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Preface and General Safety Notes

Part 1: Operating Instructions Cl. 550-12-12

1. Product Description

1.1 Short Description and Proper Use

The **DÜRKOPP ADLER 550-12-12** is a configured sewing station for the programmed advance crimping of shoulders and sewing on of the sleeve joining.
With the appropriate optional equipment it can also be used for selvedges on armholes, neckholes, etc.

- The sewing station is equipped with a single needle-double chain stitch sewing machine with differential bottom transport and foot upper transport.
- The upper transport and forward feed dog of the differential bottom transport work synchronized. They can be set and switched different to the rear feed dog.
- Electro-pneumatic thread trimmer for upper and lower thread.
- Pressure foot stroke and stitch condensation at seam beginning and seam end.
- A microprocessor control assumes the automatic multi-width regulation with programable follow-up switching.
- The memory capacity of the controls allows the pre-programming of 20 sewing programs including the complete graduated size sets. Each sewing program can contain up to 13 steps per seam run. Each step can have its own designated crimp value.
- Mirroring left-right sewing piece via the push of a button.
- Very simple programming via an operating terminal with graphic monitor. The operating surface of the monitor can be called up in 10 languages by pushing a button.
- With a memory card program transfer to other sewing stations, as well as program retention, can occur.

Proper Use !

The **DÜRKOPP ADLER 550-12-12** may only be used for the advance crimping of shoulders, the sewing on of sleeve joinings and, with the appropriate optional equipment, for selvedge work with materials of textile fibers and leather.

1.2 Optional Equipment

If the **DÜRKOPP ADLER 550-12-12** is to be used for bordering of armholes, neckholes, etc., then is must be equipped with the optional equipment listed in chapter 2.5.2.

1.3 Technical Specification

Machine head:	Class 935 - 940 - 6
Needle system:	934 SIN
Needle thickness:	Nm 90
Threads:	As needle and hook thread spun monofilament sewing yarns
Stitch type:	401 double chain stitch
Number of stitches:	3200 / min (recommended number of stitches ex works)
Stitch length:	2.5 mm for rear feed dog (fixed setting) Transport length for forward feed dog and transport foot adjustable up to 6 mm
Stitch condensation:	1.5 mm
Operating pressure:	6 bar
Air consumption:	approx. 0.5 NL per work cycle
Nominal voltage:	1 x 220 - 240 V, 50 / 60 Hz
Dimensions:	(H x W x D) 1600 x 1530 x 951 mm

2. Operation

2.1 Threading the Needle Thread (Upper thread)

Caution Risk of Injury !

Turn main switch off.
Thread the upper thread only with the machine switched off.

- Place the thread spool 1 on the thread stand.
- Guide the thread as shown through the holes and tension discs in the thread guide plate.
- Guide the thread in order through guide plate 3, thread guide 4, thread tension 8, thread guide 6 and thread drawing plate 7.
- Guide the thread through thread guide 13 and thread drawing lever 12.
- Guide the thread through pre-tension 9, thread guide 10 and needle eye. Cut off the excess thread end.

2.2 Threading the Hook Thread (Lower Thread)

Caution Risk of Injury !

Turn main switch off.
Thread the lower thread only with the machine switched off.

- Place the thread spool 2 on the thread stand.
- Guide the thread as shown through the holes and tension discs in the thread guide plate.
- Guide the thread in order through the guide plate 3, thread guide 4, thread tension 5 and lower thread guide 19.
- Feed the thread through the slot (see arrow) in the thread gutter 18.
- Remove cover plate 11 and swing holder 14 up out of its catch. Guide the thread through thread guides 15 and thread drawing hook 16.
  Swing holder 14 back and allow to catch.
- Pull the thread through the hook 17 with a tweezers and pull tight. Insert cover plate 11 again.


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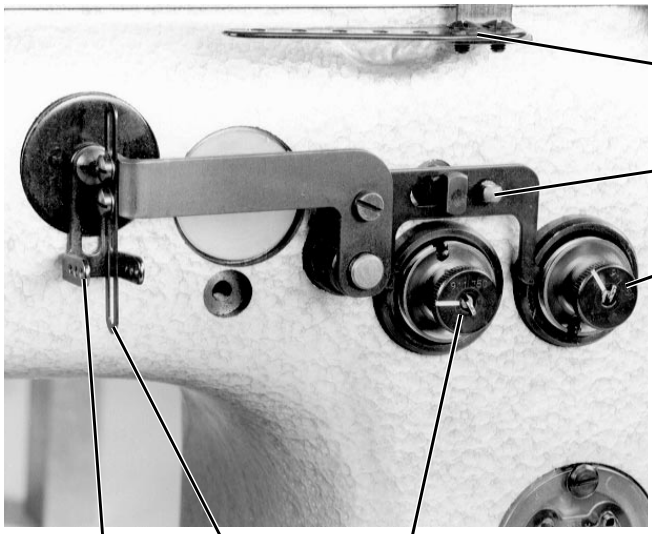
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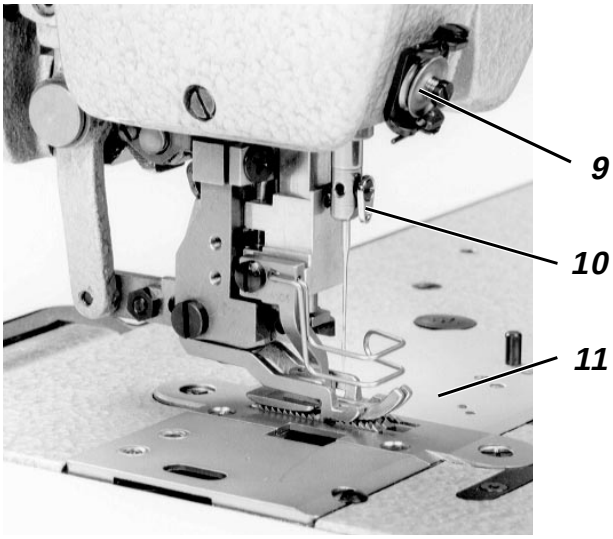
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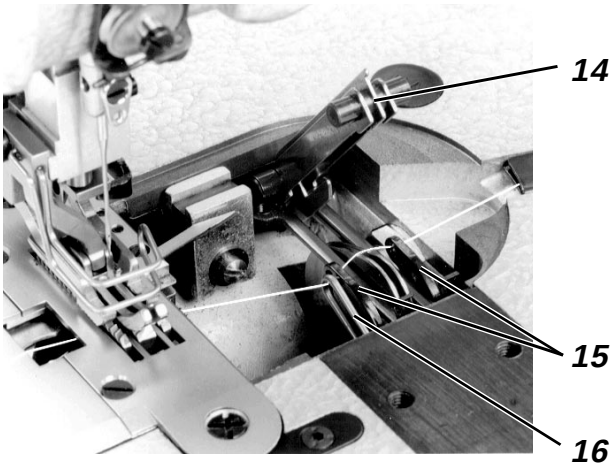
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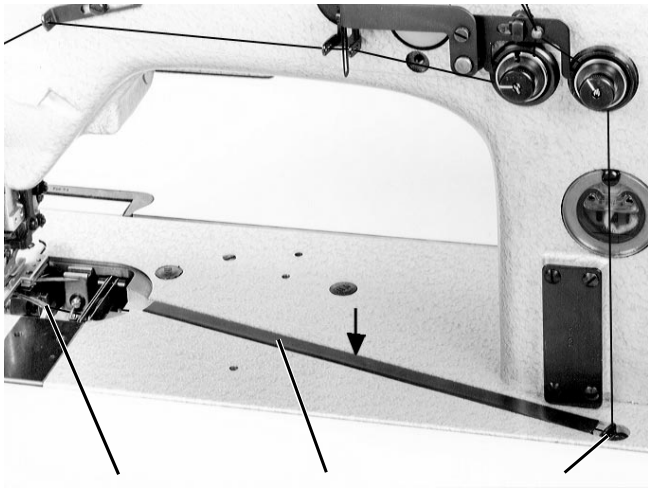
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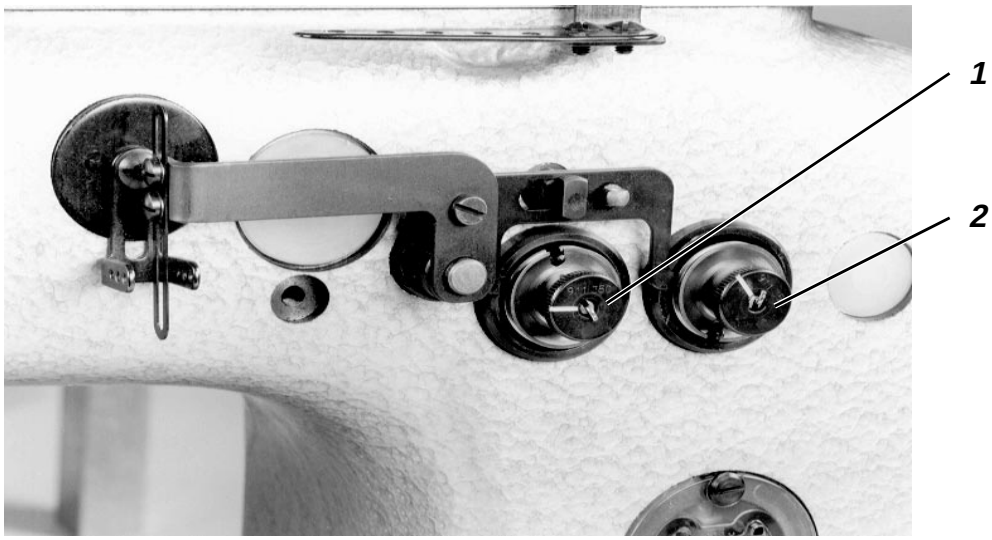
2.3 Thread Tension

The tension of the needle thread (upper thread) must be greater than that of the hook thread (lower thread).

Too great thread tensions cause a puckering of the material. A too low hook thread tension leads to missing stitches.

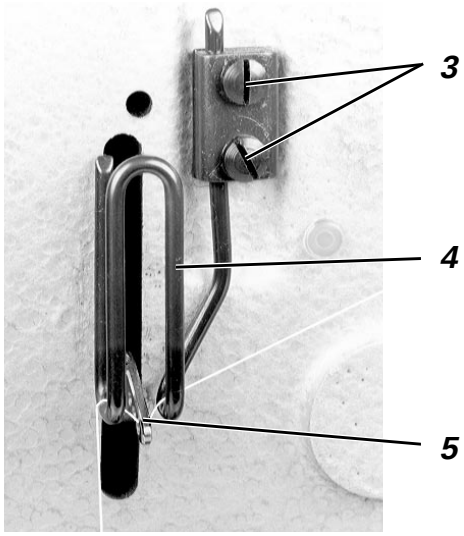


- Set the needle thread tension with the knurled screw 1.
- Set the hook thread tension with the knurled screw 2.

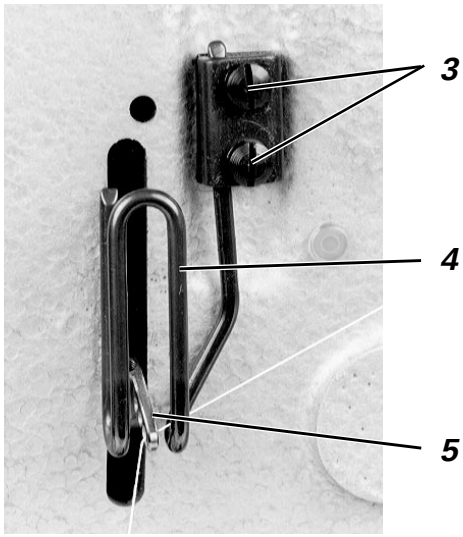
2.4 Upper Thread Quantity for Sure Stitch Formation

With elastic sewing yarns (e.g. synthetic fiber yarns or monofilament yarns) a certain upper thread quantity must be drawn off **for assured stitch formation**.

Elastic sewing threads:



Non-elastic sewing threads:



Caution Risk of Injury !

Turn main switch off.
Set the thread regulator only with the machine switched off.

Elastic sewing threads:

- Turn the handwheel until the thread drawing lever 5 is in its lowest position.
- Loosen screws 3.
- Set the thread regulator 4.
  The thread hole in the thread drawing lever 5 must be visible **below** the thread regulator 4.
- Tighten screws 3 again.
- Guide the needle thread down **over** the forward bow of the thread regulator 4.

Non-elastic sewing threads (e.g. cotton):

- Turn the handwheel until the thread drawing lever 5 is in its lowest position.
- Loosen screws 3.
- Set the thread regulator.
  The thread hole in the thread drawing lover 5 must be visible **above** the thread regulator 4.
- Tighten screws 3 again.
- Guide the needle thread down **in front** of the forward bow of the thread regulator 4.

2.5 Optional Equipment reinforcing

2.5.1 General

With the **optional reinforcing equipment** the cut edge of the material is secured (reinforced) by attaching tape .

The tape feeder automatically feeds the reinforcement tape during sewing.
The tape unwinder enables tension-free attaching of the reinforcement tape.

After a programmed number of stitches the tape scissors cut the reinforcement tape within the seam.
Thus, the reinforcement tape does not jut out at the material edges.

Exchangeable presser feet enable the use of 3 different reinforcement tape widths.

Reinforcing can be performed either during automatic operation or manual operation.

2.5.2 Optional equipment

Z129 3202 Tape unwinder for tension-free feeding of reinforcement tapes

Z129 3002 Tape feeder and cutter for automatic feeding and cutting the reinforcement tape

940 10010 Feeding foot specifically for reinforcing operations

Depending on the tape width:

940 10002 Presser foot with guide worm for 1.5-mm-wide reinforcement tape

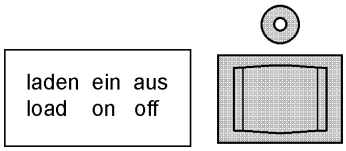
940 10022 Presser foot with guide worm for 2-mm-wide reinforcement tape

940 10042 Presser foot with guide worm for 3-mm-wide reinforcement tape
This also requires:

940 10050 Tape guide at the tape feeder for 3-mm-wide reinforcement tape

2.5.3 Operating elements

The tape feeder features 3 switches (see figure Loading the **reinforcement tape**).
The switch functions are listed in the table below.

Switch	Setting	Function
	**loading**	Threading and positioning the reinforcement tape.
	on	Operation setting when sewingwith automatic operation (automatic feeding of the reinforcement tape). The indicator lamp is switched on.
	off	The tape feeder is switched off.
		Manual feeding of the reinforcement tape.
		Manual cutting of the reinforcement tape.

2.5.4 Loading the reinforcement tape

- Load the reinforcement tape as shown in the figure **Loading the reinforcement tape**.
  While loading make sure not to twist the reinforcement tape.
- Set the switch **A** at "**loading**".
- Introduce the reinforcement tape into guide **B**.
  The reinforcement tape is transported via the guide into the funnel **C**.
- Pull the reinforcement tape upward out of the funnel **C** using a pair of tweezers.
- Set the switch **A** at "**on**" (centre position).
  The reinforcement tape is automatically cut and clamped above the funnel.
  It is now in its feeding position.

ATTENTION !
Always be sure to remove the cut pieces of the reinforcement tape from the funnel.
If the cut pieces are not removed, they will hinder the automatic feeding of the reinforcement tape !
Remove the cut pieces using a pair of tweezers or by sewing with air jet.

- The tape feeder is ready for sewing.

2.5.5 Adjustments on the tape unwinder

The tape unwinder enables tension-free attaching of the reinforcement tape.
The tape unwinder rollers draw a defined length of reinforcement tape from the tape roll. This drawn reinforcement tape is then attached.

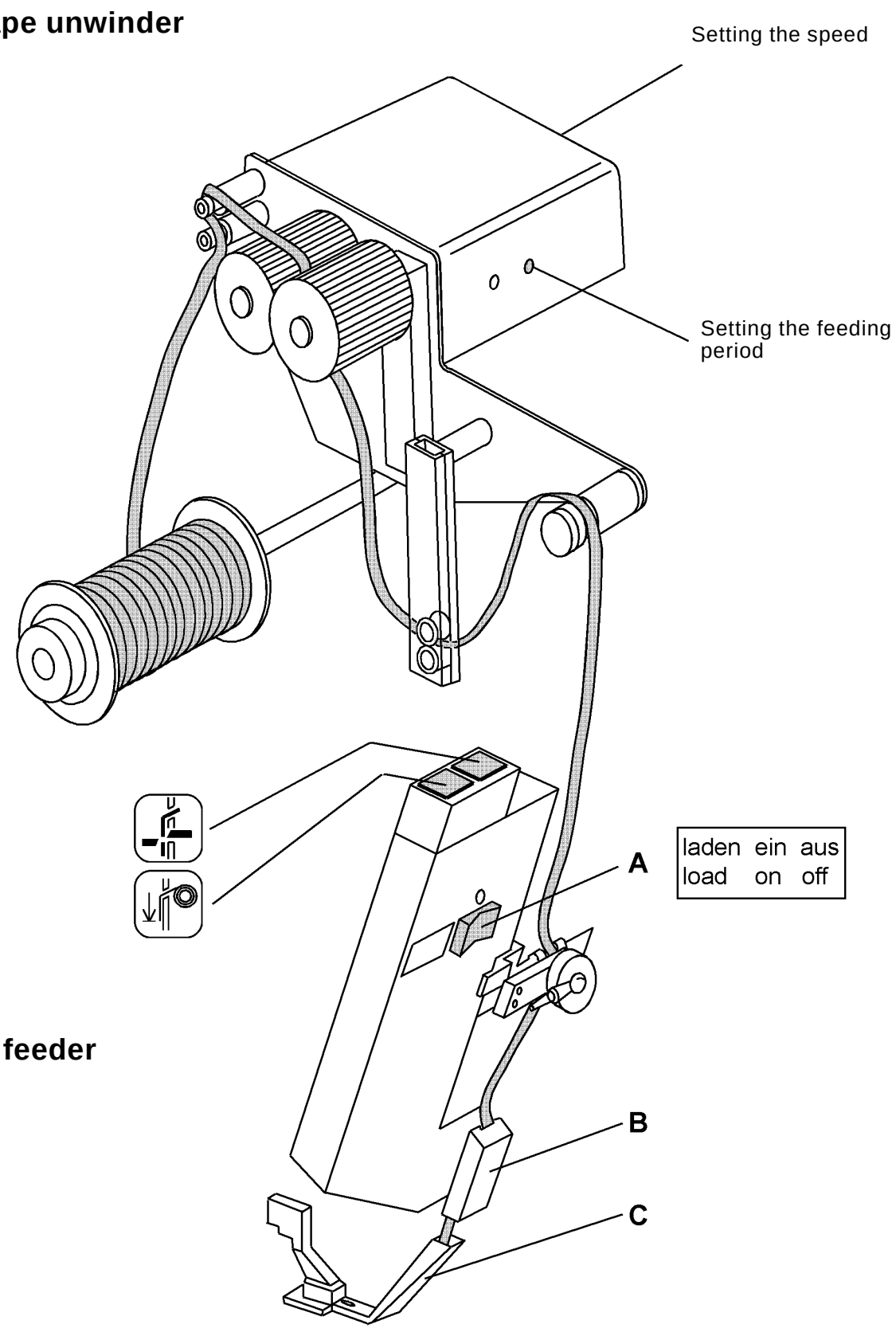
The speed and feeding period of the tape unwinder rollers must be adjusted to each other such that even at maximum sewing speed and with maximum seam length the reinforcement tape is never drawn directly from the tape roll.

Adjusting elements

Two potentiometers are at the tape unwinder (see figure **Loading the reinforcement tape**).

Potentiometer	Function
Setting the speed	The potentiometer serves to set the speed of the tape unwinder rollers.
Setting the feeding period	The potentiometer serves to set the feeding period (operating period) of the tape unwinder rollers.

Loading the reinforcement tape:



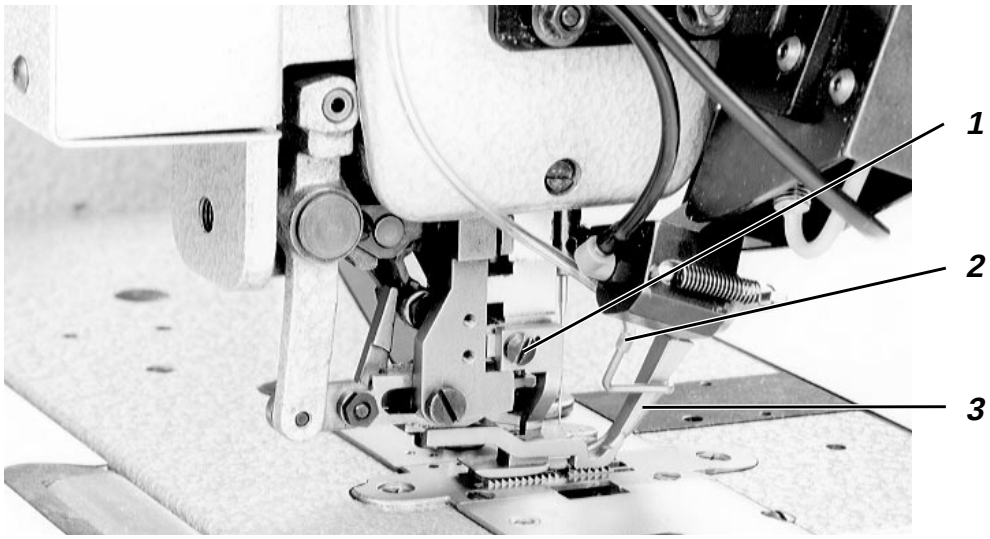
2.5.6 Replacing the pressure foot

Caution Risk of Injury!

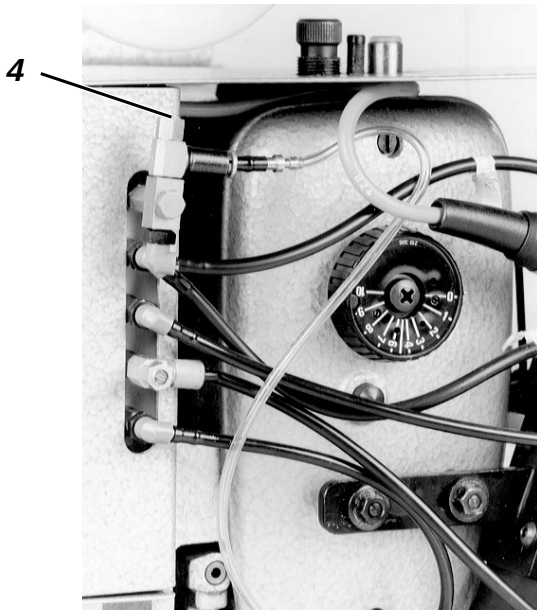
Turn the main switch off.
Replace the pressure foot only with the machine turned off.

The three exchangeable pressure feet available as optional equipment make possible a working of three different selvedge tape widths (1,5 mm, 2,0 mm and 3,0 mm)

Dependet on the selvedge tape used, the corresponding pressure foot and the wider tape guide B must be mounted.



- Remove the needle.
- Carefully pull the compressed air supply 2 from pressure foot 3.
- Loosen mounting screw 1 and replace pressure foot 3.
- Tighten mounting screw 1 again.
- Carefully plug the compressed air supply 2 onto pressure foot 3.
- Insert the needle again.
- Set the optimum compressed air supply for the new selvedge tape width at regulating screw 4 through sewing trials.



3. Maintenance

Caution Risk of Injury !

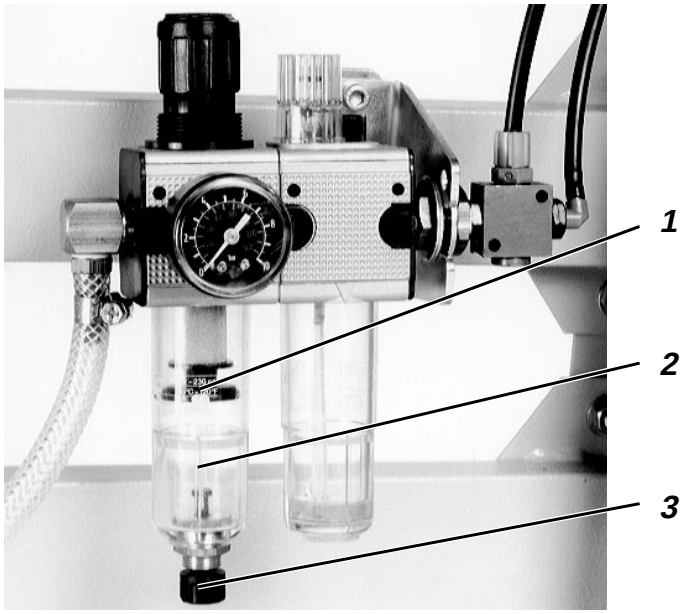
Turn main switch off.
Maintenance of the sewing unit may only be conducted when it is switched off.

3.1 Cleaning

A clean machine protects against malfunctions !

Daily Cleaning:

- Especially the area below the needle plate should be cleaned of sewing dust and lint accumulation (e.g. with a compressed air gun). For cleaning the parts under the fozndation plate tilt the machine head to the back.
- Check the water level in the pressure regulator.
  The water level should not rise up to the filter insert 1.
  After turning the drain screw 3 drain water out of the water seperator 2 under pressure.



Depending on the amount of dust:

- Clean the feed dog spar of sewing dust.
  For this remove the needle plate.

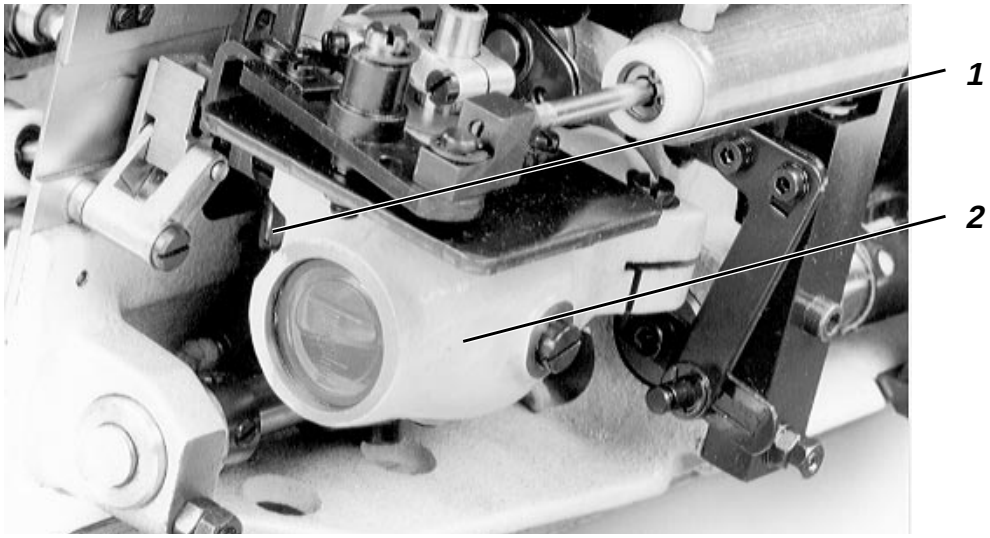
3.2 Lubricating

For lubricating the machine use only **ESSO SP-NK 10** lubricating oil.
SP-NK 10 is available from the **DÜRKOPP ADLER AG** sales offices.

Checking the oil level in the hook drive housing

– The oil level in the hook drive housing 2 should not fall below the lower, long marking line on the viewing glass when the machine is tilted to the back.

– If necessary, fill oil to the upper marking line.
For this screw out the oil fill screw 1.

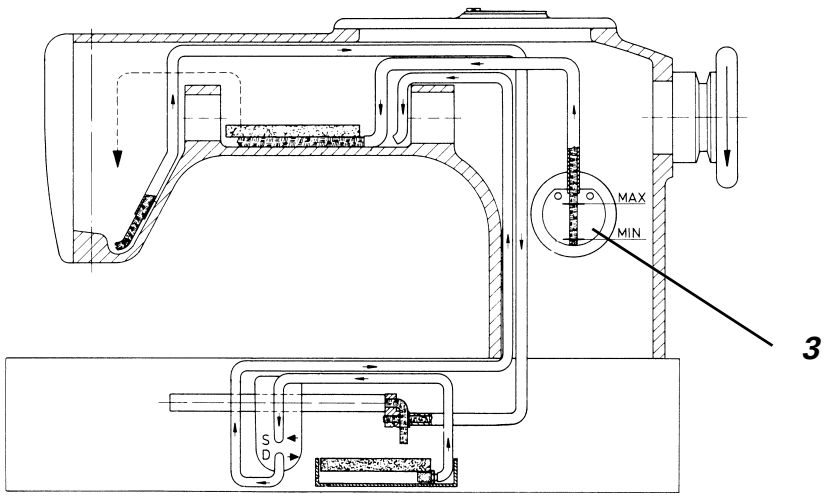


Checking the oil level in the reservoir

The reservoir 3 supplies all bearing positions of the machine except for the hook drive via a central oil wick lubrication.

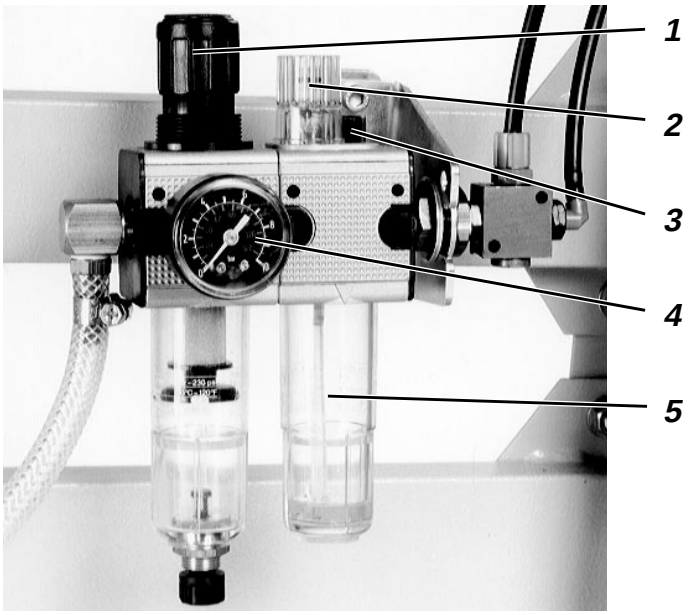
– The oil level in the reservoir 3 should not fall below the "Min" mark with the machine head upright.

– If necessary, fill oil through the holes in the viewing glass up to the "Max" mark.



Checking the oil level in the oil reservoir of the maintenance unit

- The oil level in oil reservoir 5 should not drop below the groove marking.
- If necessary, fill oil up to the groove marking.
- For this completely shut off the compressed air by turning the knob 1 to the left.
- To fill screw out the oil fill screw 3.
- After filling with oil set an operating pressure of 6 bar by pulling up the knob 1 and turning it to the right.
  The set operating pressure can be seen on the pressure gauge 4.



Checking the oil flow of the oil mister

- Under operating pressure a drop of oil should drip out of the tube under viewing glass 5 after about 10 work cycles.
- Regulate the strength of the thus created oil mist with the setting screw 2.