



# Operating Instructions

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## **1 General information**

### **1.1 Scope of application of the manual**

This manual describes the intended use and the set-up of the long arm machine, H867.

It is valid for all submodels listed in Section 5 *Technical data*.

Operation of the drive is described in a separate operating manual.

### **1.2 Declaration of conformity**

The machine complies with the European regulations specified in the declaration of conformity or in the installation declaration.

### **1.3 Applicable documentation**

The device contains built-in components of other manufacturers, e.g. drive motors. The corresponding manufacturers have performed a hazard assessment for these purchased parts and confirmed compliance of the design with the European and national specifications. The intended use of the built-in components is described in the corresponding manuals of the manufacturers.

### **1.4 Damage during transport**

Dürkopp Adler cannot be held liable for any damage during transport. Check the delivered product immediately after receiving it. Report any damage to the last transport manager. This also applies if the packaging is not damaged.

Keep the machines, devices and packaging material in the condition they were at the time when the damage was identified. That secures any claims towards the transport company.

Report all other complaints to Dürkopp Adler immediately after receiving the product.

### **1.5 Limitation of liability**

All information and notes in this operating manual have been compiled in accordance with the latest technology and the applicable standards and regulations.

The manufacturer cannot be held liable for any damage due to:

- Failure to observe the operating manual
- Improper use
- Unauthorized modifications to the machine
- The deployment of untrained personnel
- Damage during transport
- Using spare parts not approved

## 2 Safety instructions

This section contains basic instructions for your safety. Read the instructions carefully before setting up or operating the machine. Make sure to follow the information included in the safety instructions. Failure to do this can result in serious injury and damage to the machine.

### 2.1 General safety instructions

Only authorized persons may use the machine. Every person who works with the machine must have read the operating manual first.

The machine may only be used as described in this manual.

The operating manual must be available at the machine's location at all times.

Also observe the safety instructions and the operating manual of the drive motor's manufacturer.

Observe the generally applicable safety and accident prevention regulations and the legal regulations concerning industrial safety and the protection of the environment.

All warnings on the machine must always be in legible condition and may not be removed. Missing or damaged labels must be replaced immediately.

For the following work, the machine must be disconnected from the power supply using the main switch or by disconnecting the power plug:

- Threading
- Replacing the needle or other sewing tools
- Leaving the workplace
- Performing maintenance work and repairs

Inspect the machine while in use for any externally visible damage. Interrupt your work if you notice any changes to the machine. Report any changes to your supervisor. A damaged machine may not be used any more.

The machine may only be set up by qualified specialists.

Maintenance work and repairs may only be carried out by qualified specialists.

Safety equipment may not be removed or put out of service. If this cannot be avoided for a repair operation, the safety equipment must be refitted and put back into service immediately afterwards.

Work on electrical equipment may only be carried out by qualified specialists.

The connecting cable must have a power plug approved in the specific country. The power plug may only be connected to the power cable by a qualified specialist.

Work on live components and equipment is prohibited. Exceptions are defined in the specifications in DIN VDE 0105.

Missing or faulty spare parts could impair safety and damage the machine. Therefore only use original spare parts from the manufacturer.

## 2.2 Signal words and symbols used

Safety instructions in the text are distinguished by color bars.

Signal words specify the severity of a hazard:

- **Danger:** resulting in death or serious injury.
- **Warning:** death or serious injury possible.
- **Caution:** moderate to minor injuries possible.
- **Attention:** damage possible.

In the case of hazards to personnel, the following symbols indicate the type of hazard:



General hazard



Hazard due to electric shock



Hazard due to sharp objects

Examples of the layout of the safety instructions in the text:

### **DANGER**



**Type and source of the hazard**

**Consequences in the event of noncompliance**

Measures for avoiding the hazard

*This is what a hazard note looks like for a hazard that will result in serious injury or even death if not*

### **WARNING**



**Type and source of the hazard**

**Consequences in the event of noncompliance**

Measures for avoiding the hazard

*This is what a hazard note looks like for a hazard that could result in serious injury or even death if not complied with.*

### **CAUTION**



**Type and source of the hazard**

**Consequences in the event of noncompliance**

Measures for avoiding the hazard

*This is what a hazard note looks like for a hazard that could result in moderate or minor injury if not complied with.*

### **ATTENTION**

**Type and source of the hazard**

**Consequences in the event of noncompliance**

Measures for avoiding the hazard

*This is what a hazard note looks like for a hazard that could result in material damage if not complied with.*



### 3 Product description

The Dürkopp Adler H867 is a heavy-duty long arm machine with extra large looper.

It is a flatbed sewing machine for double backstitches.

The material to be sewn is moved by lower transport, needle transport and alternating foot upper support.

**Technical features:**

- Extra-large 3XL looper 40 mm bobbin diameter.
- DC drive for all submodels.
- Safety snap-on coupling for preventing any misadjustment of or damage to the looper in the event of a thread jamming.
- Automatic wick lubrication for machine and looper with oil level indicator at the column.
- Maximum passage with ventilated sewing feet: 25 mm.
- Residual thread length with automatic thread cutter: approx. 15 mm.

Depending on the submodel, the product is available as 1-needle machine or 2-needle machine and with or without automatic thread cutter. Submodels with automatic thread cutter have a keypad on the machine arm for quick functions. The keypad functions can be assigned to an additional button near the handle as an option.

## 4 Intended use

The Dürkopp Adler H867 is for sewing moderately heavy to heavy material.

Moderately heavy to heavy material requires a needle strength of 140 - 180 Nm.

Heavy material requires a needle strength of 180 - 230 Nm.

The maximum thickness of the material to be sewn is 15 mm.

The machine is only intended for processing dry material.

The sewing machine is intended for industrial use.

### WARNING



**Hazard due to high voltage, crushing and sharp objects.**

**Improper use can result in injuries.**

Please follow all instructions in the manual.

### ATTENTION

**Improper use can result in material damage.**

Please follow all instructions in the manual.

The manufacturer will not be held liable for damage resulting from improper use.

## 5 Technical data

Model/ submodel		H867- 190362-70		H867- 290362-70	
Length/width/height [mm]	1090/220/500				
Weight/with direct drive [kg]		68/72		68/72	
Noise: workplace-specific emission value as per DIN EN ISO 10821 for:					
Sewing stitch type	Backstitch 301				
Looper type	Vertical, oversize (3XL)				
Number of needles		1		2	
Needle system	328 (794 and 7x23 possible after conversion)				
Maximum needle strength [Nm]	230				
Sewing thread thickness	5/3				
Stitch length, forwards / backwards [mm]	12 / 12				
Number of adjustable stitch lengths		2		2	
Maximum number of stitches		1800		1800	
Number of stitches on delivery		1800		1600	
Reduction of the number of stitches with stitch lengths from 9 - 12 mm		1200		1200	
Reduction of the number of stitches with stroke from 1 - 3 mm		1800		1800	
Reduction of the number of stitches with stroke exceeding 4 mm		1500		1500	
Reduction of the number of stitches with stroke exceeding 6 mm		1000		1000	
Reduction of the number of stitches with stroke exceeding 9 mm		800		800	
Maximum fan height (*only with reversing mechanism)					
Maximum sewing foot stroke		9		9	
Positive operating pressure [bar]		6		6	
Air consumption [NL]		0,7		0,7	
Rated voltage [V/Hz]	Depends on the drive package				
Rated power [kVA]					

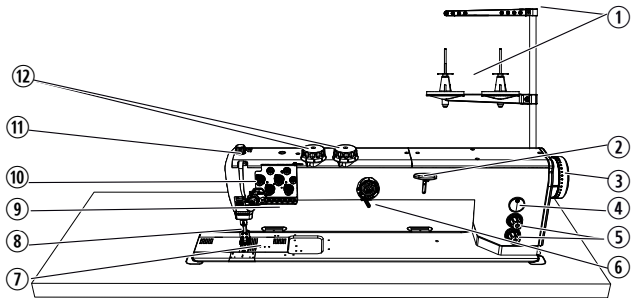
## 6 Additional equipment

Additional equipment	Material number		H867- 190362- 70		H867- 290362- 70	
Electropneumatic needle cooling from above for 1-needle machines (NK 20- )	H867 59		X			
Electropneumatic needle cooling from below for 1-needle machines (NK 20- )	H867 59		X			
Electropneumatic needle cooling from above (NK 20- )	H867 59				X	
Electropneumatic needle cooling from below (NK 20- )	H867 59				X	
Electropneumatic needle cooling from below (NK 20-5 )	0867 590024					
Residual-thread monitor for the looper thread of 3XL loopers, 1-needle machines (RFW20-1)	H867 59		X			
Residual-thread monitor for the looper thread of 3XL loopers, 2-needle machines (RFW20-2)	H867 59				X	
Electrical needle plate slide monitoring for 1-needle machines	0867 590204					
Electrical needle plate slide monitoring for 2-needle machines	0867 590214					
Combined eye and finger protection with machine shutdown	0867 590304					
WE-8 maintenance unit for additional pneumatic equipment 9780	9780 000108		X		X	
Operating panel bracket	0867 490100		●		●	
Halogen sewing lamp for upper sewing machine section	9822 510003		X		X	
Sewing lamp attachment set	9880 867100		X		X	
Sewing lamp transformer for halogen sewing lamp	0798 500088		X		X	
1-diode sewing lamp with attachments	9880 867103		X		X	
Integrated diode sewing lamp	9880 867118		●		●	
Power supply unit k for integrated sewing lamp and 1-diode sewing lamp	9850 001089		●		●	
Pneumatic connection package for connecting frames with maintenance unit	0797 003031		X		X	
Mechanical sewing foot ventilation	0867 590344					
Pneumatic sewing foot ventilation (FLP20-1)	0867 590354					
● = standard equipment X = optional additional equipment						

Additional equipment	Material number		H867- 190362- 70		H867- 290362- 70	
Edge stop, swiveling	N800 080007		X		X	
Edge stop, swiveling	N800 080036		X		X	
Edge stop / ruler on needle plate slide (2nd seam clearance suitable for swiveling edge stops)	N800 080022		X			
Edge stop with 2 pneumatically adjustable seam clearances / fastening on the needle plate slide	N800 005648		X		X	
Edge stop, swiveling (like Del Vecchia)	N800 080033		X		X	
Seam center guide from front, pneumatically switched	N800 005650				X	
Seam center guide, swiveling (mechanical)	N800				X	
Belt guide with pneumatic brake	N054 005001		X		X	
Reflex light barrier for the automatic detection of the sewing material edge at the end of the seam (LR20-1)	0867 590074		X		X	
Memo dongle, external memory, for data transmission with DA-Classic control	9835 901005		X		X	
3XL looper, low-maintenance	0868 15					
PCB for oil monitoring	9850 867001		●		●	
Thread clamp with thread wiper function (FK kit)	0867 592014				X	
Attachment set for a clean seam start	0867 591004					
Electropneumatic sewing foot ventilation (FLP 20-6)	0867 592034					
Tool set for M-type	9081 300001		X		X	
<b>Frames</b>						
Frame set for motor, attached to the upper section, table plate 1600x580 m with pedal (MG 58-63)	MG58 400404		X		X	
Frame set for motor, attached to the upper section, table plate 1600x750 m with pedal (MG 58-63)	MG58 400464		X		X	
Frame set for motor, attached to the upper section, table plate 1900x580 m with pedal (MG 58-63)	MG58 400444					
● = standard equipment X = optional additional equipment						

## 7 Operating instructions

### 7.1 Product overview

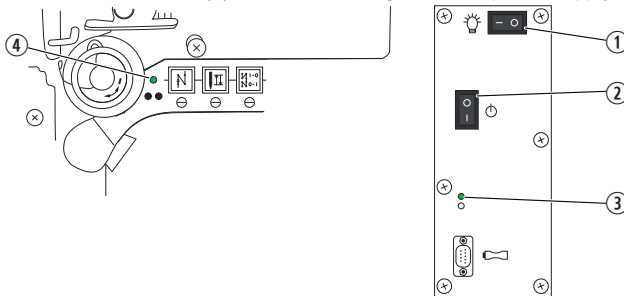


- |   |   |
|---|---|
| (1) - Unwinding bracket with thread reel holder | (7) - Looper (under the needle plate)               |
| (2) - Reversing lever                           | (8) - Sewing foot with needle                       |
| (3) - Handwheel                                 | (9) - Keypad on the machine arm                     |
| (4) - Oil level indicator                       | (10) - Thread tensioners                            |
| (5) - Adjusting wheels for the stitch length    | (11) - Adjusting wheel for the sewing foot pressure |
| (6) - Bobbin winder for the looper thread       | (12) - Adjusting wheels for the sewing foot stroke  |

Figure 1: Complete overview

### 7.2 Switching the power supply on and off

The lower main switch (2) on the control regulates the power supply.



- |  |
|--|
| (1) - Switch for the sewing lamp                           |
| (2) - Main switch for the power supply                     |
| (3) - Indicator lamp on the control                        |
| (4) - Indicator lamp on the keypad for the quick functions |

Figure 2: Switching the power supply on and off

#### To switch on the power:

- Press the main switch (2) down to the "I" position.
- The indicator lamps (3) and (4) light up.

#### To switch off the power:

- Press the main switch (2) up to the "0" position.
- The indicator lamps (3) and (4) go out.

### 7.3 Inserting and replacing the needle

#### WARNING



**Risk of injury by the needle point and moving parts.**

Switch off the sewing machine before replacing the needle.

Do not touch the needle point.

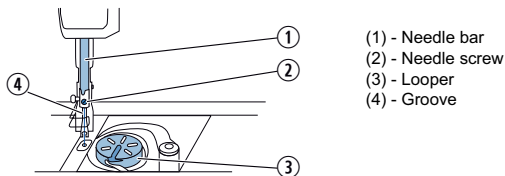


Figure 3: Inserting and replacing the needle

- Turn the handwheel back until the needle bar (1) reaches the upper end position.
- Loosen the needle screw (2).
- Pull the needle out towards the bottom.
- Insert the new needle.
- Align the needle in such a way that the groove (4) faces the looper (3).
- Tighten the needle screw (2).

#### 2-needle machines

##### Note on 2-needle machines:

The procedure for the second needle of 2-needle machines is identical.

- Align the needles in such a way that the grooves face away from each other. Each groove then faces the looper that belongs to this needle.

#### ATTENTION

**Damage to the looper point or needle possible due to incorrect distance from the looper.**

The distance between the looper and the needle only needs to be adjusted if the new needle has a different size.

After changing the needle size, adjust the looper distance.

For this, read the *service manual*.

## 7.4 Threading in the needle thread

### WARNING



**Risk of injury by the needle point and moving parts.**

Switch off the sewing machine before inserting the thread.

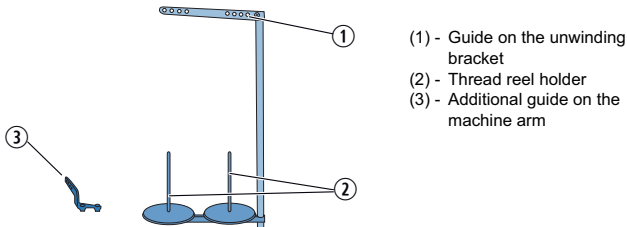


Figure 4: Thread guide on the unwinding bracket and machine arm

- Fit the thread reel on the thread reel holder (2).
- Insert the thread from the rear to the front through a hole in the guide on the unwinding bracket (1).
- Insert the thread from the right to the left through a hole in the additional guide on the machine arm (3).

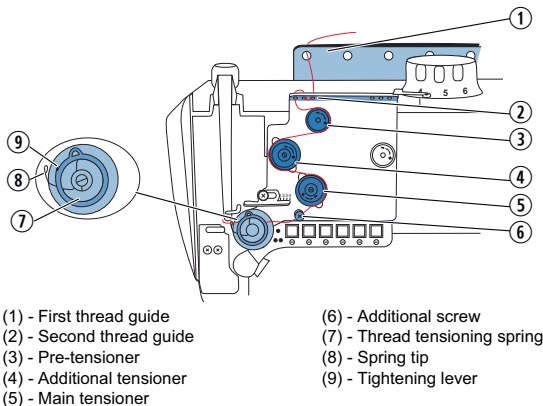


Figure 5: Threading procedure for needle thread - part 1

- Insert the thread from the rear to the front through the left hole in the first thread guide (1).
- Insert the thread in a wavelike manner through the 3 holes of the second thread guide (2): from top to bottom through the right hole, then from bottom to top through the hole in the middle and finally from top to bottom through the left hole.
- Guide the thread clockwise around the pre-tensioner (3).



- Guide the thread counterclockwise around the additional tensioner (4).
- Guide the thread clockwise around the main tensioner (5).
- Guide the thread under the additional screw (6) to the thread tensioning spring.
- Lift the tightening lever (9) with the thread.
- Pull the thread under the spring tip (8).

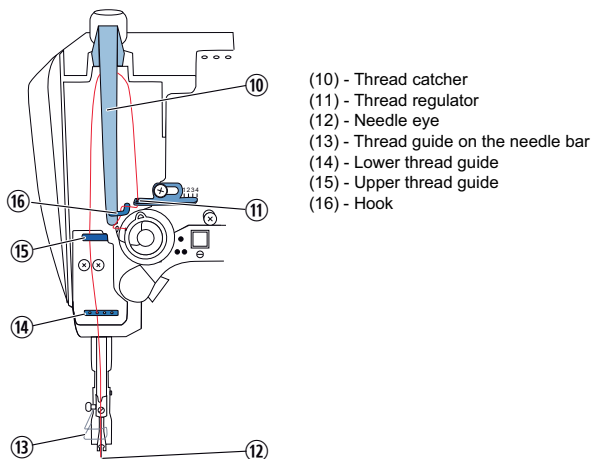


Figure 6: Threading procedure for needle thread - part 2

- Guide the thread under the hook (16).
- Insert the thread from bottom to top through the hole on the thread regulator (11).
- Insert the thread from the right to the left through the thread catcher (10).
- Insert the thread through the upper thread guide (15).
- Insert the thread through a hole in the lower thread guide (14).
- Insert the thread through the thread guide on the needle bar (13).
- Insert the thread through the needle eye (12) in such a way that the loose thread end faces the looper.
- Pull the thread through the needle eye (12) until the loose thread end has a length of 4 cm in the highest position at the thread catcher (10).

## 2-needle machines

### Note on 2-needle machines:

2-needle machines are equipped with a second tensioning screw triangle for the 2nd needle thread. The threading-in procedure corresponds to that for the 1st needle thread.

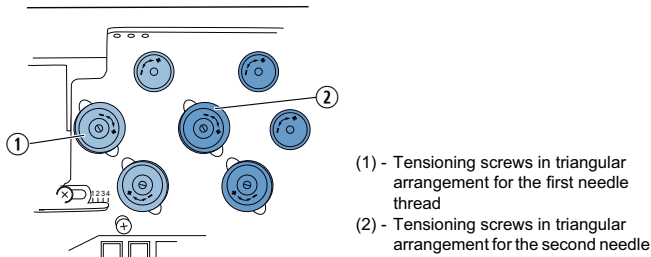


Figure 7: Needle thread threading procedure for 2-needle machines

- Guide the threads through the guides and around the tensioning screws in such a way that the threads do not intersect.
- First guide the left-hand needle thread through the left-hand guide holes and around the left-hand tensioning screw triangle.
- Then guide the right-hand needle thread through the right-hand guide holes and around the right-hand tensioning screw triangle.

## 7.5 Inserting and winding on the looper thread

### WARNING



**Risk of injury by the needle point and moving parts.**

Switch off the sewing machine before inserting the thread.

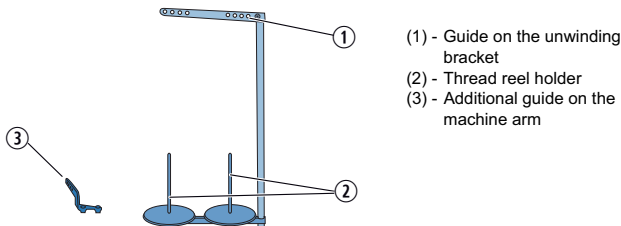
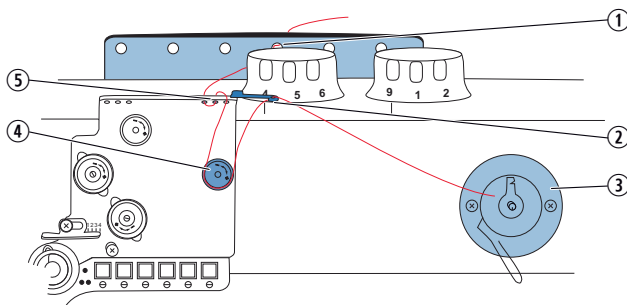


Figure 8: Thread guide on the unwinding bracket and machine arm

- Fit the thread reel on the thread reel holder (1).
- Insert the thread from the rear to the front through a hole in the guide on the unwinding bracket (2).
- Insert the thread from the right to the left through a hole in the additional guide on the machine arm (3).



- (1) - 1. thread guide
- (2) - Looper thread guide
- (3) - Bobbin winder
- (4) - Looper thread winding tensioner
- (5) - 2. thread guide

Figure 9: Winding on the looper thread - part 1

- Insert the thread from the rear to the front through the right hole in the 1st thread guide (1).
- Insert the thread in a wavelike manner through the 3 holes of the 2nd thread guide (5): from top to bottom through the left hole, from bottom to top through the hole in the middle and finally from top to bottom through the right hole.
- Guide the thread clockwise around the looper thread winding tensioner (4).
- Insert the thread in a wavelike manner through the 2 holes of the looper thread guide (2): from bottom to top through the left hole and from top to bottom through the right hole.
- Guide the thread to the winding bobbin (3).

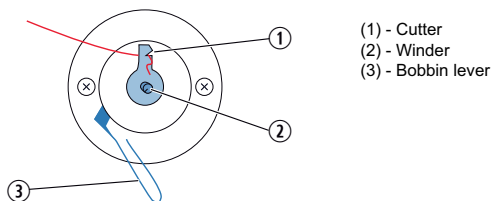


Figure 10: Winding on the looper thread - part 2

- Clamp the thread behind the cutter (1) and tear off the loose end behind it.
- Fit the bobbin on the winder (2).
- Turn the bobbin clockwise until it clicks.
- Pull the bobbin lever (3) up.

The looper thread is normally wound on when sewing is in progress. However, you can also wind on the looper thread without sewing material, e.g. if you require a full bobbin in order to start sewing.

## ATTENTION

### **Damage to the sewing feet or needle plate possible if the thread is wound on without material.**

Lock the sewing feet in place in the highest position and adjust the sewing foot stroke to the smallest value if you wind on thread without sewing material.

- Switch on the sewing machine.
  - Press the foot pedal forwards.
- The machine sews and winds the looper thread from the thread reel onto the bobbin.
- When the bobbin is full, the machine automatically stops winding. The bobbin lever moves down.
- The cutter is automatically moved into its basic vertical position.
- Pull off the full bobbin.
  - Tear off the thread behind the cutter.
  - Insert a full bobbin in the looper (see Section 7.6 *Replacing the looper thread bobbin*).
  - Repeat the winding-on procedure with an empty bobbin, as described above.

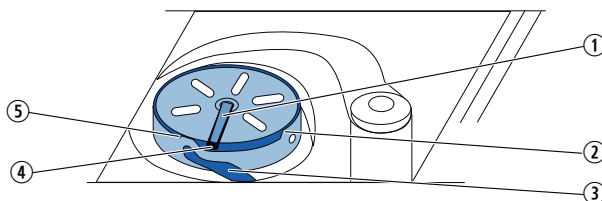
## 7.6 Replacing the looper thread bobbin

### WARNING



#### **Risk of injury by the needle point and moving parts.**

Switch off the sewing machine before replacing the looper thread bobbin.



- (1) - Looper flap
- (2) - 1. looper slot
- (3) - Looper spring

- (4) - Looper flap guide
- (5) - 2. looper slot

Figure 11: Replacing the looper thread bobbin

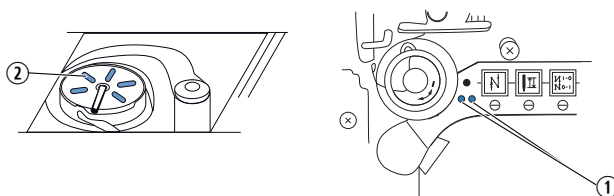
- Lift the looper flap (1).
- Remove the empty bobbin.
- Insert a full bobbin: insert the bobbin in such a way that it moves in the opposite direction of the looper.
- Guide the looper thread through the 1st looper slot (2).

- Pull the looper thread under the looper spring (3).
- Guide the looper thread through the 2nd looper slot (5).
- Press the looper flap (1) down.
- Insert the looper thread through the looper flap guide (4).
- Turn the handwheel until the looper thread comes up.
- Pull the looper thread and needle thread back together and hold them tight when sewing starts, to avoid jamming the threads.

### Automatic residual thread monitor

#### Note for machines with automatic residual thread monitor:

If the looper thread needs to be replaced, the LED indicator lamps (1) light up on the machine arm. The left light is for the left-hand looper and the right light is for the right-hand looper.



(1) - LEDs for the residual thread monitor

(2) - Vision slot on the bobbin

Figure 12: Residual thread monitor: LEDs on the machine arm and vision slot on the bobbin winder

The bobbin plate has vision slots on one side.

- Insert the bobbin in the looper in such a way that the vision slots (2) are at the top.

Otherwise the residual thread monitor will not work.

## 7.7 Adjusting the thread tension

The tension of needle thread and looper thread determines the position of the thread interlacing.

If the tension of needle thread and looper thread is high, the thread interlacing lies in the middle of the material to be sewn.

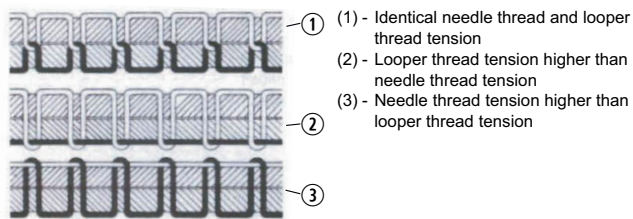


Figure 13: Thread interlacing

### 7.7.1 Adjusting the needle thread tension

The three tension-adjusting wheels determine the needle thread tension.

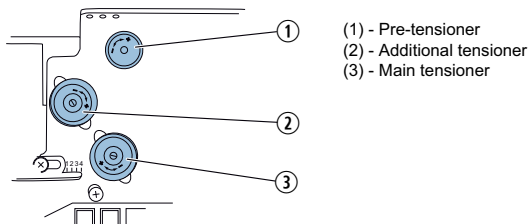


Figure 14: Adjusting the needle thread tension

The main tension (3) determines the normal tension during sewing. The additional tension (2) increases the tension during sewing, e.g. for thickened seams. The additional tension (2) is switched on and off using the keypad.

- The additional tension (2) must always be selected lower than the main tension (3).

In the basic position, the top of the adjusting wheel is flush with the screw in the center.

#### **To increase the tension:**

- Turn the adjusting wheel clockwise.

#### **To reduce the tension:**

- Turn the adjusting wheel counterclockwise.

The preliminary tension (1) holds the thread in position if main tensioner (3) and additional tensioner (2) are open completely.

---

#### **Note for machines with automatic thread cutter:**

The preliminary tension (1) also determines the length of the initial thread for the new seam:

Short initial thread:

- Turn the adjusting screw of the pre-tensioner (1) clockwise.

Long initial thread:

- Turn the adjusting screw of the pre-tensioner (1) counterclockwise.
- 

#### **Automatic thread cutter**

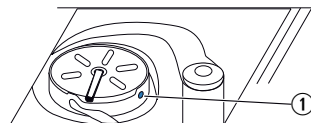
### 7.7.2 Adjusting the looper thread tension

#### WARNING



**Risk of injury by the needle point and moving parts.**

Switch off the sewing machine before adjusting the looper thread tension.



(1) - Adjusting screw

Figure 15: Adjusting the looper thread tension

The looper thread tension is adjusted using the adjusting screw (1).

To increase the tension:

- Turn the adjusting screw (1) clockwise.

To reduce the tension:

- Turn the adjusting screw (1) counterclockwise.

### 7.8 Setting the thread regulator

#### WARNING



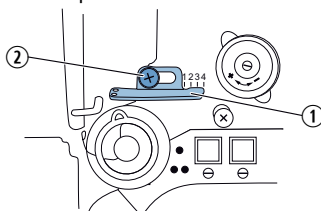
**Risk of injury by the needle point and moving parts.**

Switch off the sewing machine before setting the thread regulator.

The thread regulator determines the tension applied to guide the needle thread around the looper.

Correct setting:

The loop of the needle thread slides at low tension over the thickest point of the looper.



(1) - Regulator screw

(2) - Thread regulator

Figure 16: Setting the thread regulator

- Loosen the regulator screw (1).

To increase the tension:

- Turn the thread regulator clockwise

To reduce the tension:

- Turn the thread regulator counterclockwise

- Tighten the regulator screw (1).

## 7.9 Lifting the sewing feet

You use the foot pedal during sewing, e.g. to move the material being sewn.

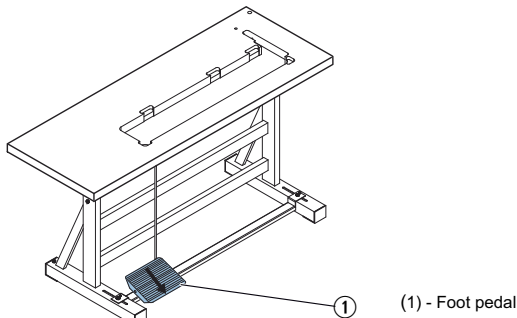


Figure 17: Foot pedal

- Press the foot pedal (1) half the way back.

The machine stops and lifts the sewing feet. The sewing feet remain up as long as the foot pedal is pressed back half the way.

If the foot pedal is pressed back completely, the machine sews an end strip and stops sewing. Machines with automatic thread cutter cut the thread off.

## 7.10 Locking the sewing feet in the upper position

There is a lever at the back of the machine for holding the sewing feet in the upper position.

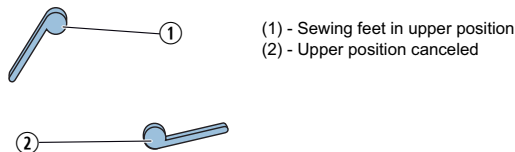


Figure 18: Holding the sewing feet in the upper position with the lever

To hold the sewing feet in the upper position:

- Push the lever down.

To cancel the lock:

- Push the lever up.

You can also use the foot pedal to cancel the upper position:

- Press the foot pedal half the way back like for lifting the sewing feet.

The lever swivels back up and the lock is removed.



### 7.11 Sewing foot pressure

The adjusting wheel at the top left determines the contact pressure of the sewing foot on the material to be sewn. The pressure can be adjusted continuously by turning the wheel.

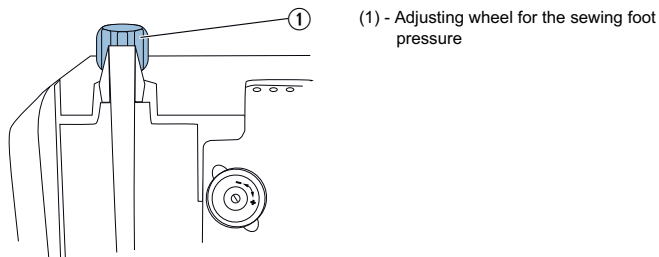


Figure 19: Adjusting wheel for the sewing foot pressure

To increase the sewing foot pressure:

- Turn the adjusting wheel (1) clockwise.

To reduce the sewing foot pressure:

- Turn the adjusting wheel (1) counterclockwise.

### ATTENTION

**Damage to the material possible if the sewing foot pressure setting is incorrect.**

If the sewing foot pressure is too high, the material could tear.

If the sewing foot pressure is too weak, the material could slip.

Adjust the sewing foot pressure in such a way that the material to be sewn slides smoothly over the base without slipping.

### 7.12 Sewing foot stroke

The two adjusting wheels in the middle of the machine arm determine how high the sewing feet are raised during sewing. The height can be adjusted continuously on a scale from 1 to 9 by turning the wheels. With 1 the sewing foot is raised the least and with 9 it is raised the highest.

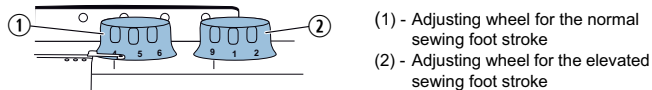


Figure 20: Adjusting wheels for the sewing foot stroke

To increase the sewing foot stroke:

- Turn the adjusting wheel clockwise.

To reduce the sewing foot stroke:

- Turn the adjusting wheel counterclockwise.

The left adjusting wheel (1) determines the normal sewing foot stroke.

The right adjusting wheel (2) determines the elevated sewing foot stroke. It is used for example when sewing thicker parts of the material.

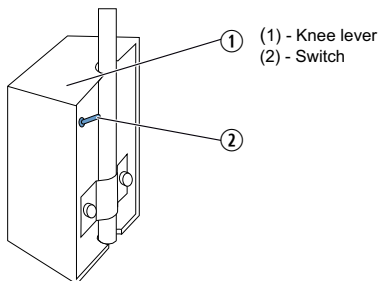


Figure 21: Knee lever

The elevated sewing foot stroke is activated using the knee lever (1). There is a switch (2) at the back of the knee lever (1), which determines whether the sewing foot stroke is applied continuously or only as long as the knee lever is pressed.

**For permanent conversion:**

- Turn the switch (2) up

To switch on the elevated sewing foot stroke:

- Push the knee lever (1) to the right.

To switch off the elevated sewing foot stroke:

- Push the knee lever (1) to the right again.

**For temporary conversion:**

- Turn the switch (2) down

To switch on the elevated sewing foot stroke:

- Push the knee lever (1) to the right and keep it pressed.

The elevated sewing foot stroke is retained as long as the knee lever is pushed to the right.

To switch off the elevated sewing foot stroke:

- Release the knee lever (1).

The elevated sewing foot stroke must not be lower than the normal sewing foot stroke. Always set the sewing foot stroke at the right adjusting wheel in such a way that it is at least as high as the sewing foot stroke at the left adjusting wheel.

**ATTENTION****Machine damage possible if the adjusting wheels are turned using brute force.**

The machine is designed in such a way that the sewing foot stroke at the right adjusting wheel cannot be set lower than at the left adjusting wheel.

Do not attempt to use brute force to set a smaller sewing foot stroke at the right adjusting wheel.

The machine automatically adapts the number of stitches to the sewing foot stroke. If you increase the sewing foot stroke, the number of stitches will be reduced.

### 7.13 Stitch length

The two adjusting wheels on the machine column determine the stitch length.

The stitch length can be adjusted continuously between 0 and 12 mm. The adjusting mark (4) on the left on the wheel indicates the stitch length selected.

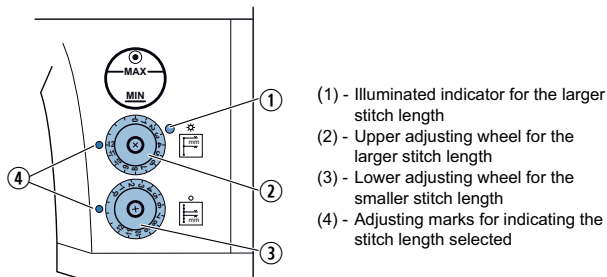


Figure 22: Adjusting wheels for the stitch length

To reduce the stitch length:

- Turn the adjusting wheel clockwise.

To increase the stitch length:

- Turn the adjusting wheel counterclockwise.

You can select two different stitch lengths. The upper adjusting wheel (2) is for the larger stitch length and the lower adjusting wheel (3) is for the smaller stitch length.

The larger stitch length is switched on using the stitch length key on the keypad (see Section 7.14 *Keypad for quick functions*).

If the large stitch length is active, the indicator (1) lights up to the right of the upper adjusting wheel.

The larger stitch length must not be shorter than the smaller stitch length. Always select the same or a higher stitch length at the upper adjusting wheel (2) than at the lower adjusting wheel (3).

#### ATTENTION

**Machine damage possible if the adjusting wheels are turned using brute force.**

The machine is designed in such a way that a lower stitch length cannot be selected at the upper adjusting wheel than at the lower adjusting wheel.

Do not attempt to use brute force to select a smaller stitch length at the upper adjusting wheel.

The reversing lever on the machine arm reduces the stitch length down to sewing backwards in the lower end position.

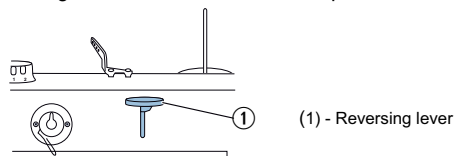


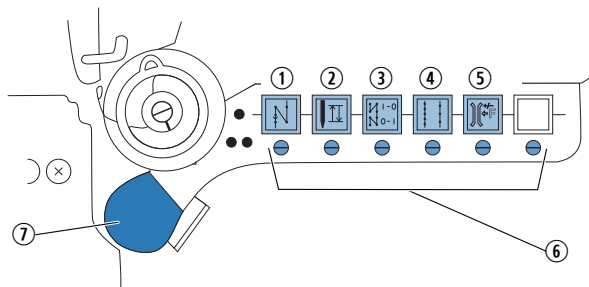
Figure 23: Reversing lever on the machine arm

- Push the reversing lever (1) down slowly.

The stitch length becomes smaller. In the lower end position, the machine sews backwards with the stitch length selected at the adjusting wheels.

## 7.14 Setting quick functions at the keypad

The keys activate specific functions during sewing.



- |  |  |
|--|--|
| (1) - Key for sewing backwards           | (5) - Key for the additional thread tension                  |
| (2) - Key for the position of the needle | (6) - Screws for the assignment of the additional switch (7) |
| (3) - Key for the start and end strips   | (7) - Additional switch                                      |
| (4) - Key for the stitch length          |  |

Figure 24: Keypad for quick functions

### Key for sewing backwards (1):

If the key (1) is selected the machine sews backwards.

### Key for the position of the needle (2):

If the key (2) is selected the needle moves to a specific position. This position is determined individually via the parameter settings. For this, read the *service manual*. On delivery, the machine setting is such that the needle is moved up if the key (2) is selected.

### Key for the start and end strips (3):

Key (3) cancels the general setting for sewing start and end strips. If strips are switched on, pressing the key (3) disables the next strip. If no strips are switched on, pressing the key (3) sews the next strip.

For the general setting for sewing start and end strips, refer to the *manual for the DAC Classic control*.

### Key for the stitch length (4):

If the key (4) is selected, the machine sews using the larger stitch length selected at the upper adjusting wheel for the stitch length.

### Key for the additional thread tension (5):

If the key (5) is selected the additional thread tension is activated.

### Activating a key function:

- Press the key.

The function is activated. The key lights up.

### Deactivating a key function:

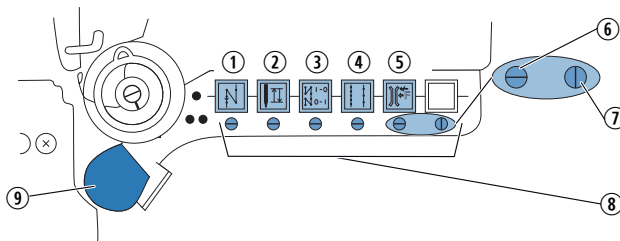
- Press the key again.

The function is deactivated. The key does not light up any more.

You can transfer one of the key functions to the additional switch (7).

Select a function that you require frequently to be able to switch it on faster while sewing.

### Transferring a key function to the additional switch:



- (1) - Key for sewing backwards
- (2) - Key for the position of the needle
- (3) - Key for the start and end strips
- (4) - Key for the stitch length
- (5) - Key for the additional thread tension
- (6) - Screw in basic position: slot horizontal
- (7) - Screw activates the additional switch (9): slot vertical
- (8) - Screws for the assignment of the additional switch (9)
- (9) - Additional switch

Figure 25: Transferring a key function to the additional switch

The key function is transferred by turning the screw under the key until it is vertical. Only one function can be transferred to the additional switch (9). Therefore only one of the screws (8) may be in the vertical position (7).

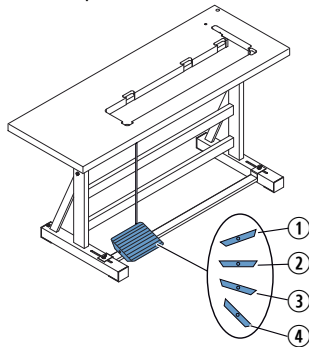
Before transferring a new function, all screws (6) must be turned back to their horizontal basic position (6).

#### To transfer a key function:

- Turn all screws to their basic position (6) so that the slots are horizontal.
- Turn the screw under the desired key 90° so that the slot is vertical (7).

## 7.15 Sewing

The foot pedal starts and controls the sewing process.



- (1) - Pedal position +1:  
sewing active
- (2) - Pedal position 0:  
rest position
- (3) - Pedal position -1:  
moves the sewing feet up
- (4) - Pedal position -2:  
sewing the end strip and cutting off the thread

Figure 26: Sewing with the foot pedal

### Initial position:

- Pedal position 0:  
Machine stationary, needles up, sewing feet down.

### To position the material to be sewn:

- Press the foot pedal back half the way to the pedal position -1:  
The sewing feet are lifted.
- Push the material to be sewn into the initial position.

### Sewing:

- Press the foot pedal forwards to the pedal position +1:  
The machine sews.  
The sewing speed increases the further forward the pedal is pressed.

### To interrupt sewing:

- Release the foot pedal in pedal position 0:  
The machine stops, needles and sewing feet are down.

### To continue sewing:

- Press the foot pedal forwards to the pedal position +1:  
The machine continues to sew.

### To sew over thickened seams:

- Activate the elevated sewing foot stroke using the knee lever (see Section 7.12 *Sewing foot stroke*).

### To change the stitch length:

- Switch on the 2nd stitch length using the key for the quick function (see Section 7.14 *Switching on the quick functions at the keypad*).

### To increase the thread tension:

- Switch on the additional tensioner using the key for the quick function (see Section 7.14 *Switching on the quick functions at the keypad*).

### To sew intermediate strips:

- Sew backwards using the reversing lever (see Section 7.13 *Stitch length*) or the key for the quick function (see Section 7.14 *Setting the quick functions at the keypad*).

### To finish a seam:

- Press the foot pedal back completely to the pedal position -2:  
The machine sews the end strip and the thread cutter cuts the thread.  
The machine stops, needles and sewing feet are up.
- Remove the sewn material.

## 7.16 Maintenance

This section describes simple maintenance work that needs to be carried out on a regular basis.

This maintenance work can be carried out by the operating personnel. Advanced maintenance work may only be carried out by qualified specialists. Advanced maintenance work is described in the *service manual*.

### WARNING

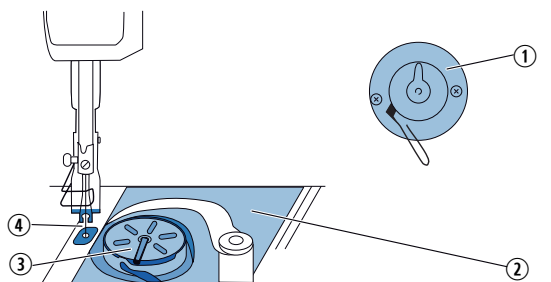


**Risk of injury by the needle point and moving parts.**

Switch off the sewing machine before carrying out maintenance work.

### 7.16.1 Cleaning the machine

Sewing dust and thread remains must be removed every 8 operating hours using a compressed-air pistol or a brush. In the case of very fluffy material to be sewn, the machine must be cleaned more frequently.



(1) - Cutter on the bobbin winder

(2) - Area under the needle plate

(3) - Looper

(4) - Area around the needle

Figure 27: Points that need to be cleaned particularly thoroughly

#### Areas particularly susceptible to soiling:

- Cutter on the bobbin winder for the looper thread (1)
- Area under the needle plate (2)
- Looper (3)
- Area around the needle (4)

#### Cleaning procedure:

- Switch off the power supply at the main switch.
- Remove any sewing dust and thread remains using a compressed-air pistol or a brush.

### WARNING



**Risk of injury due to flying particles.**

Flying dirt particles can get in the eyes, causing injury.

Hold the compressed-air pistol in such a way that no particles fly near persons.

Take care that no particles fly into the oil pan.

## ATTENTION

### **Malfunctions possible due to machine contamination.**

Sewing dust and thread remains can impair the operation of the machine.

Clean the machine at regular intervals as described in the manual.

## 7.16.2 Checking the oil level

### WARNING



#### **Skin injuries due to contact with oil.**

Oil can cause a rash if it comes into contact with the skin.

Avoid any skin contact with the oil.

If oil gets on your skin, wash the affected skin areas thoroughly.

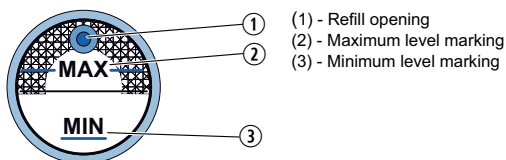


Figure 28: Oil level indicator

#### **Check the oil level indicator every day:**

- The oil level must always be between the minimum level marking (3) and the maximum level marking (2).

#### **Pour in oil through the refill opening (1) as required:**

- Switch off the sewing machine at the main switch.
- Pour in oil, up to but not past the maximum level marking (2)
- Switch on the sewing machine at the main switch.

## ATTENTION

### **Machine damage possible due to incorrect oil level.**

Too little or too much oil can cause damage to the machine.

Check the oil level on a daily basis and top up oil so that the oil level is always between the minimum and maximum markings.

#### **Note for machines with CLASSIC equipment:**

If the oil level falls below the minimum level marking (3), the oil level indicator lights up in red.

**CLASSIC  
equipment**



**Oil to be used:**

Only DA 10 or an oil of equivalent quality may be used for the machine, which has the following properties:

- Viscosity at 40° C: 10 mm<sup>2</sup>/s
- Flash point: 150° C

**ATTENTION****Machine damage possible due to incorrect oil.**

An incorrect oil type can cause damage to the machine.

Only use oil that complies with the data in the operating manual.

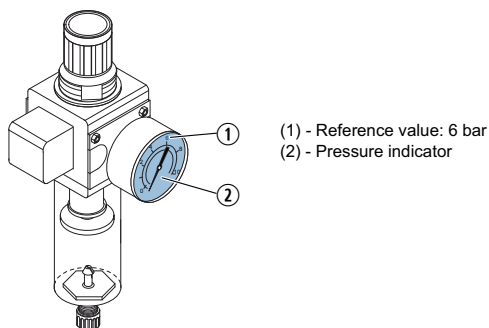
**7.16.3 Checking the pneumatic system**

Figure 29: Pressure indication in the pressure controller

**Check the pressure at the pressure indicator (1) every day:**

- Reference value: 6 bar.
- The pressure must not deviate from the reference pressure by more than 1 bar.

**ATTENTION****Machine damage possible due to incorrect pressure.**

An incorrect pressure can cause damage to the machine.

Check the pressure on a daily basis.

Have the pressure adjusted by qualified specialists in accordance with the information in the *service manual* if the pressure deviates from the reference value.

Water condensation may accumulate in the water separator of the pressure controller.

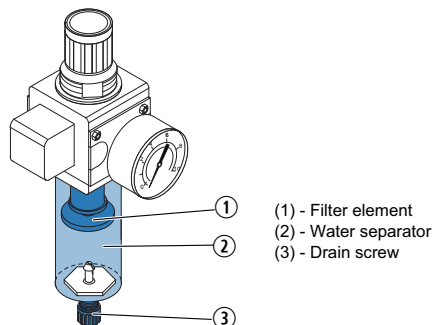


Figure 30: Water level in the pressure controller

**Check the water level every day:**

- The condensation water must not rise up to the level of the filter element (1).

**Drain water as required:**

- Switch off the sewing machine at the main switch.
- Place the collection tray under the drain screw (3).
- Unscrew the drain screw (3) completely.
- Allow water to drain into the collection tray.
- Re-tighten the drain screw (3).
- Switch on the sewing machine at the main switch.

## ATTENTION

**Machine damage possible if there is too much water.**

Too much water can cause damage to the machine.

Check the water level every day and drain condensation water if there is too much water in the water separator.

## 7.17 Repairs

Contacts for repair in the event of damage to the machine:

Dürkopp Adler AG  
Potsdamer Str. 190  
33719 Bielefeld, Germany  
Tel. +49 (0) 180 5 383 756  
Fax +49 (0) 521 925 2594  
E-mail: [service@duerkopp-adler.com](mailto:service@duerkopp-adler.com)  
Internet: [www.duerkopp-adler.com](http://www.duerkopp-adler.com)

## 8 Set-up instructions

### WARNING



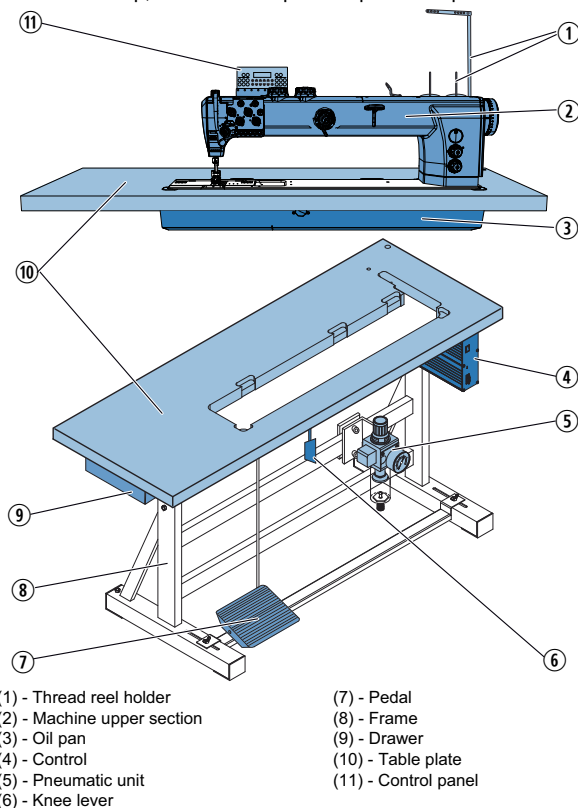
#### Risk of injury

The machine may only be set up by trained specialists.

### 8.1 Checking the delivery scope

The delivery scope depends on the order.

- Prior to set-up, check that all parts required are present.



- (1) - Thread reel holder
- (2) - Machine upper section
- (3) - Oil pan
- (4) - Control
- (5) - Pneumatic unit
- (6) - Knee lever

- (7) - Pedal
- (8) - Frame
- (9) - Drawer
- (10) - Table plate
- (11) - Control panel

Figure 31: Delivery scope

#### Standard equipment:

Sewing machine upper section (2), oil pan (3), thread reel holder with unwinding bracket (1), control (4), control panel for the control (11), Knee lever (6)

#### Optional additional equipment:

Table plate (10), drawer (9), frame (8), pedal (7), pneumatic unit (5), sewing lamp (not illustrated)

## 8.2 Removing the transport securing devices

All transport securing devices must be removed prior to set-up.

- Remove the lashing straps and wooden blocks from the machine upper section, the table and the frame.
- Remove the supporting wedges between the machine arm and needle plate.

## 8.3 Fitting the frame components

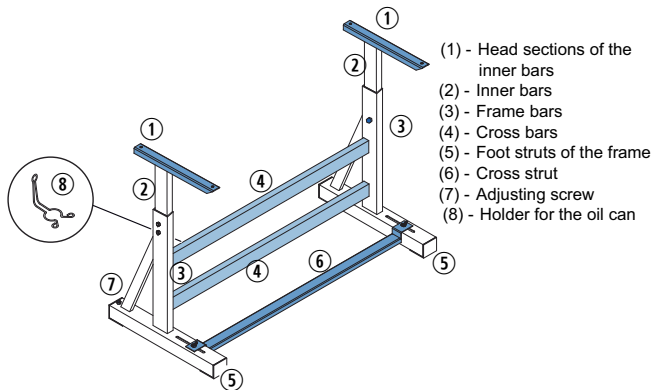


Figure 32: Fitting the frame components

- Screw the cross bars (4) onto the frame bars (3).
- Screw the oil can holder (8) at the rear to the upper cross bar (4).
- Screw the cross strut (6) onto the foot struts (5).
- Insert the inner bars (2) in such a way that the longer end of the head section (1) is above the longer end of the foot struts (5).
- Screw the inner bars (2) tight in such a way that both head sections (1) have the same height.
- Turn the adjusting screw (7) in such a way that the frame has even contact with the ground.

## 8.4 Fitting the pedal

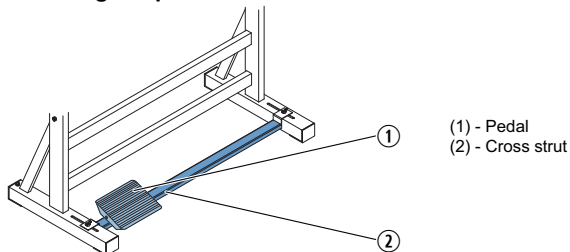


Figure 33: Fitting the pedal

- Place the pedal (1) on the cross strut (2) and align it in such a way that the middle of the pedal is subsequently under the needle.
- Screw the pedal (1) firmly onto the cross strut (2).

## 8.5 Completing the table plate

### Making your own table plate

The table plate belongs to the optional delivery scope. If you want to make your own table plate, drawings with the dimensions are available in the *Appendix*.

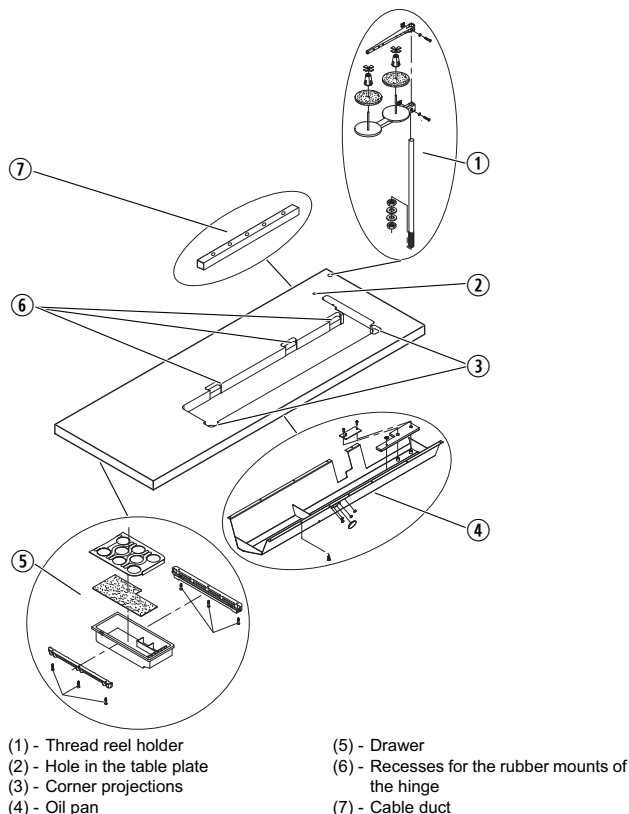


Figure 34: Completing the table plate

- Screw the drawer (5) with the left-hand bracket to the underside of the table plate.
- Screw the oil pan (4) in place under the recess for the machine.
- Screw the cable duct (7) to the underside of the table plate.
- Insert the thread reel holder (1) in the hole.
- Fasten the thread reel holder (1) with nut and washer.
- Screw the thread reel holder and the unwinding bracket onto the thread reel holder (1) in such a way that they are exactly opposite each other.
- Insert the plug (2) in the hole.
- Insert the rubber mounts of the hinge in the recesses (6).
- Insert the rubber corners in the corner protrusions (3) of the recess for the machine.

## 8.6 Fastening the table plate to the frame

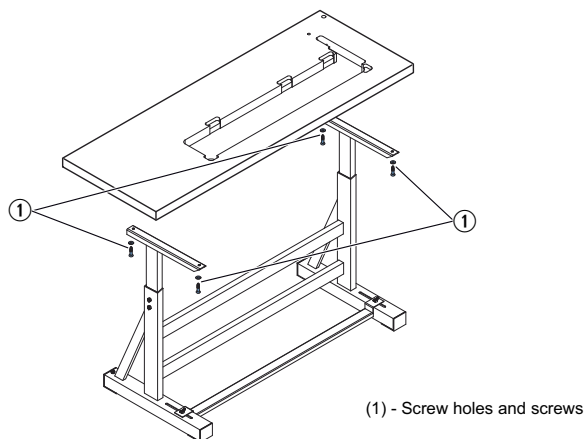


Figure 35: Fastening the table plate to the frame

- Place the table plate on the head sections of the inner bars.
- Screw the table plate firmly in place at the screw holes (1).

## 8.7 Fitting the control

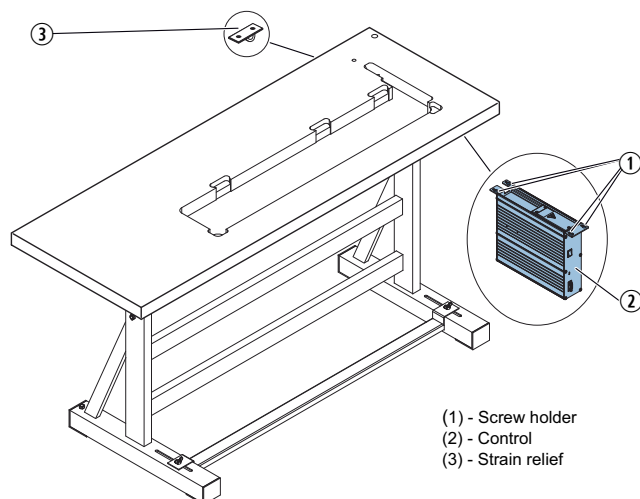


Figure 36: Fitting the control

- Screw the control (2) onto the 4 screw holders (1) under the table plate.
- Clamp the power cable of the control (2) into the strain relief mechanism (3).
- Screw the strain relief mechanism (3) under the table plate.

## 8.8 Fitting the setpoint device

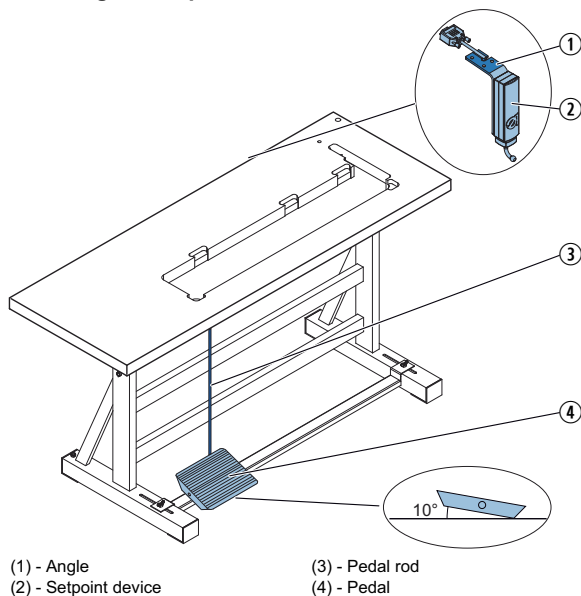


Figure 37: Fitting the setpoint device

- Screw the angle (1) under the table plate.
- Screw the setpoint device (2) onto the angle (1).
- Pull the pedal rod (3) to the correct length:  
10° inclination with pedal (4) released
- Attach the pedal rod (3).

## 8.9 Inserting the machine upper section

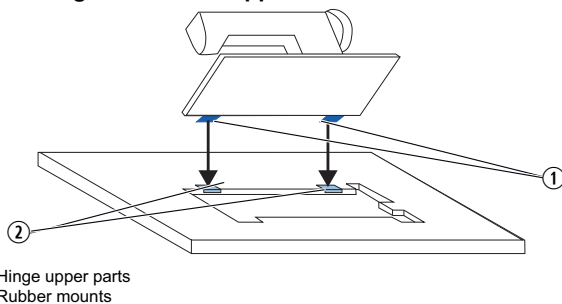
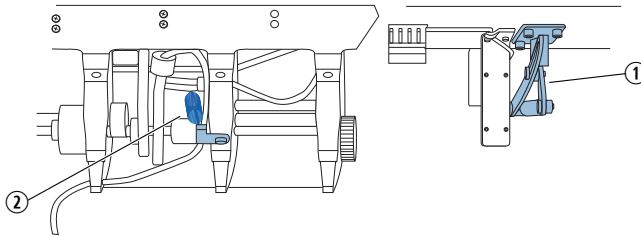


Figure 38: Inserting the machine upper section

- Screw the upper hinge parts (1) onto the machine upper section.
- Insert the upper hinge parts (1) into the rubber inlays (2).
- Fold the machine upper section down and insert it in the recess.

## 8.10 Fitting the damper

The damper cushions the machine's weight when it is folded over.

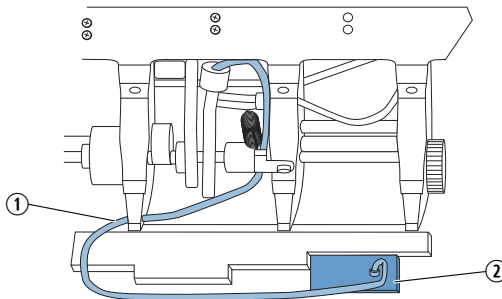


- (1) - Screw-on angle
- (2) - Damper spring

Figure 39: Fitting the damper

- Fold the machine upper section back.
- Fasten the damper spring (2) in the oil pan.
- Connect the damper components and guide them through the hole in the back of the oil pan.
- Screw the angle (1) firmly in place under the table plate.

## 8.11 Fitting the oil extraction line



- (1) - Tube of the oil extraction line
- (2) - Felt mat

Figure 40: Fitting the oil extraction line

- Fold the machine upper section back.
- Screw the felt mat (2) into the oil pan with the plastic adapter on the right.
- Insert the tube of the oil extraction line (1) into the plastic adapter.



## 8.12 Fitting the knee lever

Submodels H867-190362-70 and H867-290362-70 have an electric knee lever.

Submodels H867-190060-70 and H867-290060-70 have a mechanical knee lever.

### 8.12.1 Fitting the electric knee lever

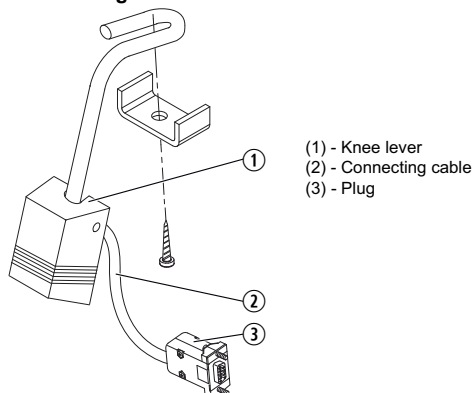


Figure 41: Fitting the electric knee lever

- Screw the knee lever (1) under the oil pan firmly in place under the table plate.
- Guide the connecting cable (2) to the back between the oil pan and the control.
- Insert the plug (3) of the connecting cable in the socket of the control.

### 8.12.2 Fitting the mechanical knee lever

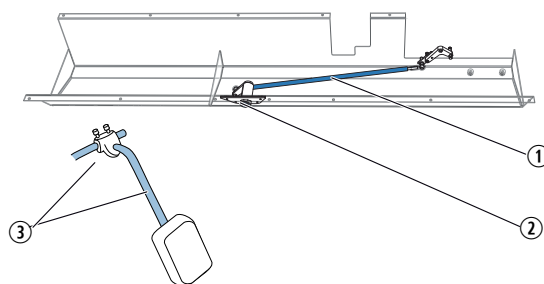
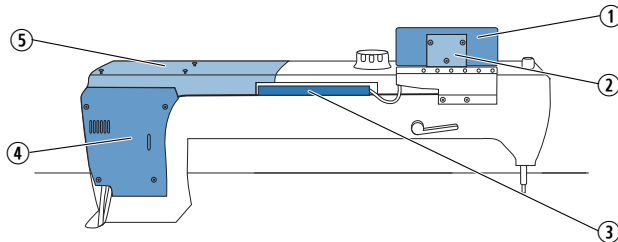


Figure 42: Fitting the mechanical knee lever

- Fold the machine upper section back.
- Fit the transmission rod (1) in the oil pan.
- Screw the knee lever (3) rods together.
- Guide the rod (3) through the hole in the oil pan (2) and connect it to the transmission rod (1).

### 8.13 Fitting the control panel



- |                             |                                |
|-----------------------------|--------------------------------|
| (1) - Control panel         | (4) - Cover on the machine arm |
| (2) - Control panel bracket | (5) - Machine cover            |
| (3) - Cable duct            |                                |

Figure 43: Fitting the control panel - part 1

- Unscrew the cover on the machine arm (4) and the upper machine cover (5).
- Screw the control panel (1) firmly onto the control panel bracket (2).
- Install the connecting cable through the cable duct (3).

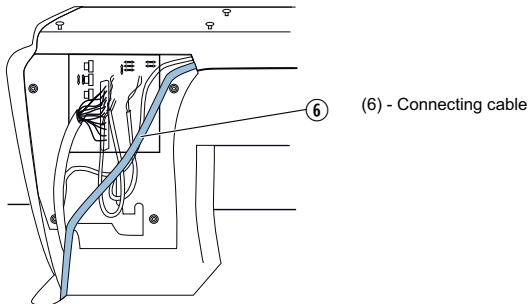


Figure 44: Fitting the control panel - part 2

- Install the connecting cable (6) in the machine arm.
- Guide the cable through the hole in the table plate.
- Insert the plug of the connecting cable in the socket of the control.

If you have an additional sewing lamp to be fitted as an optional additional component, keep the covers open until you have fitted the sewing lamp and installed the sewing lamp cable.

#### Covers

- Screw the cover back onto the machine arm (4) and the upper machine cover (5).

## 8.14 Electrical connection

### DANGER

**Danger to life due to electric shock.**

The machine may only be connected by trained specialists.

Disconnect the power plug before carrying out work on the electrical equipment.

The voltage on the type plate of the sewing drive must correspond to the mains voltage.

### 8.14.1 Fitting the sewing lamp

The sewing lamp is an additional component that is not part of the standard delivery package.

### DANGER

**Danger to life due to electric shock.**

When you disconnect the sewing machine from the power supply at the main switch, the supply voltage for the sewing lamp remains active.

Disconnect the power plug before connecting the sewing lamp.

- Unscrew the cover on the machine arm and the upper machine cover (see Section 8.13 *Fitting the control panel*).

The upper machine cover has pre-drilled holes for attaching the sewing lamp.

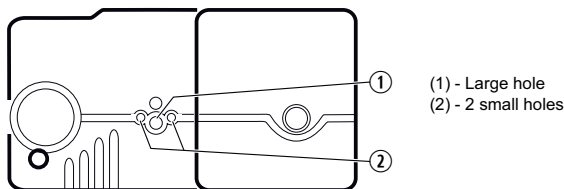


Figure 45: Fitting the sewing lamp

- Either drill through the hole for 1 large hole (1) or through the holes for 2 small holes (2).
- Screw the sewing lamp holder through the hole on the arm cover.
- Install the connecting cable in the machine arm and guide the cable through the hole in the table plate (see Section 8.13 *Fitting the control panel*).
- Stick the sticker with safety instructions onto the front of the control.

### 8.14.2 Fitting and connecting the sewing lamp transformer

#### DANGER



#### **Danger to life due to electric shock.**

The sewing lamp transformer is connected directly to the power supply.

If you disconnect the sewing machine from the power supply at the main switch, the sewing lamp transformer is still live.

Disconnect the power plug before fitting and connecting the sewing lamp transformer.

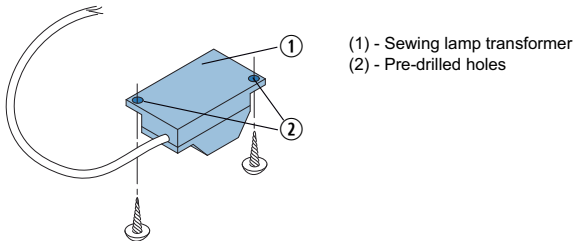
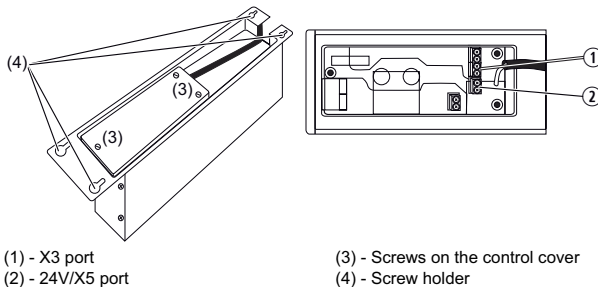


Figure 46: Fitting the sewing lamp transformer

- Screw the sewing lamp transformer (1) in place at the pre-drilled holes (2) under the table plate.
- Fasten the connecting cable under the table plate using cable ties.
- Establish the plug connection to the supply line for the sewing lamp.



(1) - X3 port  
(2) - 24V/X5 port

(3) - Screws on the control cover  
(4) - Screw holder

Figure 47: Connecting the sewing lamp transformer to the control

- Loosen the screw holder (4) for the control until the control can be removed.
- Remove the control.
- Loosen the screws (3) on the control cover.
- Connect the supply line:  
For additional sewing lamps to be fitted: to the X3 port (1)  
For integrated LED sewing lamps: to the 24V/X5 port (2)

### 8.14.3 Connecting the direct drive

To do this, read the *DAC operating manual, basic/classic*.

Connecting the direct drive consists of the following work:

- Insert the plugs of all connecting cables in the sockets on the back of the control.
- Connect the cable for equipotential bonding.
- Connect the control to the power supply using the power cable.

## 8.15 Pneumatic connection

### 8.15.1 Fitting the maintenance unit

The pneumatic unit is an additional component that is not part of the standard delivery package.

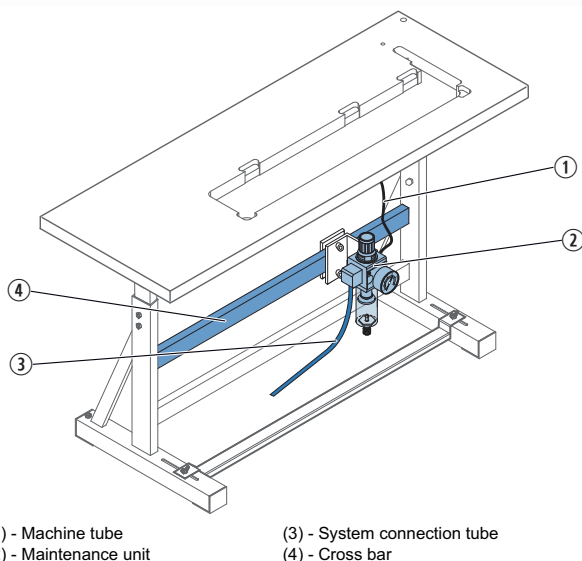
#### ATTENTION

##### **Machine damage possible due to incorrect pressure.**

An incorrect pressure can cause damage to the machine.

The system pressure for the pneumatic unit is 8 - 10 bar.

Make sure that the system pressure is set correctly before fitting the pneumatic unit.



- |                        |                              |
|------------------------|------------------------------|
| (1) - Machine tube     | (3) - System connection tube |
| (2) - Maintenance unit | (4) - Cross bar              |

Figure 48: Connecting the pneumatic unit

- Attach the maintenance unit (2) to the upper cross bar (4) of the frame using the bracket, screws and clip.
- Connect the machine tube (1) coming out of the upper section to the maintenance unit (2) at the top right.
- Connect the system connection tube (3) to the pneumatic system.

### 8.15.2 Setting the operating pressure

#### ATTENTION

**Machine damage possible due to incorrect pressure.**

An incorrect pressure can cause damage to the machine.

The operating pressure for the pneumatic unit is 6 bar.

Make sure that the operating pressure is set correctly before putting the machine into operation.

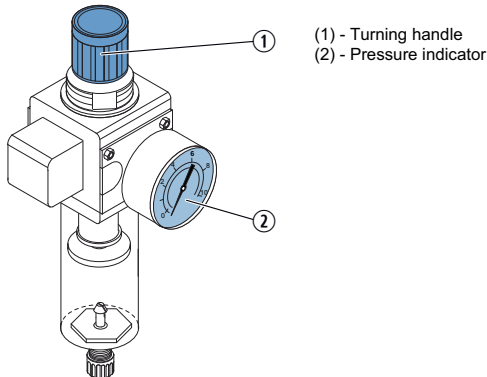


Figure 49: Setting the operating pressure

- Pull the turning handle (1) up.
- Set the operating pressure in such a way that the pressure indicator (2) indicates 6 bar:
  - To increase the pressure:  
Turn the turning handle (1) clockwise.
  - To reduce the pressure:  
Turn the turning handle (1) counterclockwise.
- Push the turning handle (1) down.

### 8.15.3 Lubrication

#### WARNING



#### Skin injuries due to contact with oil.

Oil can cause a rash if it comes into contact with the skin.

Avoid any skin contact with the oil.

If oil gets on your skin, wash the affected skin areas thoroughly.

All wicks and felt bits of the upper section are soaked in oil on delivery. This oil is conveyed to the reservoir during use, which is why you should avoid filling too much oil during initial filling.

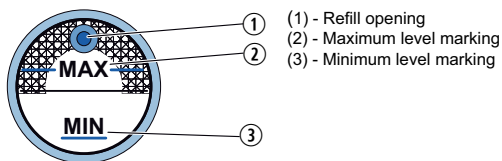


Figure 50: Oil level indicator

- Pour oil in through the refill opening (1) up to no more than 2 mm below the maximum level marking (2)

#### ATTENTION

#### Machine damage possible due to incorrect oil level.

Too little or too much oil can cause damage to the machine.

During initial filling, only pour in oil up to 2 mm below the maximum level marking.

#### Oil to be used:

Only DA 10 or an oil of equivalent quality may be used for the machine, which has the following properties:

- Viscosity at 40° C: 10 mm²/s
- Flash point: 150° C

#### ATTENTION

#### Machine damage possible due to incorrect oil.

An incorrect oil type can cause damage to the machine.

Only use oil that complies with the data in the operating manual.

### 8.16 Sewing text

Carry out a sewing test before starting up the machine. Adjust the machine to the requirements of the material to be sewn.

To do this, read the corresponding sections of the *operating manual*.

#### WARNING



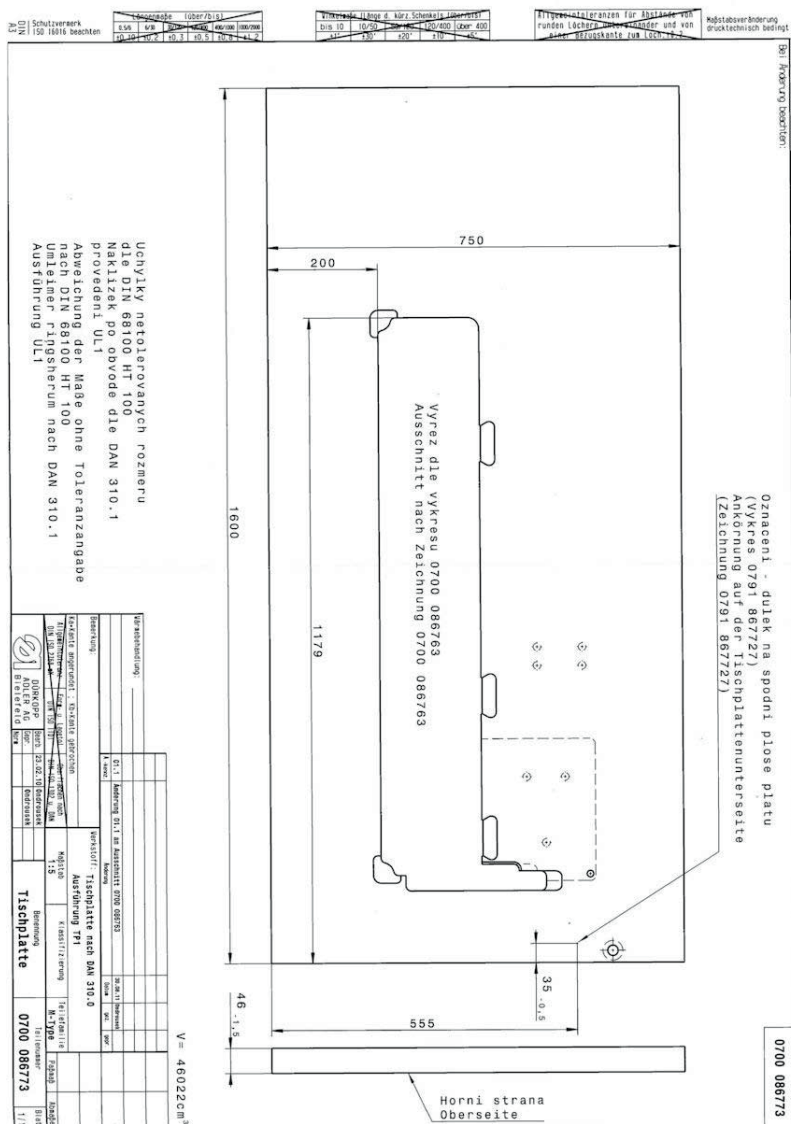
#### **Risk of injury by the needle point and moving parts.**

Switch off the sewing machine before replacing the needle, insert the thread, insert the looper thread reel, adjust the looper thread tension and the thread regulator.

- Insert the needle.
- Thread in the needle thread.
- Thread in the looper thread.
- Wind on the looper thread.
- Insert the looper thread reel.
- Adjust the thread tension to the material to be sewn.
- Adjust the thread regulator to the material to be sewn.
- Adjust the sewing foot pressure to the material to be sewn.
- Adjust the sewing foot stroke to the material to be sewn.
- Adjust the stitch length.
- Transfer the desired quick function from the keypad to the additional switch.
- Start the sewing test at low speed.
- Increase the sewing speed continuously until the working speed is reached.



## Dimensions for manufacturing a tabletop, part 1



[illegible]





DÜRKOPP ADLER AG  
Potsdamer Str. 190  
33719 Bielefeld  
Germany  
Phone +49 (0) 521 925 00  
E-Mail: [service@duerkopp-adler.com](mailto:service@duerkopp-adler.com)  
[www.duerkopp-adler.com](http://www.duerkopp-adler.com)