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1. Product description

The **DÜRKOPP ADLER 69** is an all-purpose special sewing machine.

- Double-lockstitch free-arm machine with underfeed, needle feed and alternating foot overfeed.
- Depending on the subclass, a single-needle machine with or without thread clipper beneath the needle plate.
- Slim free arm with large passage space and large sewing-foot stroke. Maximum passage space beneath raised sewing feet: 12 mm (with sewing-foot-raising knee lever).
- Small horizontal shuttle.
- The sewing machine can be supplied with a closed, cut-out or fold-down left-hand table-plate half. The fold-down version permits the unobstructed manipulation of large items round the free arm.
- Smooth, draw-free edging and precision sewing of inner and outer arcs by an integral follow binder mechanism.
- Knee-operated pneumatic rapid stroke-adjustment mechanism to switch the foot overfeed to maximum sewing-foot stroke (optional extra).

2. Designated use

The **69** is a special sewing machine designed to be used to sew light to medium-heavy materials. As a rule such material consists of textile or synthetic fibres, but it also includes leather.
These materials are used in the clothing, footwear and leatherwear industries, as well as in domestic and automobile upholstery.

This special sewing machine can also be used to execute so-called technical seams. However, the operator must carry out an assessment of the possible dangers (with which **DÜRKOPP ADLER AG** would be happy to assist), as such applications are comparatively unusual and they are potentially of enormous diversity. Depending on the outcome of this assessment it may be necessary to take special safety precautions.

Generally speaking material processed with this special sewing machine must be dry, its thickness when compressed by the lowered sewing feet must not exceed 7 mm and it must contain no hard objects, since otherwise the operator of the machine would have to wear protective goggles (which cannot at present be supplied).

The seam is generally executed with textile-fibre sewing threads up to 30/3 NeB (cotton yarns), 40/3 Nm (synthetic yarns) or 30/3 Nm (covering yarns) in size. The use of any other threads must also be subject to an assessment of the risks involved and the taking of any necessary safety precautions.

The premises in which this special sewing machine is set up and operated must be dry and well-maintained. If it is to be used in premises which are not dry and well-maintained, special precautions may be necessary: these must be the subject of an agreement (see EN 60204-3-1:1990).

As manufacturers of industrial sewing machines we work on the assumption that personnel working on our machines will be at least semi-skilled, so that they can be presumed to be familiar with all normal operations and with the dangers inherent in them.

3. Subclasses

class 69-373: single-needle double-lockstitch free-arm sewing machine with underfeed, needle feed and alternating-foot overfeed

class 69-FA-373: as class 69-373, but with electromagnetic thread clipper beneath the needle plate

3.1 Optional extras

order no.	optional extra
FLP 14-2	**electro-pneumatic sewing-foot-raising mechanism** pedal-operated.
RAP 14-1	**electro-pneumatic bar-tack and sewing-foot-raising mechanism** pedal-operated.
HP 11-1	**Pneumatic rapid stroke-adjustment mechanism for the overfeed** knee-operated.
WE-6	**Maintenance unit** For pneumatic optional extras.
0797 003031	**Pneumatic connection pack** For the pneumatic connection of frames with the maintenance unit and pneumatic optional extras. Consisting of connecting hose (length 5 m, diameter 9 mm), connectors, bands, coupler plug and socket.
9822 510001	**Halogen lamp** WALDMANN, with 12V/20W bulb, attached to the upper part of the machine.
0798 500088	**Lamp transformer** For 230V, with mains connector, without switch, for 9822 510125 and 9822 510001 lamps.
0707 487519	**Lamp-attachment set** For 9822 510001 lamp.

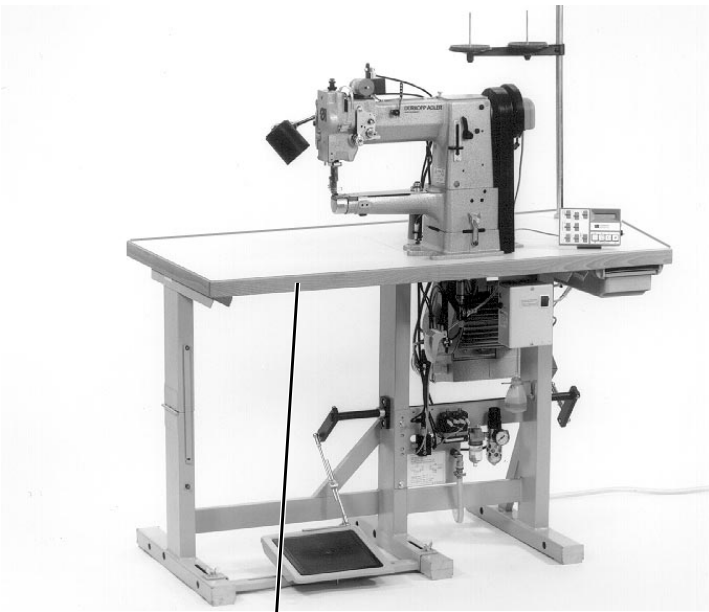
4. Technical data

Lc noise-level indicator: workplace-related emission valuein accordance with DIN 45635-48-A-1-KL2

Lc = **81 dB (A)**

class: 69-373, 69-FA-373
stitch length: 4 mm
sewing-foot stroke: 3.2 mm
stitch rate: 1700 [min^{-1}]
material: double Skai 1.6 mm 900 g/m^2 DIN 53352

Needle system:		134
Needle thickness (depending on E no.)	[Nm]	110 - 130
Maximum sewing-thread thicknesses: - cotton - synthetic endless - covering yarn	 [NeB] [Nm] [Nm]	 30/3 40/3 30/3
stitch rate: - maximum - ex works	 [min^{-1}] [min^{-1}]	 2000 1700
maximum stitch length: - forwards - backwards	 [mm] [mm]	 5 5
maximum sewing-foot stroke:	[mm]	7
maximum passage space beneath raised sewing feet: - sewing foot raised by lifting lever - sewing foot raised by knee lever	 [mm] [mm]	 7 12
operating pressure:	[bar]	6
rated voltage:		3 x 220-240 V, 50/60 Hz 3 x 380-415 V, 50/60 Hz
dimensions: - MG 53-3 frame (H x W x D) - MG 56-2 frame (H x W x D)	 [mm] [mm]	 1540 x 1060 x 550 1560 x 1200 x 600
working height: - MG 53-3 frame [mm] - MG 56-2 frame [mm]	... 760 - 850 780	
weight (upper part only):	ca. [kg]	33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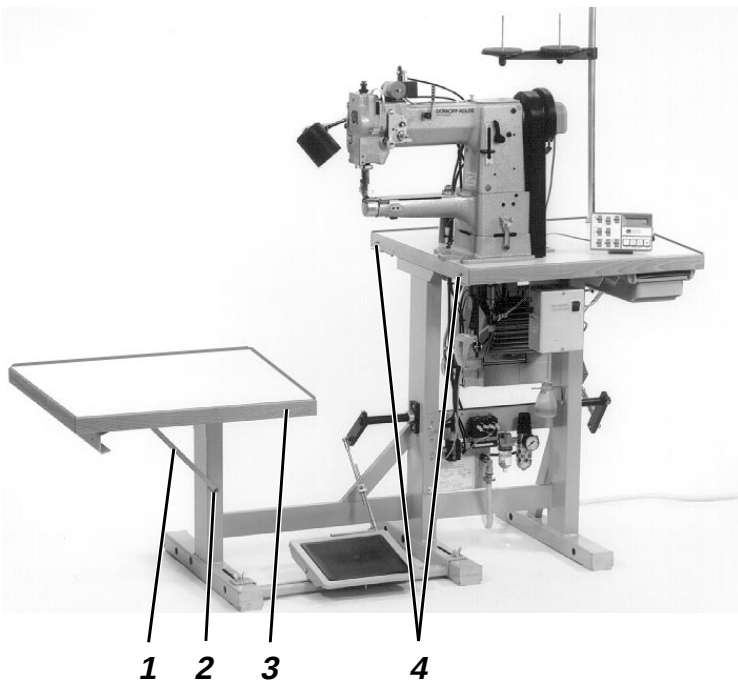
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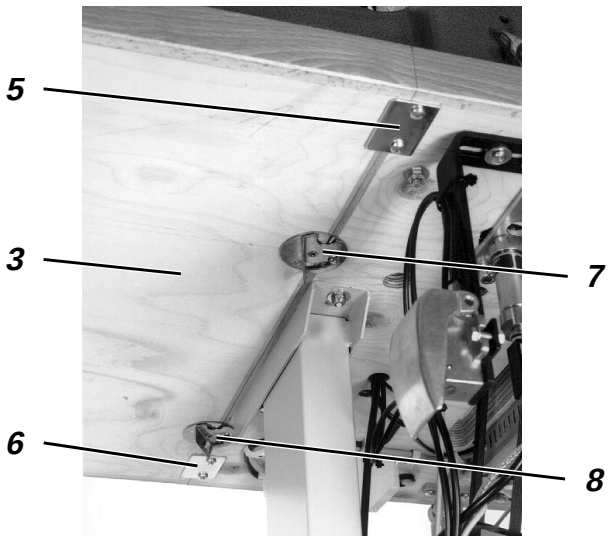
5. Operation

5.1 Folding down left-hand half of table plate (MG 56-2 frame only)

When the special sewing machine is fitted with the **MG 56-2** frame the table plate consists of two parts. The left-hand half 3 can be folded down to permit the unobstructed manipulation of large items round the free arm.



Folding down the left-hand half of the table plate

- Turn fasteners 7 and 8 beneath the table plate anticlockwise to unlock the left-hand half 3 of the table plate.
- Fold the left-hand half 3 of the table plate down and to the left.
- Hook shackle 1 onto the pin 2 of the left-hand frame upright.

Folding the left-hand half of the table plate back into place

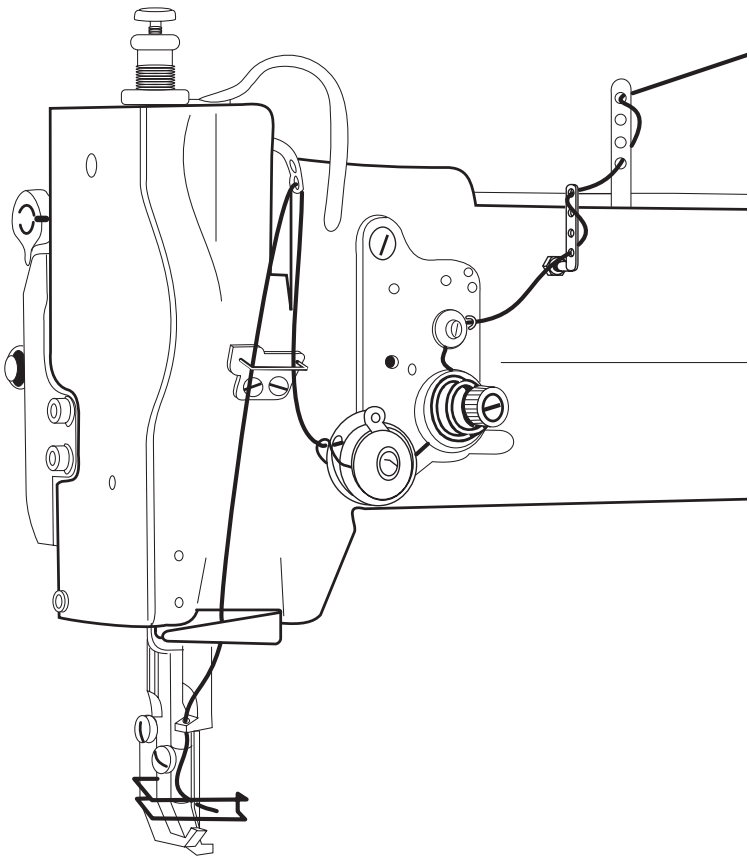
- Unhook shackle 1 from pin 2.
- Lift the left-hand half 3 of the table plate, swivel it to the right and lower it onto support plates 5 and 6.
  The pins 4 in the right-hand half of the table plate must fit into the holes in the left-hand half 3.
- Turn fasteners 7 and 8 beneath the table plate clockwise to lock the left-hand half 3 of the table plate.

5.2 Threading the needle thread

5.2.1 Subclass 69-373

Caution: danger of injury

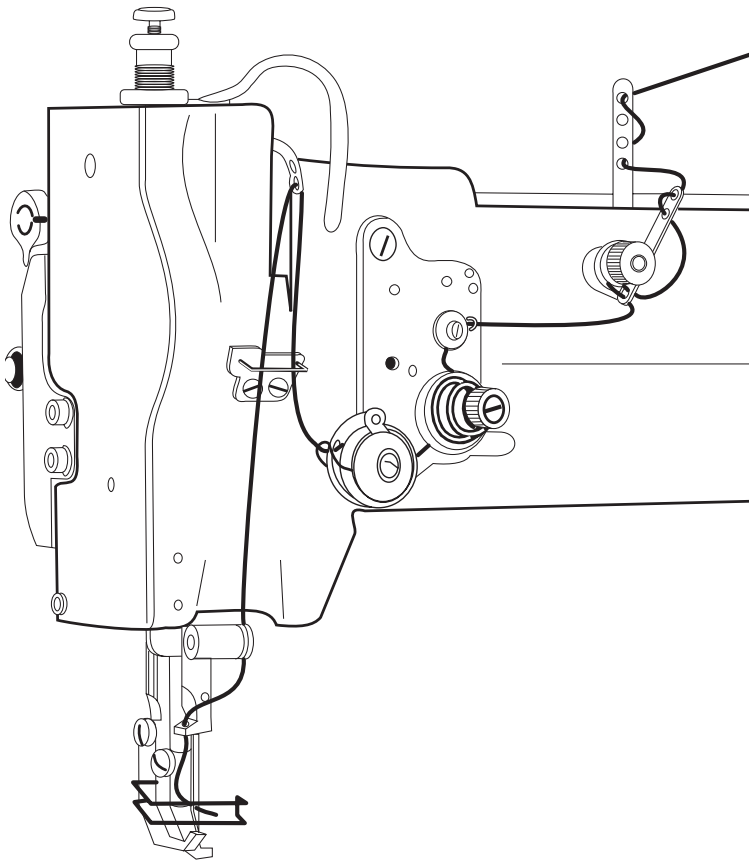
Turn off the main switch
The needle thread may only be threaded with the sewing machine turned off.

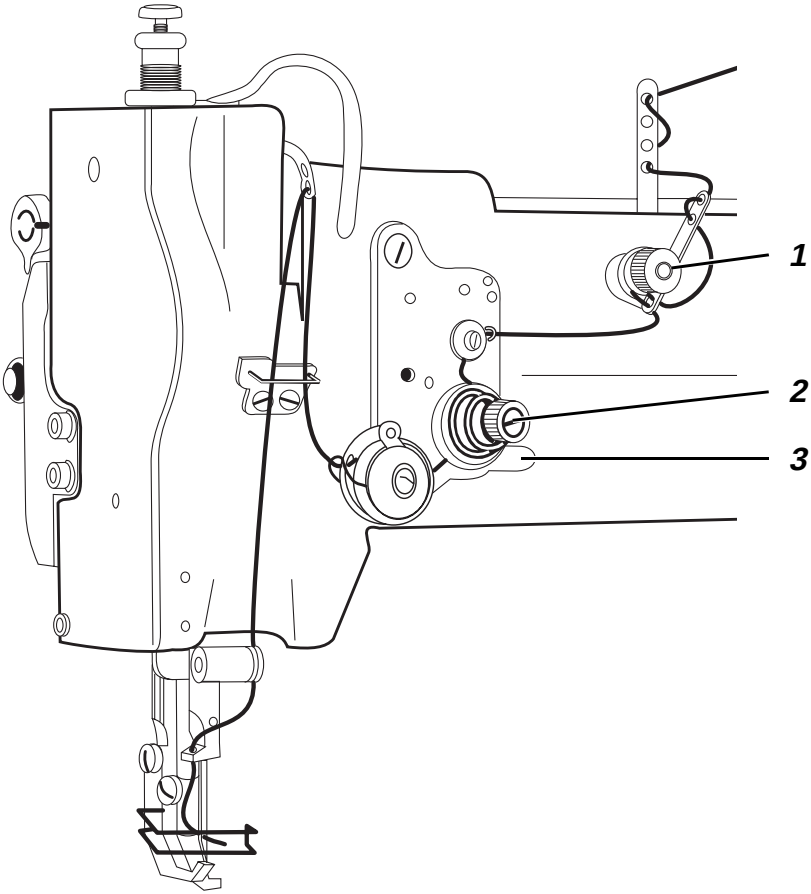


5.2.2 Subclass 69-FA-373

Caution: danger of injury

Turn off the main switch
The needle thread may only be threaded with the sewing machine turned off.





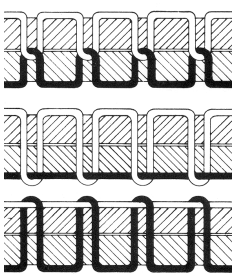


Fig. a: correct thread loop in the centre of the material

Fig. b: needle-thread tension too weak or looper-thread tension too strong

Fig. c: needle-thread tension too strong **or** looper-thread tension too weak

5.3 Adjusting the needle-thread tension

Pre-tensioning mechanism (subclass 69-FA-373)

On subclass **69-FA-373** the needle thread needs to be under residual tension for the thread cutter to function reliably when the main tensioner 2 is open.
This residual tension is created by the pre-tensioning mechanism 1.
The pre-tensioning mechanism 1 also determines the length of the needle-thread end after the thread has been clipped.

The pre-tension 1 should be set lower than the main tension 2.

– Adjust pre-tensioning mechanism 1 by turning the knurled nut.

– After major changes to preliminary tension 1 the main tension 2 should also be adjusted accordingly.

Main tension

The main tension 2 should be set as low as possible.
The looping of the threads must be in the centre of the material (see fig. a).
With thin material excessive thread tension can cause unwanted gathering and thread breakage.

– Adjust the main tensioner 2 so that the stitches are uniform.

5.4 Opening the needle-thread tensioner

Automatic

The main tensioner 2 is opened automatically:

– when the thread is severed (subclass **69-FA-373**).

– when the foot is raised (pedal 1 position backwards)

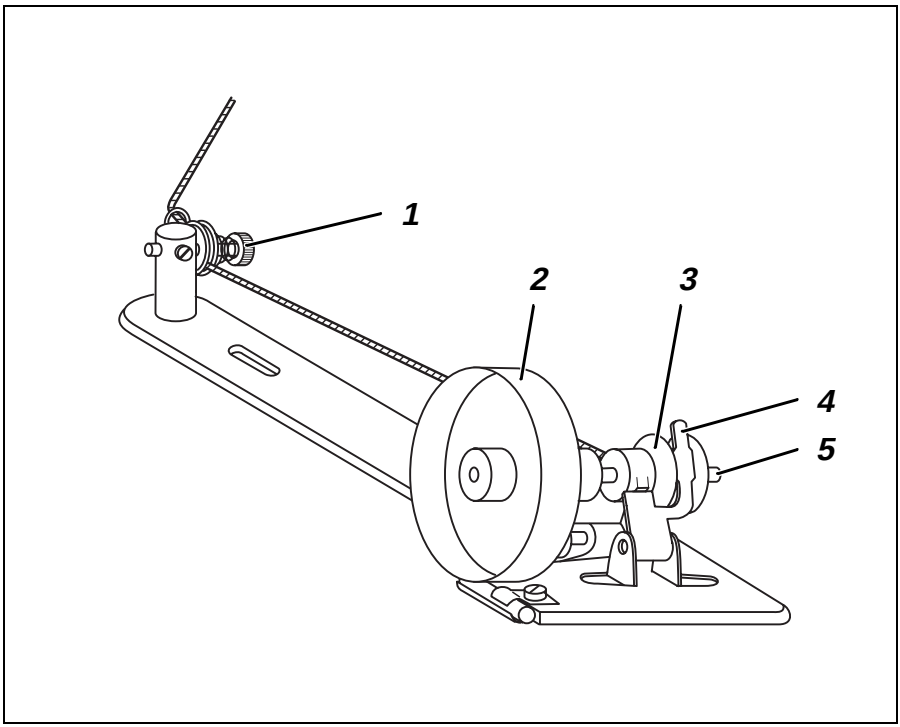
Manual

The main tensioner 2 is opened manually:

– when the release lever 3 is pressed towards the arm.
The main tensioner 2 remains open for as long as pressure is maintained on the release lever 3.

– when the sewing feet are raised mechanically with the knee lever (see chapter 5.9).

– when the sewing feet are locked in the raised position (see chapter 5.10).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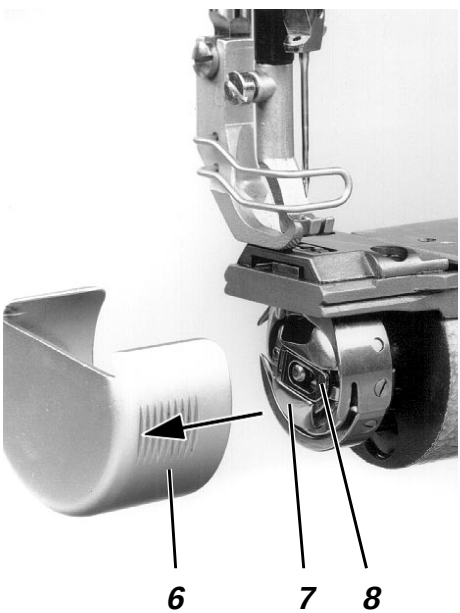
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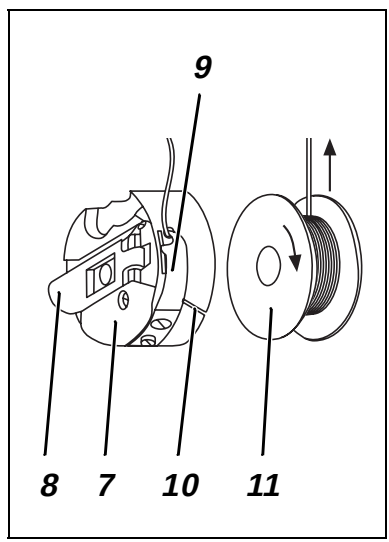
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5.5 Winding on the looper thread

Caution: danger of injury

Turn off the main switch.
The looper thread may be threaded for winding on only when the sewing machine is switched off.

- When winding on for sewing with no underlay material:
  arrest the sewing feet in the up position (see chapter 5.10).
- Thread looper thread as shown in the upper illustration.
- Wind about 5 coils of looper thread clockwise onto the bobbin core.
- Place bobbin 3 on bobbin-winder shaft 5.
- Swivel bobbin-winder lever 4 against the bobbin.
  The bobbin-winder wheel 2 is pressed against the V-belt.
- Adjust tension 1.
  The looper thread should be wound on with minimal tension.
- Sew.
  The bobbin-winder lever 4 terminates the process as soon as the bobbin is full.

5.6 Fitting the looper-thread bobbin

Caution - danger of injury

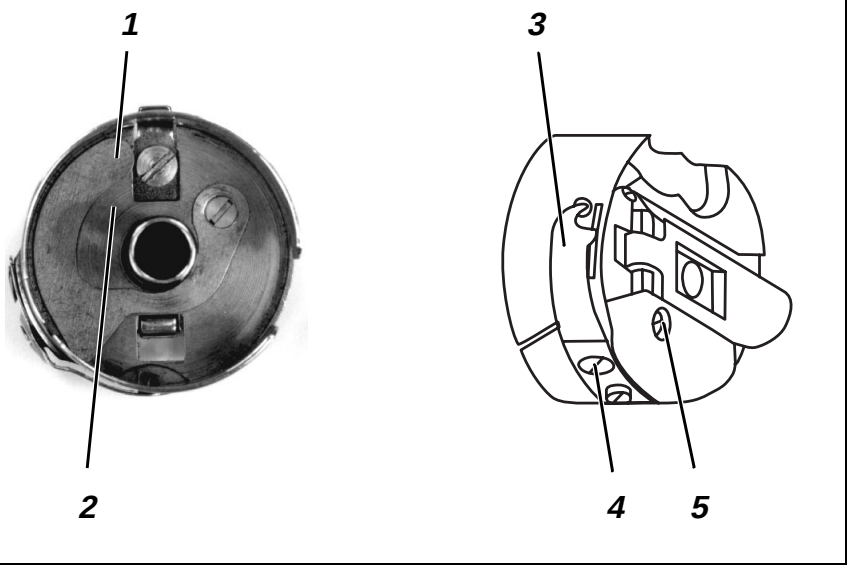
Turn off the main switch.
The looper-thread bobbin may only be changed with the sewing machine switched off.

Removing empty looper-thread bobbin

- Turn handwheel until the needle bar reaches its highest position.
- Pull off cap 6 in the direction of the arrow.
- Raise bobbin-housing flap 8.
- Remove top 7 of bobbin housing with bobbin.
- Remove empty bobbin from top 7 of bobbin housing.

Threading looper thread

- Place full bobbin 11 in top 7 of bobbin housing:
  when the thread is wound off the bobbin 11 must rotate in the direction of the arrow.
- Draw looper thread down through slit 10 under tensioning spring 9. Pull about 8 cm of looper thread out of the top 7 of the bobbin housing.
- Replace top 7 of bobbin housing.
- Close bobbin-housing flap 8.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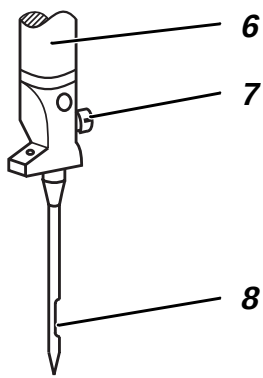
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5.7 Adjusting looper-thread tension

Caution: danger of injury

Turn off the main switch.
The looper-thread tension may only be adjusted with the sewing machine switched off.

Adjusting brake spring 1 (class 69-FA-373)

On subclass **69-FA-373** the brake spring 1 prevents the bobbin from "running on" when the machine halts or if the looper thread is wound off spasmodically.

- Unscrew regulating screw 4 until no tension remains in tension spring 3.
- Adjust brake spring 1 with regulating screw 5.
  The braking force is correctly adjusted if brake spring 1 is about 1 mm above surface 2.

Adjusting tension spring 3

- Adjust tension spring 3 with regulating screw 4.
  to increase looper-thread tension: turn screw clockwise
  to reduce looper-thread tension: turn screw anticlockwise

  For stitch formation see sketch a on page 12.

5.8 Fitting and changing the needle

Caution: danger of injury

Turn off the main switch.
The needle may only be changed with the sewing machine switched off.

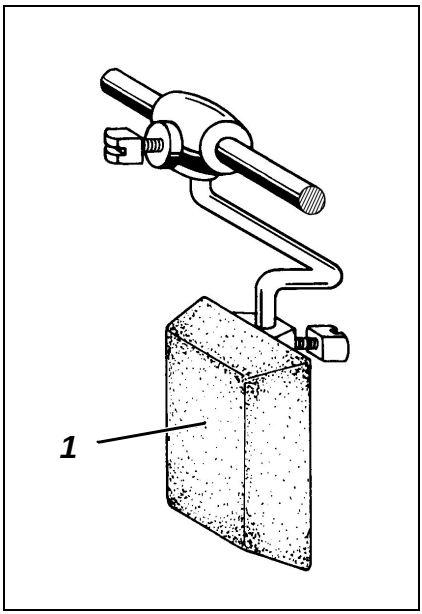
- Turn the handwheel until the needle bar 6 reaches its highest position.
- Undo screw 7.
- Pull needle downwards out of needle bar 6.
- Insert new needle **as far as it will go** into the hole in needle bar 6.
  Caution:
  When seen from the operating side of the machine the furrow 8 of the needle must point to the rights(see sketch).
- Tighten screw 7.

CAUTION:

When a thicker needle is fitted the distance from the shuttle to the needle must bed corrected (see servicing instructions).

Failure to comply with this instruction can cause the following faults:

when fitting a thinner needle:	faulty stitches, damage to thread
when fitting a thicker needle:	damage to the shuttle tip and needle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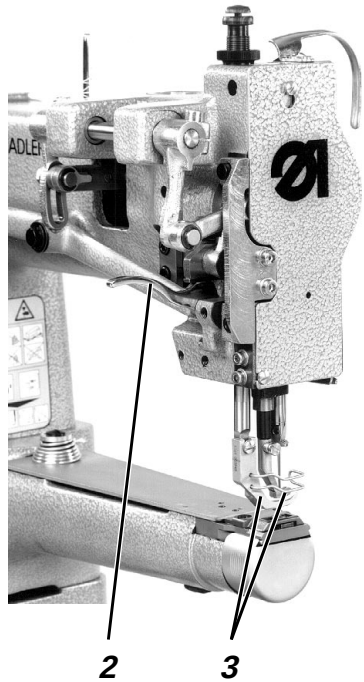
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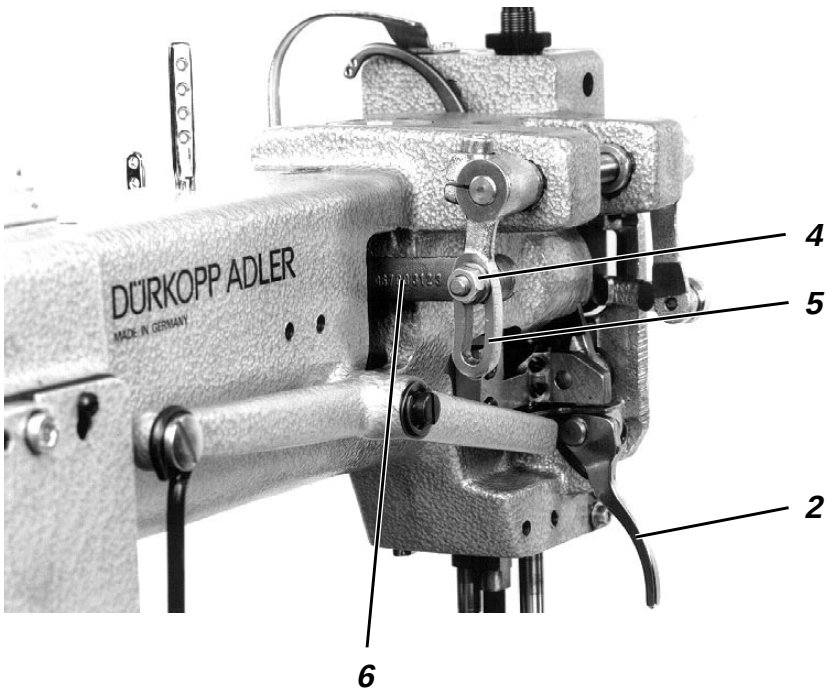
DÜRKOPP ADLER
MADE IN GERMANY
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5.9 Lifting the sewing feet

The sewing feet are raised mechanically or electro-pneumatically, depending on which mechanism is fitted to the machine.

Mechanical sewing-foot-raising mechanism (with the machine at a halt)

– Operate knee lever 1.
  The sewing feet remain raised as long as pressure is maintained on knee lever 1 [].

Electro-pneumatic sewing-foot-raising mechanism
(when FLP 14-2 or RAP 14-1 are fitted)

– Push pedal half-way back.
  The sewing feet are raised with the machine at a halt.

– Push pedal all the way back.
  The thread clipper is activated and the sewing feet raised.

5.10 Locking the sewing feet in the raised position

The mechanically or pneumatically raised sewing feet 3 are locked in the raised position with lever 2 (e.g. for the looper thread to be wound on or the sewing foot changed). Lever 2 is located on the back of the machine arm.

– With the machine at a halt, swivel lever 2 up.
  The sewing feet 3 are locked in the raised position.

– Swivel lever 2 down.
  The sewing feet are no longer locked.

5.11 Adjusting the sewing-foot stroke

The height of the sewing-foot stroke is determined by the position of tension bar 6.

Caution: danger of injury

Turn off the main switch.
The sewing-foot stroke may only be adjusted with the sewing machine switched off.

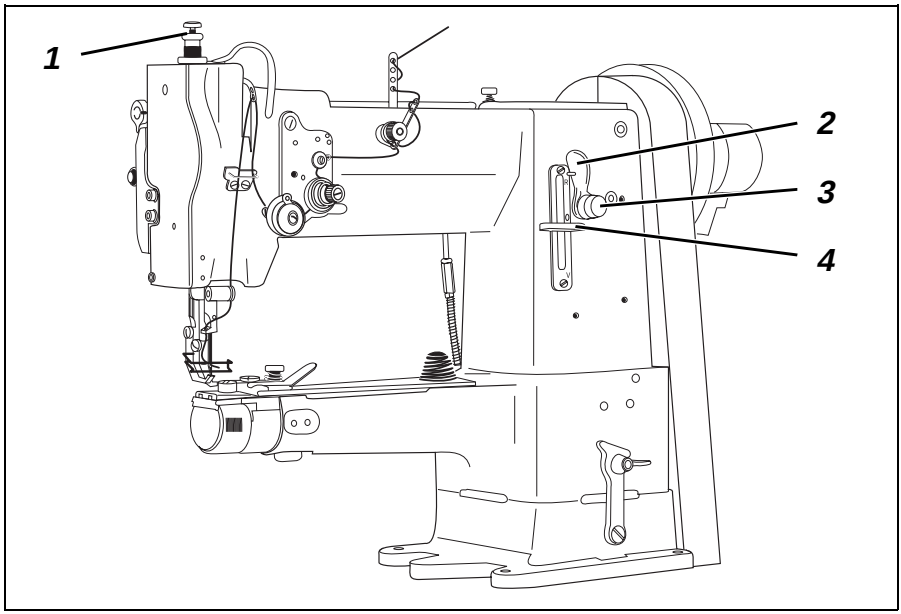
Adjusting the sewing-foot stroke

– Undo nut 4 on the back of the machine arm.

– Push tension bar 6 into rocker lever 5.
  tension bar fully up: maximum sewing-foot stroke (4.5 mm)
  tension bar fully down: minimum sewing-foot stroke (2.5 mm)

– Tighten nut 4.

5.12 Adjusting the sewing-foot pressure



Sewing-foot pressure is adjusted with screw 1.

- to increase sewing-foot pressure: turn screw 1 clockwise
- to reduce sewing-foot pressure: turn screw 1 anticlockwise.

5.13 Adjusting the stitch length

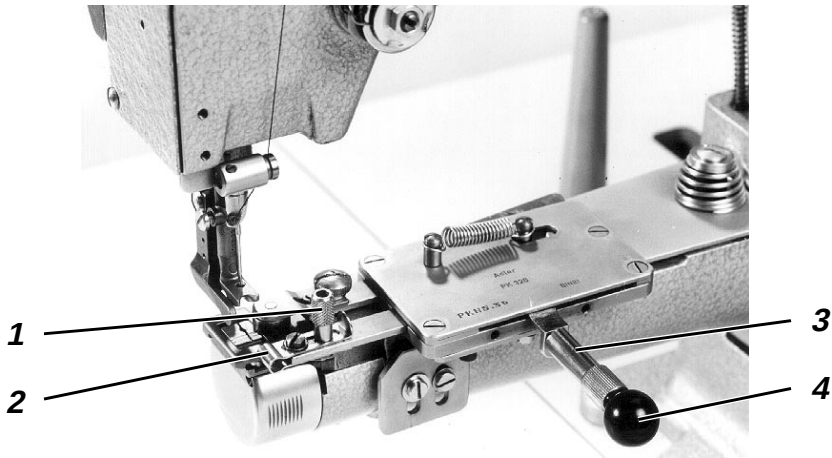
Caution: danger of injury
Turn off the main switch.
The stitch length may only be adjusted with the sewing machine switched off.

- Turn wing-nut 2 anticlockwise as far as it will go.
- Adjust the desired stitch length with screw 3.
  To increase stitch length: turn screw 3 anticlockwise.
  The stitch-length handle 4 moves down.
  To reduce stitch length: turn screw 3 clockwise.
  The stitch-length handle 4 moves up.
- Tighten wing-nut 2 clockwise.

To sew bar tacks manually (backwards sewing):

- Swivel the stitch-length handle 4 up as far as it will go (to position "**R**").
  The machine sews backwards as long as the stitch-length handle 4 is held up.

5.14 Welting



The rapid-adjustment welt-guide mechanism with three positions is used to sew welts between two layers of material. It can be swivelled in or out at the beginning and end of the seam.

Four welt guides 2 are available (sewing attachments E20 - E23) with welt grooves from 3 to 6 mm.

Caution: danger of injury

Turn off the main switch.
The welt may only be inserted with the sewing machine switched off.

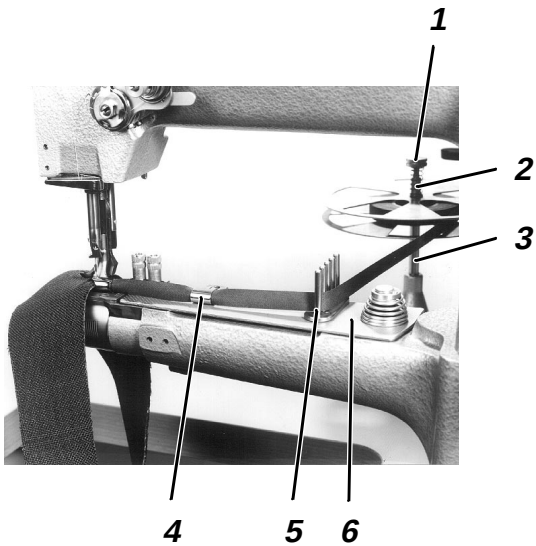
Inserting the welt

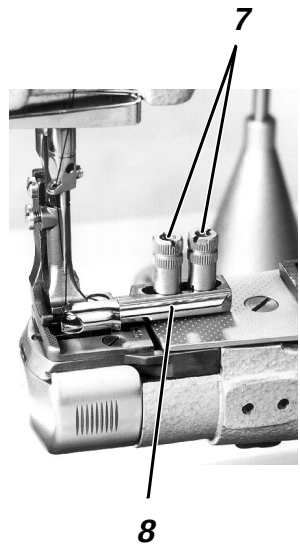
- Undo screw 1.
- Feed welt in through welt guide 2.
- Adjust welt guide 2 to the width of the welt.
  The welt must be guided at the sides, but at the same time it must be easy to pull it through the welt guide 2.
- Tighten screw 1.

Sewing in the welt

- Lay the welt between the two layers of material.
- Pull out ball handle 4 and turn lever 3 as far as it will go to the left (position **P**).
- Start sewing until the needle has reached approximately the middle of the welt.
- To continue sewing in the welt pull out ball handle 4 and turn lever 3 to the centre position (position **S**), where it engages.
- At the end of the seam pull out ball handle 4 and turn lever 3 to its basic position (position **0**).

5.15 Ribbon binder (class 69-373)





Two ribbon-binder sets are available for subclass **69-373**:

sewing attachment E4: for narrow bindings
sewing attachment E5: for broad bindings

Caution: danger of injury

Turn off the main switch.
The ribbon band may only be inserted with the sewing machine switched off.

Inserting the ribbon band

- Place the ribbon band on the lower pulley of the reel holder 3.
- Place upper pulley and pressure spring 2 on reel holder 3.
- Screw knurled nut 1 onto reel holder 3.
  The ribbon band should be kept under slight pressure.
- Slightly raise the arm cover 6 and swivel it forwards (towards the operating side).
- Pass the ribbon band between the guide pins 5, through the ribbon guide 4, into the ribbon binder 8 and under the sewing feet.
- Swivel the arm cover 6 back into place.

Adjusting the distance of the seam from the ribbon edge

- Undo screws 7.
- Adjust the distance of the seam from the ribbon edge as required by moving the ribbon binder 8.
- Tighten screws 7.

6. Control unit and operating panel

CAUTION:

These operating instructions describe **only** the functions of the buttons and the change of parameters by the operator.

For a detailed description of the control unit please see the current operating instructions of the motor manufacturer (supplied).

6.1 General

The control unit is programmed and the seam functions set with the control-unit buttons or the operating panel (for programming see motor manufacturer's manual).

Depending on the seam required, sewing can be executed manually or by seam-programming (only with the operating panel).

Three different seam cycles can be programmed for various sewing requirements, in which the various functions (starting bar tack, ending bar tack, stitch count, thread cutting etc.) and parameter values (stitch rate, seam length, rpm etc.) are individually assigned.

Entry is carried out in programming mode.
The parameters and the values assigned are displayed.
The seam programs are not lost even when the sewing machine is switched off (battery buffer).

In order to avoid the inadvertent alteration of pre-set functions, operation is divided into various levels (operator, technician).
The operator (seamstress) can program directly.
Access to the technician level is contingent on the entry of a code number (EFKA) or on switching on the main switch by simultaneously holding down two buttons (QUICK).

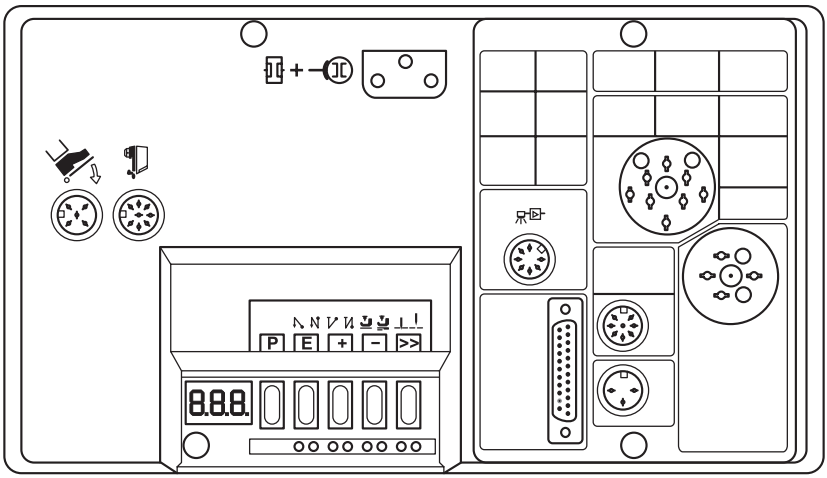
RESET

If the control unit is hopelessly misadjusted, this function allows the technician to reset all adjusted values to their default (ex-works) settings.

This function is described in the Servicing instructions.

6.2 Efka VD554KV/6F82AV sewing drive

6.2.1 Control-box buttons



In programming mode

button	function
P	programming mode (start / end)
E	confirm parameter-value change switch to next parameter
+	increase displayed parameter value switch to next parameter increase code no.
-	reduce displayed parameter value switch to last parameter reduce code no.
>>	select next character in display

Button functions in sewing mode

button	function after the thread has been clipped	LED display
P	**select programming mode**	
E	**starting bar tack**	
	- single *	
	- double *	
	- OFF	
+	**ending bar tack**	
	- single *	
	- double *	
	- OFF	
−	**Automatic sewing-foot-raising mechanism**	
	- when stopping in mid-seam	
	- at the end of the seam	
	- when stopping in mid-seam and at the end of the seam	
	- OFF	
>>	**Basic needle position**	
	- up	
	- down	

* Starting and ending bar tacks cannot be sewn with this machine.

CAUTION:

The + and - buttons increase or reduce the maximum rpm **before the thread is clipped**.

6.2.2 Altering parameter values

Parameter values are altered at operator level with the five buttons "**P**", "**E**", "**+**", "**-**" and "**>>**" on the sewing-drive control box.
The parameter list on the next page gives all parameters which can be altered at operator level.

1. Selecting programming mode

- Press the "**P**" button.
  The first parameter number (**0 0 0**) appears in the display.

2. Displaying the first operator-level parameter

- Press the "**E**" button.
  The appropriate parameter value (**0. 0. 0.**) appears in the display.

3. Changing the displayed parameter value

- Increase or reduce the parameter value with the "**+**" and "**-**" buttons.
  If the "**+**" or "**-**" button is held down, the parameter value continues to change until it is released.

4. Selecting the next parameter value

- Press the "E" button.
  The next operator-level parameter appears in the display.

- Press the "E" button.
  The appropriate parameter value appears in the display.

Repeatedly pressing the "**E**" button successively calls up all operator-level parameters and parameter values.

When the parameter is displayed the + or - buttons can also be used to switch to the next or previous parameter.

5. Leaving programming mode

- Press the "**P**" button.
  The control unit leaves programming mode.

CAUTION:

The changed parameter values are not saved until a seam is started by pressing the pedal down.

If the sewing machine is switched off immediately after programming without sewing, the changed parameter values are **not** saved.

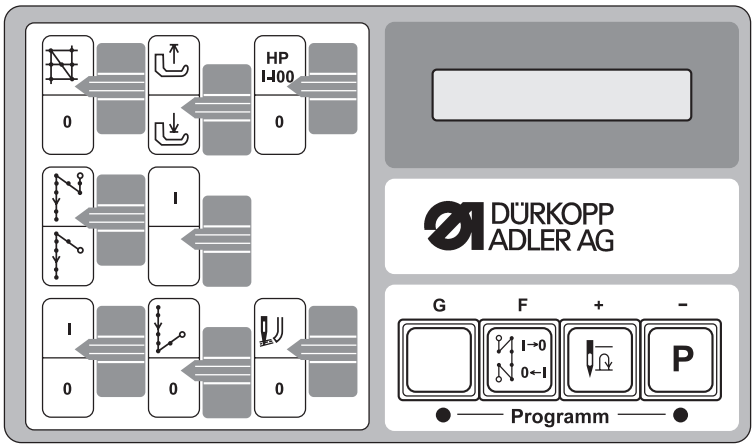
"Operator-level" parameter list:

Parameter	function	setting		
		max.	min.	ex works
000 *	starting bar-tack stitches forwards	254	0	2
001 *	starting bar-tack stitches backwards	254	0	4
002 *	ending bar-tack stitches backwards	254	0	2
003 *	ending bar-tack stitches forwards	254	0	2
004 *	light-barrier compensation stitches	254	0	7
005 *	light-barrier filter stitch rate for knitted yard goods	254	0	0
006 *	number of light-barrier seams	15	1	1
007	seam stitch rate with stitch count	254	0	20
008	assigning ato the "3" button technician-level parameters (only when operating the control unit with a Variocontrol operating panel) 1 = softstart ON / OFF 2 = ornamental-stitch bar tack ON/OFF 3 = sewing-on with light barrier light blocked ON / OFF	3	1	1
009 *	light barrier ON / OFF			OFF
013 *	thread clipper ON / OFF			ON
014 *	thread retractor ON / OFF			ON
015	stitch count			OFF

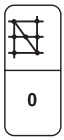
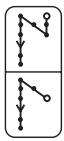
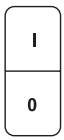
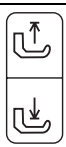
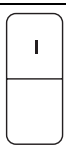
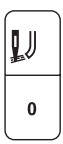
***** this parameter is vacant on this machine class

6.3 Quick QD554/A51K01 sewing drive

6.3.1 Operating-panel buttons



button	function	in programming mode
	select programming mode (in conjunction with "**-**" button)	leave programming mode (in conjunction with "**-**" button)
	suppress starting / ending bar tack	switch to next parameter number
	single depression: sew 1 stitch held down: sew at n_{min}	increase displayed value
	change program (MANUALLY - SEAM-A - SEAM-B)	reduce displayed value

button	function
	ornamental bar tack normal bar tack
	starting double bar tack starting single bar tack
	starting bar tack on starting bar tack off
	sewing-foot position up before thread clipping sewing-foot position down before thread clipping
	ending bar tack double ending bar tack single
	ending bar tack on ending bar tack off
	smooth seam start normal seam start
	vacant

6.3.2 Altering parameter values

A operator level parameter values are changed with the four program buttons ("**G**", "**F**", "**+**", "**-**") on the right-hand side of the operating panel.
The parameter list on the next page gives all parameters which can be altered at operator level.

1. Selecting programming mode

- Turn on the main switch.
  "**MANUAL**" appears in the display.
- Press and hold down the "**G**" button.
- Press the "**-**" button.
  "**- - - - - - >F**" appears in the display.
- Release both buttons.
  The control unit is in programming mode.
  NB:
  The sewing drive is inoperative in programming mode.

2. Selecting parameter number

- Press the "**G**" button.
  The button must be pressed repeatedly until the group number (e.g. 6xx) appears.
- Press the "**F**" button repeatedly until the required parameter number appears in the display (e.g. "**102*0002**").
  If the "**F**" button is held down the parameter number continues to change until it is released.

3. Changing the displayed parameter value-

- Use the "**+**" and "**-**" buttons to increase or reduce the parameter value.
  If the "**+**" or "**-**" button is held down the parameter number continues to change until it is released.
- If you leave the parameter-number routine the last-displayed parameter value is automatically saved.

4. Leaving programming mode

- Simultaneously press the "**G**" and "**-**" buttons.
  The control unit leaves programming mode.
  The last-displayed parameter value is saved.
- "**MANUAL**" appears in the display.
- The control unit is ready for use.
  The new settings can be checked by executing a test seam.

"Operator-level" parameter list:

parameter	function	setting		
		min.	max.	ex works
101	switch between seam programs (the "**P**" button executes the switch) MAB: MANUAL - SEAM-A - SEAM-B M+A: MANUAL - SEAM-A M+B: MANUAL - SEAM-B A+B: SEAM-A - SEAM-B			MAB
102	starting bar tack - stitch rate forwards	0	255	2
103	starting bar tack - stitch rate backwards	0	255	1
108	ending bar tack - stitch rate backwards	0	255	2
109	ending bar tack - stitch rate forwards	0	255	1
111*	light-barrier compensation stitches	0	30	1
201	stitch rate of seam section A	0	255	20
301	stitch rate of seam section B1	0	255	10
302	stitch rate of seam section B2	0	255	10
303	number of seam sections B1 and B2	0	255	2
505	starting ornamental bar tack - stitch rate forwards	0	30	3
506	starting ornamental bar tack - stitch rate backwards	0	30	3
507	ending ornamental bar tack - stitch rate backwards	0	30	3
508	ending ornamental bar tack - stitch rate forwards	0	30	3
521	needle position before thread clipping (I = up, II = down)	I	II	II

***** this parameter is vacant on this machine class

7. Sewing

This description is based on the following assumptions:

- the machine in question is a special sewing machine with thread clipper (subclass **69-FA-373**) and the following optional extras:
  - **RAP 14-1** electro-pneumatic bar-tack and sewing-foot-raising mechanism, pedal-operated
  - **HP 11-1** pneumatic rapid stroke-adjustment mechanism, operated by a knee lever
- The following functions are set at the operating panel:

starting bar tack:	ON
ending bar tack:	ON
sewing-foot position before and after clipping:	DOWN

- The main switch is on.
- The last sewing operation was concluded with an ending bar tack and thread clipping.

Operating and function sequence for sewing:

sewing operation	**operation / explanation**
Before starting sewing	
starting position	- pedal in neutral position the machine is at a standstill needle up - sewing feet down
position material at start of seam	- move pedal back and hold it there the sewing feet rise - place material under the needle - release the pedal the sewing feet lower onto the material
At start of seam	
sew starting bar tack and continue sewing	- move pedal forward and hold it there starting bar tack is sewn the machine then continues sewing at the motor speed set by the pedal
sew only starting bar tack	- move pedal briefly forwards the machine stops after sewing the starting bar tack in the needle-down position
do **not** sew starting bar tack	- press "**F**" button (suppress starting bar tack) - move pedal forward and hold it there the machine then sews at the motor speed set by the pedal - the next seam is begun with a starting bar tack

sewing operation	operation / explanation
In mid-seam	
interrupt sewing operation	- release pedal (neutral position) the machine stops in the needle-down position the sewing feet are lowered - press the "**F**" button (ending bar-tack suppression) - move pedal briefly backwards the machine assumes the needle-up position
resume sewing operation	- move pedal forwards the machine sews at the motor speed set by the pedal **no** starting bar tack is sewn
sew transverse seam (with rapid stroke-adjustment mechanism)	- operate knee switch the maximum sewing-foot stroke is activated the operating time depends on what mode the rapid stroke-adjustment mechanism is set to: a) switch mode: - activated until knee switch is operated again b) key mode: - activated for as long as knee switch is operated
At the end of the seam	
remove material	- move pedal back and hold it there the ending bar tack is sewn the thread is severed the machine assumes the needle-up position the sewing feet rise
do not raise sewing feet	- move pedal briefly backwards the ending bar tack is sewn the thread is severed the machine assumes the needle-up position the sewing feet remain lowered
do not sew ending bar tack	- press the "**F**" button (ending bar-tack suppression) - move pedal back the ending bar tack is not sewn the thread is severed the machine assumes the needle-up position the position of the sewing feet depends on the position of the pedal: a) pedal pressed backwards and held: - sewing feet raised b) pedal released (in neutral position): - sewing feet lowered.

8. Maintenance

Caution: danger of injury

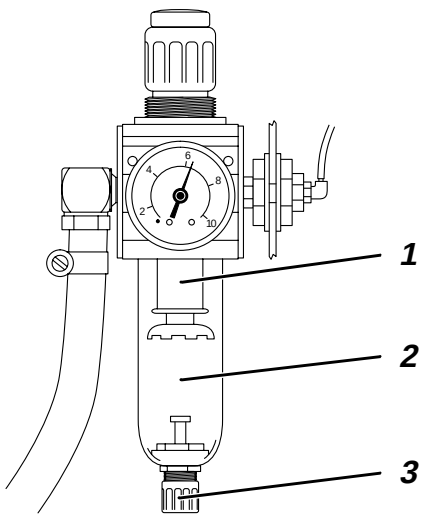
Turn off the main switch!
Maintenance work may only be carried out on the sewing machine when it is switched off.

Maintenance work must be carried out no less frequently than at the intervals given in the tables (see "operating hours" column).

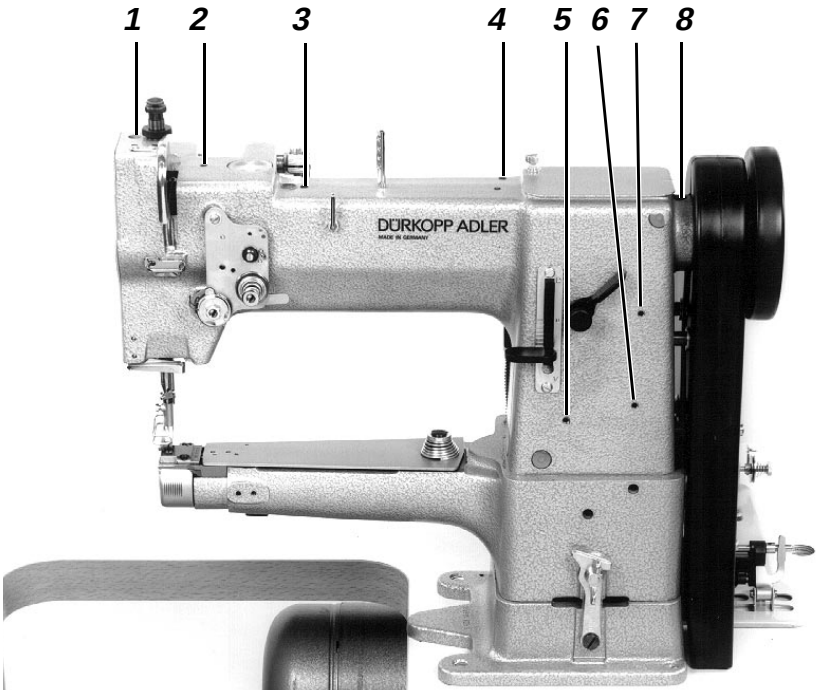
Maintenance intervals may need to be shorter when processing heavy-shedding materials.

8.1 Cleaning and testing

A clean sewing machine is a trouble-free sewing machine.



maintenance work to be carried out	explanation	operating hours
Upper part of machine - Remove lint, pieces of thread and other debris.	Places in special need of cleaning: - area under the needle plate - feeder - area around the shuttle - bobbin housing - needle-thread tensioner - thread clipper (class 69-FA-373)	8
Sewing drive - Check the condition and tension of the V-belt.	It must be possible to depress the V-belt by about 10 mm by pressing on it with a finger at its mid-point.	160
Compressed-air **maintenance unit (optional extra)** - Check the water level in the pressure regulator.	The water level must not reach the filter insert 2. - After screwing in the drain plug 3 blast the water out of the water separator under pressure. **NB:** The water separator 2 is fitted with a semi-automatic condensation drain. Condensation is automatically drained when the pressure falls below a pre-set level.	40
- Clean the filter insert.	Dirt and condensation are separated by filter insert 1. - Disconnect the machine from the compressed-air supply. - Screw in drain plug 3. There must be no pressure in the machine's pneumatic system. - Unscrew water separator 2. - Unscrew filter insert 1 Wash the filter shell and insert with cleaning fluid (**not** solvent) and blast clean. - Re-assemble and connect the maintenance unit.	500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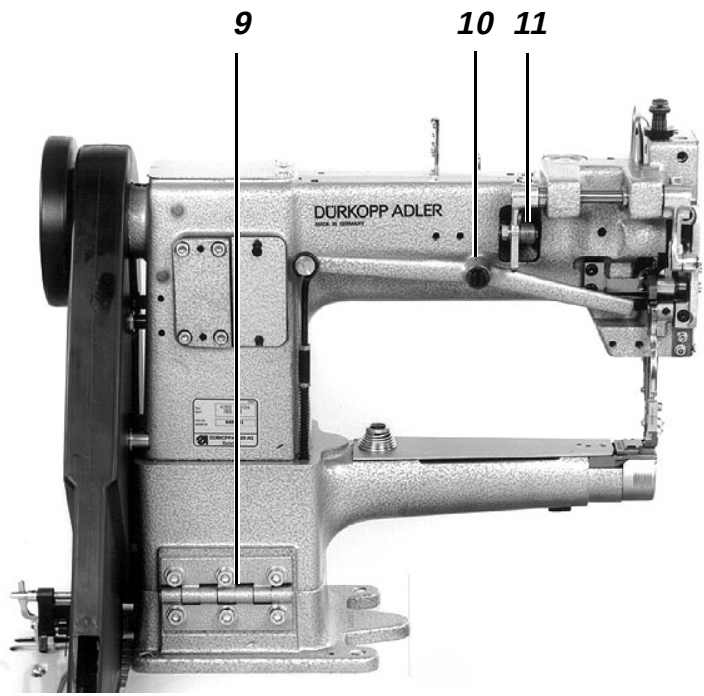
DÜRKOPP ADLER


9
10
11
DÜRKOPP ADLER

8.2 Lubrication

Caution: danger of injury

Oil can cause skin eruptions.
Avoid protracted contact with the skin.
In the event of contact, thoroughly wash the affected area.

CAUTION:

The handling and disposal of mineral oils is subject to legal regulation.
Deliver used oil to an authorised collection point.
Protect your environment.
Take care not to spill oil.

To lubricate the special sewing machine use only

ESSO SP-NK 10 lubricating oil

or an equivalent oil of the following specification:

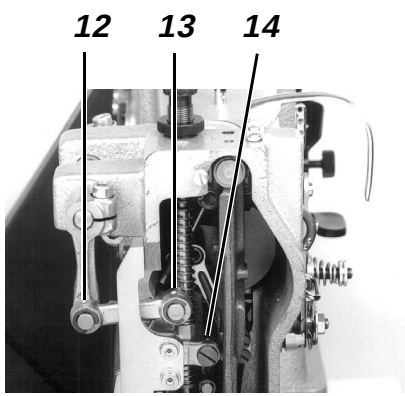
- viscosity at 40° C : 10 mm^2/s
- flashpoint: 150 °C

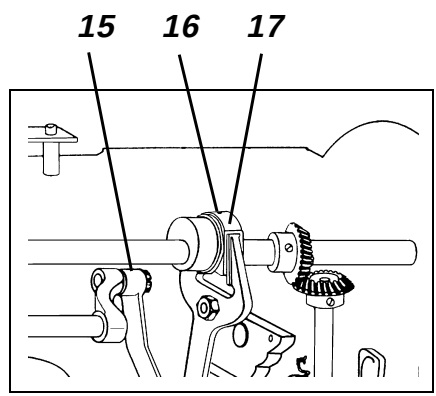
ESSO SP-NK 10 is available from **DÜRKOPP ADLER AG** retail outlets under the following part numbers:

2-litre container: 9047 000013

5-litre container: 9047 000014

maintenance work to be carried out	explanation	operating hours
oil lubrication points 1 to 17	- Remove the top. - Oil all the lubrication points shown in the illustration with a few drops of oil. **NB:** Subclass **69-FA-373** has no lubrication point 8.	40

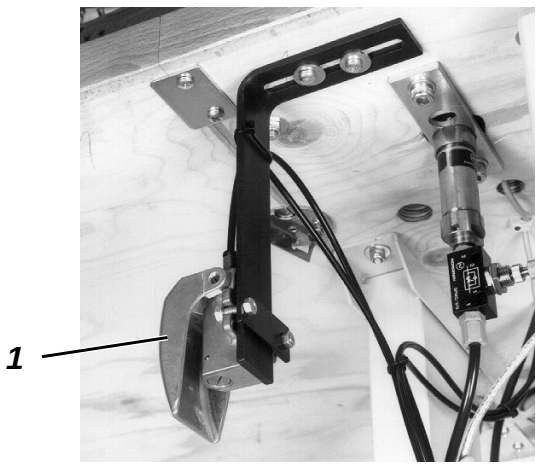




9. Optional extras

9.1 HP 11-1 pneumatic rapid stroke adjuster

The HP 11-1 pneumatic rapid stroke adjuster is only available for special sewing machines with the **Quick QD554/A51K01** sewing drive.
This optional extra allows a larger sewing-foot stroke to be set in mid-seam (e.g. for thicker pieces of material or to oversew transverse seams).



– Operate knee switch 1.
This activates the maximum sewing-foot stroke, which has two operating modes.

Operating modes

The rapid stroke-adjustment mechanism can be used in either **switch** or **touch mode**.

The desired operating mode is determined by the setting of parameter number **401** at technician level - see servicing instructions or motor manufacturer's manual (supplied).

mode	**operation / explanation**
switch mode	**activated until the knee switch is operated again**
401 = I	- Operate knee switch. The maximum sewing-foot stroke is activated. - Operate knee switch again. The seam is continued with the set sewing-foot stroke.
touch mode	**activated until the knee switch is released**
401 = II	- Operate knee switch and hold it in place. The maximum sewing-foot stroke is activated. - Release knee switch. The seam is continued with the set sewing-foot stroke.