Electronic Stop motor is an electronically controlled and continuously adjustable positioning motor with electro-magnetically controlled clutch.

The cutting speed of 150 rpm should not be modified. See also the motor operating instructions.

When connecting the machines ensure that the service voltage, indicated on the type plate of the motor, complies with the mains voltage. For resetting for any other voltage note the available motor operating instructions and the wiring diagram in the motor terminal box.

b) Connecting to the motor control

Introduce the 10-pole plug of the machine head, of the positioner and of the magnet clutch and brake into the respective bushes of the motor control.

For the operation of the machines with automatic sewing foot lift and automatic backtacking device the compressed air must have the pressure of 6 bar. The air must be free from water and should be slightly saturated with oil.

For this purpose, fasten the conditioning unit 23 (fig. 60) on the sheet 24.

Pass a PK4 hose from the conditioning unit to the screw joint 26 (fig. 61) of the cylinder 27.

Fill the oiler 28 (fig. 60) of the conditioning unit with Spinesso 10 oil or with a similar quality oil.

Set the service pressure for 6 bar by the wheel 29.

By means of the screw 30 regulate the oil mist intensity so that after 15 to 20 working cycles the tube under the sight glass 31 loses one drop of oil.

At certain intervals check the oil level in the oiler 28. It should not drop below the tube end.

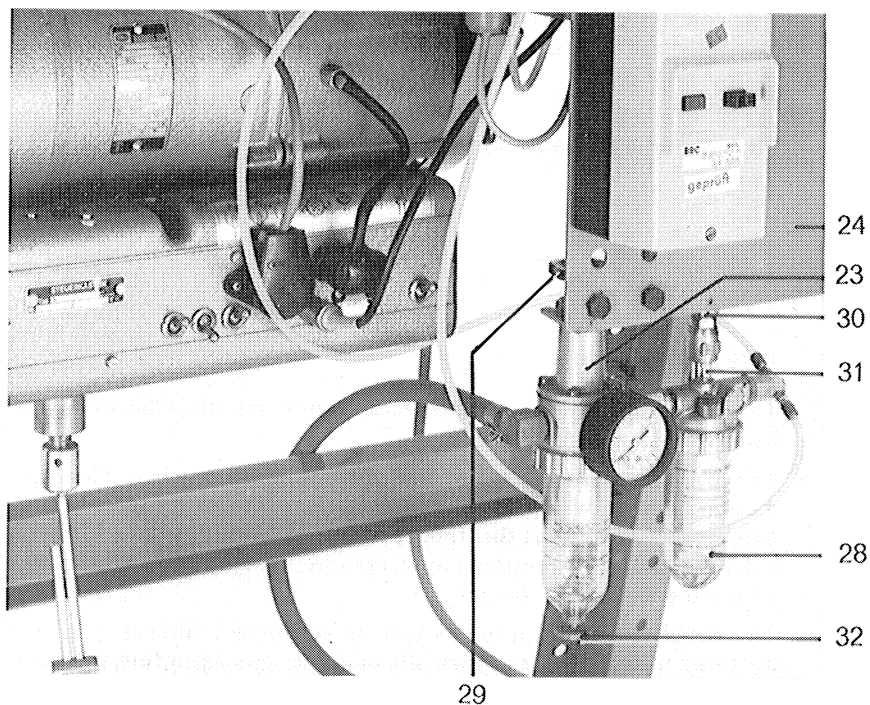


Fig. 60

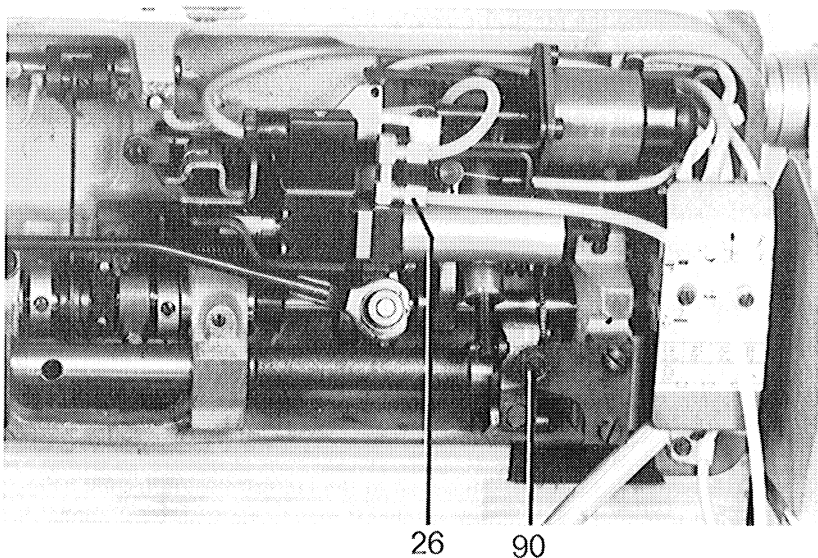


Fig. 61

Any condensed water accumulated in the filter tray should be drained by tightening the screw 32 while the conditioning unit is under pressure.

c) Positioner

Fit and set the positioner as described in chapter 54, item d).

58. Backtacking

Initial backtacking

The beginning of the seam is backtacked automatically. Plain or double backtacking can be used.

The plain backtacking begins with three reverse stitches. Then the machine sews forwards. When sewing straight stitches the three reverse stitches can be so short that they are covered by the first long forwards stitch. Regulate the reverse stitch length by the stop screw 90 (fig. 61) after loosening its counter nut.

The double backtacking begins with three forward stitches, followed by three reverse stitches. Then the machine sews again forwards. The backtacking can be eliminated by a switch of the motor control.

Backtacking speed

After lowering the pedal the backtacking is performed automatically at constant speed. It is only after backtacking that the sewing speed (number of stitches) can be influenced by the pedal.

The backtacking speed depends on the stitch length and can be regulated by a potentiometer in the motor control. Do not exceed greatly the feeding speed of 6 m/min.

Following comparisons of stitch lengths with the recommended backtacking speeds can be used as references:

Stitch length	Backtacking speed
2.5 mm	2500 rpm
3 mm	2000 rpm
4 mm	1500 rpm
6 mm	1000 rpm

The backtacking speed has been set in the factory for 2500 rpm. Therefore, in machines with longer stitches it may be necessary to reduce the backtacking speed accordingly.

See the instructions of the motor manufacturer.

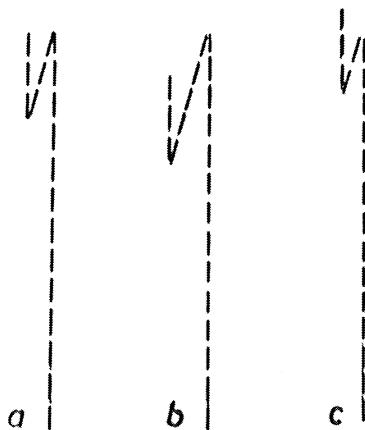
Setting the seam pattern for double backtacking

In case of double backtacking the last reverse stitch should be level with the first forward stitch. See fig. a.

The change from reverse to forward stitches can be timed by a potentiometer. The setting of this potentiometer depends on the backtacking speed. Therefore, when modifying the backtacking speed it is necessary to check and, possibly, to rectify the seam pattern.

If a seam pattern looks like shown in fig. b, the backtacking speed or the potentiometer value are too high.

If the seam pattern looks like shown in fig. c, the potentiometer value is too low.



Final backtacking

Start the backtacking by heeling the pedal down to the second speed range. It is carried out at constant speed and automatically, like the initial backtacking.

The backtacking can be stopped by a switch on the motor control.

Backtacking speed

The final backtacking speed has been adjusted in the factory for 1700 rpm and this speed should not be modified. But in case of need it can be corrected by a potentiometer of the motor control.

Cutting stitch

The backtacking stitches are followed by a so-called cutting stitch, when the threads are cut off.

This is a reverse stitch.

It is also possible to execute at the seam end double backtacking. In this case the motors must be reset according to the motor operating instructions.

59. Operation

Only one pedal is used for controlling the sewing motor and the automatic equipment, serving for lifting and lowering the cloth presser foot, for backtacking the seam extremities, for cutting off the threads and, again, for lifting the cloth presser foot. This extremely facilitates the operation of the machine.

By operating this pedal, following machine functions will be obtained:

1. The pedal is in its neutral position when it is in no way operated. The needle stands at its topmost point and the presser foot is lowered.
2. By lowering the pedal from its neutral position backwards, down to the first pressure point, the presser foot will be lifted. By returning the pedal to its neutral position the presser foot can again be lowered. This process can be repeated as often as required.
3. By lowering the pedal forwards, the sewing motor will be engaged with a delay, so that the presser foot safely rests on the material for starting the seam. Following the initial backtacking the machine will sew forwards as long as the pedal is kept lowered.
4. By returning the pedal to its neutral position, the needle will be positioned. The presser foot will remain lowered. For lifting the presser foot without cutting the threads, for instance for sewing a corner, move the pedal from its neutral position to the first pressure point.
5. If the pedal is heeled down to the stop, the seam end will be backtacked and the threads will be cut. The presser foot will remain lifted as long as the pedal is kept in this position. It will descend again when the pedal returns to its neutral position.

For backtacking the seam and for cutting the threads the pedal can be heeled at any time, no matter whether the machine is running or not.

Note:

If at the start of a new seam the needle thread end is to be pulled through the fabric, ensure that it is not clamped between the presser foot and the fabric. It should hang out of the eye of the needle. This can be obtained by removing and introducing the fabric or by fitting the DÜRKOPP thread wiper Z 120.

Following the cutting action, the thread wiper magneted is operated and the needle thread end is pulled out of the fabric. The presser foot is raised as soon as the wiper wire returns to its final position.

Furthermore, the machines can be fitted with a push button or with a knee switch for changing over for reverse stitches. Thus it is possible, at any point of the seam, to sew any length backwards.

60. Remedy in case of trouble

The most frequent causes of disturbances are compiled hereunder. They will be easily overcome by following closely the instructions given in this manual.

Major defects of the machine must be repaired by a sewing machine mechanic.

Needle thread breaking

Needle too fine for the size of the thread used,

Needle incorrectly fitted,

Thread knotty,

Thread brittle, having been kept in stock too long and/or having dried out,

Upper thread incorrectly threaded,

Upper thread tension too tight,

Upper thread tension too slack,

Thread jamming the hook race,

Oil supply to the hook insufficient,

Hook lubrication interrupted,

Edge of the hole in throat plate damaged,

Hook or bobbin case damaged,

Thread tension spring broken or out of adjustment.

Irregular tightening of stitches

Bobbin case dirty or the bobbin unround and rotates therefore heavily or irregularly,

Tension spring at bobbin case cannot be properly regulated, because

dirt or pieces of thread have accumulated underneath same
Thread pulling thread not sufficiently elastic,
Upper and/or lower thread knotty or uneven.

Irregular length of stitches

Foot pressure insufficient,
The presser foot is loose,
Feed dog not suitable for the work involved,
Rows of teeth of the feed dog clogged with lint or dirt,
Teeth of feed dog blunt.

Bobbin thread breaking

Bobbin case incorrectly threaded,
Bobbin thread of inferior quality,
Tension of bobbin thread too tight,
Bobbin case dirty,
Bobbin case not round or revolving heavily in bobbin case,
Stitch hole in throat plate damaged.

Needle breaking

Needle bent and, therefore, caught by the hook point,
Needle too fine for the work involved,
Needle too fine for the thread used,
Tension of the needle thread too tight,
Needle deflected by thick spots in the material,
Needle bent by pulling or pushing the material.

Skipped stitches

Needle incorrectly fitted,
Wrong needle system used,
Upper thread incorrectly threaded,
Needle size not corresponding to the thread size,
Thread too strongly twisted,
Thread catch at the needle bar does not operate properly.

61. Instructions for DÜRKOPP 265-4903 and -18903

DÜRKOPP 265-4903 and -18903 are lockstitch zigzag sewing machines, having an undertrimmer on the throat plate. The 265-18903 are furthermore fitted with an electromechanical thread cutter.

The undertrimmer is driven by a motor, located under the base plate of the machine. This increases the cutting performance, which remains constant also when slowing down or stopping the sewing process. Neat cut edges, particularly in corners and small curvers.

The undertrimmer drive is available for the following voltages:

$\Delta = 208 \text{ V} - 10\%$, 50–60 Hz up to $230 \text{ V} + 10\%$, 60 Hz

$Y = 346 \text{ V} - 10\%$, 50 Hz up to $415 \text{ V} + 6\%$, 50 Hz

Technical data

Speed

up to 5000 st/min.

ex Works 4500 st/min.

Stitch length

up to 2.5 mm, forwards and backwards

Throw width

0–3 mm

Sewing foot lift

4 mm

Needle system

265-50 EO S1

Operation

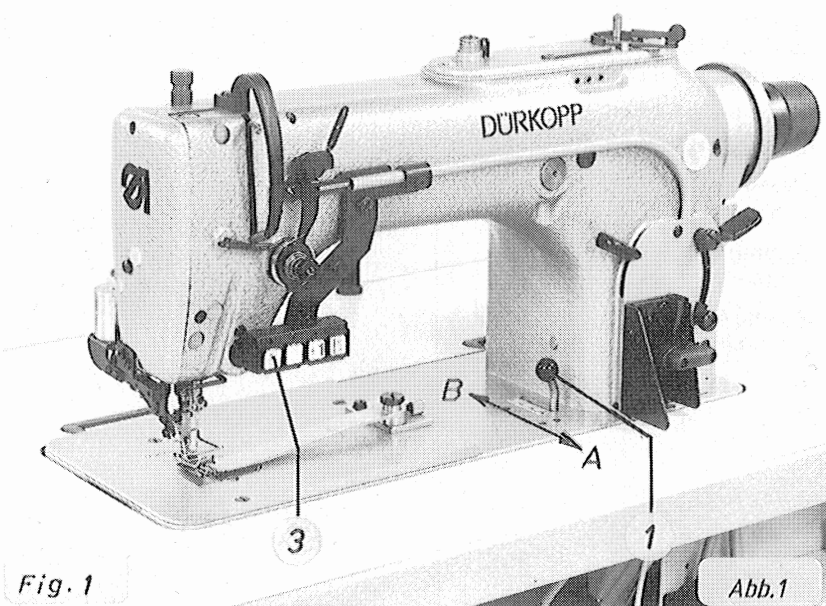
The engagement and disengagement of the upper knife and the modification of the stroke can be done by the lever 1 (fig. 1).

Move in the arrow direction A = for engaging the upper knife and increasing the knife stroke.

Move in the arrow direction B = for reducing the knife stroke and disengaging the upper knife.

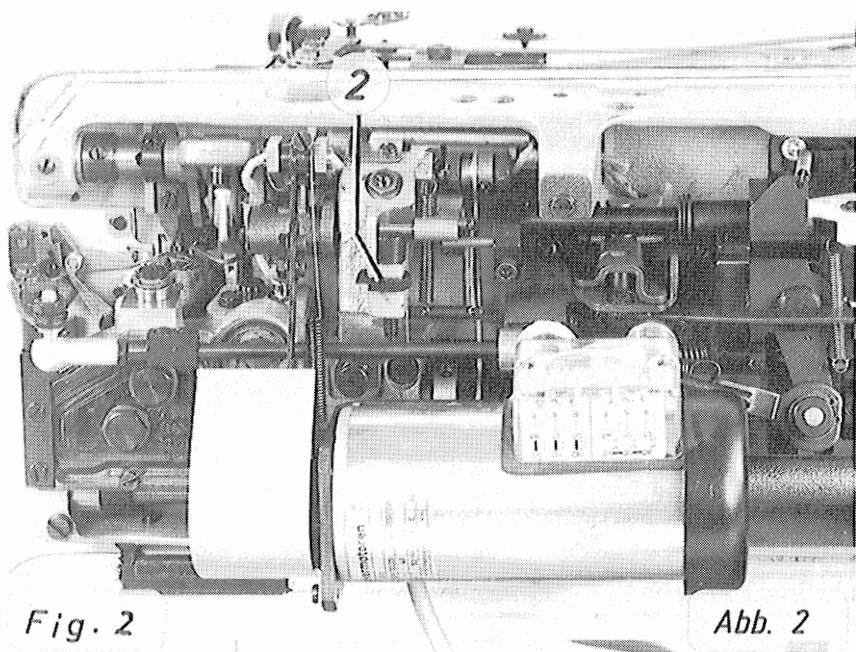
The switching can be done with the machine stopped or at any sewing speed.

For limiting the knife stroke turn the knurled nut 2 (fig. 2).



For operating the undertrimmer independently from the sewing motor, the DÜRKOPP 265-4903 requires special coupling rods with integrated pull switch for the undertrimmer drive.

Connect the supply cable of the switch to the additional control unit. See the wiring diagram 79874027 1B.



Owing to the predetermined play in the rods it is possible to let operate the undertrimmer drive already before the sewing start.

At the seam end the undertrimmer can still operate when the sewing motor is already uncoupled.

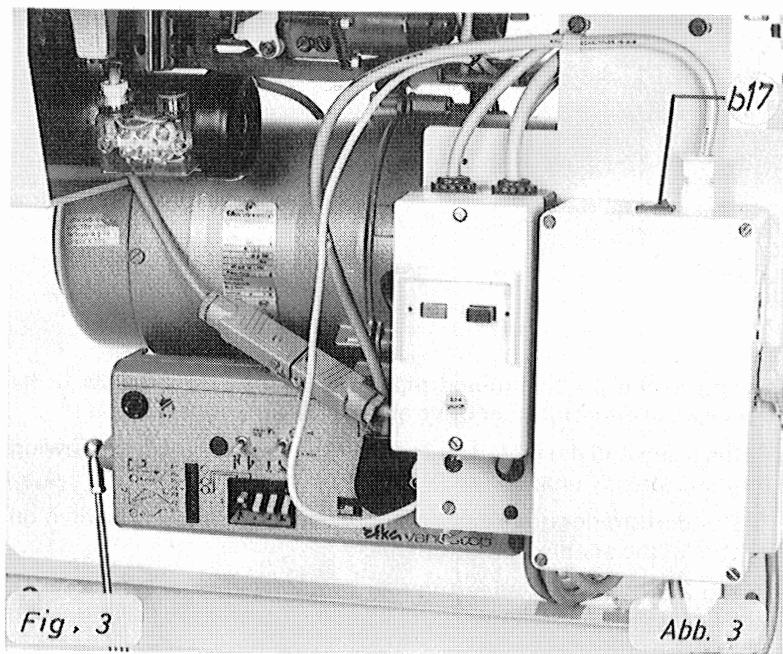
The undertrimmer drive can be disconnected by a toggle switch on the top of the additional control unit.

In the **265-18903** the undertrimmer is operated also by the clutch pedal. The cutting performance will remain constant even if the speed is reduced.

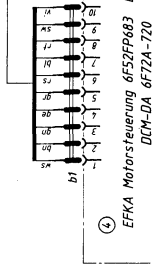
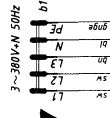
By means of the key 3 (fig. 1) the undertrimmer can be engaged independently from the sewing motor, i.e. when the clutch pedal is not operated.

Further key functions: + 1 stitch and needle "up-down"

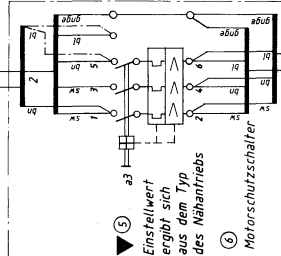
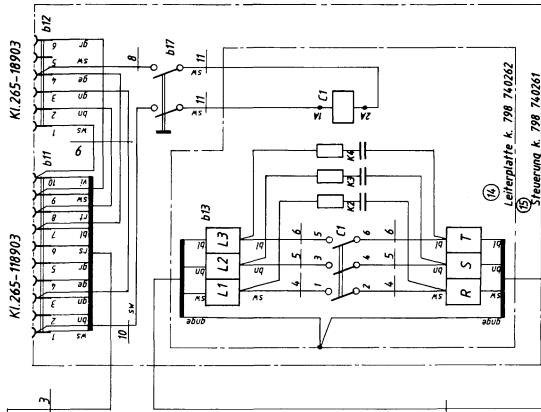
The toggle switch b17 (fig. 3) permits to disconnect the undertrimmer.
Adjust the undertrimming device according to the chapters 36–39.



② Netzstecker



③ Anschluß Oberteil



⑤ Einstellwert ergibt sich aus dem Typ des Nahantriebs

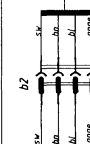
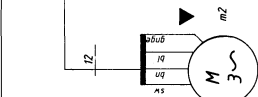
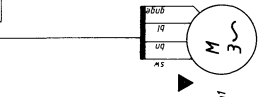
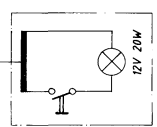
⑥ Bei 230V und 240V prim.

⑦ "1" Stich

⑧ Zwischenriegel

⑨ Riegelunterdrückung

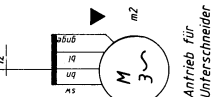
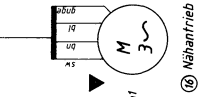
⑩ Unterstecker



⑪ 230V bis 240V

⑫ 340V bis 450V

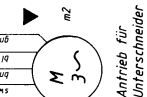
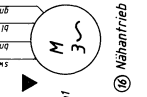
⑬ 200V bis 240V



⑭ 230V bis 240V

⑮ 340V bis 450V

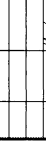
⑯ 200V bis 240V



⑰ 230V bis 240V

⑱ 340V bis 450V

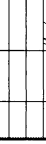
⑲ 200V bis 240V



⑳ 230V bis 240V

㉑ 340V bis 450V

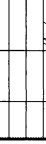
㉒ 200V bis 240V



㉓ 230V bis 240V

㉔ 340V bis 450V

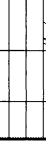
㉕ 200V bis 240V



㉖ 230V bis 240V

㉗ 340V bis 450V

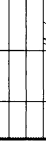
㉘ 200V bis 240V



㉙ 230V bis 240V

㉚ 340V bis 450V

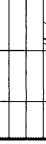
㉛ 200V bis 240V



㉜ 230V bis 240V

㉝ 340V bis 450V

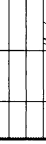
㉞ 200V bis 240V



㉟ 230V bis 240V

㊱ 340V bis 450V

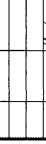
㊲ 200V bis 240V



㊳ 230V bis 240V

㊴ 340V bis 450V

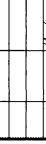
㊵ 200V bis 240V



㊶ 230V bis 240V

㊷ 340V bis 450V

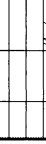
㊸ 200V bis 240V



㊹ 230V bis 240V

㊺ 340V bis 450V

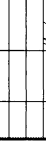
㊻ 200V bis 240V



㊼ 230V bis 240V

㊽ 340V bis 450V

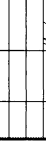
㊾ 200V bis 240V



㊿ 230V bis 240V

㊱ 340V bis 450V

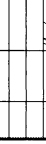
㊲ 200V bis 240V



㊳ 230V bis 240V

㊴ 340V bis 450V

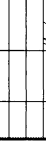
㊵ 200V bis 240V



㊶ 230V bis 240V

㊷ 340V bis 450V

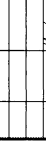
㊸ 200V bis 240V



㊹ 230V bis 240V

㊺ 340V bis 450V

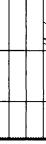
㊻ 200V bis 240V



㊼ 230V bis 240V

㊽ 340V bis 450V

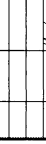
㊾ 200V bis 240V



㊿ 230V bis 240V

㊱ 340V bis 450V

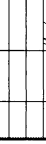
㊲ 200V bis 240V



㊳ 230V bis 240V

㊴ 340V bis 450V

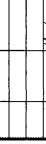
㊵ 200V bis 240V



㊶ 230V bis 240V

㊷ 340V bis 450V

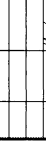
㊸ 200V bis 240V



㊹ 230V bis 240V

㊺ 340V bis 450V

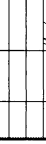
㊻ 200V bis 240V



㊼ 230V bis 240V

㊽ 340V bis 450V

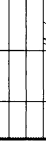
㊾ 200V bis 240V



㊿ 230V bis 240V

㊱ 340V bis 450V

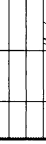
㊲ 200V bis 240V



㊳ 230V bis 240V

㊴ 340V bis 450V

㊵ 200V bis 240V

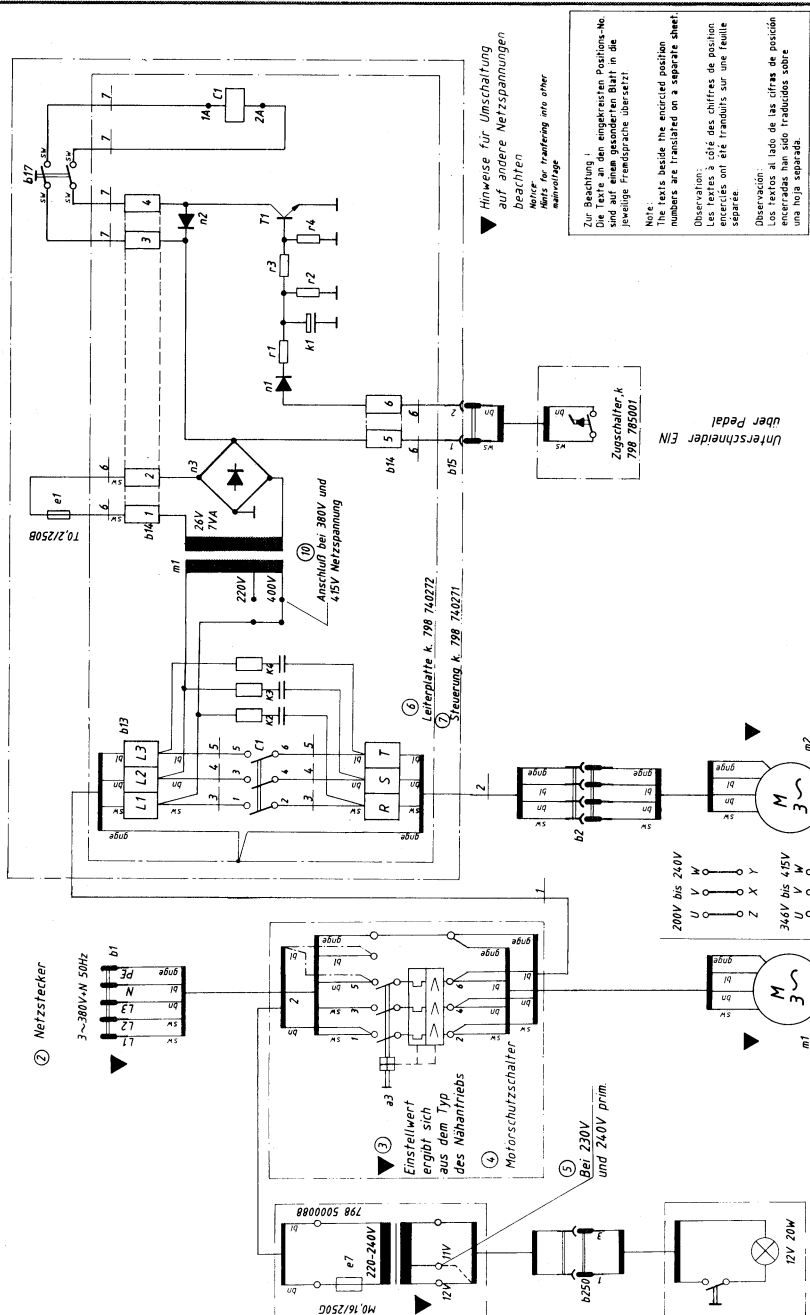


㊶ 230V bis 240V

㊷ 340V bis 450V

㊸ 200V bis 240V





**Hinweise für Umschaltung
auf andere Netzspannungen
beachten**
Notice

Zur Beachtung !
Die Texte an den eingekreisten Positions-No.
sind auf einem gesonderten Blatt in die
jeweilige Fremdsprache übersetzt.

Note:
The texts beside the encircled position numbers are translated on a separate sheet.

Observation :
Les textes à côté des chiffres de position encadrés ont été traduits sur une feuille séparée.

Observación:
Los textos al lado de las cifras de posición encerradas han sido traducidos sobre una hoja separada.

Unterschneider EIN
über Pedal



5m

Zugschalter, k
798 785001



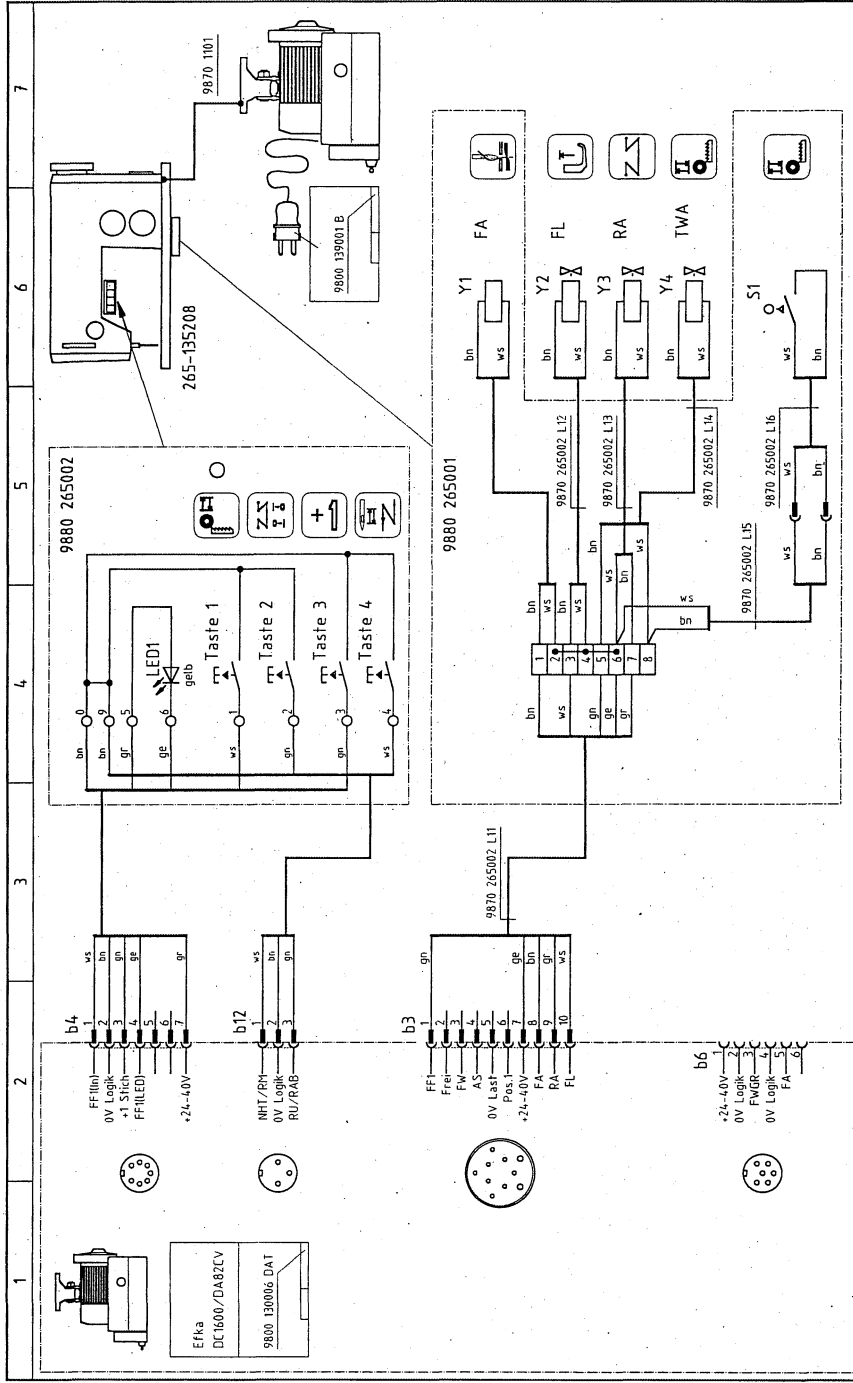
DÜRKOP

DÜRKOPP

*Bauschaltplan
für Kl. 265-4903*

798 740271B

 Zeichentechnik 4800 Bielefeld 1 ☎ (0521) 650115 P 7 7065



c	Datum	13.07.98	Teilfamilie		265-135208		Bauschaltplan	
b	Bearb.	RE	DÜRKOPP		ADLER AG		9890 265001 B	
a	Gepr.		Freigabe		0557 / 98		Blatt	
	Name		Bielerfeld				1/1	
	Änderung	Datum						
	Norm							