



Label Printer

Hermes C

Made in Germany

2 Service Manual for the following products

2

Family	Type
Hermes C	Hermes C 6L

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1	Important Information	4
1.1	Instructions.....	4
1.2	General Safety Instructions.....	4
1.3	Protective Devices.....	5
1.4	Handling Electricity.....	5
1.5	Procedure in Case of Accidents.....	5
1.6	Environment.....	5
2	Tools	6
3	Maintenance	7
3.1	Cleaning by the Operator.....	7
3.2	Cleaning the Label Sensor.....	7
4	Replacing Assembly Units	8
4.1	Replacing the Printheads.....	8
4.2	Replacing the Print Rollers.....	10
4.3	Replacing the Transport Rollers.....	11
4.4	Replacing the Slipping Clutches.....	12
4.5	Replacing the Brake Shoe at the Label Unwinder.....	14
4.6	Replacing the Label Sensor.....	15
4.7	Replacing the PCB CPU.....	16
4.8	Replacing the Power Supply Unit.....	17
5	Adjustments	18
5.1	Measuring and Adjusting the Winding Torques.....	18
5.1.1	Measuring the Winding Torques.....	18
5.1.2	Adjusting the Winding Torques.....	21
5.2	Adjusting the Brake at the Label Unwinder.....	22
5.3	Adjusting the Label Feed.....	23
5.4	Adjusting the Printing Mechanism.....	24
5.4.1	Preparing the Printer for Adjustment.....	24
5.4.2	Adjusting the Printhead Position.....	25
5.4.3	Adjusting the Printhead Pressure.....	26
5.4.4	Adjusting the Transfer Ribbon Feed Path.....	27
5.4.5	Final Test.....	27
5.5	Adjusting the Belt Tension.....	28
5.6	Adjusting the Magnetic Clutches.....	29
5.7	Adjusting the Ribbon Saver.....	30
6	Troubleshooting and Error Treatment	31
6.1	Failure of Device Functions.....	31
6.2	Hardware Faults.....	32
7	Block Diagram	33
8	Layout Diagram CPU	34
9	Index	36

1.1 Instructions

Important information and instructions are designated as follows:



Danger!

Draws attention to an exceptionally great, imminent danger to your health or life due to hazardous voltages.



Danger!

Draws attention to a danger with high risk which, if not avoided, may result in death or serious injury.



Warning!

Draws attention to a danger with medium risk which, if not avoided, may result in death or serious injury.



Caution!

Draws attention to a danger with low risk which, if not avoided, may result in minor or moderate injury.



Attention!

Draws attention to potential risks of property damage or loss of quality.



Note!

Advices to make work routine easier or on important steps to be carried out.



Environment!

Advices on protecting the environment.

- ▶ Handling instructions
- ▷ Reference to chapter, position, picture number or document.
- * Option (accessories, peripherals, extras).

Time Viewed in the display / monitor.

1.2 General Safety Instructions

This service manual is intended for use by qualified service and maintenance personnel. For more operation and configuration information, refer to the user or configuration manual.

Follow the general safety rules below:

- Keep the area around the device clean at all times!
- Work with safety in mind.
- Parts of device that are removed during the maintenance work must be put in a safe place.
- Avoid risks of tripping over.



Danger!

Danger to life and limb from increased current flow through metal parts in contact with the device.

- ▶ Do not wear clothing with metal parts.
- ▶ Do not wear jewelry.



Caution!

Items of clothing drawn into the device by moving parts can lead to injuries.

- ▶ Do not wear any items of clothing which could get caught by moving parts.

1.3 Protective Devices



Warning!

There is a risk of injury if protective devices are missing or defective.

- ▶ Replace all protective devices (covers, safety notices, grounding cables etc) after maintenance work has been completed.
- ▶ Replace parts that have become defective or unusable.

Wear protective goggles for:

- Knocking pins or similar parts in or out with a hammer.
- Using spring hooks.
- Inserting or removing springs, retaining rings or grip rings.
- Using solvents, cleansers or other chemicals.

1.4 Handling Electricity

The following work may only be done by trained and qualified electricians:

- Work on electrical components.
- Work on an open device still connected to the mains supply.

General precautions before starting maintenance work:

- Find out where the emergency and power switches are so that they can be quickly thrown in an emergency.
- Disconnect the current supply before carrying out the following work:
 - Installing or removing power units.
 - Working in the immediate vicinity of open power supply components.
 - Mechanical check of power supply components.
 - Modifying circuits in the device.
- Test the zero potential of the device parts.
- Check the working area for possible sources of danger, such as wet floors, defective extension cables, defective protective conductor connections.

Additional precautions in the case of exposed voltages:

- Ask a second person to remain near the working site. This person must know where the emergency and power switches are, and how to switch the current off if danger arises.

1.5 Procedure in Case of Accidents

- Act calmly and with great care.
- Avoid danger to yourself.
- Switch off power.
- Request medical assistance.
- Give first aid, if necessary.

1.6 Environment



Obsolete assemblies contain valuable recyclable materials that should be sent for recycling.

- ▶ Send to suitable collection points, separately from residual waste.
- ▶ Send the parts for recycling.

- ▶ Do not use any worn or damaged tools.
- ▶ Only use tools and testing devices that are suitable for the task at hand.

cab special tools:

- Test collar for transfer ribbon winder (cab Part-No. 5534199)
- Distance caliber 0,1 mm (cab Part-No. 5961064)
- Gauge for brake adjustment at the label unwinder (cab Part-No. 5961092)

Standard tools:

- Screw driver Torx, size TX 10, TX 20
- Allen key 1,5 mm
- Allen key 2,5 mm, 200 mm shaft (included)
- Allen key 2,5 mm (included)
- Phillips-head screwdriver, size 1
- Snap ring pliers ZGG 0
- Snap ring pliers ZGG 1
- Cylindrical dynamometer (spring scale), 0 - 10 N
- Cylindrical dynamometer (spring scale), 0 - 25 N
- Digital Circuit Analyzer

3.1 Cleaning by the Operator

The following cleaning work is described in the "Operator's Manual":

- Cleaning the device
- Cleaning the printheads
- Cleaning the print rollers

3.2 Cleaning the Label Sensor

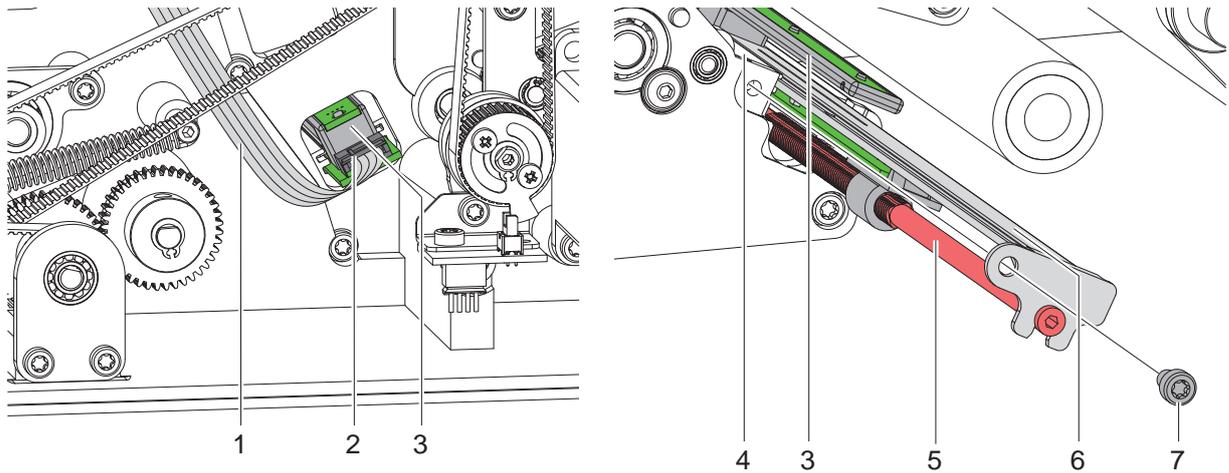


Figure 1 Cleaning the label sensor



Danger!

Risk of death via electric shock!

- ▶ **Before opening the rear cover, disconnect the device from the mains supply and wait at least one minute until the power supply unit has discharged.**

1. Unplug the printer from the electrical outlet and remove the rear cover.
2. Remove the material from the printer.
3. Unplug the connector (2) of the cable (1) from the connector of the label sensor (3).
4. Loosen the screw (7) and pull the label sensor (3) with spindle (5) and the cover (6) out of the profile (4).
5. Clean the label sensor (3) with a brush or a cotton swab soaked in pure alcohol.
6. Move the label sensor (3) with spindle (5) and cover (6) into the profile (4) in the former position.
7. Fix the assembly with the screw (7).
8. Plug in the connector (2) of the cable (1) at the label sensor (3).
9. Mount the cover and restore all connections.
10. Adjust the label sensor ▷ Operator's manual.

4.1 Replacing the Printheads

**Notice!**

The replacement of both printheads can be done in the same manner.

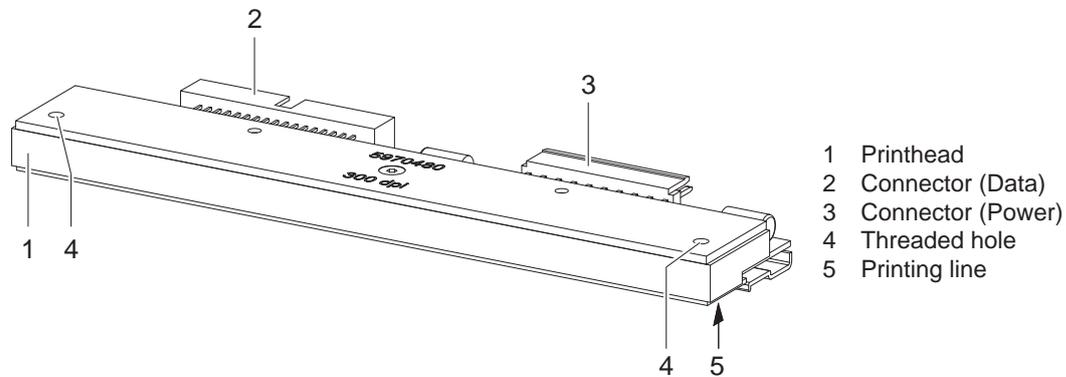


Figure 2 Structure of the printhead

**Attention!**

The printhead can be damaged by static electricity discharges and impacts!

- ▶ Ground your body, e.g. by wearing a grounded wristband.
- ▶ Do not touch contacts on the plug connections (2, 3).
- ▶ Do not touch printing line (5) with hard objects or your hands.

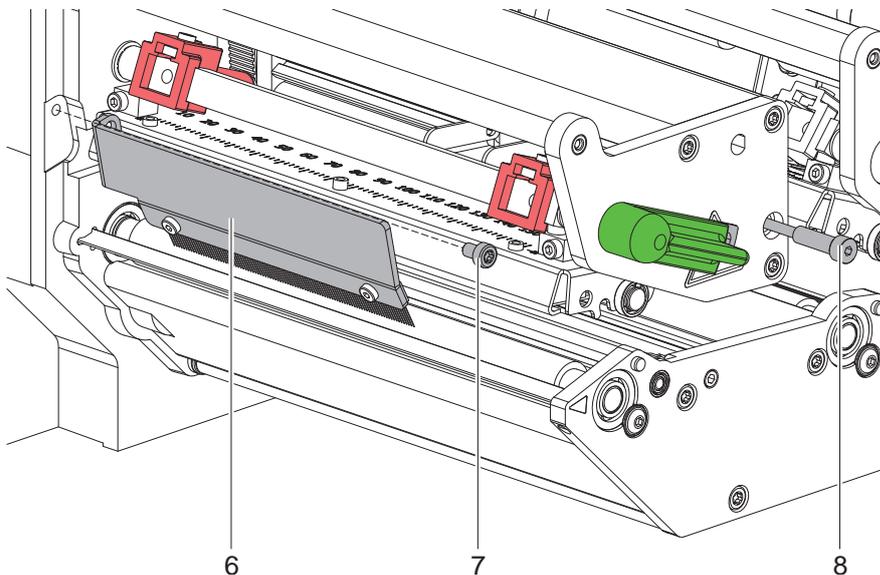


Figure 3 Printhead replacement 1

Removing the printhead

1. Open the printhead.
2. Remove labels and transfer ribbon from the printer.
3. Loosen the screw (7) and dismantle the antistatic brush (6).
4. Remove the printhead retainer screw (8).

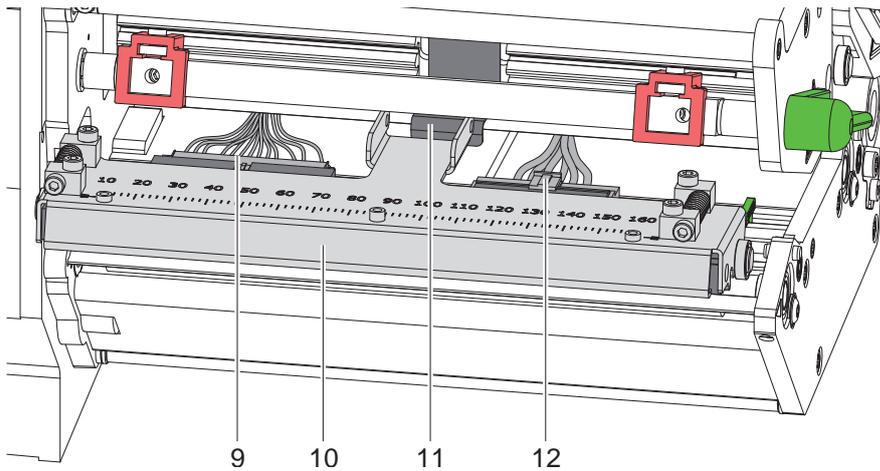


Figure 4 Printhead replacement 2

5. Pull the printhead retainer (10) with the printhead out of the printer .
6. First disconnect the power cable (12), following the data cable (9).
7. Loosen 2 screws (13) and remove the printhead (16) from the printhead retainer (10).

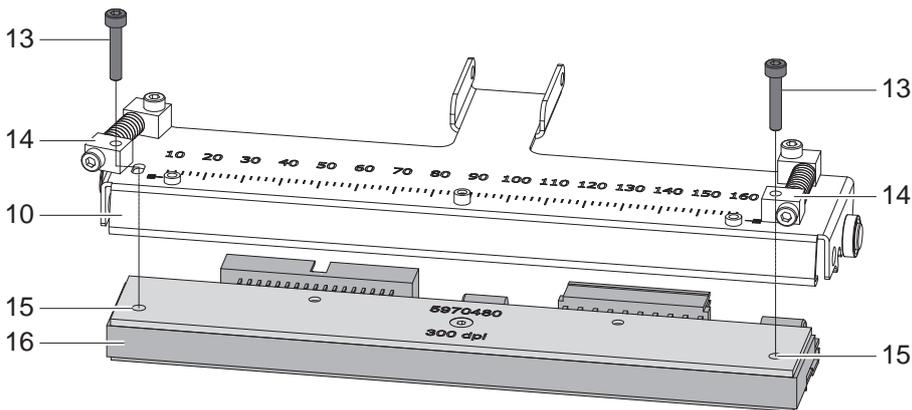


Figure 5 Printhead replacement 3

Installing the printhead

1. Insert 2 screws (13) through the holes in the adjusting elements (14) and the printhead retainer (10) into the drillings (15) of the new printhead (16).
2. Ensure the correct positioning of the printhead (16) at the printhead retainer (10) and tighten the screws (13).
3. First connect the data cable (9), following the power cable (12).
5. Push the printhead retainer (10) with the printhead onto spring (11).
6. Attach the printhead retainer (10) with the screw (8) on the printer.
7. Mount the antistatic brush (6).
8. Reload labels and transfer ribbon.

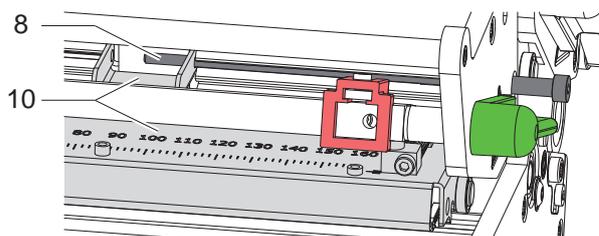


Figure 6 Printhead replacement 4

4.2 Replacing the Print Rollers

**Notice!**

The replacement of both print rollers can be done in the same manner.

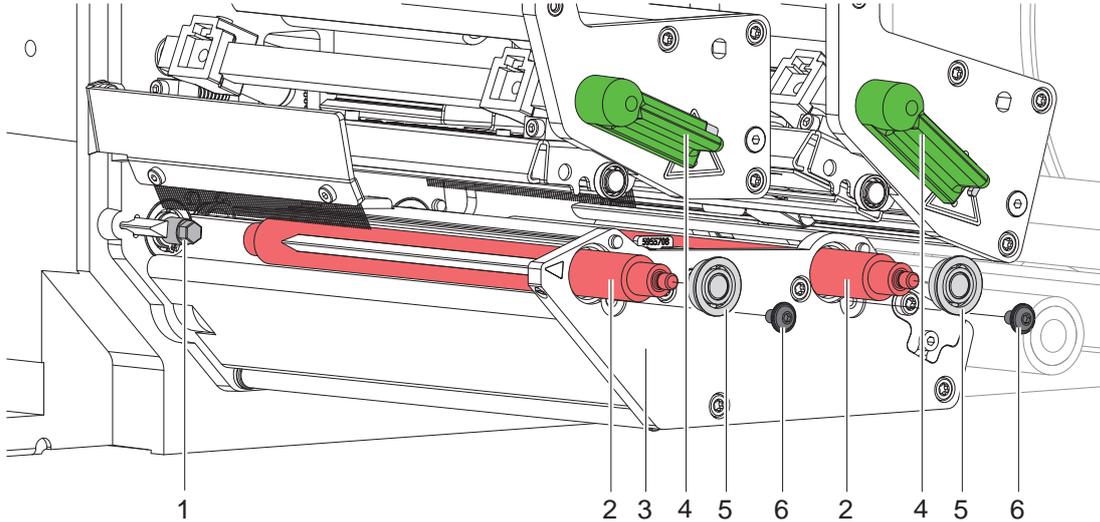


Figure 7 Replacing the print rollers

1. Turn lever (4) counterclockwise to lift the printhead assembly.
2. Loosen screw (6).
3. Remove ball bearing (5) and print roller (2) through the plate (3).
4. Guide the new print roller through the plate (3) to the axle (1). Turn the roller easily to align it to the hexagonal end of the axle and push the roller further until it stops.
5. Insert the ball bearing (5) in to the plate (3) and fix it with screw (6).

4.3 Replacing the Transport Rollers

**Notice!**

The replacement of both transport rollers can be done in the same manner.

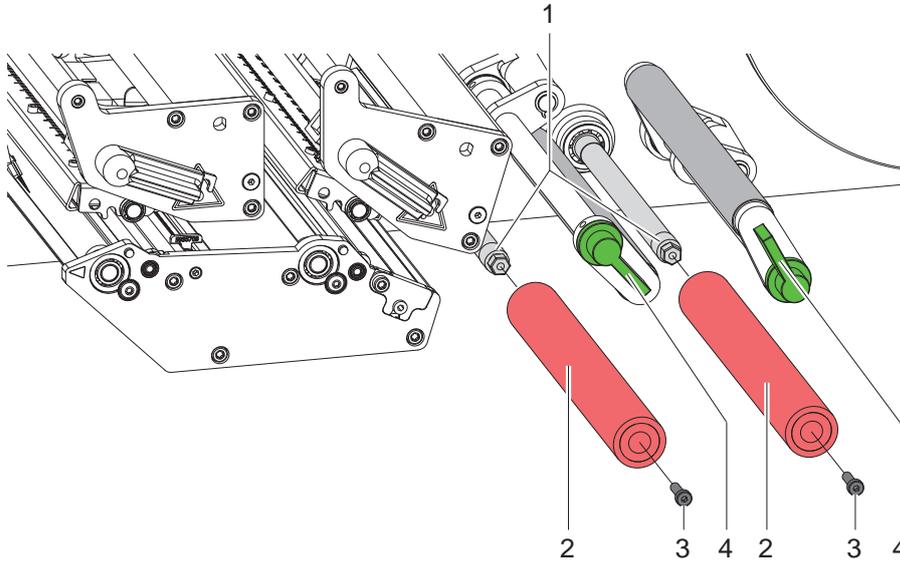


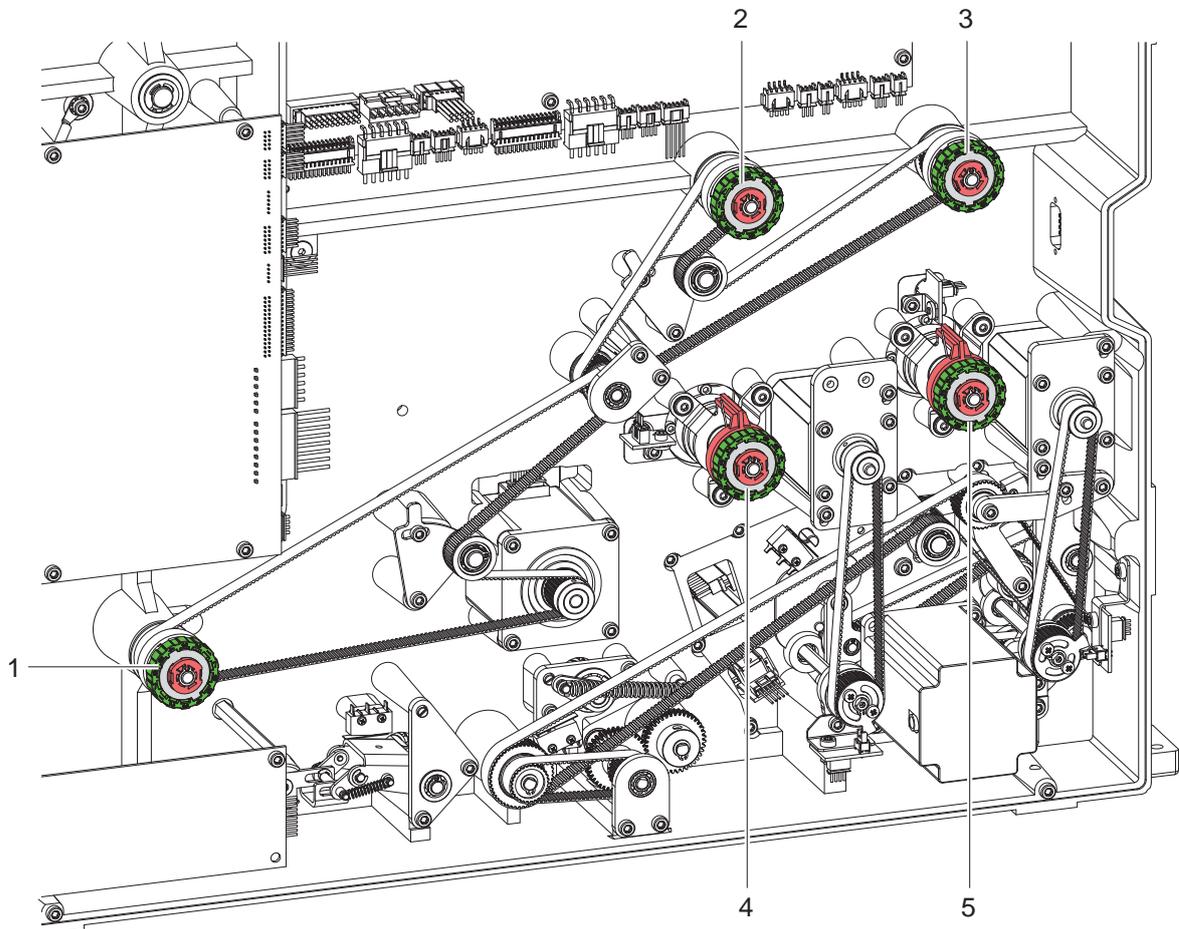
Figure 8 Replacing the transport rollers

1. Swing the locking system (4) away from the transport roller (2).
2. Loosen the screw (3).
3. Remove the transport roller (2) from the axle (1).
4. Put the new roller onto the axle (1). Turn the roller easily to align it to the hexagonal end of the axle and push the roller further until it stops.
5. Fix the roller (2) with the screw (3).

4.4 Replacing the Slipping Clutches

The rewinders for the transfer ribbon and the internal rewriter are coupled with slipping clutches to the rewriter drive. The unwinders of the transfer ribbon are braked with slipping clutches during printing.

Change a slipping clutch when it can no longer be set ▷ 5.1 on page 18. Removal and installation of the slipping clutch is also required for replacement of a winder.



- 1 Coupling internal rewriter
- 2 Coupling ribbon rewriter additional color
- 3 Coupling ribbon rewriter main color
- 4 Brake ribbon unwinder additional color
- 5 Brake ribbon unwinder main color

Figure 9 Slipping clutches



Danger!

Risk of death via electric shock!

- ▶ Before opening the housing cover, disconnect the device from the mains supply and wait at least one minute until the power supply unit has discharged.

Replacing the slipping clutches at the rewinders

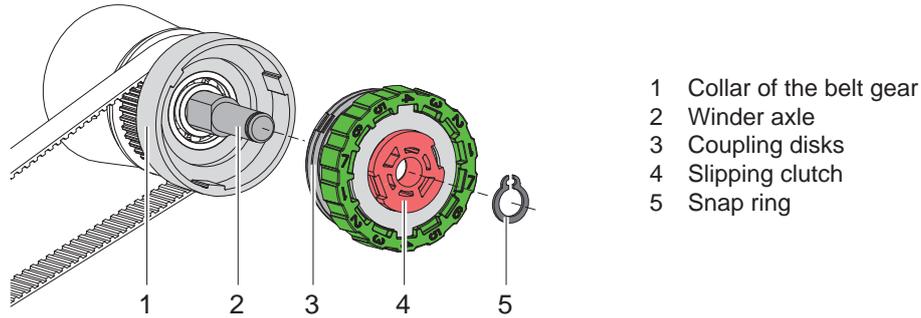


Figure 10 Slipping clutches at the rewinders

1. Unplug the printer from the electrical outlet.
2. Remove the rear cover of the printer
3. Remove the snap ring (5).
4. Pull the clutch (4) from the winder axle (2).
5. Slide the new clutch (4) onto the winder axle (2).
6. Align grooves in the coupling disks (3) with the guides in the collar of the belt gear (1).
7. Slide coupling further until it stops.
8. Secure the snap ring (5).
9. Adjust the clutch ▷ 5.1 on page 18.

Replacing the brakes at the ribbon unwinders

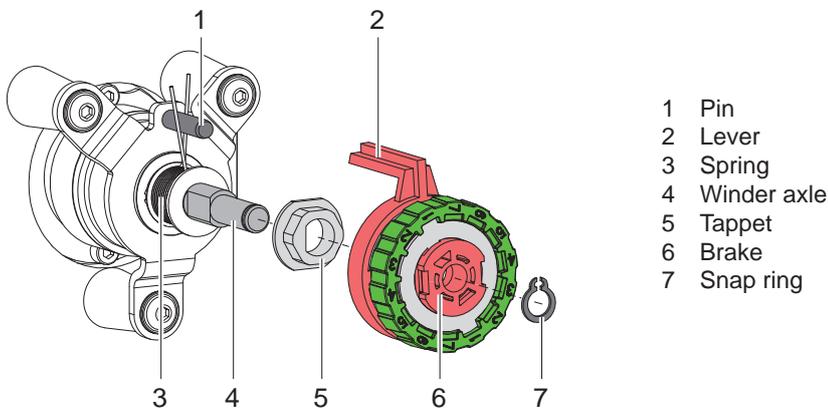


Figure 11 Brake at the ribbon unwinder

1. Unplug the printer from the electrical outlet.
2. Remove the rear cover of the printer
3. Remove the snap ring (7).
4. Pull the brake (6) from the winder axle (4). Ensure that the tappet (5) remains on the winder axle. Reattach the tappet to the winder axle if it has been pulled off. The axle profile is shaped in such a way that the tappet only fits in one way.
5. Check the position of the spring (3). Ensure that pin (1) grasps between the spring arms.
6. Slide the new brake (6) onto the winder axle (4) in such a way that it fits on the hexagonal profile of the tappet (5).
7. Push the clutch further until it stops in such a way that lever (2) grasps between the spring arms..
8. Secure the snap ring (7).
9. Adjust the brake ▷ 5.1 on page 18.

4.5 Replacing the Brake Shoe at the Label Unwinder

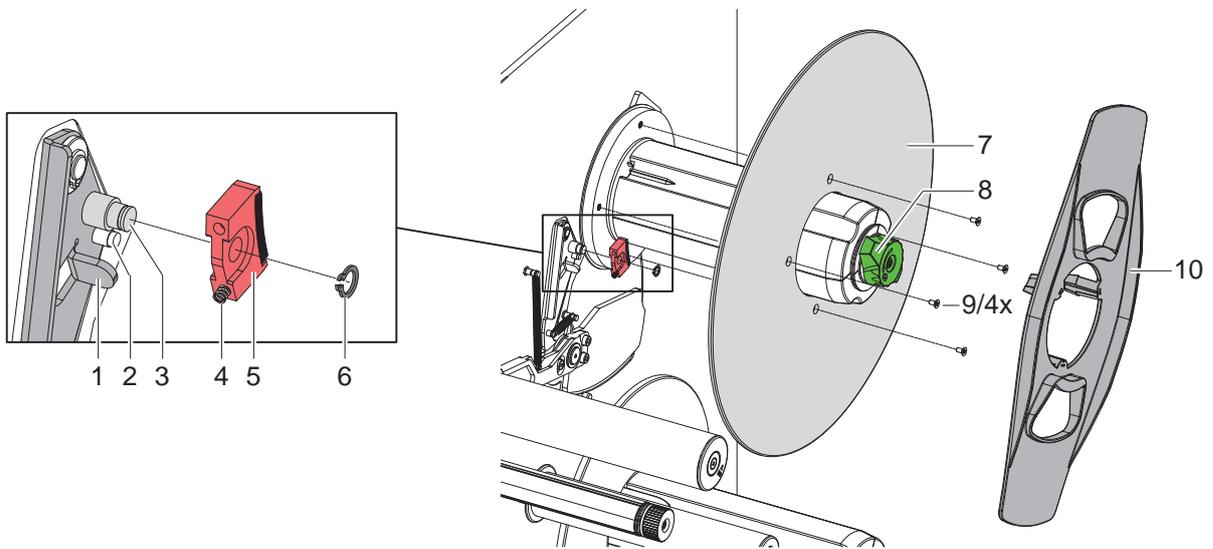


Figure 12 Brake at the label unwinder

1. Turn the knurled knob (8) counterclockwise and remove the margin stop (10) from the unwinder.
2. Loosen 4 screws (9) remove the wall spacer (7).
3. Remove the snap ring (6).
4. Pull the brake shoe (5) from the pin (3), remove the spring (4) from the brake shoe.
5. Insert the spring in the new brake shoe.
6. Push the brake shoe onto the pin (3) in such a way that pin (2) grasps into the sink on the back side of the brake shoe and the spring (4) presses against the flap (1) of the brake lever.
7. Secure the snap ring (6).
8. Complete the unwinder.

4.6 Replacing the Label Sensor

**Notice!**

Soiling of the label sensor can also cause malfunctions.

► Before replacing the label sensor, check whether it is soiled and clean it if necessary.

▷ 3.2 on page 7

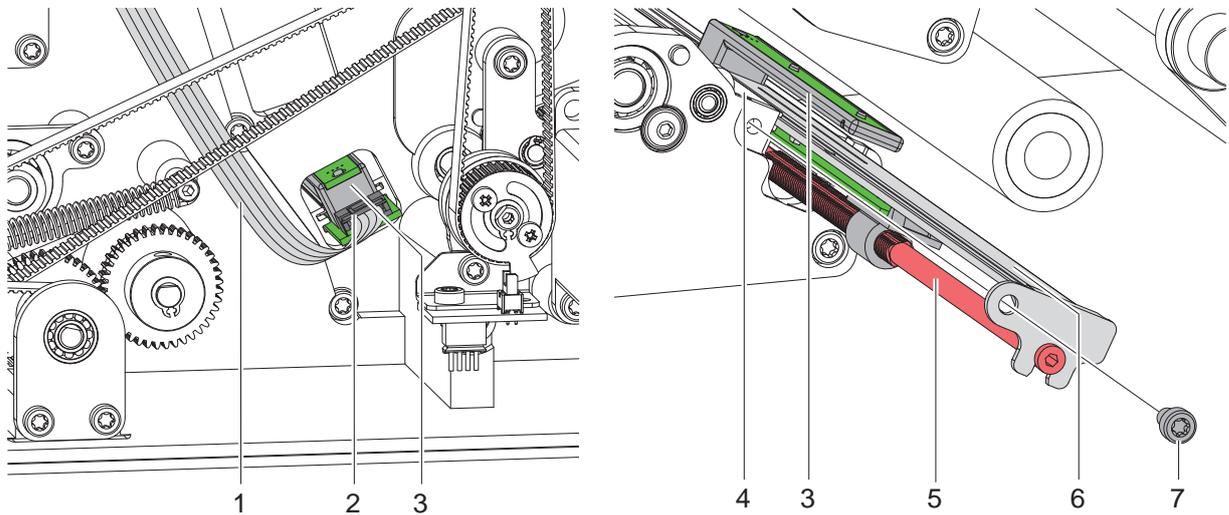


Figure 13 Replacing the label sensor

**Danger!**

Risk of death via electric shock!

► Before opening the housing cover, disconnect the device from the mains supply and wait at least one minute until the power supply unit has discharged.

1. Unplug the printer from the electrical outlet and remove the rear cover.
2. Remove the material from the printer.
3. Disconnect the plug (2) of the cable (1) from the connector of the label sensor (3).
4. Loosen the screw (7) and pull the label sensor (3) with the spindle (5) and the blind (6) out of the profile (4).
5. Mount the new label sensor in the opposite order.
6. Mount the rear cover and restore all connections.
7. Adjust label sensor mechanically ▷ Operator's Manual.
8. Adjust label sensor electrically ▷ Configuration Manual.

4.7 Replacing the PCB CPU

**Danger!**

Risk of death via electric shock!

- ▶ Before opening the housing cover, disconnect the device from the mains supply and wait at least one minute until the power supply unit has discharged.

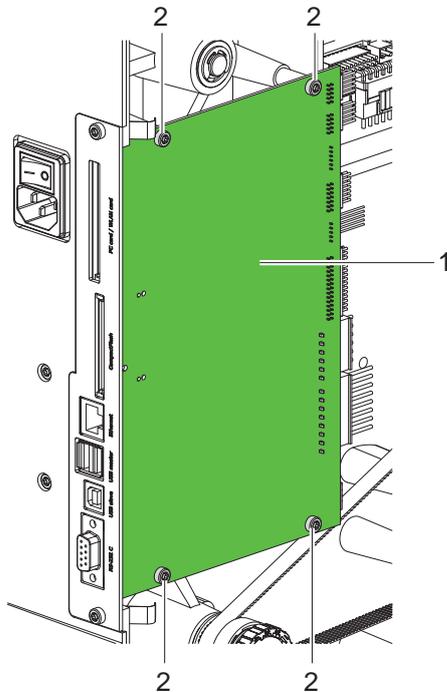
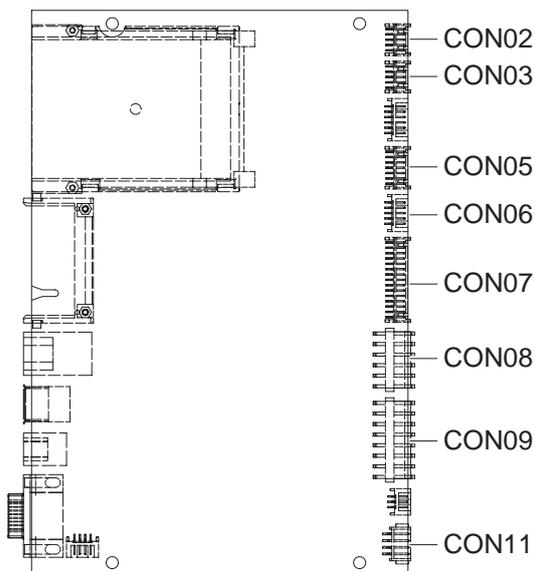


Figure 14 Replacing the PCB CPU

1. If possible, save the printer configuration to a Compact Flash card ▷ Configuration Manual.
2. Unplug the printer from the electrical outlet.
3. Detach all interface cables from the back of the printer.
4. Remove all memory cards from the slots.
5. Dismount the rear cover.
6. Unplug all side plug connections from the PCB CPU (1).
7. Loosen screws (2) and remove PCB CPU (1).
8. Attach the new PCB CPU (1) with four screws (2).
9. Connect all cables to the PCB CPU (1).
10. Mount the rear cover.
11. Restore all interface connections on the back of the printer.
12. Connect the power cable.
13. Update the firmware if necessary.
14. Adjust the label sensor ▷ Configuration Manual.
15. Load the printer configuration from the memory card if possible. Otherwise, set the printer configuration via the control panel ▷ Configuration Manual.



CON02	PCB Electronics - CON16
CON03	PCB IO Interface - CON1
CON05	PCB Electronics - CON7
CON06	PCB Electronics - CON21
CON07	PCB Electronics - CON1
CON08	PCB Electronics - CON4
CON09	Power supply unit - CN2
CON11	Main drive motor

Figure 15 Connectors on the PCB CPU

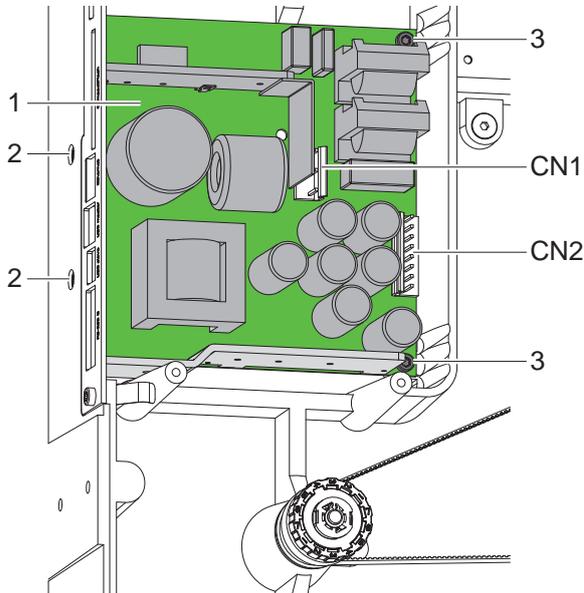
4.8 Replacing the Power Supply Unit



Danger!

Risk of death via electric shock!

► Before opening the housing cover, disconnect the device from the mains supply and wait at least one minute until the power supply unit has discharged.



1. Unplug the printer from the electrical outlet.
2. Remove the rear cover.
3. Dismount the PCB CPU ▷ 4.7 on page 16.
4. Unplug the cables from the connectors CN1 and CN2.
5. Loosen 2 screws M4x10 (3) and 2 screws M4x6 (2).
6. Remove the power supply unit (1).
7. Insert the new power supply unit and fix it with the screws (2,3).
8. Connect the cable coming from the power input module to CN1, the cable Power unit - CPU to CN2.
9. Re-mount the PCB CPU ▷ 4.7 on page 16.
10. Mount the rear cover.

Figure 16 Replacing the power supply unit

5.1 Measuring and Adjusting the Winding Torques

The rewinders for the transfer ribbon and the internal rewinder are coupled with slipping clutches to the rewinder drive. The unwinders of the transfer ribbon are braked with slipping clutches during printing.

The correct setting of the torques of these slipping clutches is necessary for:

- precise conveyance of the transfer ribbon during label transport
- the prevention of wrinkles in the feed path of the transfer ribbon
- high positioning accuracy of the peeled labels.

The winding axes of the rewinders are not actively driven by the belts during label backfeed, but rather solely by the pull of the print roller. The torque required to disengage the rewinder from the belt drive is implemented via a brake in the winding reel, which works in both directions. The measured clockwise torque is the sum of the coupling torque and the torque of the brake. Only the torque of the brake is measured when the winding axis is rotating counter-clockwise. For this reason, measurement of the torques at the rewinders are required in both directions.

The method of measurement differs for the various types of slipping clutches:

- Measurement of the winding torques at the transfer ribbon rewinder and unwinder ▷ page 18.
- Measurement of the winding torque at the internal rewinder ▷ page 20.

If the winding torque differs from the set value, it must be adjusted. The procedures for adjusting the winding torques of the transfer ribbon winders and the internal rewinder are identical ▷ 5.1.2 on page 21.

5.1.1 Measuring the Winding Torques

Transfer Ribbon Rewinder and Unwinder



Notice!

The measurement at both rewinders and unwinders can be done in the same manner.

Measurement of the winding torque at the transfer ribbon rewinder and unwinder occurs by determining the pulling forces on a test collar attached to the winder.

The physical relation between the torque and the pulling force is:

$$F = M / r$$

F: Pulling force [N],

M: Winding torque [Ncm],

r: Radius of the test collar (30 mm)

The set values for the winding torque and the resulting pulling force at the test collar are:

Slipping clutch at	Measurement	Direction of rotation	Winding torque M	Pulling force F
Ribbon rewinder	A	against winding direction	12,9 - 14,4 Ncm	4,3 - 4,8 N
	B	in winding direction	2,1 - 3,0 Ncm	0,7 - 1,0 N
Ribbon unwinder	C	any	3,6 - 4,5 Ncm	1,2 - 1,5 N

Table 1 Winding torques at the transfer ribbon winders

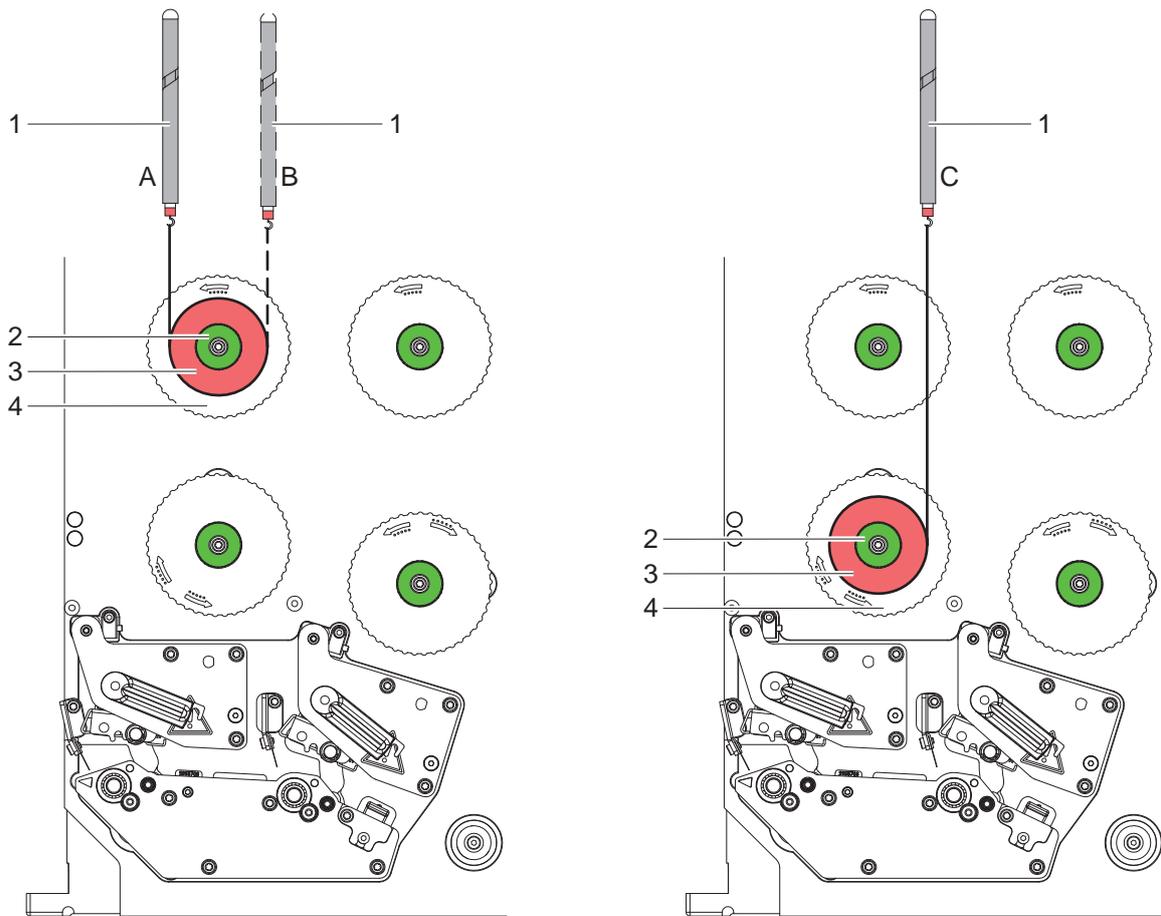


Figure 17 Measuring the winding torque at the transfer ribbon rewinder (left) and unwinder (right)



Danger!

Risk of death via electric shock!

► Before opening the housing cover, disconnect the device from the mains supply and wait at least one minute until the power supply unit has discharged.

1. Unplug the printer from the electrical outlet.
2. Remove cover.
3. Remove the transfer ribbon from the printer.
4. Attach the test collar (3) to the winder (4).
5. Turn the knurled nut counterclockwise to clamp the test collar.
6. Wind the cord attached to the test collar around the test collar several times.
7. Secure spring scale [10 N] (1) at the end of the cord.
8. Move the spring scale upward vertically until the winder begins turning.
9. Hold the drive belt in place during the measurement. Otherwise, the measurement is not accurate.
10. Allow the cord to unwind from the test collar at least one full turn and read the pulling force F on the spring scale at the same time.
11. If the winding torque differs from the set value, it must be adjusted ▷ 5.1.2 on page 21.

Internal Rewinder

Measurement of the winding torque at the internal rewriter occurs by determining the pulling forces with a cord wrapped around the rewriter.

The physical relation between the torque and the pulling force is:

$$F = M / r$$

F: Pulling force [N],

M: Winding torque [Ncm],

r: Radius of the rewriter (38 mm)

The set values for the winding torque and the resulting pulling force at the rewriter are:

Slipping clutch at	Measurement	Direction of rotation	Winding torque M	Pulling force F
Internal rewriter	A	against winding direction	19,0 - 26,6 Ncm	5,0 - 7,0 N
	B	in winding direction	7,6 - 11,4 Ncm	2,0 - 3,0 N

Table 2 Winding torques at the internal rewriter

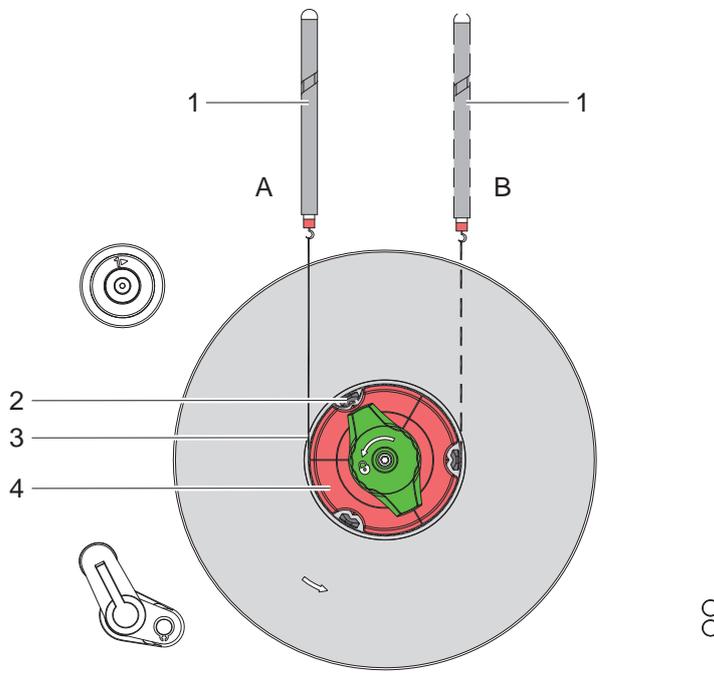


Figure 18 Winding torques at the internal rewriter



Danger!

Risk of death via electric shock!

► Before opening the housing cover, disconnect the device from the mains supply and wait at least one minute until the power supply unit has discharged.

1. Unplug the printer from the electrical outlet.
2. Remove cover
3. Remove the labels from the printer.
4. Push the cord under a bracket (2) of the internal rewriter (3) and wind it around the rewriter (4).
5. Secure spring scale [10 N] (1) at the end of the cord.
6. Move the spring scale upward vertically until the winder begins turning. If the drive belt at the rewriter is also moving, hold it in place during the measurement. Otherwise, the measurement is not accurate.
7. Allow the cord to unwind from the rewriter at least one full turn and read the pulling force F on the spring scale at the same time.
8. If the winding torque differs from the set value, it must be adjusted ▷ 5.1.2 on page 21.

5.1.2 Adjusting the Winding Torques

The winding torque of a winder can be changed at the knurled ring of the respective slipping clutch. The numbers on the knurled ring stand for the value of the winding torque:

- 1: Lowest winding torque
- 7: Highest winding torque

The current value is indicated by the number located at the positions of the two locking tabs.

**Danger!**

Risk of death via electric shock!

- ▶ **Before opening the housing cover, disconnect the device from the mains supply and wait at least one minute until the power supply unit has discharged.**

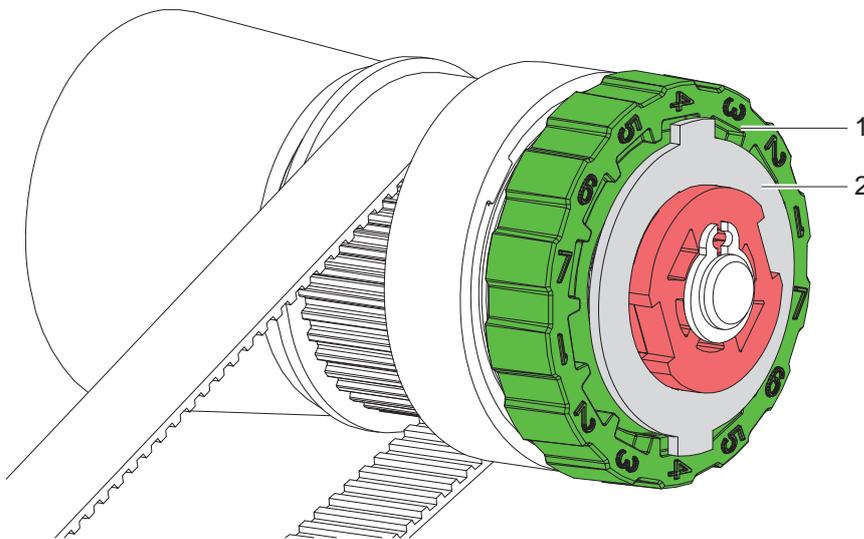


Figure 19 Adjusting the winding torque

1. Unplug the printer from the electrical outlet.
2. Remove the rear cover.
3. Press the knurled ring (1) of the slipping clutch toward the housing wall. The lock (2) of the knurled ring is released.
4. Turn the knurled ring while pushing it and release it in the desired position.
5. Ensure that the tabs of the lock are located completely in the grooves of the setting value.
6. Measure the winding torque again and compare it to the set value.
7. Repeat the adjustment until the measured winding torque is within the tolerance range. Is it not possible change the slipping clutch ▷ 4.4 on page 12.
8. Mount the rear cover.

5.2 Adjusting the Brake at the Label Unwinder

The brake (9) at the label unwinder is switched on and off by the movement of the swing arm (1). The correct adjustment of the switching point guarantees an accurate label transport and a high positioning accuracy of the peeled labels.

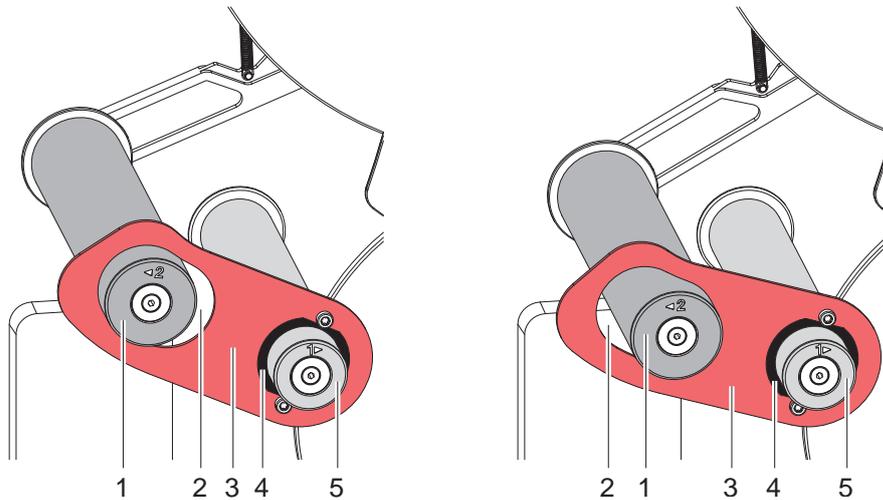


Figure 20 Checking the switching point of the brake

1. Press down the swing arm with the guide roller (1).
2. Push the collar (4) of the gauge (3) onto the guide roller (5) and insert the guide roller (1) into the slot hole (2).
3. Release the swing arm. The guide roller (1) moves to the upper end of the slot hole (2) (Figure 20 left side).
Requirement A: In that position the unwinder must be blocked by the brake.
4. Press down the swing arm so that the guide roller (1) touches the lower end of the slot hole (2) (Figure 20 right side).
Requirement B: In that position the brake must release the label unwinder.

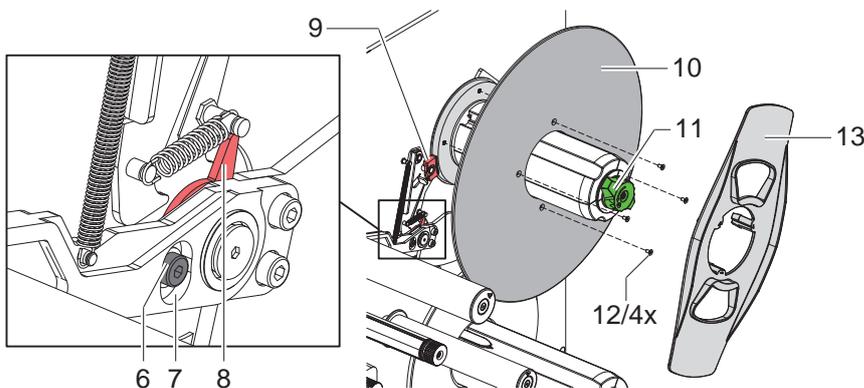


Figure 21 Adjusting the switching point of the brake

If one of the requirements will not be achieved the switching point must be re-adjusted :

5. Turn the knurled knob (11) clockwise and remove the margin stop (13) from the unwinder.
6. Loosen 4 screws (12) remove the wall spacer (10).
7. Loosen screw (6) and move it inside the slot hole (7). That way the initial position of the lever (8) will be altered :
 - Requirement A not achieved : Move the screw upwards inside the slot hole
 - Requirement B not achieved : Move the screw downwards inside the slot hole
8. Tighten screw (6) and repeat the check with the gauge (3).
9. If necessary repeat the adjustment.
10. If the switching point cannot be adjusted to achieve requirement A (blocking), replace the brake shoe ▷ 4.5 on page 14.
11. Complete the unwinder.

5.3 Adjusting the Label Feed

The label material (2) must run touching guide faces (1) of the chassis.

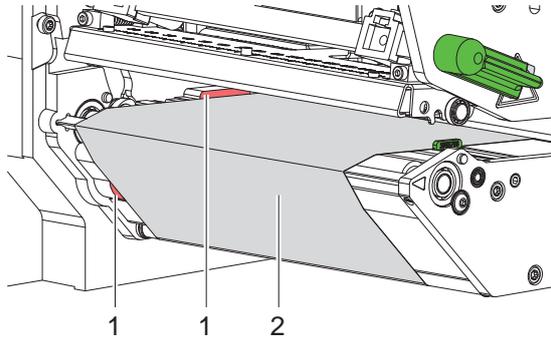


Figure 22 Material at the guide faces

If the material drifts sideways the pinch rollers (4,7) of the transport system and the backfeed system can be adjusted.

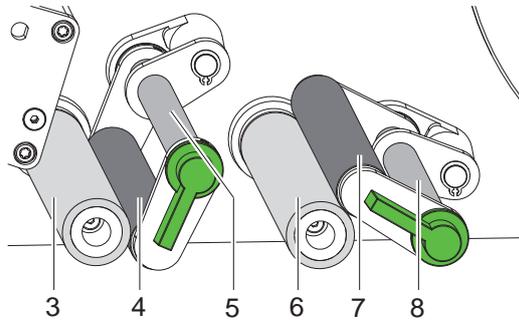


Figure 23 Transport system and backfeed system

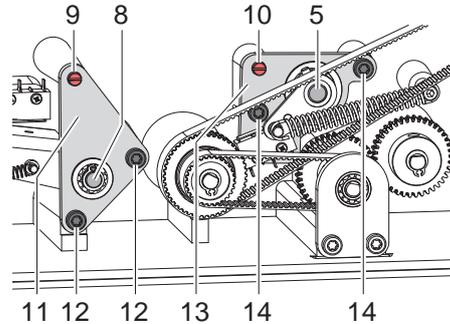


Figure 24 Setting the eccentrics



Danger!

Risk of death via electric shock!

The adjustment requires to operate the printer when the rear cover is open.

- ▶ The adjustment may only be done by trained and qualified electricians.
- ▶ Do not touch the power supply area.

Principle of adjustment

- Remove the rear cover.
- Loosen the screws (12,14).
- Turn eccentric (9,10).
Therefore the bearing plates (11,13) will be turned a little. So the angles between the axles (5,8) with the pinch rollers (4,7) and the transport rollers (3,6) will be changed.
- Tighten the screws (12,14).
- When the adjustment is complete mount the rear cover.

Basic setting

- ▶ Align the pinch rollers (4,7) parallel to the concerning transport rollers (3,6).

Adjusting the label feed

- ▶ Adjust the eccentric (10) at the backfeed system in such a way that the material runs touching the guide faces (1) without lateral drift.

5.4 Adjusting the Printing Mechanism

Major adjustment of the printing mechanism beyond format-based settings is only required if the printhead assembly has been removed or parts in this area have been replaced. Excluded from this is the replacement of the printhead, after which readjustment is generally not required.

The following print quality imperfections may indicate maladjustment of the printing mechanism:

- Print image too light
- Print image is spotty
- Print image lighter on one side
- Horizontal lines not parallel to the horizontal label edges
- Clear lateral drift of the transfer ribbon



Notice!

Print image errors can also arise from wrinkling of the transfer ribbon. This is why you should check the transfer ribbon feed path and the head locking system for correct adjustment before making adjustments to the printing mechanism ▷ Operator's Manual.



Notice!

The adjustment at both print units can be done in the same manner.

Adjustment of the printing mechanism comprises the following procedures in the order specified:

1. Prepare the label printer for adjustment ▷ 5.4.1 on page 24.
2. Adjust the position of the printhead ▷ 5.4.2 on page 25.
3. Adjust the printhead pressure ▷ 5.4.3 on page 26.
4. Adjust the transfer ribbon feed path ▷ 5.4.4 on page 27.
5. Perform a final test ▷ 5.4.5 on page 27.

5.4.1 Preparing the Printer for Adjustment

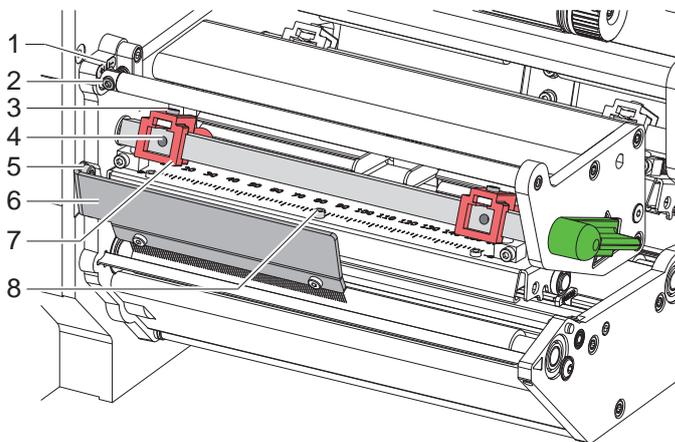


Figure 25 Preparing the printer for adjustment

1. Check the setting of the ribbon savers ▷ 5.7 on page 30.
2. Load transfer ribbon at the print unit to be adjusted and labels which extend across the entire printing width.
3. In the printer configuration, set the `Heat level` parameter to -5 and the `Print speed` parameter to 100 mm/s.
4. Loosen the screw (5) and remove the antistatic brush (6).
5. Move the transfer ribbon deflection to the central position (1) with the screw (2).
6. Loosen screws (3) and position the plungers (7) in such a way that the adjustment screws are accessible through the holes (4) of the square axis.
7. Loosen the screw (8) for the printhead bowing with an Allen key (1.5 mm) and turn it counterclockwise until turning becomes perceptibly easier. This should occur after a maximum of a half a rotation.
8. Continue with the adjustment of the printhead position ▷ 5.4.2 on page 25.

5.4.2 Adjusting the Printhead Position

In order to achieve the best possible print image the following printhead settings are necessary:

- Align the heating line with the highest point of the print roller. Density of the print image is the greatest at this point.
- Set the parallelism of horizontal lines with the edge of the label.

**Attention!**

Risk of damage.

Attempting to adjust the printhead when the fixing screws (2) are tight can lead to defects at the printhead assembly.

- ▶ **Always loosen the fixing screws (2) before adjusting the printhead.**

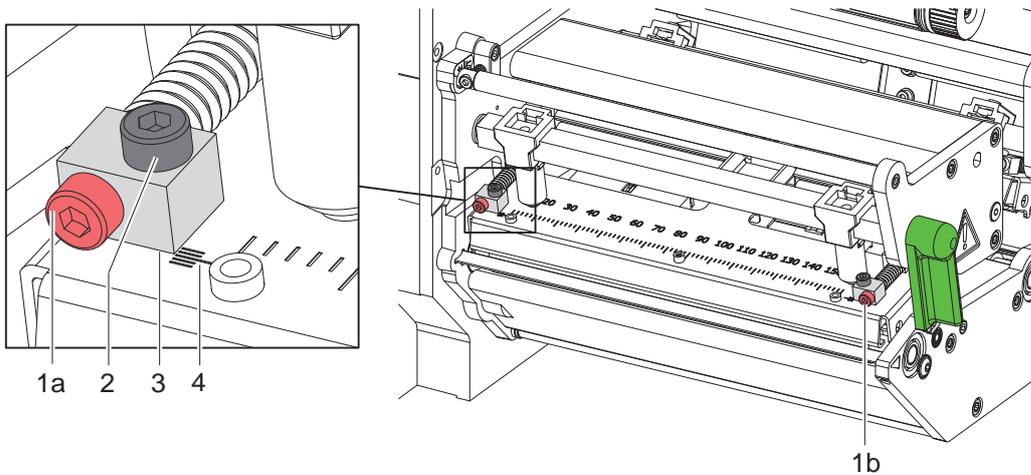


Figure 26 Adjusting the printhead position

**Notice!**

- ▶ **Open and close the printhead after each step of the adjustment.**

1. Check the alignment of the printhead on a output of a test print - horizontal lines must be parallel to the label edge.
2. If the printhead is not aligned properly, loosen the screw (2) about one quarter turn.
3. If the printhead is not aligned properly, use the screws (1) to align the lines on the printhead (4) with the front edge of the slides (3).
 - Screw (1a) effects the inner half of the printhead, and screw (1b) the outer half.
 - Turning clockwise moves the printhead backwards.
4. Create print samples with the test function `Test grid` (▷ Configuration Manual) or a similar print pattern.
5. If the horizontal lines in the test grid are not parallel with the label edges, adjust the parallelism with the screws (1).
6. Set the best possible image quality by maintaining parallelism via turning the screws (1a) and (1b) in an alternating fashion.

Differences in the density between the two sides are still permissible.
7. Tighten the screws (2).
8. When the parallelism of the printhead is set, continue with the adjustment of the printhead pressure ▷ 5.4.3 on page 26.

5.4.3 Adjusting the Printhead Pressure

The printhead pressure can be changed with the screws (1a) and (1b) at the inside and outside of the printhead. Increasing the printhead pressure leads to an improvement of the print image density on the corresponding side and to a shifting of the ribbon feed path to the other side.

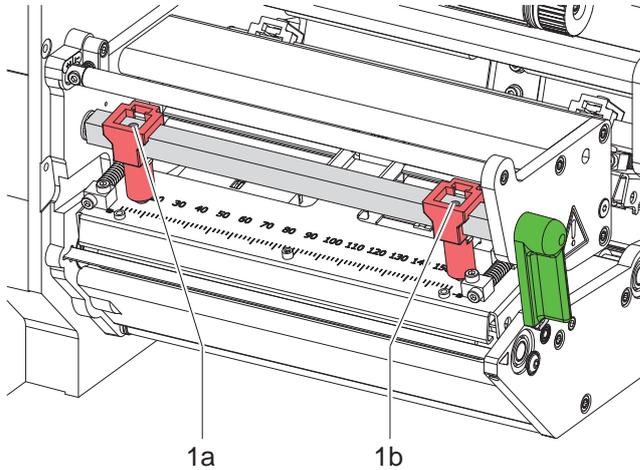


Figure 27 Adjusting the printhead pressure

1. Turn the adjustment screws (1) counterclockwise until turning becomes perceptibly easy.
2. The heat level is to be reduced in the printer configuration until the print image is only barely recognizable. Under these conditions, inaccuracies become clearly visible during adjustment.
3. Create print samples with the test function `Test grid` (▷ Configuration Manual) or a similar print pattern.
4. Adjust the adjustment screw (1a or 1b) clockwise in small increments on the side with the weaker print image until the print image is even across the entire width. It may happen that you must turn the adjustment screws in an alternating fashion, resulting in a print image which is too light overall.
1. When the print image is set evenly, continue with setting of the transfer ribbon feed path ▷ 5.4.4 on page 27.

5.4.4 Adjusting the Transfer Ribbon Feed Path

You can adjust the transfer ribbon feed path by changing the head contact pressure and adjusting the transfer ribbon deflection (2). Increasing the head contact pressure with the screws (3a) and (3b) shifts the ribbon feed path in the corresponding direction. The skew of the transfer ribbon deflection is used to suppress wrinkles in the transfer ribbon feed path. Wrinkles which cannot be remedied with the skew of the transfer ribbon deflection can be suppressed by bowing the printhead.



Attention!

The printhead assembly can be damaged when bowing the printhead.

Turning the adjustment screw (4) too hard can cause damage to the printhead assembly.

► As soon as you perceive clear resistance when turning the adjustment screw (4), you may only continue turning the screw in very small increments, but no more than one eighth of a turn.

Only turn the adjustment screw (4) as far as is absolutely necessary.

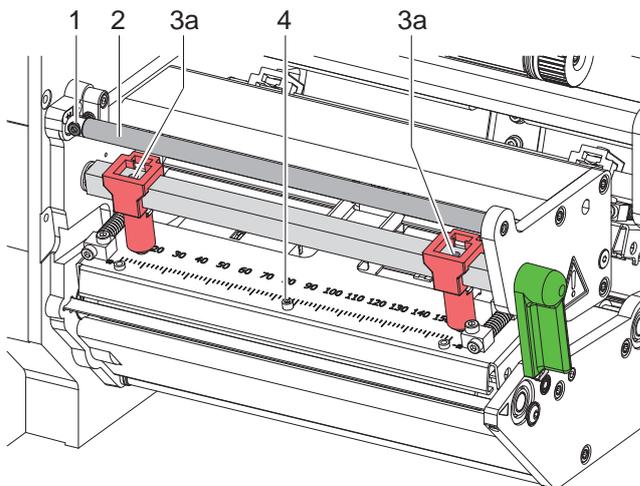


Figure 28 Adjusting the transfer ribbon feed path

1. Check the transfer ribbon feed path.
The wound up ribbon should be the same distance from the disk of the winder as the supply roll is from the disk of the supply hub.
2. If the ribbon runs inward or outward, turn the corresponding screw (3a) or (3b) clockwise in small increments. Wait until the ribbon feed path has stabilized after each step of the adjustment.
3. Check the ribbon feed path for wrinkles.
4. If wrinkles arise on the inside, turn the screw (1) counterclockwise. If wrinkles arise on the outside, turn the screw (1) clockwise.
5. If the wrinkles cannot be remedied (e.g. wrinkles in the center), turn the adjustment screw (4) clockwise **with extreme care** using an Allen key (1.5 mm) and observe the ribbon feed path.
When the adjustment screw (4) is tightened, the printhead is bent downward slightly in the center. It is possible that a slight lightening at the edge areas of the print image could occur here.
6. If bowing is not necessary, turn the screw (4) clockwise until the screw is just barely clamping.
7. When the transfer ribbon feed path is set, continue with the final test.

5.4.5 Final Test

- Load transfer ribbon in both print units.
- Reset the `Heat level` to 0 in the printer configuration ▷ Configuration Manual.
- Recheck the setting with the test function `Test grid` (▷ Configuration Manual) or a similar print pattern.
- If there are differences between the print positions of the two print units in the feed direction adjust the parameter `Offset upper-lower head` ▷ Configuration Manual.

When using standard cab media, the test printout must show lines with sharp contours and black areas without any parts missing.

5.5 Adjusting the Belt Tension



Danger!

Risk of death via electric shock!

- ▶ Before opening the housing cover, disconnect the device from the mains supply and wait at least one minute until the power supply unit has discharged.

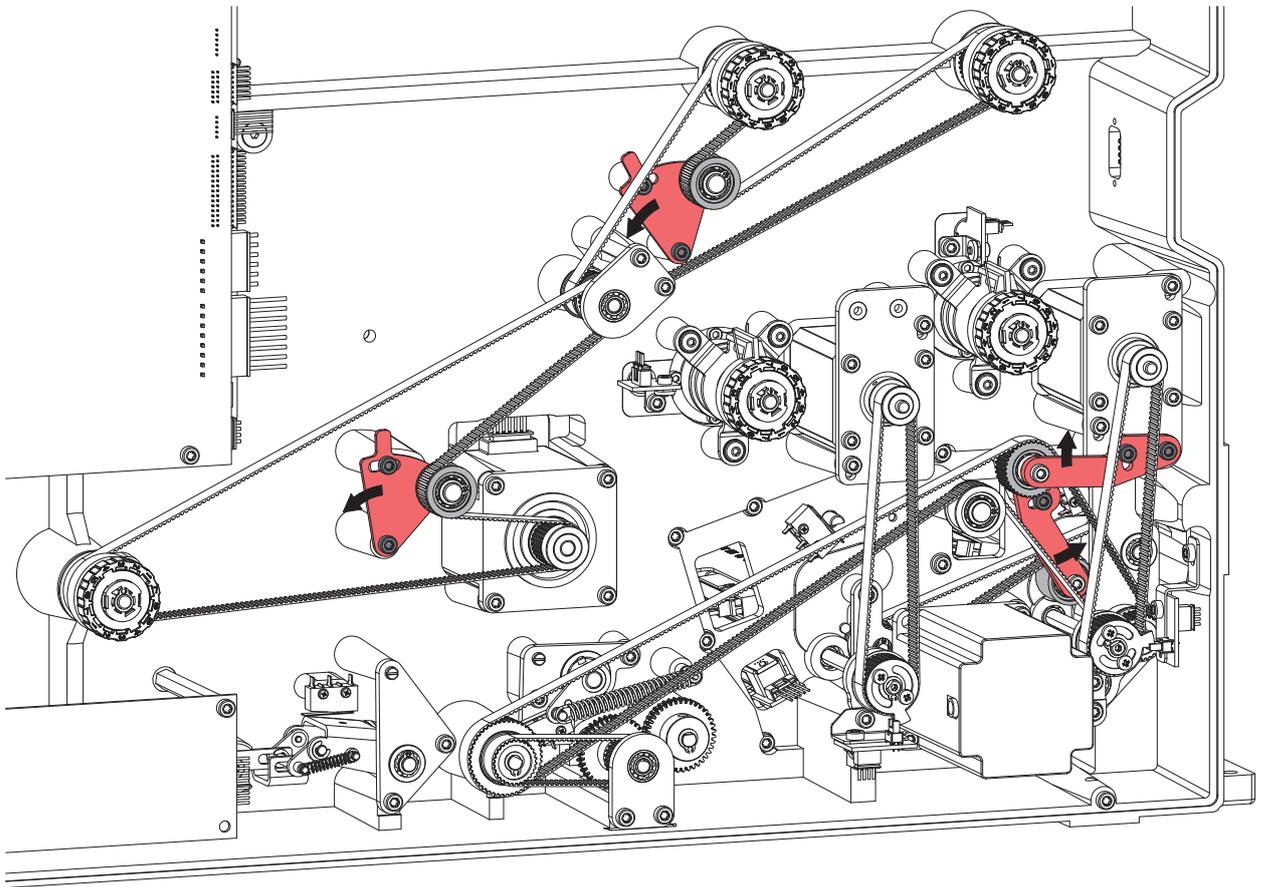


Figure 29 Adjusting the belt tension



Notice!

The adjustment of all belt tension brackets can be done in the same manner.

1. Unplug the printer from the electrical outlet.
2. Remove the rear cover.
3. Adjusting the belt tension brackets :
 - Loosen 2 screws.
 - Swing the bracket so that the belt is tensioned tightly.
 - Tighten 2 screws.
4. Mount the rear cover.

5.6 Adjusting the Magnetic Clutches

A misaligned magnetic clutch can cause a very high and not adjustable torque at the ribbon unwinder. The distance between chassis of the magnetic clutch (2) and the armature disk (3) must be 0.1 mm .

**Danger!**

Risk of death via electric shock!

- ▶ Before opening the housing cover, disconnect the device from the mains supply and wait at least one minute until the power supply unit has discharged.

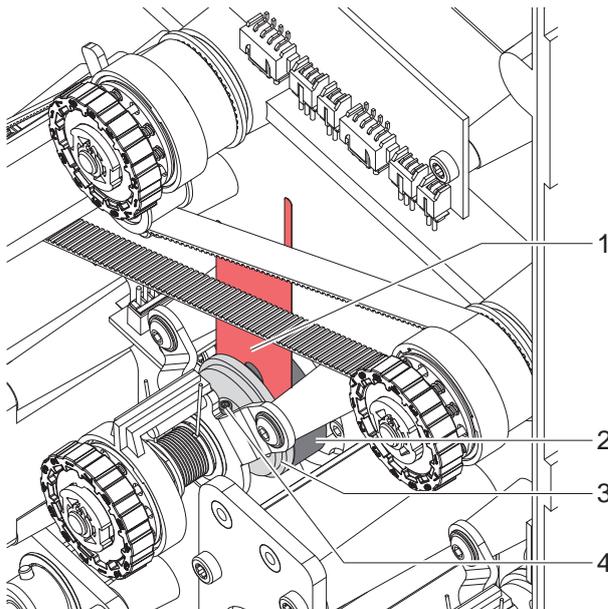


Figure 30 Adjusting the magnetic clutch

**Notice!**

The adjustment of both clutches can be done in the same manner.

1. Unplug the printer from the electrical outlet.
2. Remove the rear cover.
3. Loosen screw (4).
4. Pull armature disk (3) to the slipping clutch.
5. Insert the distance caliber 0.1 mm (1) between armature disk (3) and chassis of magnetic clutch (2) .
6. Slide armature disk (3) to the chassis so that the distance caliber (1) will clamp slightly and tighten screw (4).
7. Remove the caliber.
8. Adjust the torque at the ribbon supply hub.
9. Mount the rear cover.

5.7 Adjusting the Ribbon Saver

The ribbon saver reduces the consumption of transfer ribbon amongst others by lifting the printhead while feeding blank label areas. The printhead will be lifted by eccentrics (6) which are controlled by a clock wheel (3) and an optical sensor (4).

A misaligned clock wheel can cause a reduction of the saver effect in the saver phase or a deterioration of the print image and a stagnant ribbon transport in the print phase.



Danger!

Risk of death via electric shock!

- ▶ Before opening the housing cover, disconnect the device from the mains supply and wait at least one minute until the power supply unit has discharged.

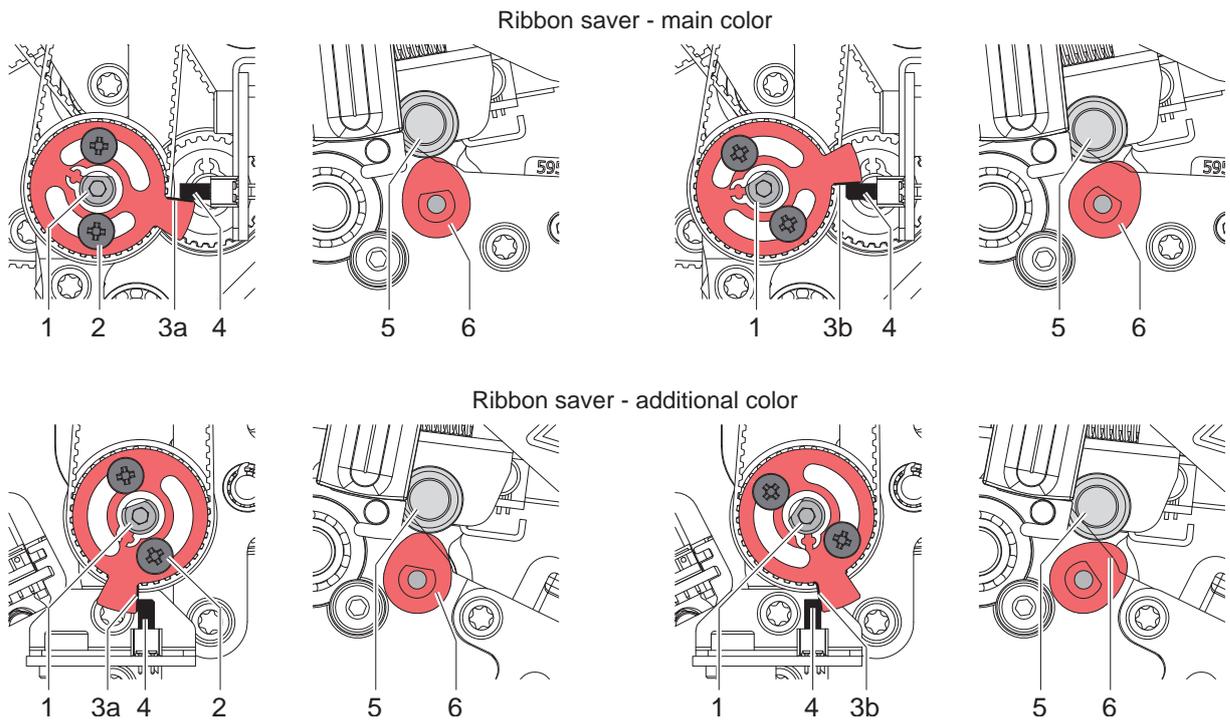


Figure 31 Position of eccentrics and clock wheel in the saver phase

Figure 32 Position of eccentrics and clock wheel in the print phase

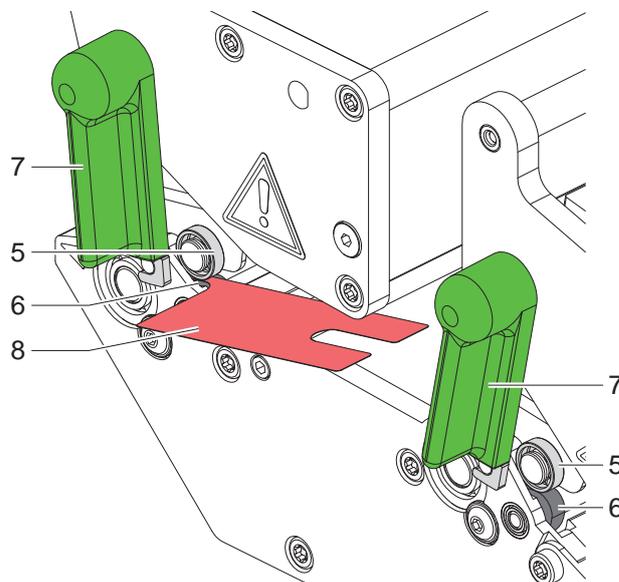


Figure 33 Checking the distance ball bearing - eccentric

1. Unplug the printer from the electrical outlet.
2. Remove the rear cover.
3. Turn lever (7) clockwise to lock the printhead.
4. Loosen the screws (2) at the clock wheel.
5. Turn axle (1) in such a way that the eccentrics (6) lift the printhead via the ball bearings (5) at most
▷ Figure 31 right side.
6. Align the flange (3a) to the edge of the sensor housing (4) by turning the clock wheel
▷ Figure 31 left side.
7. Tighten screws (2).
8. Turn axle (1) and align the flange (3b) to the other edge of the sensor housing
▷ Figure 32 left side.
9. Check the distance between ball bearing (5) and eccentric (6) with the 0,1 mm gauge (8).
10. Mount the rear cover.

6.1 Failure of Device Functions

Functional error	Possible remedy
Medium is not transported	Check electrical connections between PCB CPU and motor
	Check drive mechanism
	Replace the PCB Electronics
	Replace the PCB CPU
	Replace the motor
No print image with medium transport	Check the ribbon saver setting
	Check plug connections at the printhead
	Examine printhead cable for damage and replace if necessary
	Replace the printhead
	Replace the PCB Electronics
No display and navigator pad function	Replace the PCB CPU
	Check whether LED1 (green) is illuminating on the PCB CPU ▷ Figure 36 on page 35: <ul style="list-style-type: none"> LED1 is not illuminating: The power supply unit or CPU PCB is defective. Replace PCB CPU or Power supply unit. LED1 flashes: Firmware update unsuccessful. Reload the firmware ▷ Configuration Manual
	Check cable connection between PCB CPU and control panel
	Check whether the correct voltages are active at the 3,3 V and 5 V measurement points on the PCB CPU ▷ Figure 36 on page 35 <ul style="list-style-type: none"> No voltage at either measurement point: The power supply unit may be defective. Replace the power supply unit No voltage at one measurement point: The PCB CPU may be defective. Replace the PCB CPU.
	Replace LCD Display
	Replace PCB Navi Button
	Replace the PCB CPU
No display function, but the navigator pad is functioning	Replace LCD Display
No navigator pad function, but the display is functioning	Check the cable connection between LCD Display cpl. and PCB Navi Button and replace if necessary
	Replace PCB Navi Button
	Replace LCD Display
Communication via an interface is not functioning	Check whether the interface configurations of the printer and computer match
	For an Ethernet connection, check the validity of the IP address and the subnet mask
	Check the interface cable and replace it if necessary
	If all functionality of the interface has been lost, replace the PCB CPU
Communication via the interface on the PCB I/O Interface is not functioning	Check the cable and it's necessary change it.
	Replace PCB I/O Interface.
	Check connection between PCB USB Hub and PCB CPU .
	Replace PCB USB Hub.

Table 3 Failure of device functions

6.2 Hardware Faults

Error message	Cause	Fault recovery
ADC malfunction	Fault on the PCB CPU	Replace the PCB CPU
FPGA malfunction	Fault on the PCB CPU	Replace the PCB CPU
Invalid setup	Fault on the PCB CPU	Replace the PCB CPU
Voltage error		
V_{BAT}	Voltage of the battery on the PCB CPU is too low	Replace the PCB CPU
V_{MOT}	Motor voltage is too low	<p>Check motor voltage (+38 V) at the measurement point V_{mot}</p> <p>▷ Figure 36 on page 35:</p> <ul style="list-style-type: none"> • Voltage too low: Replace the power supply unit • Voltage is correct: Replace the PCB CPU
24 V	24 V too low	<p>Check voltage at measurement point +24V</p> <p>▷ Figure 36 on page 35:</p> <ul style="list-style-type: none"> • Voltage too low: Replace the power supply unit • Voltage is correct: Replace the PCB CPU
24 V ext.	24 V at peripheral connection too low	<p>Disconnect peripheral device</p> <ul style="list-style-type: none"> • Fault still exists: Replace the PCB CPU • Fault remedied: Repair or replace peripheral device

Table 4 Hardware faults

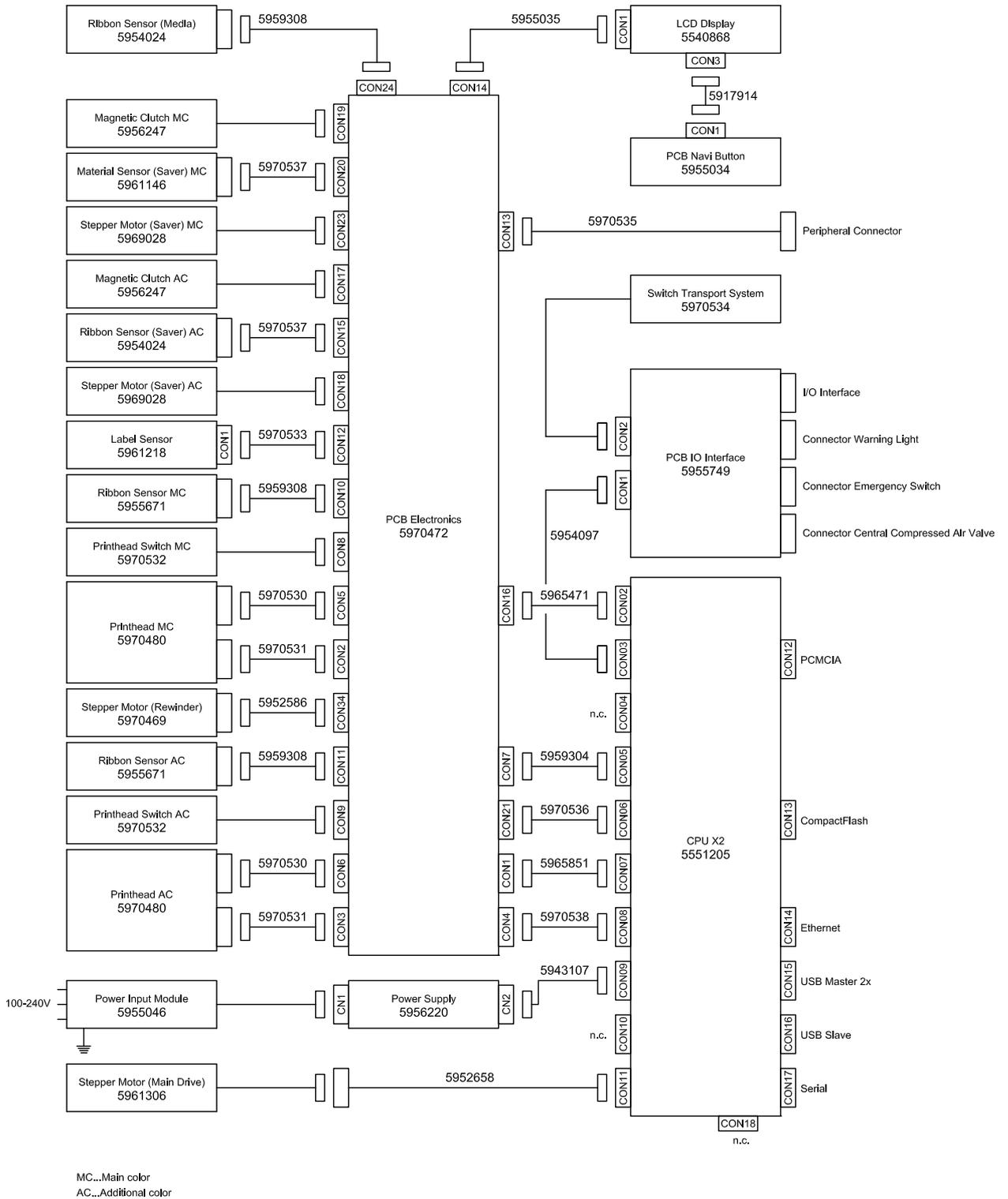


Figure 34 Block diagram Hermes C

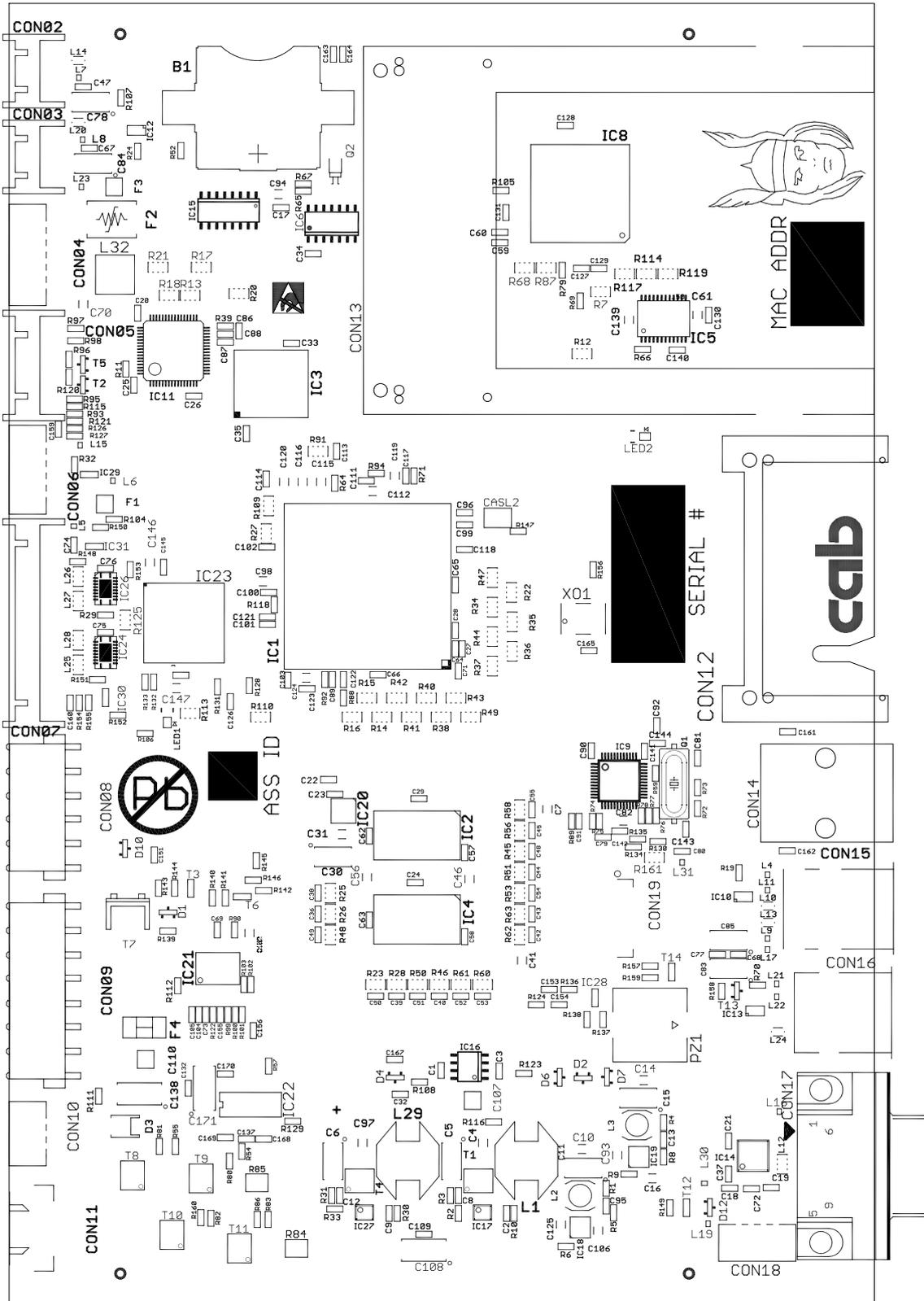


Figure 35 Layout diagram PCB CPU - components side

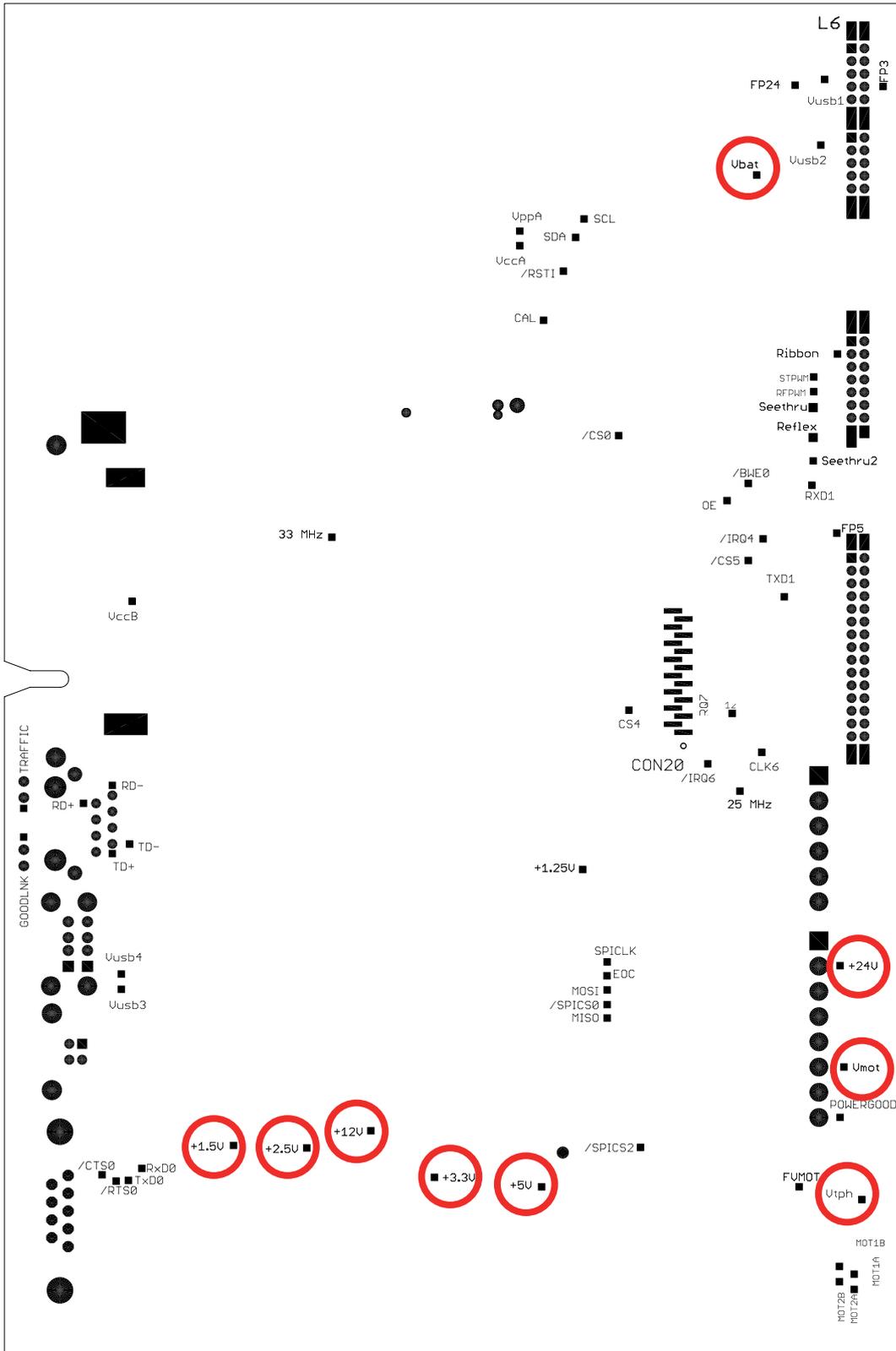


Figure 36 Layout diagram PCB CPU - soldering side

A		S	
Accidents	5	Safety instructions	4
B		Slipping clutches	
Belt tension	28	Adjustment	21
Block diagram	33	Replacement	12
Brake	12, 13, 14	T	
Brake label unwinder		Test collar	18
Adjustment	22	Torque	18
Replacement	14	Transfer ribbon feed path	27
C		U	
Cleaning	7	Unwinder	13, 19
Clutch	12	W	
CPU	16	Winding torques	
E		Adjustment	21
Electricity	5	Measurement	18
Environment	5		
Error treatment	31		
F			
Failure of device functions	31		
H			
Hardware faults	32		
I			
Important information	4		
L			
Label feed	23		
Label sensor			
Cleaning	7		
Replacement	15		
M			
Magnetic clutch	29		
P			
PCB CPU			
Layout diagram	34		
Replacement	16		
Power supply unit	17		
Printhead			
Position	25		
Pressure	26		
Replacement	8		
Printhead position	25		
Print image	24		
Printing mechanism	24		
Print roller	10		
Protective devices	5		
R			
Rewinder	13, 19, 20		
Ribbon saver	30		