Maintenance

Multisticktronic

Version 3.0.1

Published by:

ZSK Stickmaschinen GmbH
- Dokumentation -
D-47800 Krefeld-Gartenstadt
Magdeburger Str. 38 - 40

Contents

Maintenance

General

Safety instructions

DANGER

00400035

Before undertaking any cleaning or maintenance work:

Make certain that the machine cannot be switched on unintentionally by unauthorized persons.

As a general rule, cleaning and maintenance work is to be performed only if the plug has been removed from the mains socket.

Covers have to be removed to perform some maintenance work. On no account is the machine to be restarted before you have reinstalled all covers properly.

Access authority

NOTE

The full user interface of the machine control has to be enabled to perform the maintenance work described below. If the interface is protected by a password, you need to know what the password is.

Overview

NOTE

The stated maintenance intervals are guidelines for conventional single shifts. In case of 2 or 3-shift duty cycles, the intervals are to be reduced accordingly.

	Cleaning and maintenance work (each embroidery position)
Every day	- *"Clean rotary hook and surrounding area, oil rotary hook"* - *"Clean thread trimmers and bobbin thread monitor"*
Every three months	- *"Grease helical gear wheel"* *(foot plate: variant 1)* - *"Grease drive wheels"* *(foot plate: variant 2)* - *"Grease drive wheel"* *(cylinder arm)* - *"Thread trimmer drive (underneath cylinder arm)"* - *"Oil felt in drive unit"* *(embroidery head)* - *"Oil felts in needle unit"* *(embroidery head)* - *"Sequin device"* *(grease spindle if used every day)*
Every six months	- *"Grease connecting rod"* *(foot plate: variant 2)* - *"Grease connecting rod"* *(cylinder arm)* - *"Oil connecting rods in drive unit"* *(embroidery head)*
As necessary	- *"Clean upper thread guide elements"* *(embroidery head)* - *"Boring attachment"* - *"Change borer"* - *"Double-roller cord attachment"* *(needle bars and guides)* - *"Cord/loop attachment"* *(needle bars and guides)*
	Cleaning and maintenance work (machine, general)
Every three months	- *"Grease linear guide"* - *"TF, MF, LF, LCF, XF, XLF, XCF, YCF series"* - - *"JF/JNF, SPRINT series"* *(pantograph control)* *All machines: grease **side-to-side** drive* *JF, SPRINT series: grease **side-to-side** and **front-to-back** drive*
	Cleaning and maintenance work (control components)
As necessary	- *"Clean control components"* - *"Clean ventilation filter"*

NOTE

All installed lifting magnets are maintenance-free and must not be oiled.

Lubricants

The standard machine accessories include:

=> - a spray can containing sewing machine oil
(JC W 35 Superlubrifiant, ZSK order No. 750 081)

=> - a grease cartridge (Gleitmo 585M, ZSK order No. 667 055).

As far as possible, use only the original lubricants supplied with the machine when carrying out maintenance work. These lubricants are available from ZSK.

NOTE

Waste grease and oil is to be treated in compliance with the disposal regulations applicable in the country concerned or surrendered to a hazardous waste facility.

Note the remarks below if you elect to use different lubricants.

The table below contains the DIN 51502 designations and the principal properties of the lubricants supplied with the machine. If using **other lubricants, choose only greases and oils that are in the same category as the original lubricants and thus have similar properties**.

Lubricant	Designation acc. to DIN 51502	Description/properties
JC W 35 Superlubrifiant	CL 22	*Circulation system lubricating oil with additives to improve resistance to ageing and corrosion according to DIN 51517 Part 2.* *Viscosity at 40°C: 22 ± 2.2 mm^2/s (cSt)*
Gleitmo 585M	KPF 2K	*Lubricating grease for high pressures, water resistant, with additives to improve resistance to corrosion and wear, and solid lubricant based on MoS_2.* *Worked penetration:* *265-295 10^{-1} mm,* *Service temperature:* *-20 to +120°C*

Maintenance work

Every day:

Clean rotary hook and surrounding area, oil rotary hook

The rotary hook and surrounding area must be kept clean at all times. In addition, the hook must be oiled **every day**.

Figure 1:
Oiling rotary hook

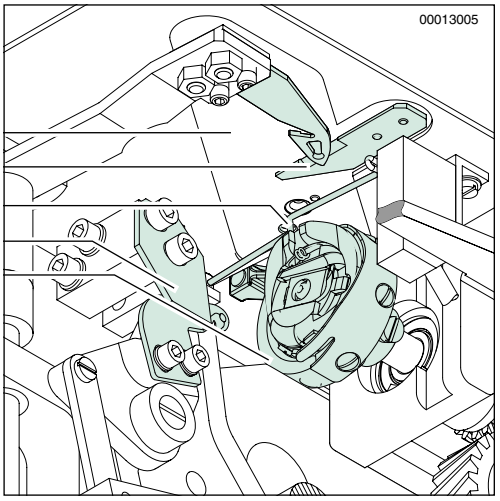
- Take out the bobbin.
- Free the rotary hook of any loose threads and lint.
- Clean the rotary hook and surrounding area (thread trimmer, thread monitor, picker) with a brush or compressed air.
- Oil the rotary hook with a **small shot of oil** from the spray can supplied with the machine or sewing machine oil (1 to 2 drops).

Foot plate: variant 1

Every day:

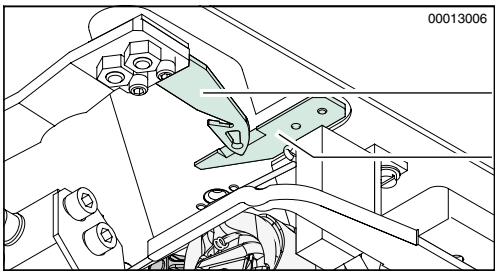
Clean thread trimmers and bobbin thread monitor

Figure 2:
General view underneath stitch plate



The thread trimmers for the upper and bobbin threads and the bobbin thread monitor *(2.3)* must be cleaned regularly because malfunctions can occur if these assemblies become obstructed. A bobbin thread trimmer *(2.2)* and monitor are mounted on the underside of each stitch plate *(2.1)*. The upper thread trimmers *(2.4)* are located to the left and in front of the associated rotary hook *(2.5)*.

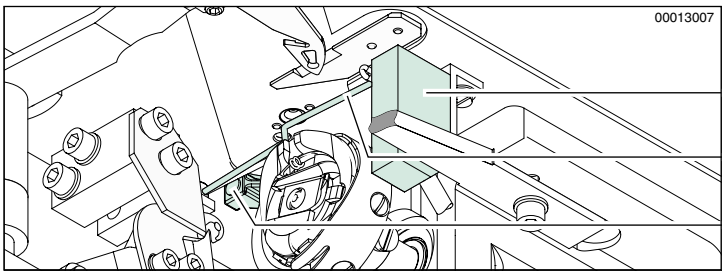
Figure 3:
Section of bobbin thread trimmer



Hook blade

Counter blade

Figure 4:
Section of bobbin thread monitor

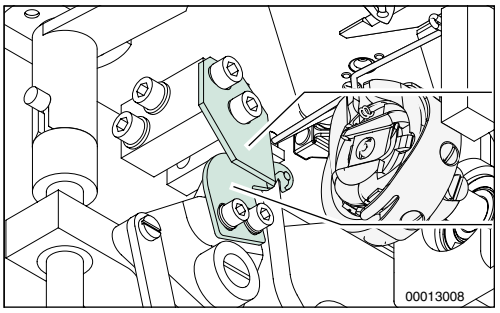


Initiator

Switching wire

Magnet

Figure 5:
Section of upper thread trimmer



Counter blade

Hook blade

- Clean all thread trimmers and bobbin thread monitors **<u>at least once a day</u>** with a small soft brush or compressed air. In the event of severe contamination (e.g. when working with cotton), these components may have to be cleaned **<u>several times a day.</u>**

Every three months:

Grease helical gear wheel

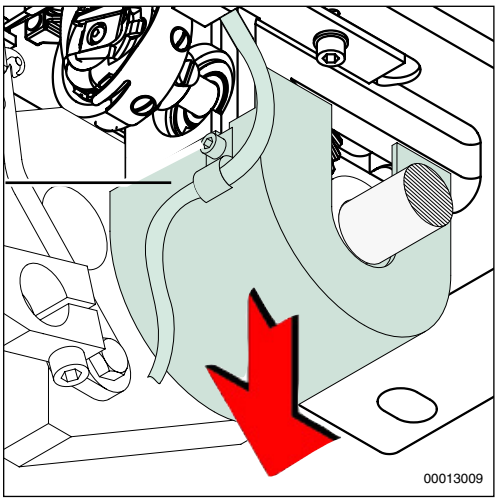
Apply grease to the helical gear wheels in the foot plates **every three months** (more frequently in case of two or three-shift duty cycles).

Detach protective caps

DANGER

Always remove the mains plug from the socket before detaching the protective caps.

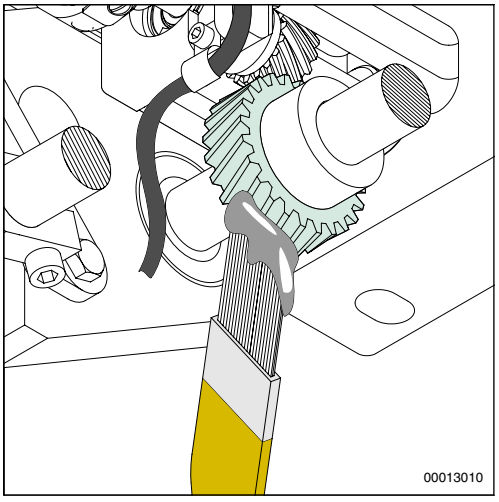
Figure 6:
Detaching protective caps



- Slacken off the fastening screw *(6.1)* in each of the foot plates sufficiently to allow the protective caps to be pulled off from below.

Grease drive wheel

Figure 7:
Greasing drive wheel



- Apply grease to the helical gear wheels with a small brush.
- Use the handwheel to rotate the shaft in order to gain access to the teeth at the back as well.
- Make sure that **all the teeth** of the helical gear wheels are adequately coated with grease.

NOTE

To turn the main/bottom shaft by hand, the brake has to be released. Switch on the machine and use the relevant control function to release the brake for this purpose (see *Appendix F "Main shaft brake"*).

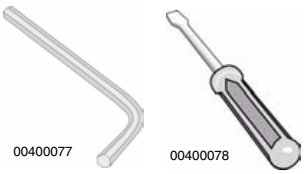
De-energize the machine again after greasing.

Install protective caps

DANGER

Properly secure all the protective caps again with the Allen screws. The caps are provided for your own safety and to protect the helical gear wheels against contamination.

Every day:



Foot plate: variant 2

- Detach the stitch plate with a suitable tool.

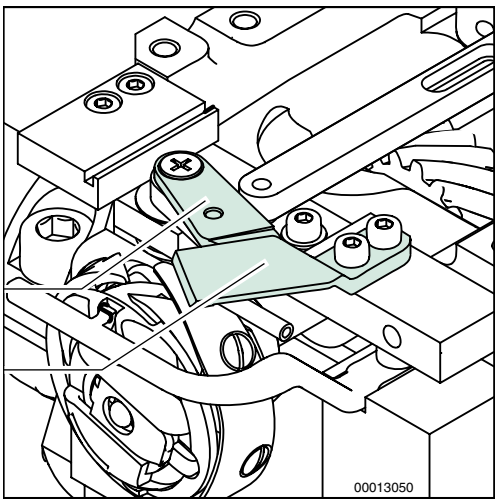
Clean thread trimmer

- Clean the thread trimmer area of the foot plate with compressed air or a brush.

NOTE

Thread waste that becomes lodged between or beneath the blades of the thread trimmer (cf. *Fig. 8*) can cause the thread trimmer to malfunction. For this reason, remove thread waste <u>at least once a week</u> and more frequently in the event of severe contamination.
To clean the thread trimmer, move the blade to the cleaning position (see *Appendix F "Thread trimmer cleaning position"*).

Figure 8:
Thread trimmer area of foot plate



Thread trimmer drive

NOTE

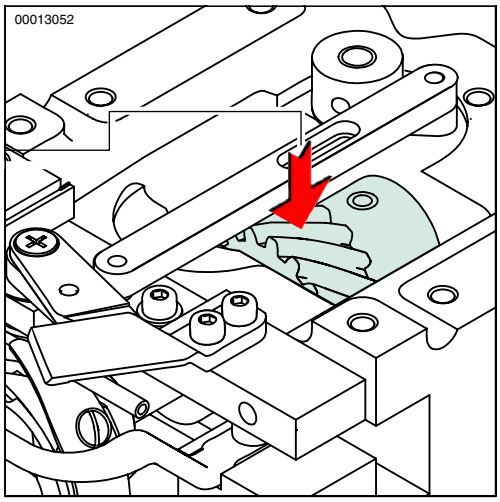
The thread trimmer drive assemblies do not require any maintenance.

Every three months:

Grease drive wheels

Figure 9:
Foot plate,
greasing drive wheel

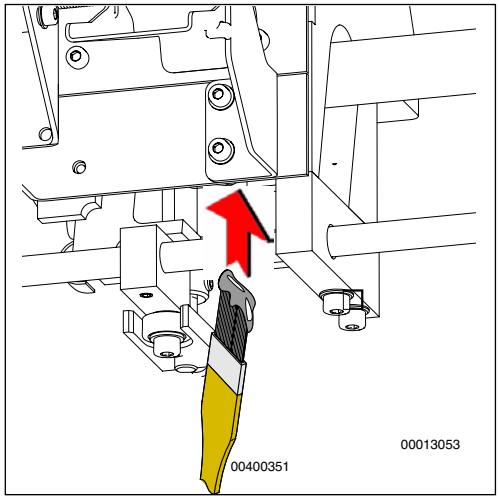
Top helical gear wheel



- With the stitch plate removed, apply a little grease to the upper drive wheel of the foot plate.

Figure 10:
Foot plate,
greasing drive wheel

Bottom helical gear wheel



- The bottom helical gear wheel is accessible through the open base of the foot plate. Apply grease to the gear wheel from underneath with a brush.
- Use the handwheel to rotate the shaft in order to gain access to the teeth at the back as well.
- Make sure that **all the teeth** of the helical gear wheels are adequately coated with grease.

NOTE

To turn the main/bottom shaft by hand, the brake has to be released. Switch on the machine and use the relevant control function to release the brake for this purpose (see *Appendix F "Main shaft brake"*).

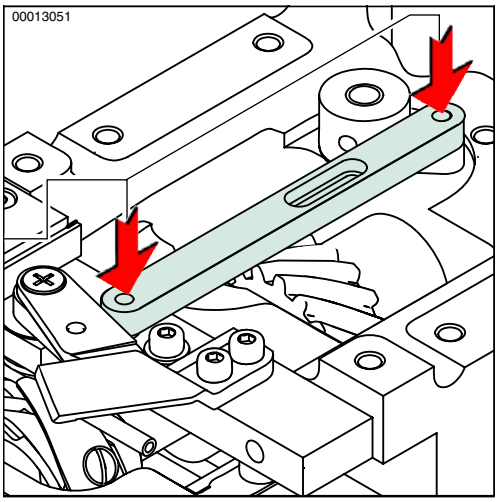
De-energize the machine again after greasing.

Every six months:

Grease connecting rod

- The lubrication points of the connecting rod are marked by arrows in the drawing below. Grease these locations once every six months.

Figure 11:
Foot plate, connecting rod lubrication points



Bearing of thread trimmer connecting rod

- Reinstall the stitch plate.
- When installing, align the stitch plate so that the **needle hole is located centrally under the needle**.
- Turn the handwheel to make certain that the active needle enters the middle of the needle hole.

Every day:

Cylinder arm

- Detach the stitch plate with a suitable tool.

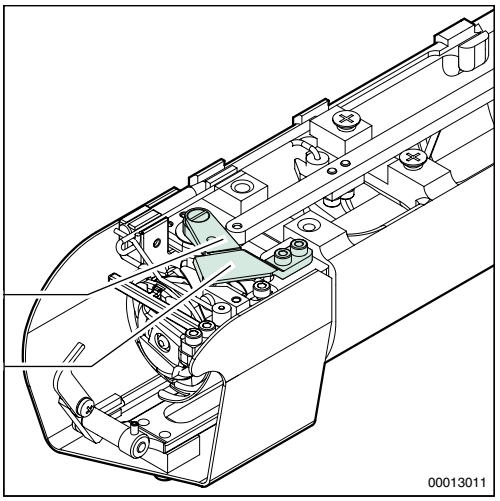
Clean thread trimmer

- Clean the cylinder arm with compressed air or a brush.

NOTE

Thread waste that becomes lodged between or beneath the blades of the thread trimmer (cf. *Fig. 12*) can cause the thread trimmer to malfunction. For this reason, remove thread waste <u>at least once a week</u> and more frequently in the event of severe contamination.
To clean the thread trimmer, move the blade to the cleaning position (see *Appendix F "Thread trimmer cleaning position"*).

Figure 12:
View of front,
stitch plate removed



Blade

Counter blade

Thread trimmer drive

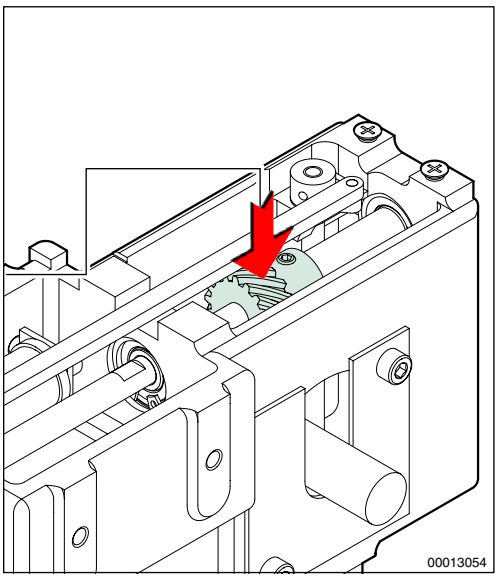
NOTE

The thread trimmer drive assemblies do not require any maintenance.

Every three months:

Grease drive wheel

Figure 13:
Cylinder arm, thread trimmer drive wheel



NOTE

To turn the main/bottom shaft by hand, the brake has to be released. Switch on the machine and use the relevant control function to release the brake for this purpose (see *Appendix F "Main shaft brake"*).

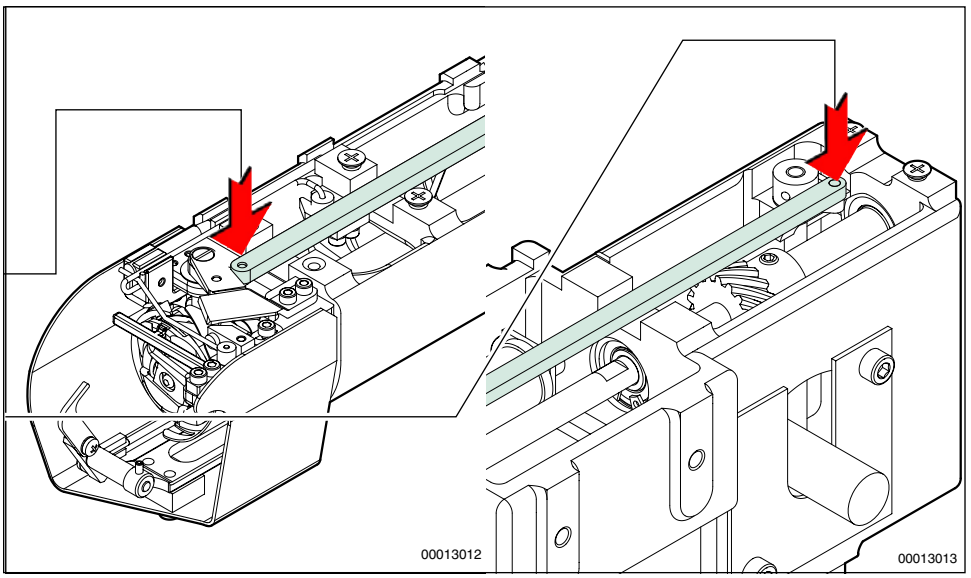
De-energize the machine again after greasing.

Every six months:

Grease connecting rod

- The lubrication points of the cylinder arm are marked by arrows in the drawings below. Grease these locations once every six months.

Figure 14:
Cylinder arm, connecting rod lubrication points



- Reinstall the stitch plate and the two cylinder arm cover plates.
- When installing, align the stitch plate so that the **needle hole is located centrally under the needle**.
- Turn the handwheel to make certain that the active needle enters the middle of the needle hole.

Every three months:

Thread trimmer drive (underneath cylinder arm)

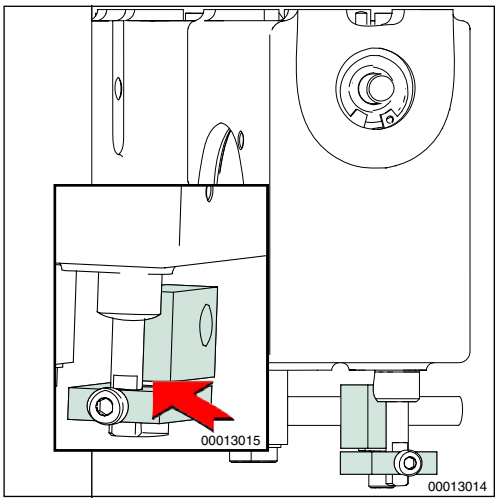


Figure 15:
Thread trimmer drive lubrication points (view of cylinder arm from **rear**)

Every three months:

Grease linear guide

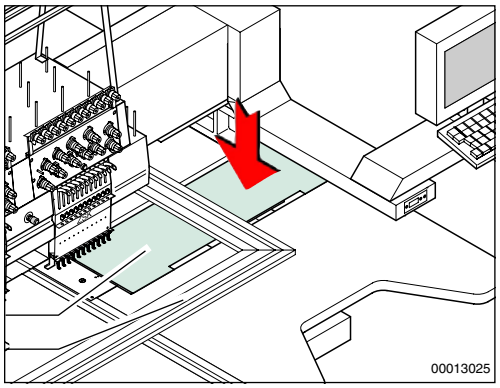
Grease the linear guides **every three months** (more frequently in case of two or three-shift duty cycles). A cover has to be removed for this purpose.

DANGER

Switch off the machine and remove the plug from the mains socket.

TF, MF, LF, LCF, XF, XLF, XCF, YCF series

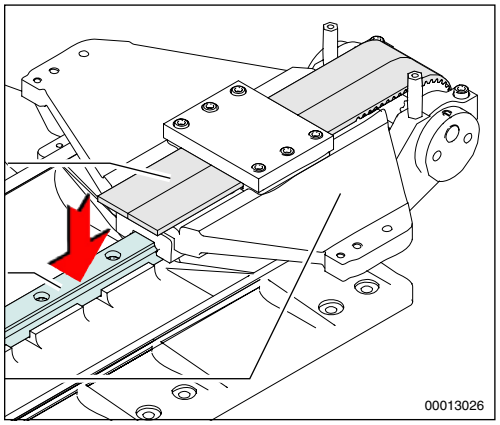
Figure 16:
Pantograph drive (side to side)



16.1
16.2

- With the machines in these series, the guides of the pantograph drive (side to side) have to be greased.
- Take off the border frame *(16.2)* (consult the machine's Operator's Guide/Operating Manual — "Conversion to border frame embroidery").

Figure 17:
Pantograph drive (side to side), underneath cover



Toothed belt

Linear guide

Carriage

- Slacken off screws.
- Take off panel.
- Grease the entire guide rail.

CAUTION

Make certain that no grease is applied to the toothed belt; this can give rise to malfunctions.

CAUTION

Do not restart the machine until all covers have been properly re-installed.

Machines with several transverse drives

The several transverse drives on some machines are connected by way of a cross-arm, so that the covers cannot be removed.

- Unscrew and remove the screws in the covers *(16.1)*. Move the border frame *(16.2)* to the right end position. Push the covers to the right.
- After greasing the guide, slide the covers back to their original positions.
- Move the border frame *(16.2)* to the left end position. Slightly raise the covers *(16.1)* as illustrated in *Fig. 19*. Grease the guides underneath the panel with a brush.

JF/JNF, SPRINT series

NOTE

With JF/JNF, SPRINT series machines, the linear guides for both axes (X and Y) need to be lubricated. With JNF-series machines, the center guide (X axis) has to be lubricated as well.

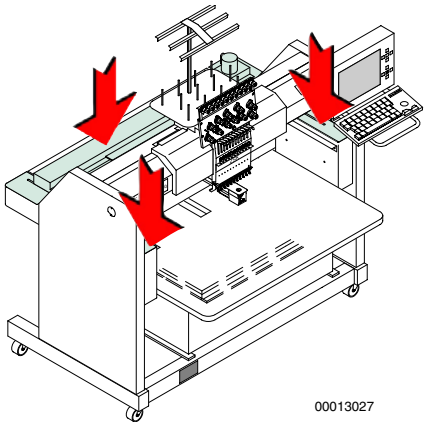


Figure 18:
Pantograph drive,
(illustrated on
a JF 0111-500)

Pantograph
- 1 drive (side to side)

Pantograph
- 2 drives (front to back)

- Slacken off screws.
- Raise cover at front first, then at back; see *Fig. 19*.

Figure 19: .
Pantograph drive (front to back)
Illustration:
front cover raised
(machine shown without control)

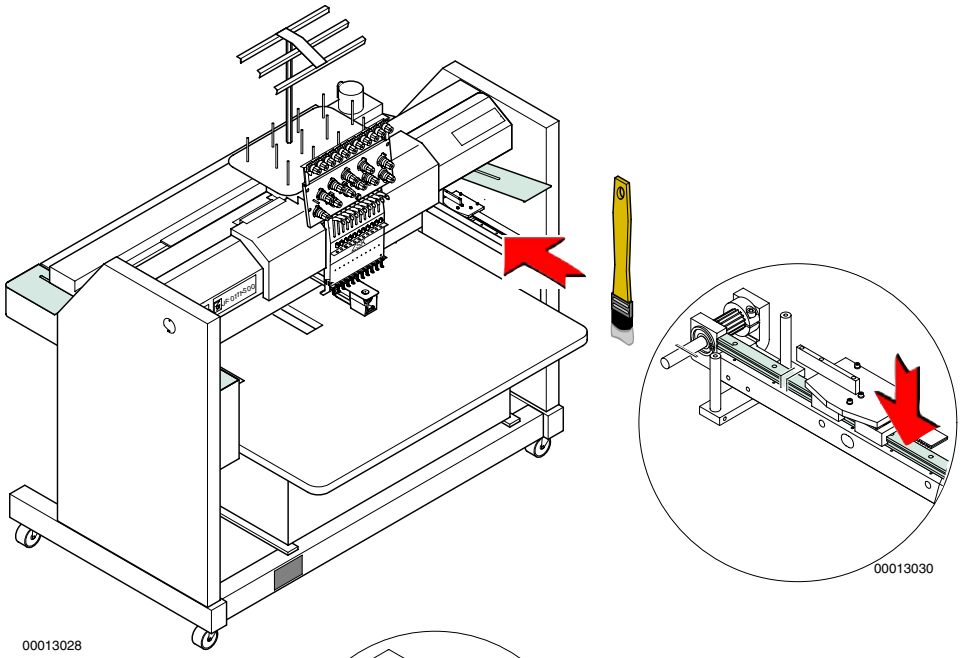
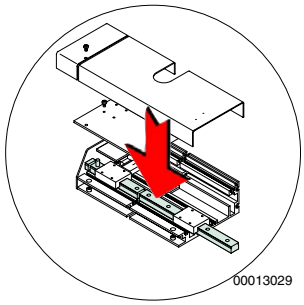


Figure 20:
Pantograph drive (side to side)



Every three months:

Embroidery head maintenance

Oil felt in drive unit

A drive unit *(21.2)* accommodating the drives for the needles, presser feet and thread take-ups, as well as the jump stitch mechanism, is located behind each of the needle units *(21.1)*. The oil-impregnated felt on the bottom of the drive unit must be oiled **every three months** (the interval is to be shortened accordingly in the case of a two or three-shift duty cycle). No dismantling is necessary when oiling the felt.

- Switch on the machine (insert the mains plug in the socket first).
- Execute a manual needle change to needle 1 (consult the *Control Unit Operating Manual*).

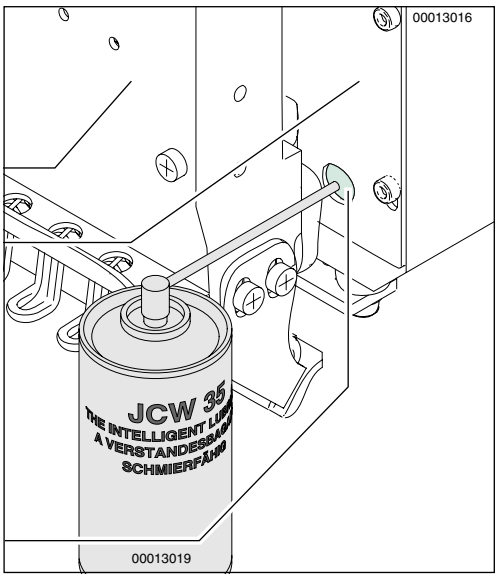
  => The needle units travel to the left until needle 1 is positioned above the needle hole. An aperture for oiling the felt *(21.3)* in the drive unit is revealed to the right of each needle unit.

DANGER

Switch off the machine at the main switch.

- At each embroidery head spray a little oil on the felt through the aperture *(21.3)* in the cover.

Figure 21:
Embroidery head with needle unit at left travel limit



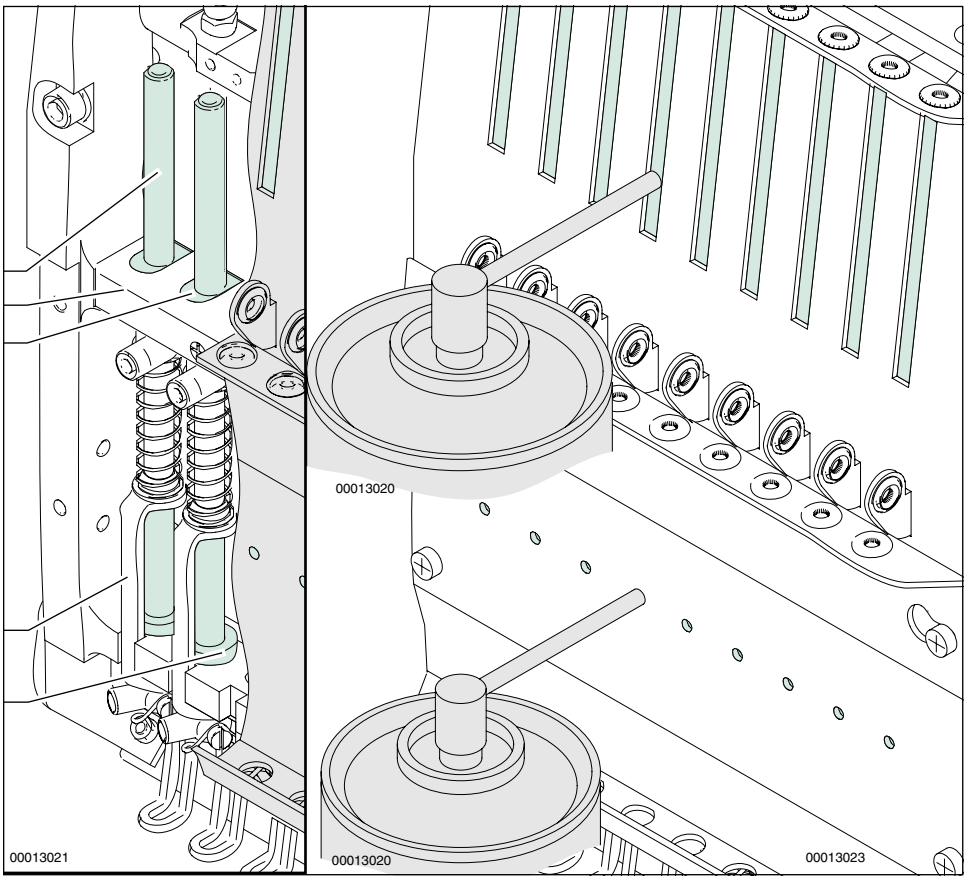
Every three months:

Oil felts in needle unit

Oil-impregnated felts provide a constant supply of oil to the needle bars. The felts must be oiled **every three months** (the interval is to be shortened accordingly in the case of a two or three-shift duty cycle).

To oil the felts, the front panels do not have to be taken off the embroidery heads. The upper threads can also remain threaded.

Figure 22:
Embroidery head
Left: oiling felts in needle unit



Visible part of needle bar

Angle plate
Felt strip underneath

Top of presser foot

Felt ring underneath

Figure 23:
Embroidery head
Right: access to lubrication points in installed needle unit

- Offer up and introduce the spray can tube towards the bottom of the take-up lever slot in the front panel (*Fig. 23*).
- With a **small** shot, spray a **little** oil on the visible part of the needle bar and the strip of felt underneath.
- Introduce the spray can tube in the lubrication apertures towards the bottom of the front panel (*Fig. 23*).
- With a **small** shot, spray the needle bar behind the front panel.
- Oil **all** of the needle bars in this way.

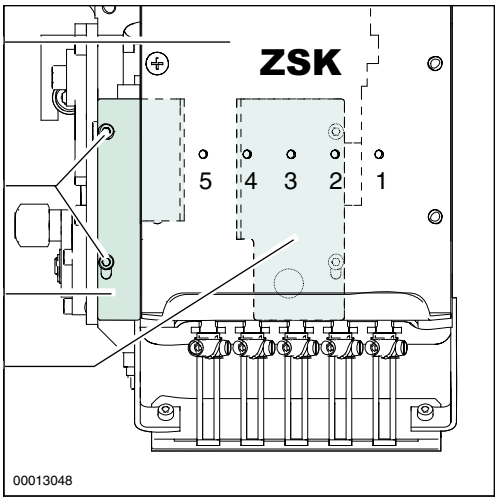
Every six months:

Oil connecting rods in drive unit

The plastic connecting rods in the drive units must be oiled **every six months** (the interval is to be shortened accordingly in the case of a two or three-shift duty cycle). For this purpose the drive unit covers located behind the needle units have to be removed.

Figure 24:
Embroidery head, removing cover (illustrated: needle unit at right, left fastening screws accessible)

24.1
24.2
24.3
24.4

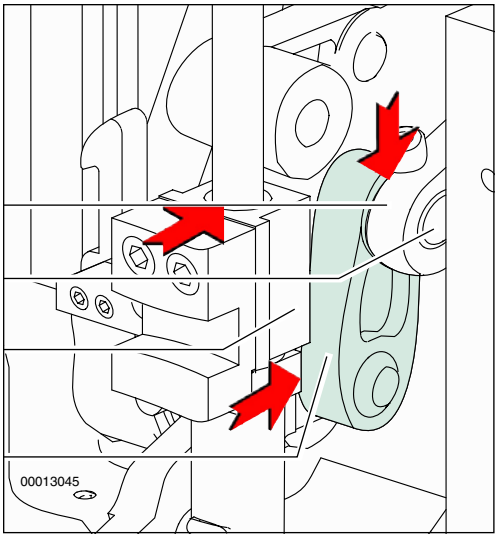


- Move all needle units *(24.1)* to the right travel limit (manual needle change to last needle).
- Remove fastening screws *(24.2)* from left cover *(24.3)* of each drive unit.
- Move the needle units to the left travel limit (manual needle change to needle 1).
- Remove the fastening screws from the right cover *(24.4)* of each drive unit and remove the cover.
- Release the brake.
- Turn the handwheel until needle 1 is in its lowest position.
- Engage the brake again.

DANGER

Switch off the machine and remove the plug from the mains socket.

Figure 25:
Embroidery head, oiling connecting rods in drive unit



Rocker arm

Pin

Carriage

Plastic connecting rod

- Spray oil onto the parts indicated by the arrows in the drawing.

DANGER

Do not restart the machine until all covers have been properly re-installed.

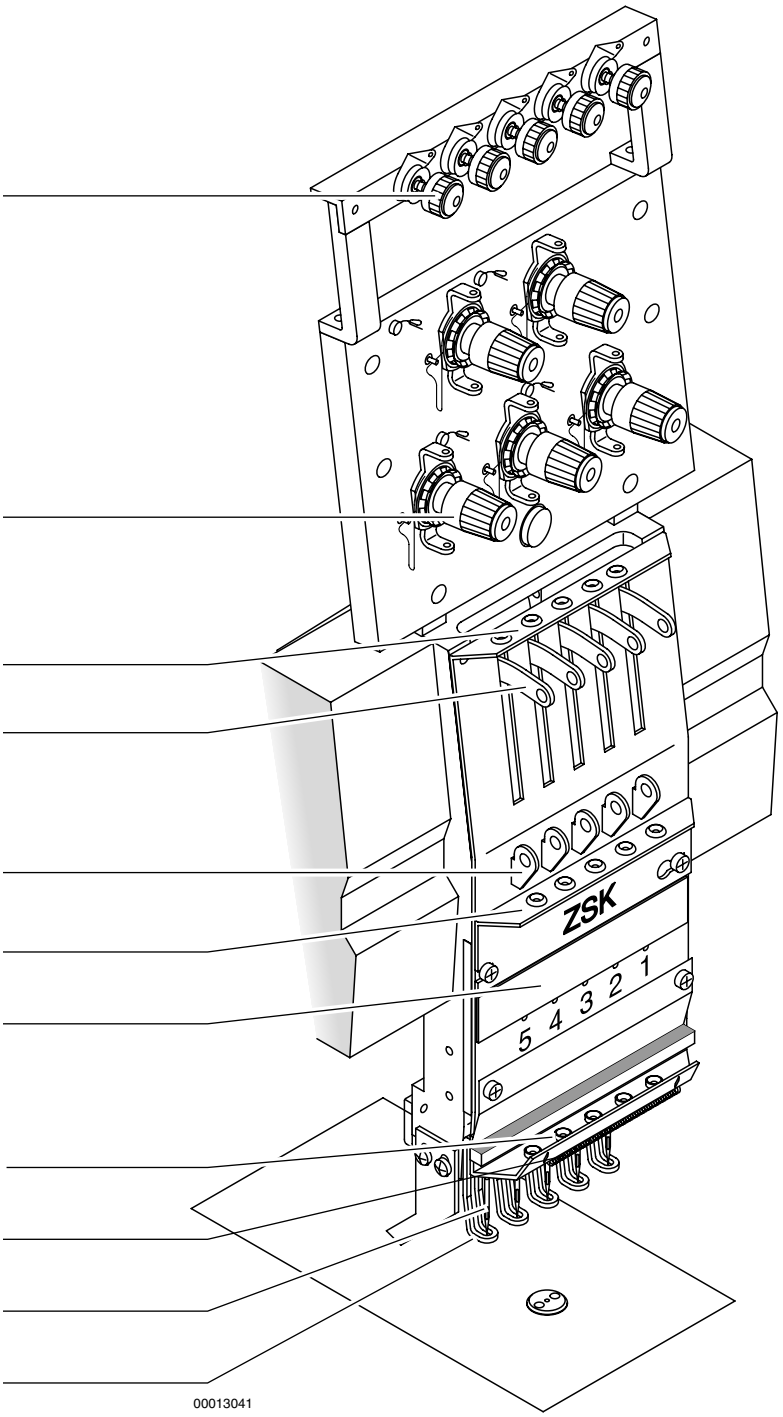
As necessary:

Clean upper thread guide elements

Dust and lint gradually collect in the holes of the upper thread guide elements and at the thread tension devices (especially the pretension regulators). For this reason, clean the thread guide elements regularly.

- In the event of severe obstruction, unthread the upper threads.
- Clean the upper thread guide elements with a small brush or compressed air.

Figure 26:
Upper thread guide elements



Optional machine attachments

Sequin device

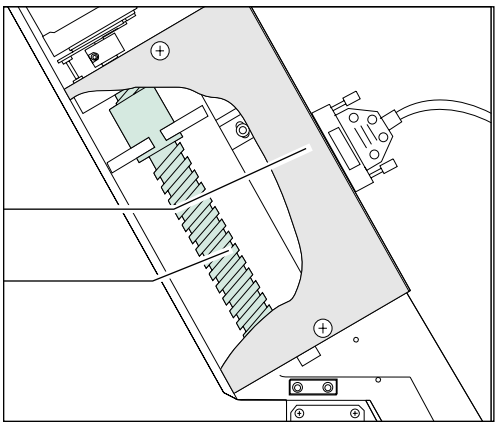
Every three months:

DANGER

As a general rule, cleaning and maintenance work is to be performed only if the plug has been removed from the mains socket.

Lubricate the spindles on all sequin devices **every three months** with the grease provided with the machine accessories.

Figure 27:
Sequin device spindle (uncovered)



- Detach cover *(27.1)* from the rear of the sequin device.
- Apply grease with a brush along the entire length of the spindle *(27.2)*.

DANGER

On no account is the machine to be restarted before you have reinstalled all covers properly.

Double-roller cord attachment

As necessary:

See chapter entitled *"Cord/loop attachment"*.

As necessary:

Cord/loop attachment

DANGER

Keep your hands well away from the hole of the cord/loop foot when setting it manually to the rest position. Otherwise your finger can be injured by the needle entering the hole.

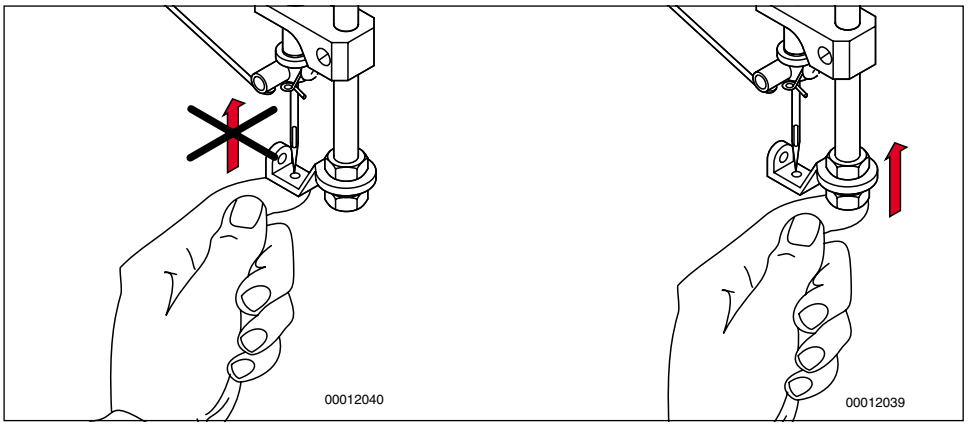


Figure 28: (left) Incorrect

Figure 29: (right) Correct

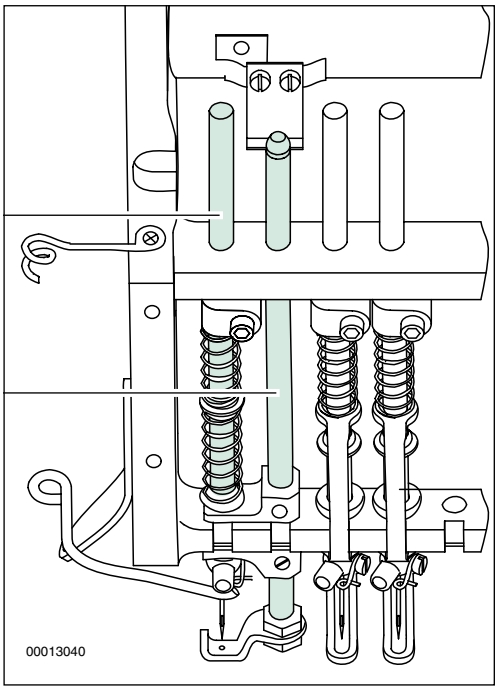


Figure 30: Greasing cord/loop attachment

Service the cord/loop attachment as the need arises.

- With a **short** shot, spray a **little** oil on the needle bars *(30.1)* and guide bars *(30.2)* of the cord/loop attachment.

As necessary:

Boring attachment

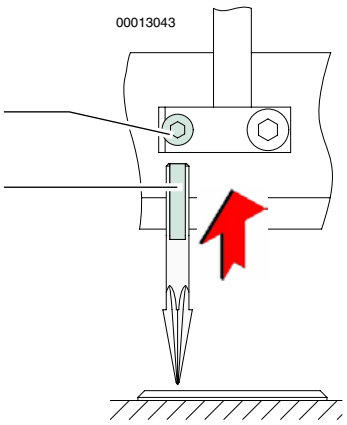
Change borer

DANGER

The borer is a cutting tool and therefore razor sharp. Observe the following safety instructions to avoid injury:

- **Never touch the tip of the borer, always hold it by the shank.**
- **Free borers that have become jammed with a suitable pair of flat nose pliers.**
- **Do not leave dismantled borers on the work table or anywhere else on the machine. Clear away loose borers immediately to avoid causing injury to yourself and others.**

Figure 31:
Boring attachment, inserting borer



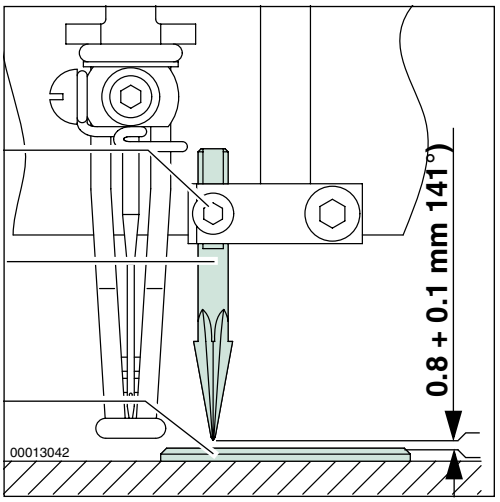
- Insert the new borer in such a way that the face of the borer shank *(31.2)* faces forwards towards the pressure screw *(31.1)*. This position is necessary to avoid damage to the borer shank when the pressure screw is tightened. It also positions the borer with a cutting edge facing forwards.
- For the time being, tighten the pressure screw only lightly.

Adjusting borer height

NOTE

At the control, set the top shaft to 141˚ and adjust the clearance between the borer point and stitch plate insert to 0.8 + 0.1 mm (consult the section on renewing borers in the *Boring Device Operating Manual* and *Appendix F "Adjusting boring depth")*.

Figure 32:
Setting borer height



- Clean the stitch plate insert *(32.3)* and place the 0.8 mm feeler gauge between the borer and stitch plate insert.
- Slacken off the pressure screw *(32.1)* in the borer holder and pull down the borer *(32.2)* until it rests on the feeler gauge.
- Tighten the pressure screw.
- Remove the feeler gauge.

CAUTION

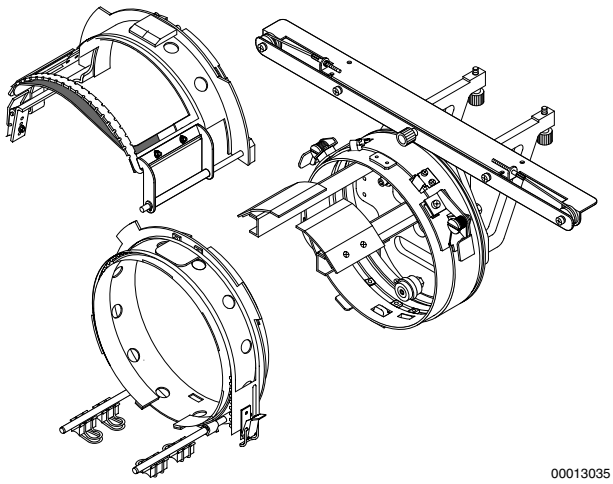
Do not start operating the machine until the protective cover has been correctly replaced.

Cap attachment ’99

NOTE

The cap attachment ’99 does not require any maintenance.

Figure 33:
Cap attachment ’99

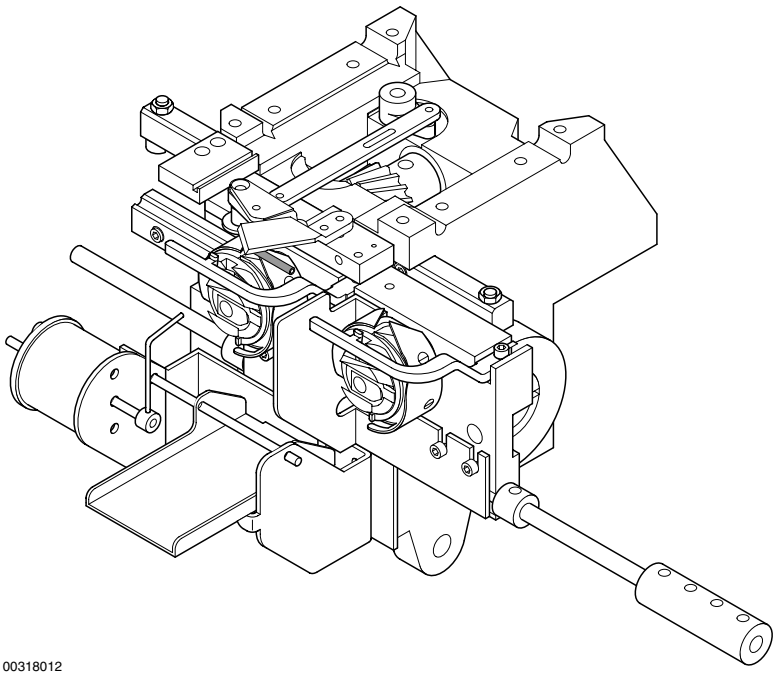


Rotary hook changer

NOTE

The rotary hook changer does not require any maintenance.

Figure 34:
Rotary hook changer



Reel-to-reel taping attachment

NOTE

The reel-to-reel taping attachment, including its winding units, does not require any maintenance.

Figure 35:
Reel-to-reel taping attachment, single-head embroidery machine

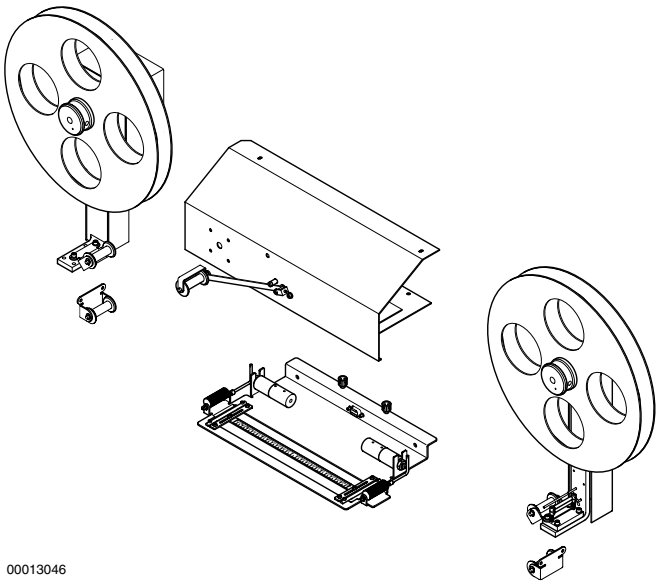
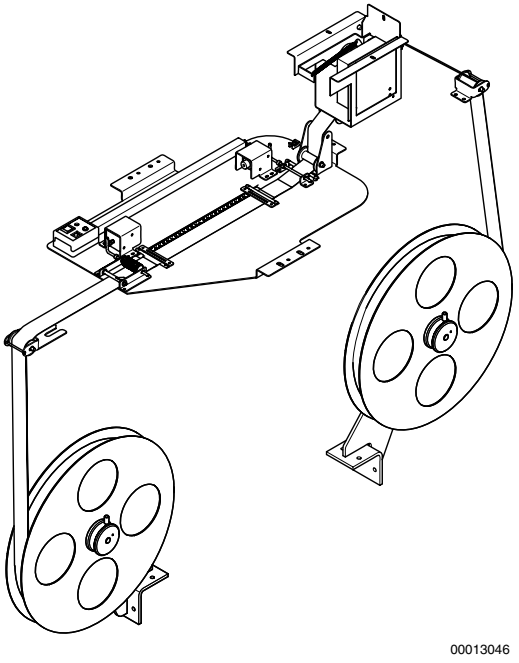


Figure 36:
Reel-to-reel taping attachment, multi-head embroidery machine



Servicing the control components

DANGER

Control components are to be installed, repaired and adjusted only by trained service personnel.

Clean control components

DANGER

Clean the control cabinet, screen, keyboard and disk drive only if the plug has been removed from the mains socket.

NOTE

Clean plastic parts with a soft, non-fluffy, slightly damp cloth. Do not use any caustic or ammonia-containing cleaning agents, or abrasive agents or sprays. On no account are liquids allowed to enter any devices.

The screen can be cleaned with special anti-static cleaning cloths or conventional glass cleaning agents. Here again, sprays are not to be used on any account. The spray mist could enter the cabinet and damage the screen beyond repair.

Air vents in control cabinet

CAUTION

Make certain that all air vents (*Fig. 37*) in the control cabinet remain unobstructed at all times. Inadequate venting can cause overheating and damage the control components.

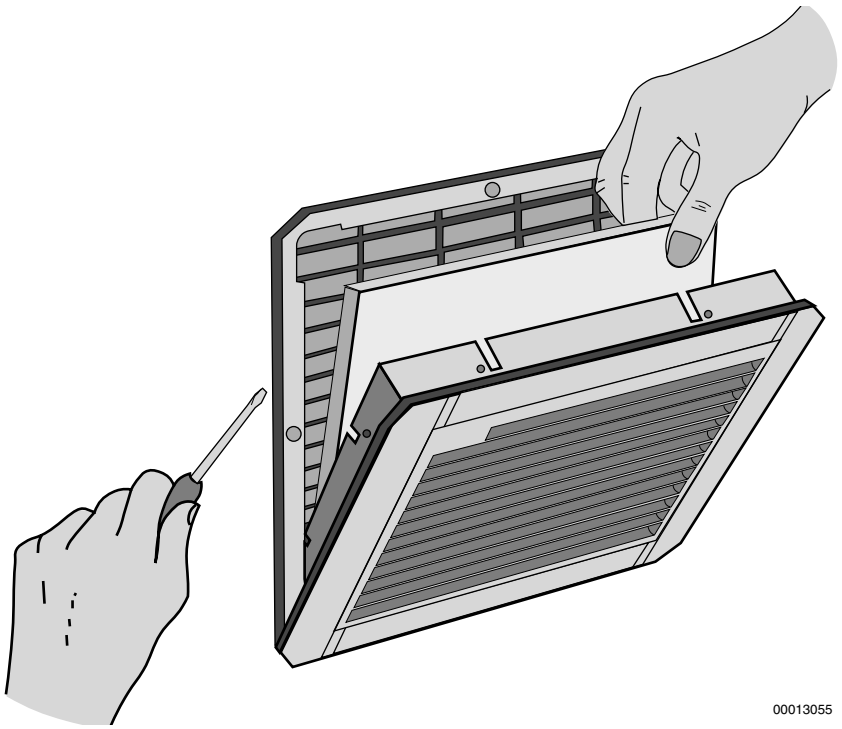
Figure 37:
Control cabinet air vents

Clean ventilation filter

CAUTION

Regularly check the ventilation filter in the control cabinet for contamination and clean the filter element as necessary.

Figure 38:
Opening filter housing and removing filter mat



- Remove the complete filter housing from the control cabinet from the outside.
- Carefully open the filter housing with a screwdriver.
- Remove the filter mat from the filter housing.
- Inspect the filter mat for contamination.
- Clean the filter mat by one of the following methods depending on the extent of contamination.

Extent of contamination	Cleaning method
Normal contamination	Rinse in warm water (app. 40°C) containing a regular mild detergent.
Dry dust	Clean by knocking, with a vacuum cleaner, or by blowing with compressed air.
Dust containing grease	Clean in warm water containing a grease solvent.

CAUTION

Do not wash with a strong jet of water and do not wring out the filter mat.

- Once it is dry, place the filter mat in the filter housing again.
- Close the filter housing.
- Insert the filter housing in the control cabinet again from the outside.

Appendix D – Needle/Rotary Hook Adjustment

The values stated below are intended to help a specialist make the correct settings.

CAUTION

Changes to these values made by untrained personnel can damage the machine.

Adjusting loop stroke/needle depth

The loop stroke is the distance from the bottom dead center (BDC) of the needle point to the position of the point during the upward movement at which the point of the rotary hook is located centrally behind the needle.

The needle depth is the distance between the top edge of the needle eye and the point of the rotary hook.

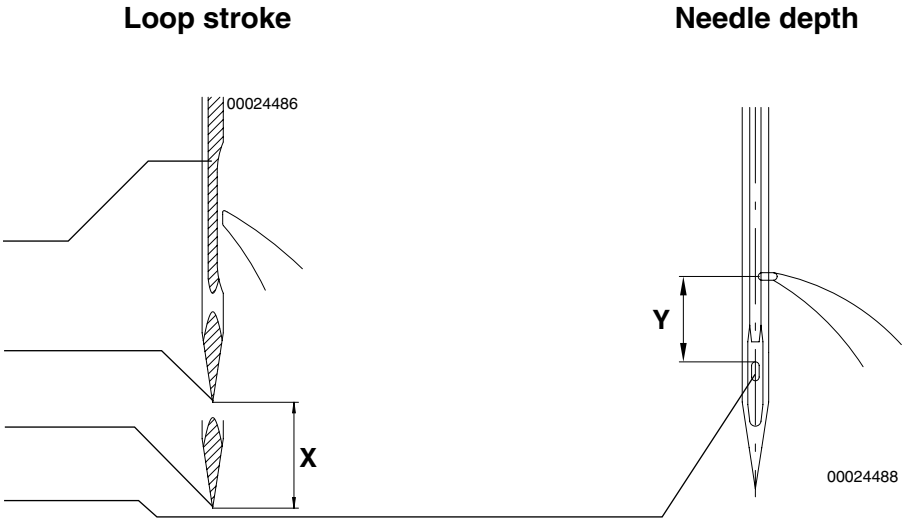


Figure 1:
Needle depth, adjusting

Needle

Exact loop stroke position

Bottom dead center

Eye of needle

Application	Loop stroke [X=mm]	Needle depth [Y=mm]
Standard machine	2.0	1.0
Curtain / special machines	1.5	1.5
JF/JNF/TF machines	2.0	1.0

Rotary hook clearance

The rotary hook clearance is the distance between the hollow shaft of the needle and the point of the rotary hook.

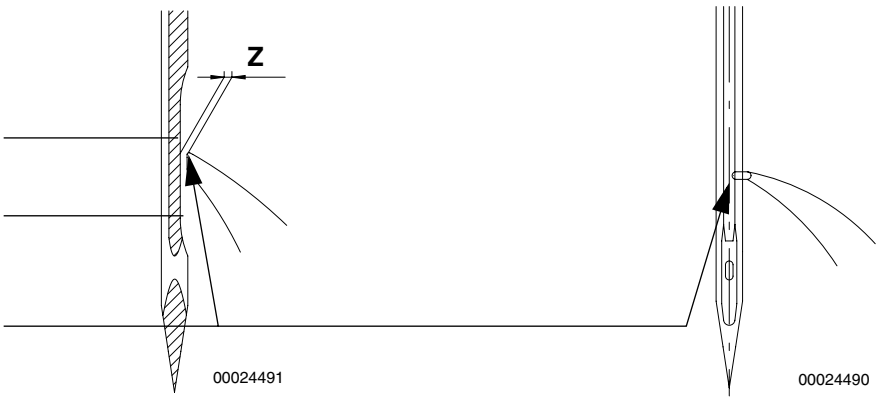


Figure 2:
Adjusting rotary hook

Needle

Hollow shaft

Point of rotary hook

Application	Clearance [Z=mm]
Standard machines	0.05 - 0.1
JF/JNF/TF machines	0.05 - 0.1

Appendix F – Adjustments – LCD

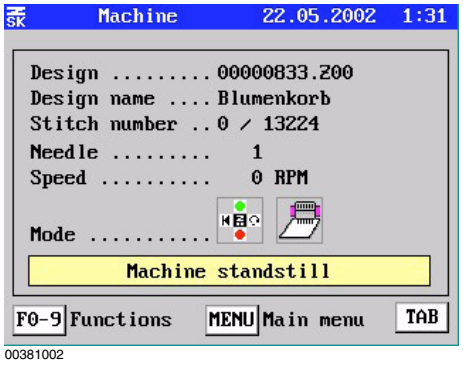
Thread trimmer cleaning position

NOTE

The full user interface of the machine control has to be enabled to perform this maintenance task. If the interface is protected by a password, you need to know what the password is.

Figure 1:
LCD control unit,
start-up screen

00380829

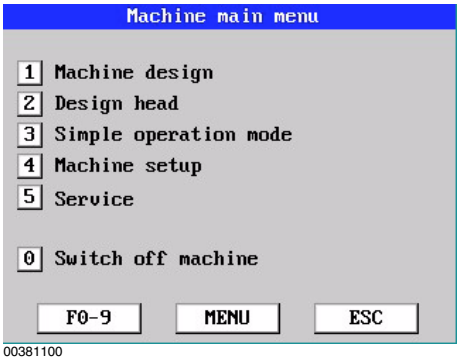


00381002

- Press [MENU] to open the "*Machine main menu*".

Figure 2:
LCD control unit,
machine main menu

00380811



00381100

- In the "Machine main menu", select function [5] *Service* to open the *"Service"* menu.

Figure 3:
LCD control unit,
service menu

00380810

00381957

- In the *"Service"* menu, select function [4] *Thread trimmer cleaning position*.

Figure 4:
LCD control unit,
thread trimmer cleaning
position

00381958

- Start the machine with the start button / operating lever in order to advance the thread trimmer blades to the cleaning position.

=> The machine advances the thread trimmer blades to a position in which the blades protrude below the stitch plate.

- Clean the thread trimmer blades with compressed air.

00380818

- After the cleaning operation, press [ESC] to terminate the thread trimmer cleaning position function.

=> The message illustrated below appears, and the machine returns the thread trimmer blades to their rest position.

Figure 5:
LCD control unit,
thread trimmer cleaning
position

00381959

=> Once the thread trimmer blades have reached the rest position, the "*Service*" menu returns to the screen.

Adjusting boring depth

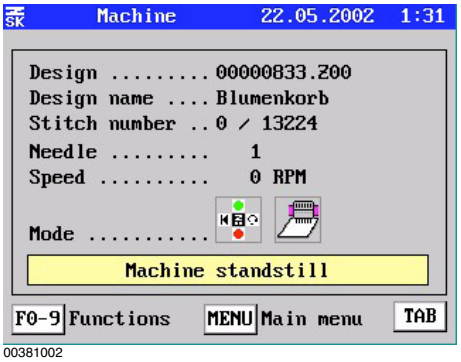
NOTE

The full user interface of the machine control has to be enabled to perform this maintenance task. If the interface is protected by a password, you need to know what the password is.

Main shaft positioning

Figure 6:
LCD control unit,
start-up screen

00380829

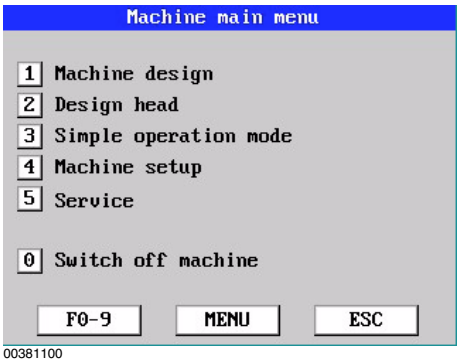


00381002

- Press [MENU] to open the "*Machine main menu*".

Figure 7:
LCD control unit,
machine main menu

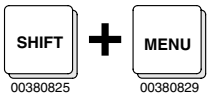
00380811



00381100

- In the *"Machine main menu"*, select function [5] *Service* to open the *"Service"* menu.

Figure 8:
LCD control unit,
service menu



00380825 00380829

00381957

- Use the short-cut [Shift] + [Menu] to activate function [9] *More service functions*.

Figure 9:
LCD control unit,
service menu

00380815

00381128

- Press [9] *More service functions* to call the menu of the same name.

Figure 10:
LCD control unit,
more service functions

00380809

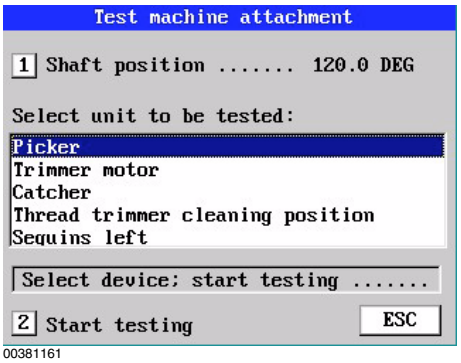
00381129

- Press button [3] *Test machine attachment* to open the dialog of the same name.

Figure 11:
LCD control unit,
test machine attachment

00380820

00380823

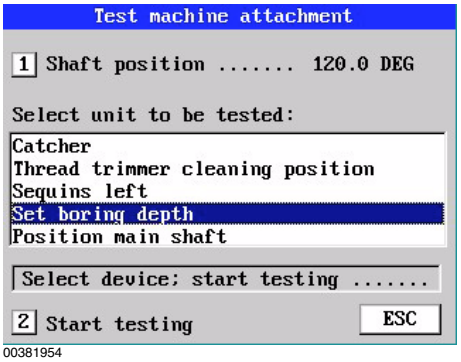


00381161

- Use the cursor keys [↑], [↓] to select "*Set boring depth*".

Figure 12:
LCD control unit,
test machine attachment

00380808

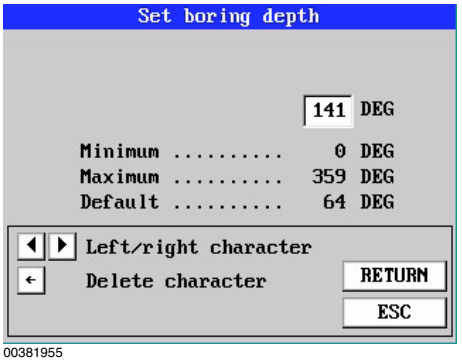


00381954

- Press [2] *Start testing* to confirm initiation of the *"Set boring depth"* function.

Figure 13:
LCD control unit,
set boring depth

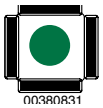
00380830

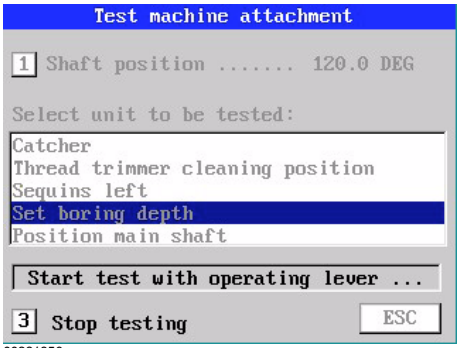


00381955

- Enter 141° in the text box presented by the dialog. This is the position of the main shaft required for setting the boring depth.
- Press [RETURN] to confirm the entered value.

Figure 14:
LCD control unit,
test machine attachment


00380831



00381956

- Start the machine with the start button / operating lever.

=> The machine executes an automatic needle change to needle 3.

=> The main shaft moves to the desired position.

=> Once the desired shaft position is reached, the machine is automatically braked.

=> The selected main shaft position, 141°, appears at the top right of the screen.

NOTE

The value that appears in the display must be within max. +/- 0.5° of the main shaft position that you entered. If the value is outside this tolerance (this can occur with the larger multi-head embroidery machines), the position of the main shaft has to be adjusted manually. It may be possible to obtain the correct main shaft position by pressing [3] *Stop testing* and then [2] *Start testing*.

- Adjust the height of the borer.

- Press [3] *Stop testing* to terminate the "*Set boring depth*" function.

NOTE

Once the boring depth has been set, pressing [3] *Stop testing* returns the main shaft to its original position. The machine also performs a needle change to the needle that was active beforehand.

3x

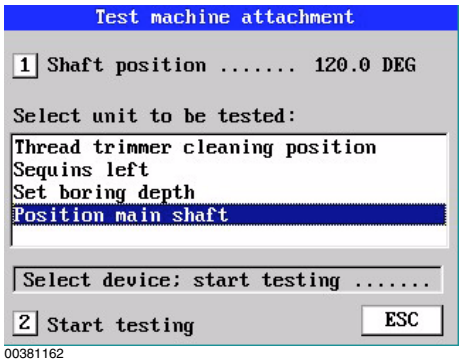
- Press [ESC] three times to return to the machine main menu.

Manual main shaft positioning

NOTE

The starting point for this operation is the *"Test machine attachment"* menu, which is still active.

Figure 15:
LCD control unit,
test machine attachment



00381162

- Press the jog button to release the main shaft brake (the "*Test machine attachment*" menu has to be active).

    => The main shaft can now be freely rotated.

- Manually rotate the main shaft with the handwheel or supplied lever wrench to a more exact position within the stated tolerance (max. +/- 0.5°).

    => The value indicated by the display tracks the current position of the main shaft.

- Once the desired main shaft position is reached, press the jog button again to apply the main shaft brake.

- Adjust the height of the borer.

NOTE

Once the borer height has been set, pressing [3] *Stop testing* returns the main shaft to its original position. The machine also performs a needle change to the needle that was active beforehand.

Main shaft brake

NOTE

The full user interface of the machine control has to be enabled to perform this maintenance task. If the interface is protected by a password, you need to know what the password is.

The machine is braked by an electromagnet integrated in the main motor when stationary and disconnected from the power supply (main shaft brake). For some maintenance purposes the main shaft brake has to be released when the machine is stationary. The brake is released electromagnetically; it is operated and controlled by functions that form part of the machine control software.

NOTE

When disconnected from the power supply, the machine is braked as a general rule and the shaft cannot be rotated with the handwheel.

Releasing/engaging brake

For adjusting and maintenance work the brake can be deactivated and activated again manually by way of the control.

- Stop the machine.

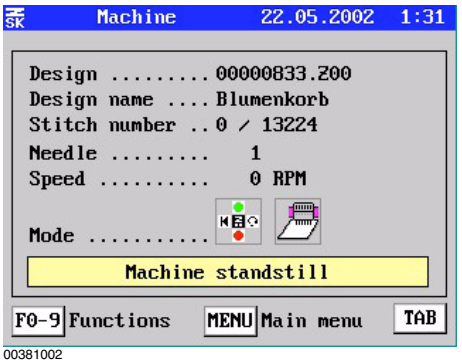
DANGER

Depending on the position in which it stops, the machine may run forward or back a little when the brake is released.

Before the brake is released, it is essential to ensure that nobody is within the operating range of needles, rotary hooks or, in case protective covers have been removed, rotating drive elements.

Figure 16:
LCD control unit,
start-up screen

00380830

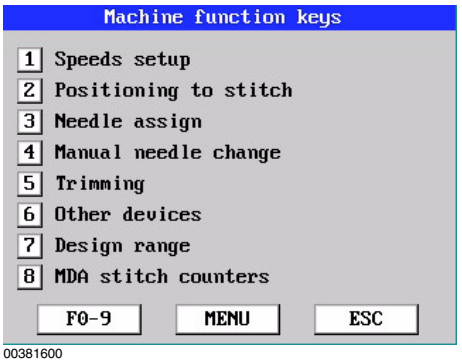


00381002

- Press [F0-9] to open the menu entitled *"Machine function keys"*.

Figure 17:
LCD control unit,
machine function keys

00380812

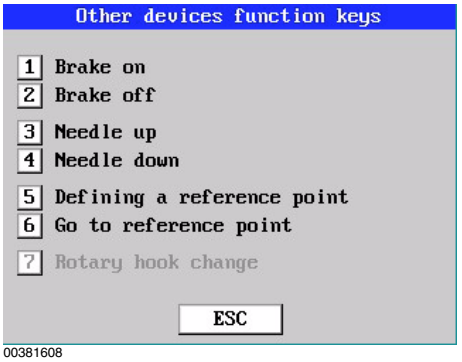


00381600

- Press [6] *Other devices* to open the *"Other devices function keys"* menu.

Figure 18:
LCD control unit,
other devices function keys

00380808



00381608

- Press [2] *Brake off* to release the main shaft brake.

NOTE

You can now rotate the main shaft manually with the handwheel to the position required to perform the necessary maintenance work.

- Once you have finished the maintenance work, press [1] *Brake on* to engage the main shaft brake once again.

2x 

- Press [ESC] twice to return to the main screen of the control.

Appendix F – Adjustments – TFT

Thread trimmer cleaning position

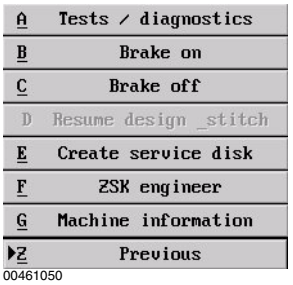
NOTE

The full user interface of the machine control has to be enabled to perform this maintenance task. If the interface is protected by a password, you need to know what the password is.

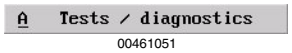
00461015

Figure 1:
TFT control unit,
service menu

- Press button [E] *Service* to switch from the main control menu to the *"Service"* submenu.



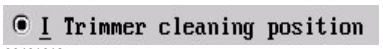
00461050



00461051

- Press button [A] *Tests / diagnostics* to open the relevant menu.
- Activate the toggle button [I] *Trimmer cleaning position (Fig. 2)*.

Figure 2:
TFT control unit,
toggle button,
trimmer cleaning position



00461619

00461597

- Press button [X] *Start testing* to confirm initiation of the *"Trimmer cleaning position"* function.
- Start the machine with the start button / operating lever.

=> The machine advances the thread trimmer blade to a position in which the blade protrudes below the stitch plate.

- Clean the thread trimmer blade with compressed air.

00461598

- Press [W] *Stop testing* to terminate the "*Trimmer cleaning position*" function.

  => The machine moves the thread trimmer blade back to its rest position.

Adjusting boring depth

NOTE

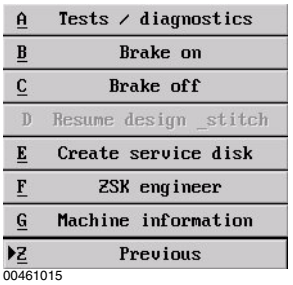
The full user interface of the machine control has to be enabled to perform this maintenance task. If the interface is protected by a password, you need to know what the password is.

Main shaft positioning

- Press button [E] *Service* to switch from the main control menu to the *"Service"* submenu.

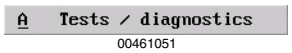
00461015

Figure 3:
TFT control unit,
service menu



00461015

- Press button [A] *Tests / diagnostics* to open the relevant menu.



00461051

- Activate the toggle button [H] *Set boring depth (Fig. 4).*
- Enter main shaft position 141° in the text box.

Figure 4:
TFT control unit,
toggle button,
set boring depth

00461618

- Press button [X] *Start testing* to confirm the selected main shaft position.

00461597

- Start the machine with the start button / operating lever.

=> The machine executes an automatic needle change to needle 3.

=> The main shaft moves to the desired position.

=> Once the desired shaft position is reached, the machine is automatically braked.

=> The selected main shaft position, 141°, appears at the top right of the screen.

NOTE

The value that appears in the display must be within max. +/- 0.5° of the main shaft position that you entered. If the value is outside this tolerance (this can occur with the larger multi-head embroidery machines), the position of the main shaft has to be adjusted manually. It may be possible to obtain the correct main shaft position by pressing [W] *Stop testing* and then [X] *Start testing*.

- Adjust the height of the borer.

Manual main shaft positioning

NOTE

The starting point for this operation is the *"Tests / diagnostics"* menu, which is still active.


00013039

- Press the jog button to release the main shaft brake (the "*Tests / diagnostics*" control menu has to be active).

  => The main shaft can now be freely rotated.

- Manually rotate the main shaft with the handwheel or supplied lever wrench to a more exact position within the stated tolerance.

  => The value indicated by the display tracks the current position of the main shaft.

- Once the desired main shaft position is reached, press the jog button again to apply the main shaft brake.

- Adjust the height of the borer.

NOTE

Once the borer height has been set, pressing [W] *Stop testing* returns the main shaft to its original position. The machine also performs a needle change to the needle that was active beforehand.

Main shaft brake

NOTE

The full user interface of the machine control has to be enabled to perform this maintenance task. If the interface is protected by a password, you need to know what the password is.

The machine is braked by an electromagnet integrated in the main motor when stationary and disconnected from the power supply (main shaft brake). For some maintenance purposes the main shaft brake has to be released when the machine is stationary. The brake is released electromagnetically; it is operated and controlled by functions that form part of the machine control software.

NOTE

When disconnected from the power supply, the machine is braked as a general rule and the shaft cannot be rotated with the handwheel.

Releasing/engaging brake

For adjusting and maintenance work the brake can be deactivated and activated again manually by way of the control.

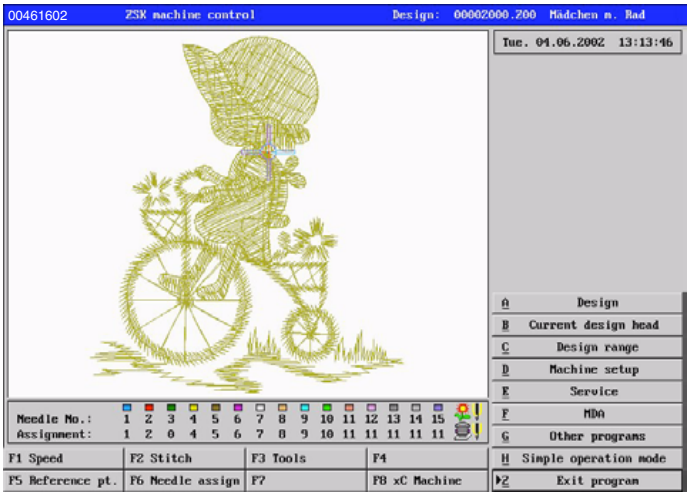
- Stop the machine.

DANGER

Depending on the position in which it stops, the machine may run forward or back a little when the brake is released.

Before the brake is released, it is essential to ensure that nobody is within the operating range of needles, rotary hooks or, in case protective covers have been removed, rotating drive elements.

Figure 5:
TFT control unit
start-up screen



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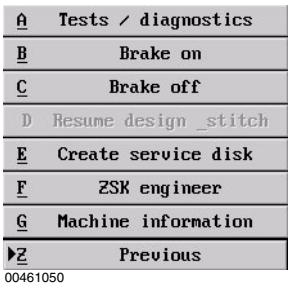
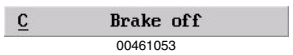
- Press button [E] *Service* to switch from the main control menu to the *"Service"* submenu.

Figure 6:
TFT control unit,
service menu



00461050



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- In the *"Service"* menu press button [C] *Brake off* to release the main shaft brake.

NOTE

You can now rotate the main shaft manually with the handwheel or supplied lever wrench to the position required to perform the necessary maintenance work.

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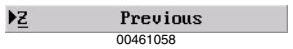
- Once you have finished the maintenance work, press [B] *Brake on* to engage the main shaft brake once again.



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- Press button [Z] *Previous* to return to the main control menu.