

Maintenance



K Head

Version 1.0

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1. K head maintenance

1.1 For your safety

DANGER



Before undertaking any cleaning or maintenance work:

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

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.

1.2 Lubricants

The standard machine accessories include:

- ⇒ A spray can containing sewing machine oil (JC W 35 Super Lubrifiant, ZSK order No. 750 081)
- ⇒ A grease cartridge (Gleitmo 585 M, 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 are to be treated in compliance with the disposal regulations applicable in the country concerned or surrendered to a hazardous waste facility.



NOTE

1.2.1 Alternative lubricants

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

If using other lubricants, choose only greases and oils that are in the same category as the original lubricants and thus have similar properties (see table below).

- The table below contains the DIN 51502 designations and the principal properties of the lubricants supplied with the machine.

Lubricant	Designation acc. to DIN 51502	Description/properties
JCW 35 Super Lubrifiant		Circulation system lubricating oil with additives to improve resistance to ageing and corrosion according to DIN 51517 Part 2. Viscosity at 40°C: $22 \pm 2,2 \text{ mm}^2/\text{s}$ (cSt)
Gleitmo 585 M		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: $265\text{-}295 \cdot 10^{-1} \text{ mm}$, Service temperature: $-20 \text{ to } +120^\circ\text{C}$

1.3 Overview of maintenance intervals

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.

Before applying grease or oil, remove dirt and old residual lubricant.

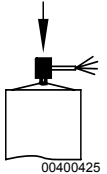
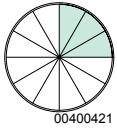


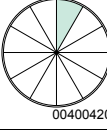
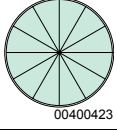

All installed lifting magnets are maintenance-free and must not be oiled.

More detailed maintenance instructions are contained in the *Maintenance guide*.

CAUTION












Do not apply an excessive amount of grease or oil, otherwise moving parts can hurl off lubricant or give rise to dripping. This could cause the work to be soiled.

Key to maintenance table

 1x (No. of shots)	 every three months
 24h every day	 every six months
 every month	 every twelve months
 as necessary	



A JCW 35 Super Lubrifiant - sewing machine oil

B Gleitmo 585 M - grease

Item	Maintenance – head	Lubricant	Quantity	Frequency	Remarks
1.1-1	Needle bar/needle bar guide	B			
1.1-2	Toothed belt - Z axis/needle bar	—	—		Toothed belt must remain clean and free from lubricant
1.1-3	Top sintered bushing	—	—	—	
1.1-4	Connecting rod bearing (crank - presser foot drive)	A	 1x		
1.1-5	Connecting rod bearing (crank - needle bar drive)	A	 1x		
1.1-6	Thrust bearing - needle bar drive	A	 1x		Spray on side, on driver
1.1-7	Bottom sintered bushing (housing)	A	 3x		On felt and needle bar on housing base
1.1-8	Presser foot linear guide	A			Clean guide grooves, apply oil and remove any excess

A.) JCW 35 Super Lubrifiant - sewing machine oil

B.) Gleitmo 585 M - grease

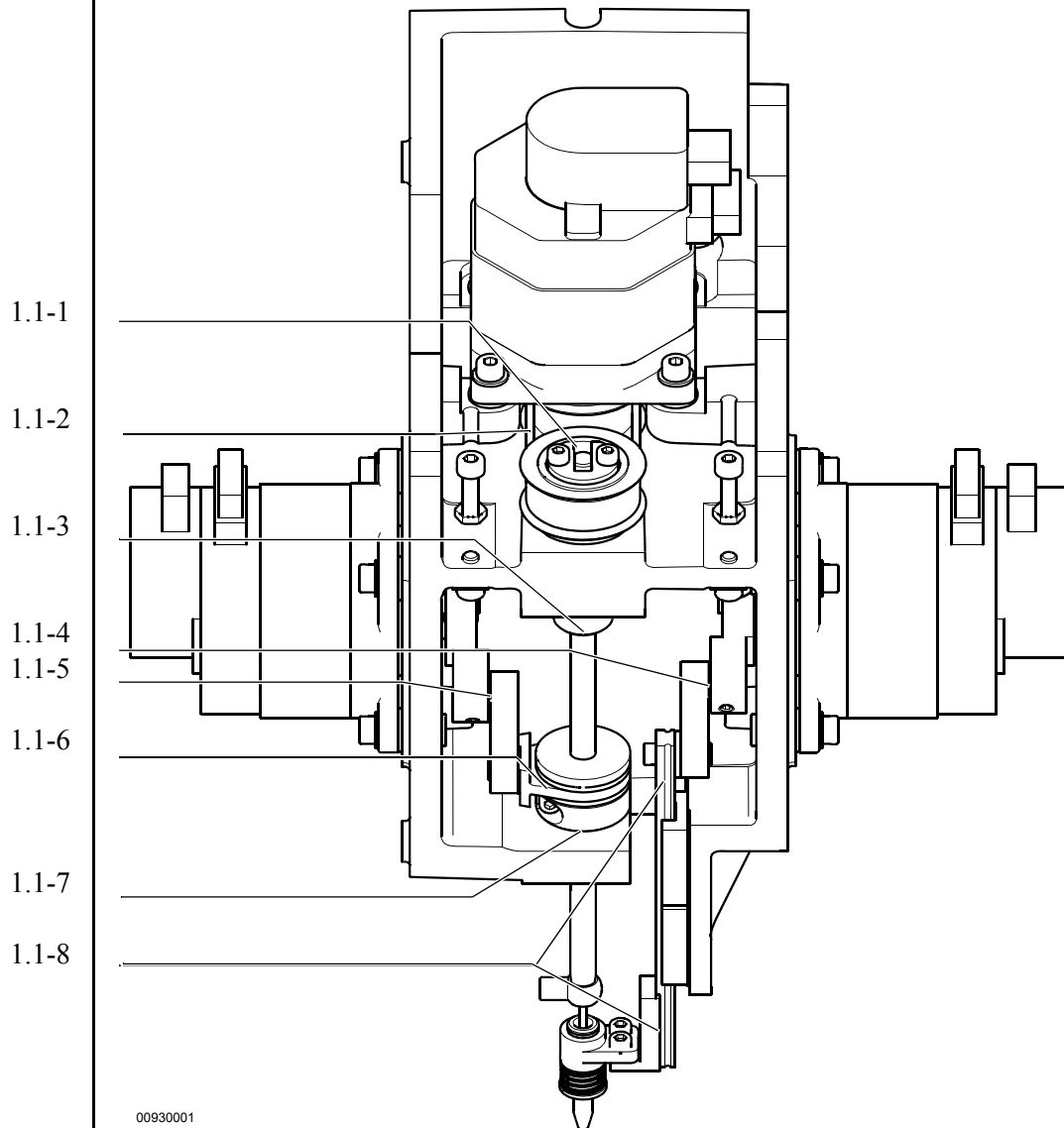
Item	Maintenance - foot plate/cylinder arm	Lubricant	Quantity	Frequency	Remarks
	Clean thread trimmers and thread monitors	—	—	~	Clean as necessary (fluff)
	Grease drive wheels	B			
	Toothed belt - thread layer	—	—		Toothed belt must remain clean and free from lubricant

A.) JCW 35 Super Lubrifiant - sewing machine oil

B.) Gleitmo 585 M - grease

Item	Maintenance - color changer	Lubricant	Quantity	Frequency	Remarks
	Thread guide	—	—	~	Clean as necessary (fluff)

Figure 1.1:
K head,
maintenance points



1.4 K head maintenance

1.4.1 Grease needle bar (needle bar guide)

The maintenance point is marked in drawing *Fig. 1.2* below (see also *Fig. 1.1*). Apply grease to the needle bar, in the vicinity of the needle bar guide, **every month** or more frequently in the case of 2 or 3-shift duty cycles.

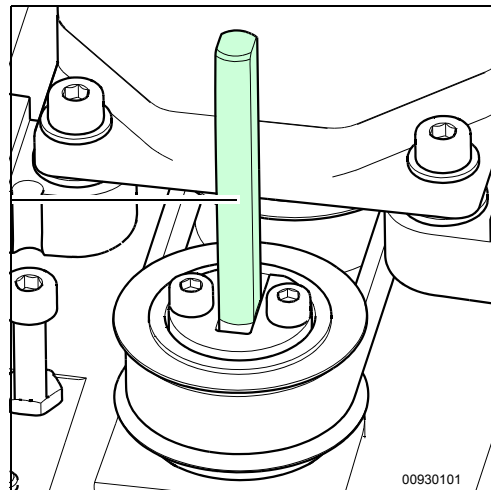


DANGER

Figure 1.2:
K head,
needle bar
(link bracket)

1.2-1

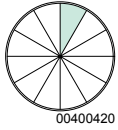
Switch off the machine at the main switch and remove the plug from the mains socket.



- Take off embroidery head cover.
- Remove residual lubricant from needle bar (1.2-1) and apply grease again (Gleitmo 585 M).
- Reinstall cover.

DANGER

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



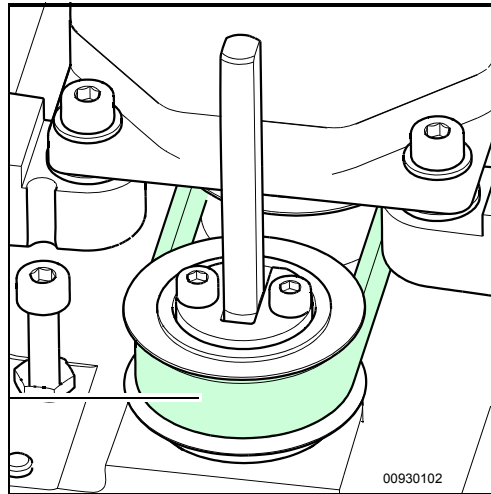
DANGER

Figure 1.3:
K head,
toothed belt,
Z axis / needle bar

1.4.2 Examine toothed belt (Z axis/needle bar)

The maintenance point is marked on the following drawing *Fig. 1.3* (also see *Fig. 1.1*). Check the condition of the toothed belt **every month**. The interval must be shortened accordingly in the case of two or three-shift duty cycles.

Switch off the machine at the main switch and remove the plug from the mains socket.



1.3-1

- Take off embroidery head cover.
- Examine the extent to which toothed belt (1.3-1) and its surroundings are soiled. The toothed belt must be clean and free from lubricant. If necessary, clean the toothed belt and its surroundings with compressed air or a soft brush.
- Reinstall cover.

DANGER

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



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DANGER

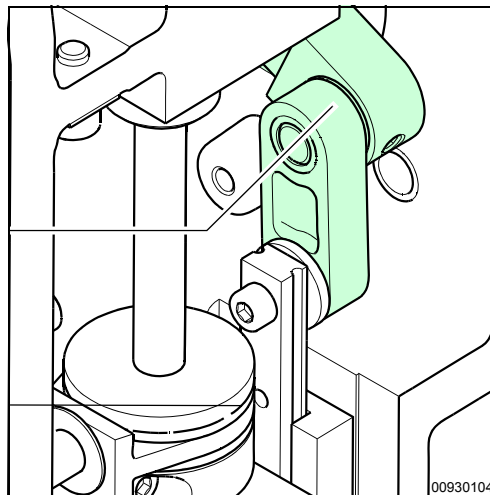
Figure 1.4:
K head,
connecting rod bearing,
crank - presser foot
drive

1.4-1

1.4.3 Oil connecting rod bearing crank - presser foot drive)

The maintenance point is marked on the following drawing *Fig. 1.4* (also see *Fig. 1.1*). Apply oil to connecting rod bearing **every six months**. The interval must be shortened accordingly in the case of two or three-shift duty cycles.

Switch off the machine at the main switch and remove the plug from the mains socket.



- Take off embroidery head cover.
- Spray oil (JCW 35 Super Lubri-fiant) onto the three places at which connecting rod bearing (1.4-1) engages in movement.
- Reinstall cover.

DANGER

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

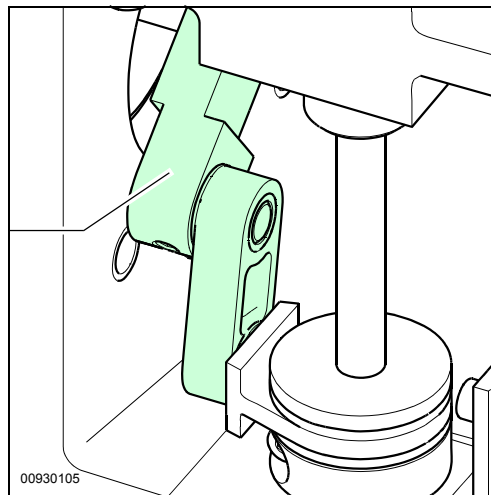


00400422

DANGER

Figure 1.5:
K head,
connecting rod bearing,
crank - needle bar
drive

1.5-1



00930105

1.4.4 Oil connecting rod bearing crank - needle bar drive)

The maintenance point is marked on the following drawing *Fig. 1.5* (also see *Fig. 1.1*). Apply oil to connecting rod bearing **every six months**. The interval must be shortened accordingly in the case of two or three-shift duty cycles.

Switch off the machine at the main switch and remove the plug from the mains socket.

- Take off embroidery head cover.
- Spray oil (JCW 35 Super Lubri-fiant) onto the three places at which connecting rod bearing (1.5-1) engages in movement.
- Reinstall cover.

DANGER

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



DANGER

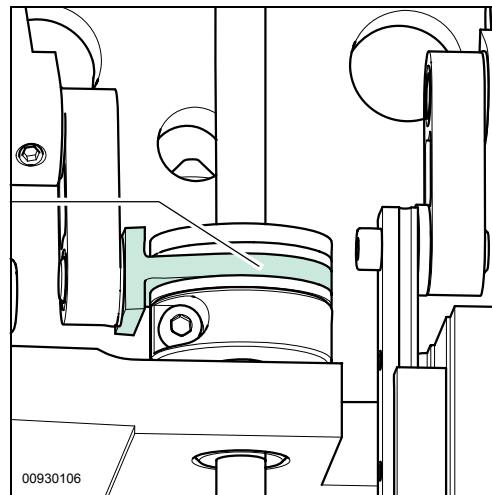
Figure 1.6:
K head,
thrust bearing,
needle bar drive

1.6-1

1.4.5 Oil thrust bearing (needle bar drive)

The maintenance point is marked on the following drawing *Fig. 1.6* (also see *Fig. 1.1*). Apply oil to thrust bearing **every six months**. The interval must be shortened accordingly in the case of two or three-shift duty cycles.

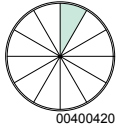
Switch off the machine at the main switch and remove the plug from the mains socket.



- Take off embroidery head cover.
- Apply oil (JCW 35 Super Lubri-fiant) to thrust bearing (*1.6-1*) by spraying the driver from the side.
- Reinstall cover.

DANGER

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



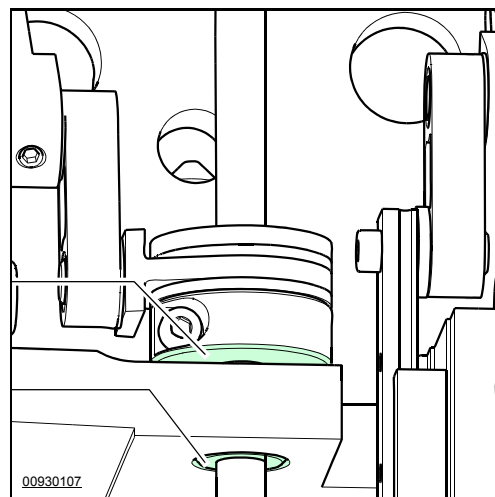
DANGER

Figure 1.7:
K head,
sintered bushing, felt ring,
needle bar drive

1.4.6 Oil bottom sintered bushing/felt ring (needle bar drive)

The maintenance point is marked on the following drawing *Fig. 1.7* (also see *Fig. 1.1*). Apply oil to the felt ring/sintered bushing **every month**. The interval must be shortened accordingly in the case of two or three-shift duty cycles.

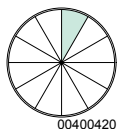
Switch off the machine at the main switch and remove the plug from the mains socket.



- Take off embroidery head cover.
- To maintain the good condition of bottom sintered bushing (1.7-2), apply oil (JCW 35 Super Lubrifiant) to felt ring (1.7-1) located above the bushing.
- Reinstall cover.

DANGER

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



DANGER

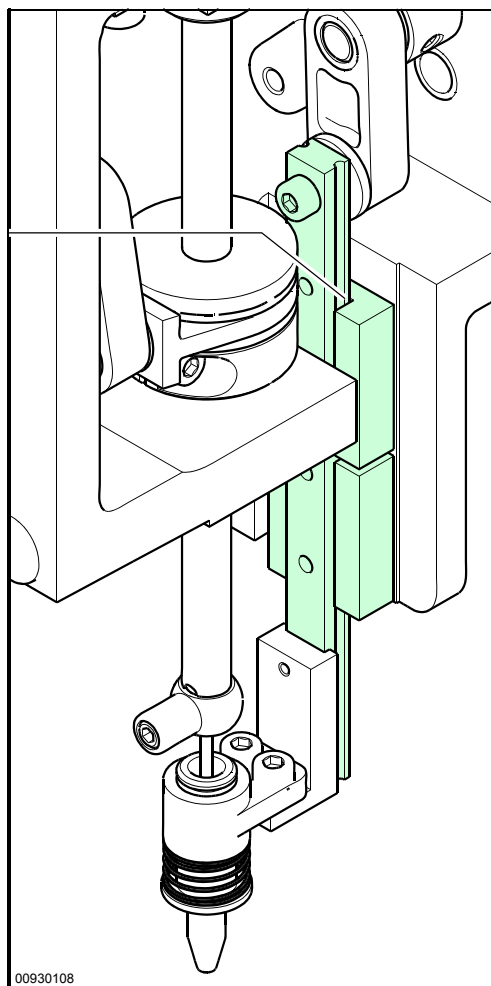
Figure 1.8:
K head,
presser foot linear guide,
needle bar drive

1.8-1

1.4.7 Oil presser foot linear guide

The maintenance point is marked on the following drawing *Fig. 1.8* (also see *Fig. 1.1*). Apply oil to both sides of the guide grooves for the presser foot linear guide **every month**. The interval must be shortened accordingly in the case of two or three-shift duty cycles.

Switch off the machine at the main switch and remove the plug from the mains socket.



- Take off embroidery head cover.
- Clean the two grooves of linear guide (*1.8-1*) at the front, back, top and bottom, and then apply oil (JCW 35 Super Lubrifiant).
- Remove excess oil.
- Reinstall cover.

DANGER

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

1.5 Foot plate maintenance

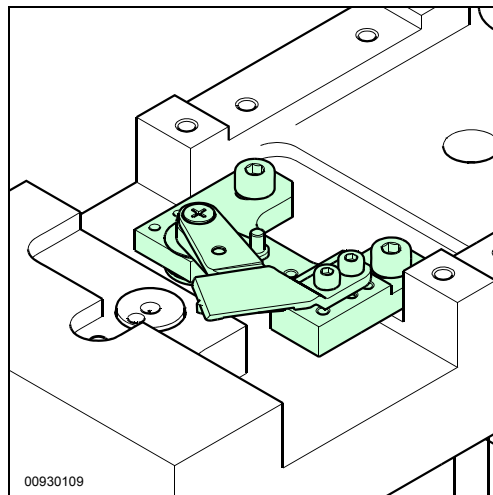
1.5.1 Clean thread trimmer

The maintenance point is marked in drawing *Fig. 1.9* below. Clean the area around the thread trimmer **as necessary** and remove any lint and thread waste. This operation has to be performed more frequently in the case of two or three-shift duty cycles.

DANGER

Switch off the machine at the main switch and remove the plug from the mains socket.

Figure 1.9:
Foot plate,
thread trimmer



- Detach stitch plate from base plate.
- Remove lint and thread waste from around thread trimmer *Fig. 1.9* with compressed air or a soft brush.
- Fasten stitch plate to base plate again.

DANGER

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

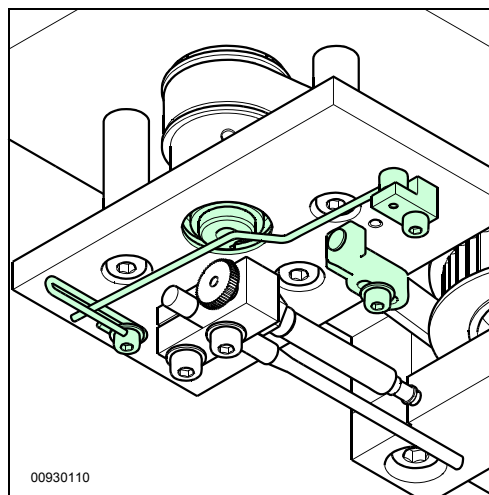
1.5.2 Clean thread monitor

The maintenance point is marked in drawing *Fig. 1.10* below. Clean the area around the thread monitor **as necessary** and remove any lint and thread waste. This operation has to be performed more frequently in the case of two or three-shift duty cycles.

DANGER

Switch off the machine at the main switch and remove the plug from the mains socket.

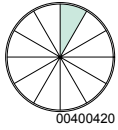
Figure 1.10:
Foot plate,
Thread monitor



- Remove lint and thread waste from around thread monitor *Fig. 1.10* with compressed air or a soft brush.

DANGER

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



1.5.3 Clean toothed belt (thread layer)

The maintenance point is marked in drawing *Fig. 1.11* below. Clean the area around the thread monitor **every month** and remove any lint and thread waste. This operation has to be performed more frequently in the case of two or three-shift duty cycles.

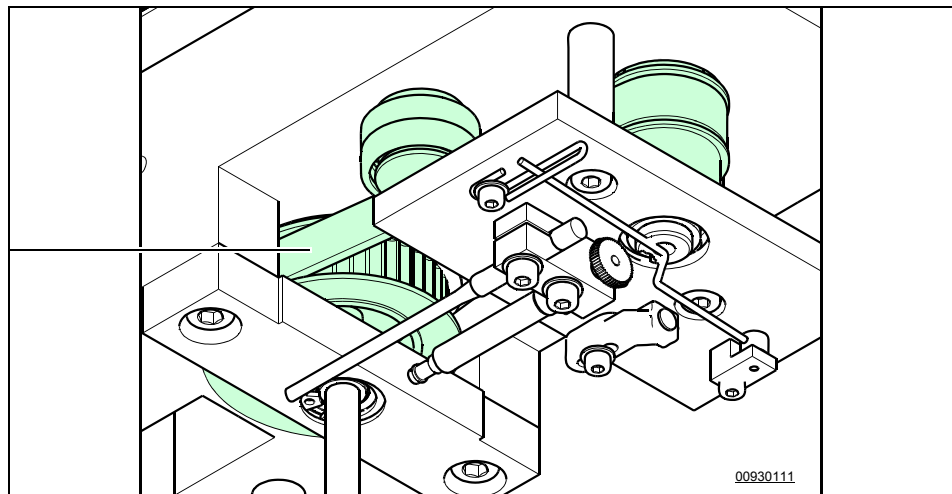
DANGER

Switch off the machine at the main switch and remove the plug from the mains socket.

- Examine the extent to which toothed belt (*1.11-1*) and its surroundings are soiled (lint/thread waste). The toothed belt must be clean and free from lubricant. If necessary, clean the toothed belt and its surroundings with compressed air or a soft brush.

Figure 1.11:
Foot plate,
toothed belt and
belt adjuster

1.11-1



DANGER

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

1.6 Cylinder arm maintenance

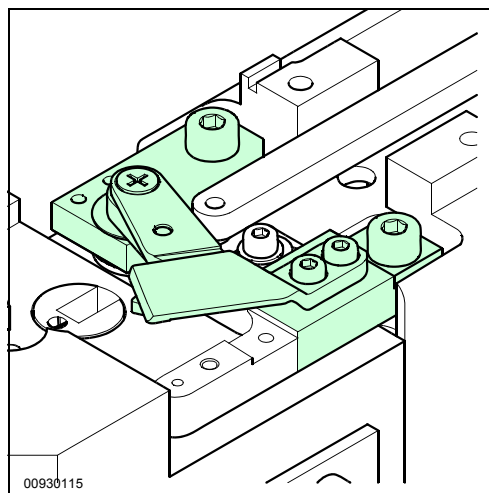
1.6.1 Clean thread trimmer

The maintenance point is marked in drawing *Fig. 1.12* below. Clean the area around the thread trimmer **as necessary** and remove any lint and thread waste. This operation has to be performed more frequently in the case of two or three-shift duty cycles.

DANGER

Figure 1.12:
Cylinder arm,
thread trimmer

Switch off the machine at the main switch and remove the plug from the mains socket.



- Detach stitch plate from cylinder arm.
- Remove lint and thread waste from around thread trimmer *Fig. 1.12* with compressed air or a soft brush.
- Fasten stitch plate to cylinder arm again.

DANGER

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

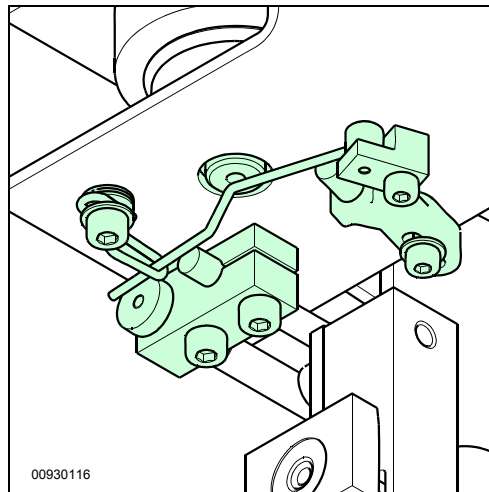
1.6.2 Clean thread monitor

The maintenance point is marked in drawing *Fig. 1.13* below. Clean the area around the thread monitor **as necessary** and remove any lint and thread waste. This operation has to be performed more frequently in the case of two or three-shift duty cycles.

DANGER

Switch off the machine at the main switch and remove the plug from the mains socket.

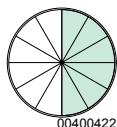
Figure 1.13:
Cylinder arm,
thread monitor



- Remove lint and thread waste from around thread monitor *Fig. 1.13* with compressed air or a soft brush.

DANGER

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



DANGER

Figure 1.14:
Cylinder arm,
connecting rod,
rear bearing

1.14-1

1.14-2

Figure 1.15:
Cylinder arm,
connecting rod,
front bearing

1.15-1

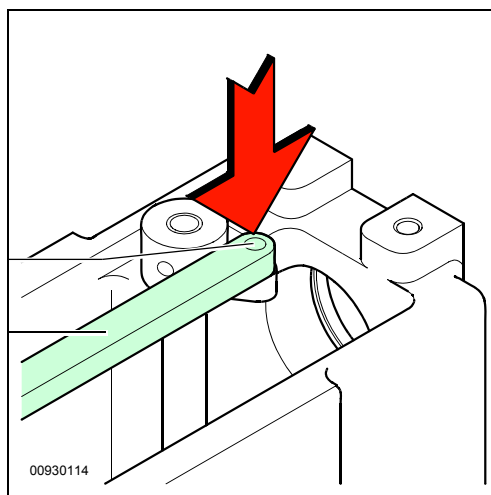
1.15-2

DANGER

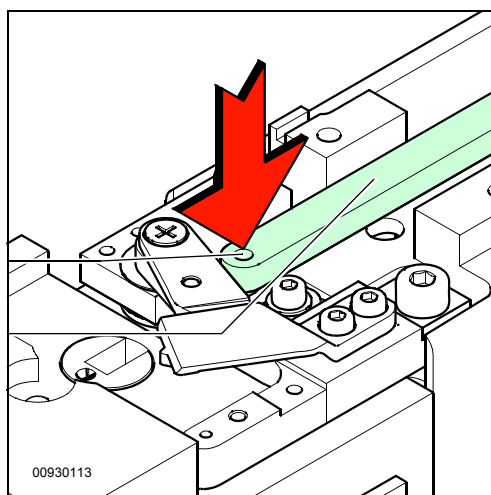
1.6.3 Grease connecting rod

The maintenance point is marked in drawings *Fig. 1.14* and *Fig. 1.15* below. Apply grease to the connecting rod bearings **every six months**. The interval must be shortened accordingly in the case of two or three-shift duty cycles.

Switch off the machine at the main switch and remove the plug from the mains socket.



- Detach stitch plate and covers from cylinder arm.
- Apply grease (Gleitmo 585 M) to rear bearing (1.14-1) of connecting rod (1.14-2).



- Apply grease to front bearing (1.15-1) of connecting rod (1.15-2).
- Fasten stitch plate and covers to cylinder arm again (Gleitmo 585 M).

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

1.6.4 Clean toothed belt

The maintenance point is marked in drawing *Fig. 1.16* below. Clean the area around the toothed belt **as necessary** and remove any lint and thread waste. This operation has to be performed more frequently in the case of two or three-shift duty cycles.

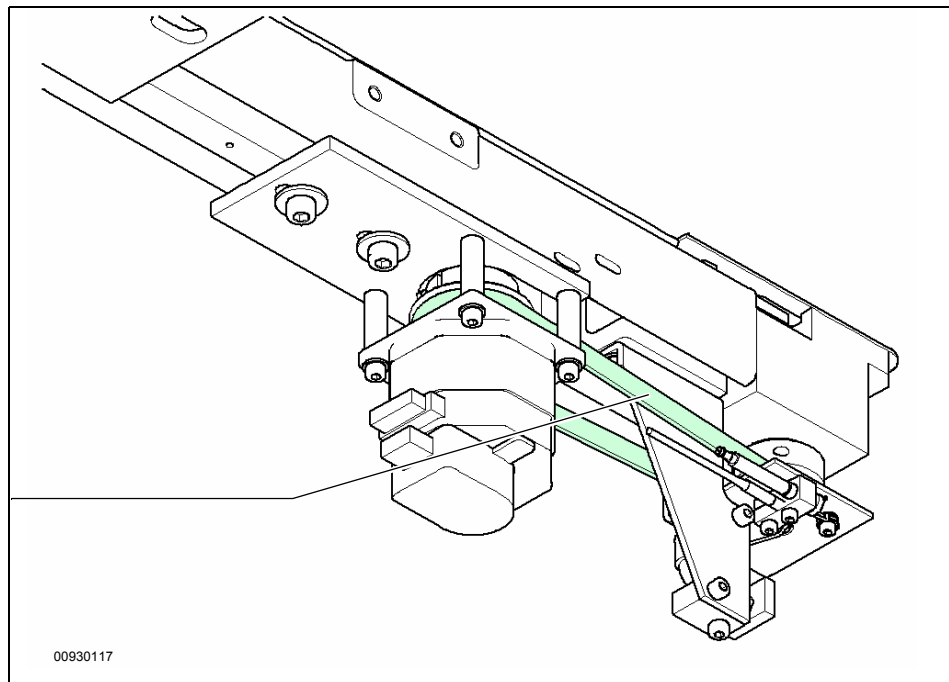
DANGER

Switch off the machine at the main switch and remove the plug from the mains socket.

- Remove lint and thread waste from around toothed belt (*1.16-1*) with compressed air or a soft brush.

Figure 1.16:
Cylinder arm,
toothed belt

1.16-1



DANGER

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

1.7 Color changer maintenance

1.7.1 Clean color changer, thread tension device and yarn rack

The maintenance point is indicated in drawing *Fig. 1.17* below. The color changer, thread tension device and yarn rack do not require any maintenance. Clean the area around the color changer, thread tension device and yarn rack **as necessary** and remove any lint and thread waste. This operation has to be performed more frequently in the case of two or three-shift duty cycles.

DANGER

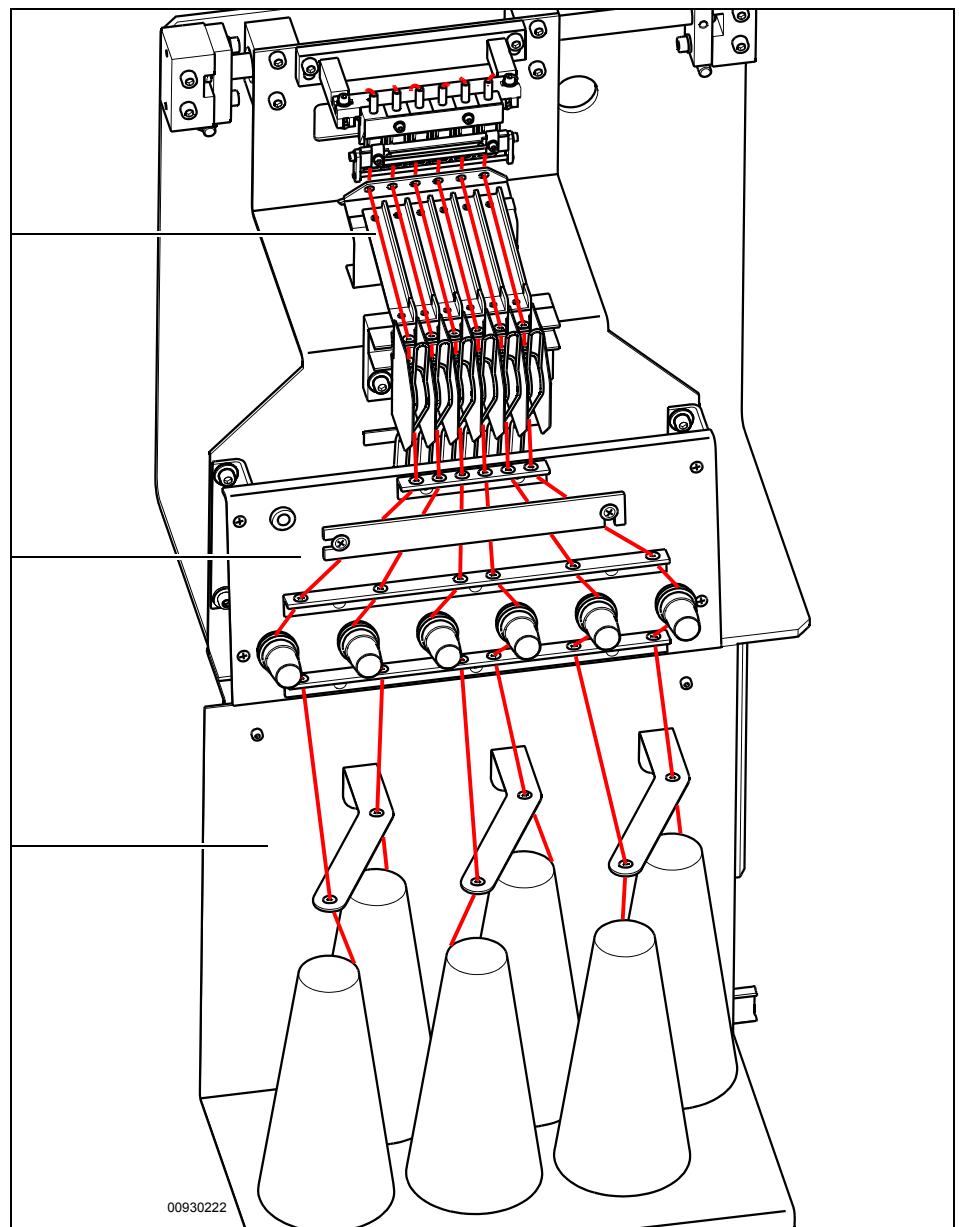
Switch off the machine at the main switch and remove the plug from the mains socket.

Figure 1.17:
Color changer,
thread tension device and
yarn rack

1.17-1

1.17-2

1.17-3



DANGER

- Remove lint and thread waste from around color changer (1.17-1), thread tension device (1.17-2) and yarn rack (1.17-3) with compressed air or a soft brush.

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

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