valentin
ETIKETTENDRUCKSYSTEME

English

Service manual

Thermal Transfer Printer
Solo type

79.25.025 • 12 December 1997

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1.1. Block circuit baseboard (CPU & network)

The corresponding plan is available on demand.

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The corresponding plan is available on demand.

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The corresponding plan is available on demand.

2. Electronics

2.1. Check-points

2.1.1. Voltage supply baseboard

Check-point		description	value
JP6,7	PIN 1a,c	VCC	5V
JP16	PIN 1,2	VDD	5V
JP6,7	PIN 32a , c	GND	0V
JP24	PIN 1-3	VH	18V (printhead solo 51) 21V (printhead solo 80)
JP24	PIN 4-6	GND	0V
JP30	PIN 1	12V	12V
JP25	PIN 1	VM	~35V
R47	upper PIN	VG	~35V
R47	lower PIN	VR	7,2V

2.1.2. Voltage supply option board

Check-point		description	value
JP2,3	PIN 1a, c	VCC	5V
JP2,3	PIN 32a, c	GND	0V
JP2,3	PIN 2c	V OUT	5V
JP2,3	PIN 3c	V Batt	0V

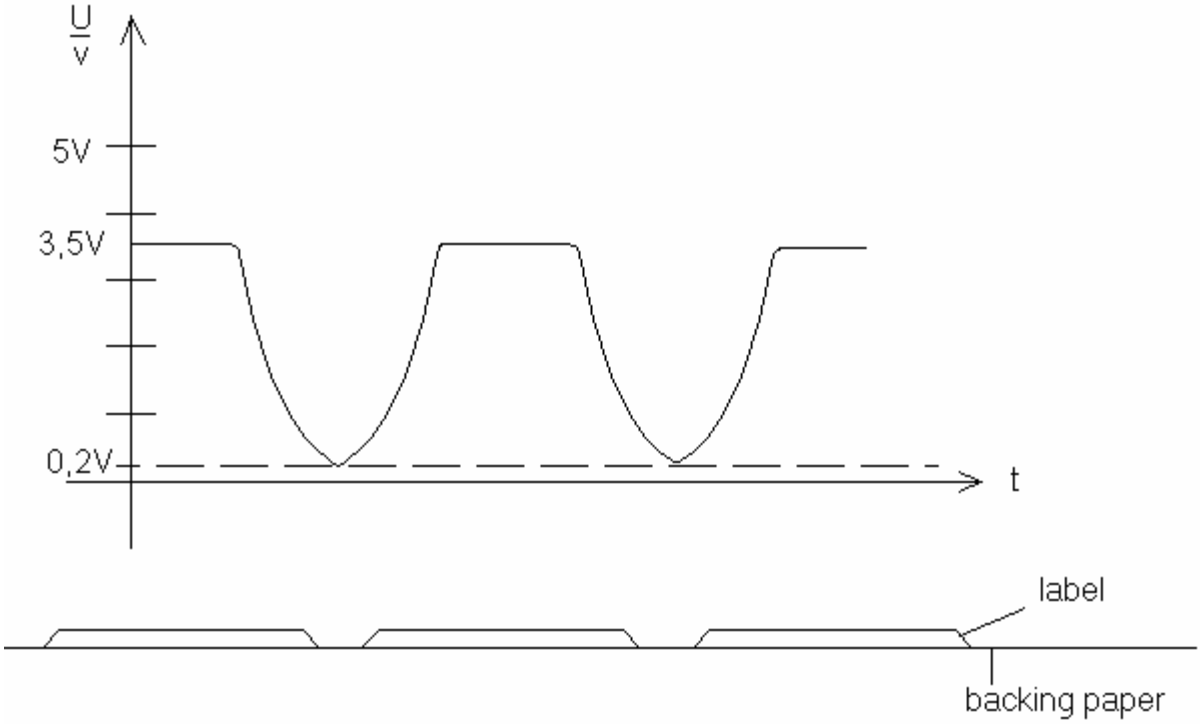
2.1.3. Photocells

Label photocell: Transmission

JP2:	PIN 1	VSS	~1,2V
	PIN 2	INP	} see below
	PIN 3	INP	
	PIN 4	GND	0V

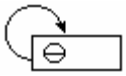
Depending on the transparency of the label res. backing paper the voltage at the input of the AD-converter is changing.

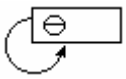
In sketch 1 a typical voltage wave form at "INP" is shown (measurable at U6 PIN3 too).



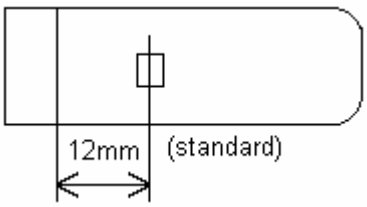
sketch 1

In case the adjusted value of the sending current of the photocell is not sufficient, e.g. when using extremely thick or thin backing paper, it can be adjusted by changing P1.

Rotation to the right  adjustment for thick backing paper

Rotation to the left  adjustment for thin backing paper

The "INP"-level can be displayed in the menu item "Parameter of the label photocell" under "Transmission photocell" (see chapter "2.5.4. Monitor").

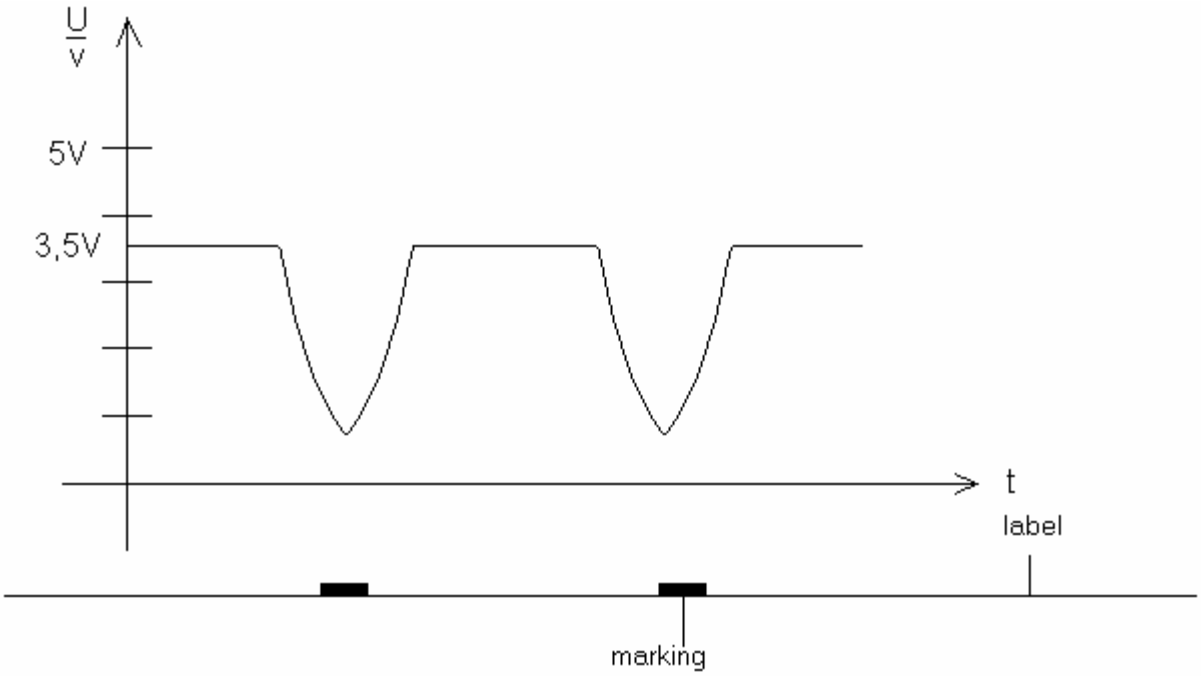


measurement of photocell

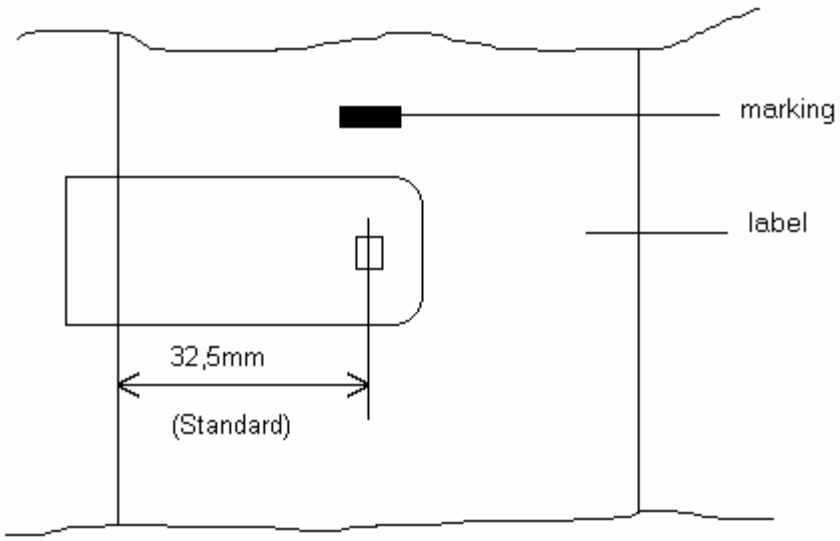
label photocell: reflection

JP3:	PIN 1	VCC	5V
	PIN 2	INP	see sketch
	PIN 3	VSS	~ 2V
	PIN 4	GND	0V

The voltage wave form at "INP" is similar to the one described under A (measurable at U6 PIN4 too).



It has to be considered that the marking for the reflection photocell must be in a distance of 32,5 mm to the interior rim, so that the photocell recognizes the marking.

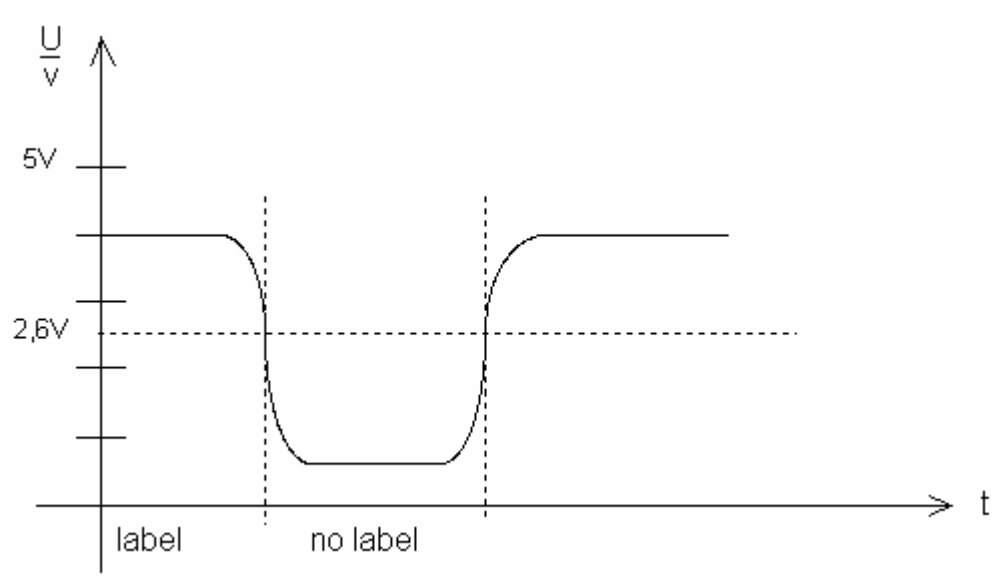


The "INP"-level can be displayed in the menu item "Parameter of the photocell" under "Reflection photocell" (chapt. "2.5.4. Monitor"). The marking should have a size of at least 7 mm x 3 mm or bigger.

Dispensing photocell

JP4:	PIN 1	VCC	5 V
	PIN 2	INP	see sketch
	PIN 3	VSS	~ 1,2 V
	PIN 4	GND	0V

The typical voltage wave form at "INP" (measurable at U6 PIN 5 too) is shown in sketch 3.



As standard a level of 2,6 V is adjusted. If a label is under the dispensing photocell, the level at "INP" must be higher than 2,6 V. If the label is being removed, the voltage must lower under 2,6 V.

In some cases it is necessary to change the level of the dispensing photocell. This can be done in the menu "Printer initialization - LS-Dispenser level".

The "INP"-level can be displayed in the menu item "Parameter of the label photocell" under "Dispensing photocell" (see chapter "2.5.4. Monitor").

Ribbon check

JP1:	PIN 1	VCC	5 V
	PIN 2	INP	High resp. Low
	PIN 3	VSS	~ 1,2 V
	PIN 4	GND	0V

The photocell "ribbon-check" is checking if there is ribbon for printing. If ribbon has been properly loaded the photocell is sending a "Low"-signal; if there is no ribbon a "High"-signal.

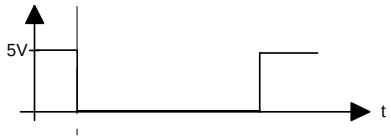
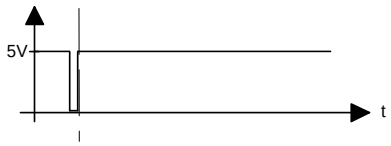
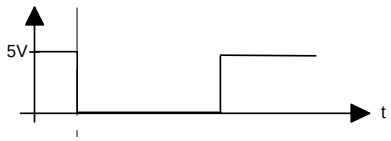
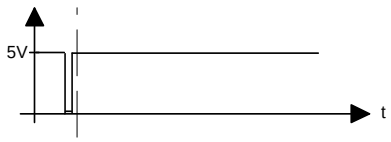
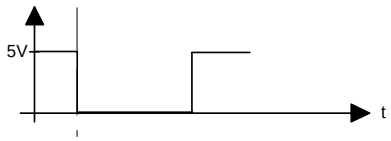
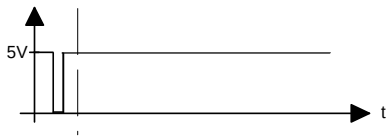
The "INP"-level can be displayed in the menu item "Parameter of the photocell" under "transfer ribbon photocell" (Hi or Lo)
(see chapter "2.5.4. Monitor").

2.1.4. Clock-signals

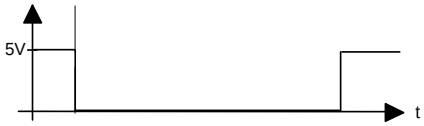
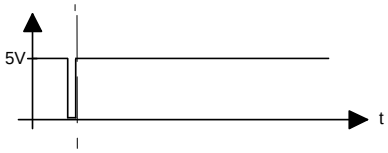
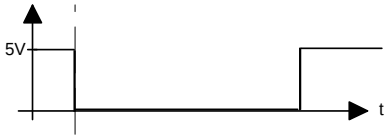
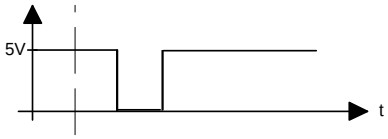
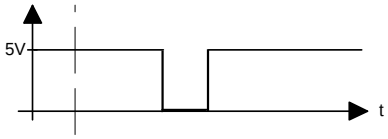
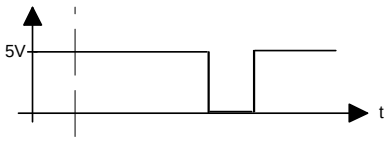
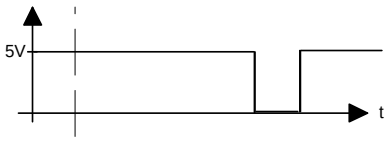
check point		**description**	**value**
U12	PIN 78	CLK CPU	20MHz
	PIN 79	CLK CPU	
U5	PIN 6	RESET	0V
	PIN 8	RESET\	~ 5V
U5	PIN 4	NMI	0V

2.1.5. Strobe-signals

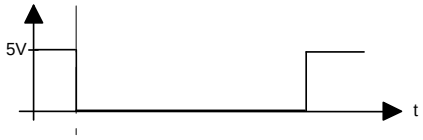
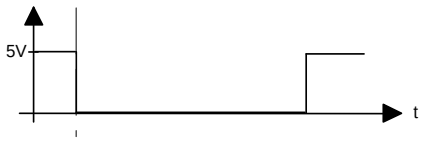
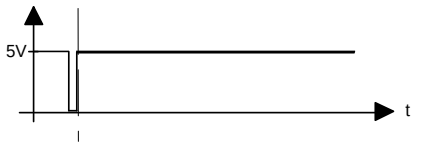
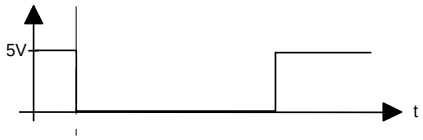
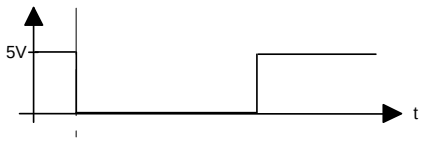
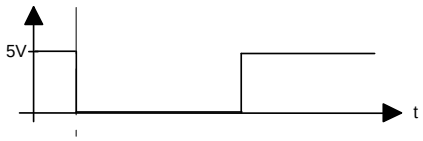
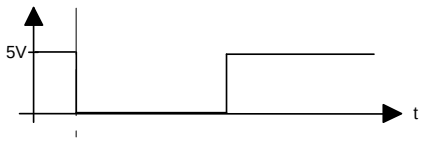
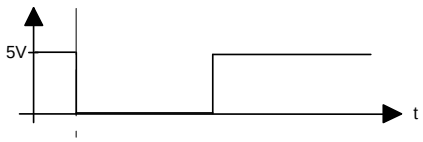
Print head KMT-51 (Kyocera)

check point		description	value
U24:	PIN 14	Strobe1	
	PIN 12	Latch1	
	PIN 16	Strobe2	
	PIN 5	Latch2	
	PIN 9	Strobe3	
	PIN 7	Latch3	

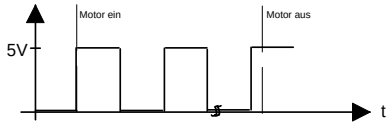
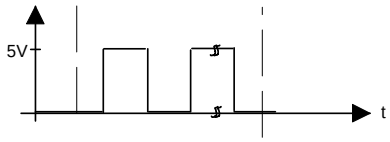
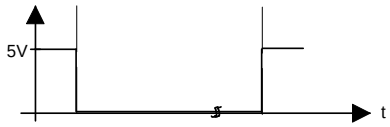
Print head FP 80-8X (Mitsubishi)

check point		description	value
U24:	PIN 14	Strobe1\	
	PIN 16	Strobe2\	
	PIN 18	Latch\	
	PIN 9	GA\	
	PIN 12	GB\	
	PIN 5	GC\	
	PIN 7	GD\	
	PIN 3	GE\	

Print head KHT-80-8MPU1-VA (Kyocera)

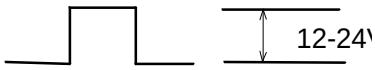
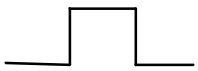
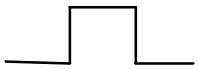
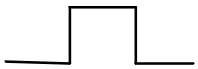
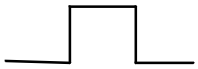
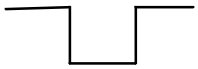
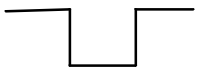
check point		description	value
U24:	PIN 14	Strobe1\	
	PIN 16	Strobe2\	
	PIN 18	Latch\	
	PIN 9	CONT1\	
	PIN 12	CONT2\	
	PIN 5	CONT3\	
	PIN 7	CONT4\	
	PIN 3	CONT5\	

2.1.6. Motor signals

check point (CPU)		description	value
U15	PIN15	VOR A	
	PIN12	VOR B	
	PIN9	FR VOR	

"VOR A" and "VOR B" are two rectangular signals by 90° displaced phases.

2.1.7. External control inputs / outputs (option board)

check point		description	value
4 x IN		ext. input impulse	
U6	PIN 2	INPUT 1	
	PIN 4	INPUT 2	
	PIN 6	INPUT 3	
	PIN 8	INPUT 4	
4 x OUT			
U3	PIN2	OUTPUT 1	
	PIN3	OUTPUT 2	
	PIN6	OUTPUT 3	
	PIN7	OUTPUT 4	

2.2. Component parts of baseboard

The corresponding plan is available on demand.

2.3. Component parts of option board

The corresponding plan is available on demand.

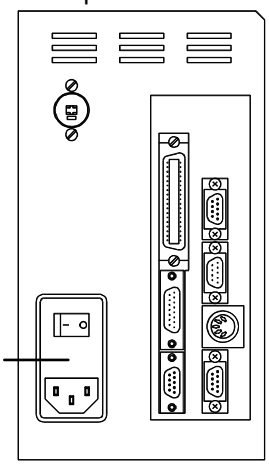
2.4. Changing of fuses

2.4.1. Primary fuse

The primary fuse is in the power line filter block and accessible from outside.
After plugging out, the cover can be removed. There behind you will find the fuse-switch, which has to be drawn near to change the fuse.

F: fine-wire fuse T1,0A

solo rear panel:

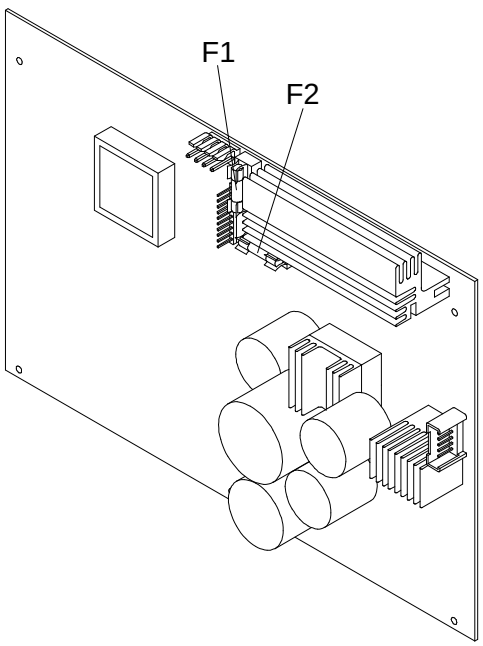


2.4.2. Secondary fuse

Attention: The machine should be opened by competent staff only.
Pug out before removing the left cover.

After removing the left cover the base plate is visible, whereon you will find two secondary fuses.

F1: fine-wire fuseT 1,0 A fuse for 5 V and 12 V supply (CPU)
F2: fine-wire fuseT 6,3 A fuse for motor voltage (35 V) and burning voltage (18 V res. 21 V) and 12 V supply (fan)

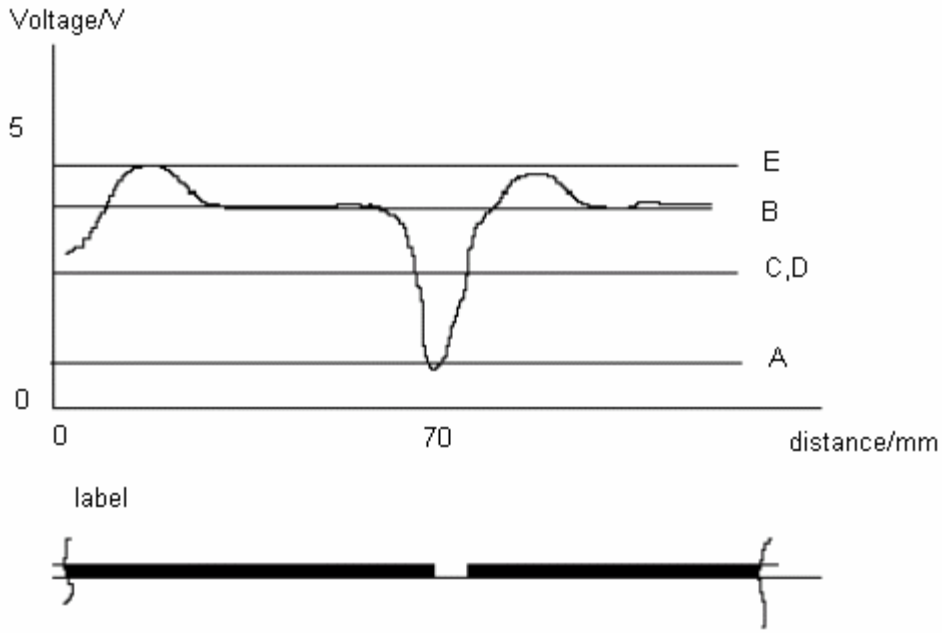


2.5. Service monitor

2.5.1. Valuation of label parameters

In function menu "Parameter of label photocell" you will find the service monitor, by which the photocells can be checked res. adjusted.
When measuring the labels the values will be displayed in the first line, thereby the following measured voltages are shown:

A: absolute minimum (measured on backing-paper)
B: smallest maximum (measured on label)
C: upper switching level
D: lower switching level
E: highest voltage measured (mostly ~5 V)



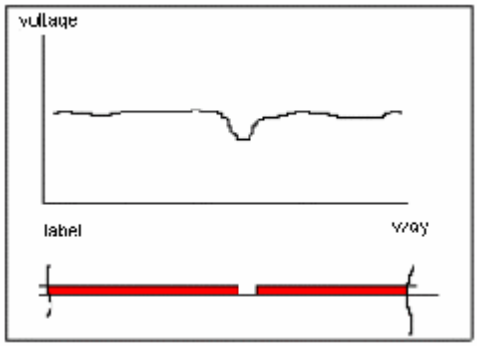
The sketch illustrates the voltage wave form of the label photocell while measuring the labels.
The difference between "A" and "B" should be at least 1,5 V.

2.5.2. Error message: label error

Possible reasons of this error message "Label error" are the following:

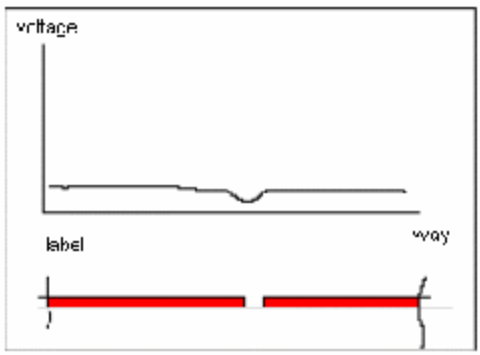
- Too thick res. opaque backing paper

  In this case the value of A will be too high. This means, that the printer cannot distinguish between label and backing paper.



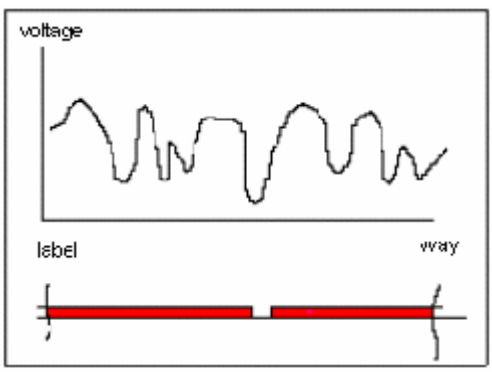
- Very thin labels

  In this case the value of E res. B is too low, so the printer cannot distinguish between backing paper and labels.



- Pre-printed label with strong differences in contrast

  Pre-printed labels are a particular problem. Here the fluctuations of voltage on the label while measuring are very high. In this case the value of B will be very small. In case the difference between B and A is too small, the printer is not able to measure the label.



2.5.3. Error elimination

In case the photocell already had been adjusted so that the difference between A and B has received the highest possible value (as described in chapter "2.1.3. Photocells"), the "sensitivity of the label photocell" can be adjusted.

2.5.4. Monitor

After activating the key again in menu "Parameter of label photocell", the photocell monitor will be activated.
On the display of the printer the following appears:

The digit represents the measured voltage;
the black bar represents the measured voltage as graph;
the last character shows the position of the photocell:

+	above label
-	above backing paper
0	at the edge label - backing-paper

The monitor serves to check the label photocell to its function. As well it is possible to move the label manually under the photocell to obtain an idea of the voltage wave form and to be able to judge, if the label can be measured.

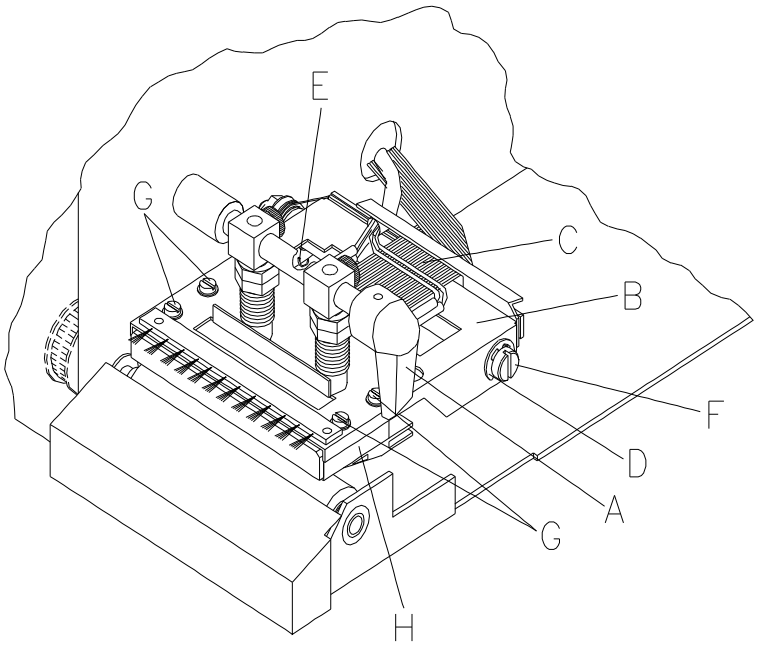
The difference of backing-paper and label should be higher than 1,5 V
(see chapter "2.1.3. Photocells")

After activating the key again "Reflection photocell 2" appears for checking the reflection photocell (see chapter "2.1.3. Photocells");

then: "Dispenser photocell 3" (see chapter "2.1.3. Photocells")
"Print head temp. XX degrees" (print head temperature)
"Ribbon photocell" (Hi or Lo) (see chapter "2.1.3. Photocells")

3. Mechanics

3.1. Exchange of print head



Attention: Before working at the print head:
Accomplish safety control against electrostatic charge!

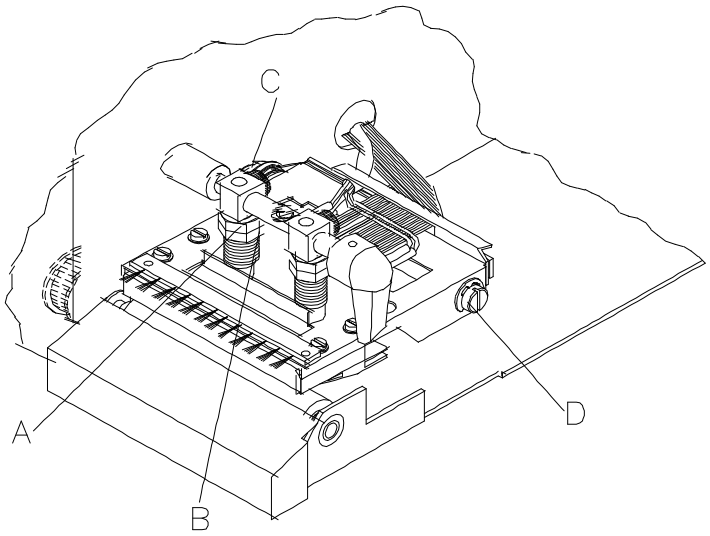
- ▹ Switch off machine and plug it out!
- ▹ Lift print head bracket (B) with print head by turning clamping lever (A) counter-clockwise.
- ▹ Pull off print head plug (C) including cable and take it off through the sheet iron opening.
- ▹ Take off locking washer (D).
- ▹ Dislocate the hook of the brake spring (E) by means of a screwdriver.
- ▹ Pull complete print head bracket (B) off the shaft (F).
- ▹ Remove 4 screws (G).
- ▹ Take off print head (H).

Installation:

- ▹ Install the new print head in opposite order.

Attention:
- Do not touch the contacts of the print head!
- Apply heat-conducting paste according to old print head.

3.2. Adjustment of print head



3.2.1. Pressure

Avoid increase of print head pressure as much as possible, because a pressure too high damages the print head and decreases its life time.

▹ Print quality too faint (even when using highest contrast):
After loosening the counter nut (A), increase pressure by turning adjusting nut (B) clockwise.

3.2.2. Print quality

In order to control the print quality carry out a test print. If the print shows irregularities the print quality has to be adjusted.

▹ Switch off printer and plug it out!

▹ At first remove 2 screws on the bottom of the printer and the lock-in bolts for the right cover at the top edge of the chassis, then take off left cover.

▹ Loosen nut (C) by means of a 10 mm - fork spanner approx. by a quarter turning.

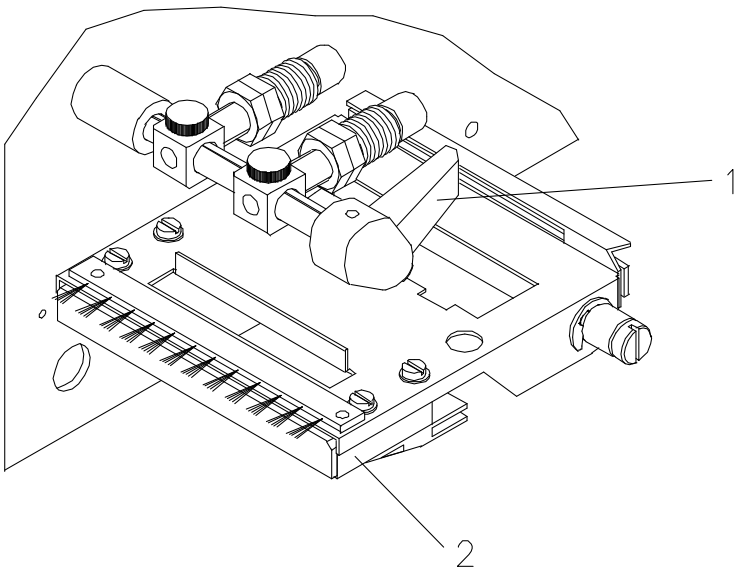
▹ Turn eccentric shaft (D) to the left or to the right using a screwdriver until the ideal position for irreproachable print quality is achieved.

Note: Control print quality only when nut (C) is tightened firmly.

Attention: When printer is switched on for checking print quality, keep away from all current conveying parts!

3.3. Cleaning of print head

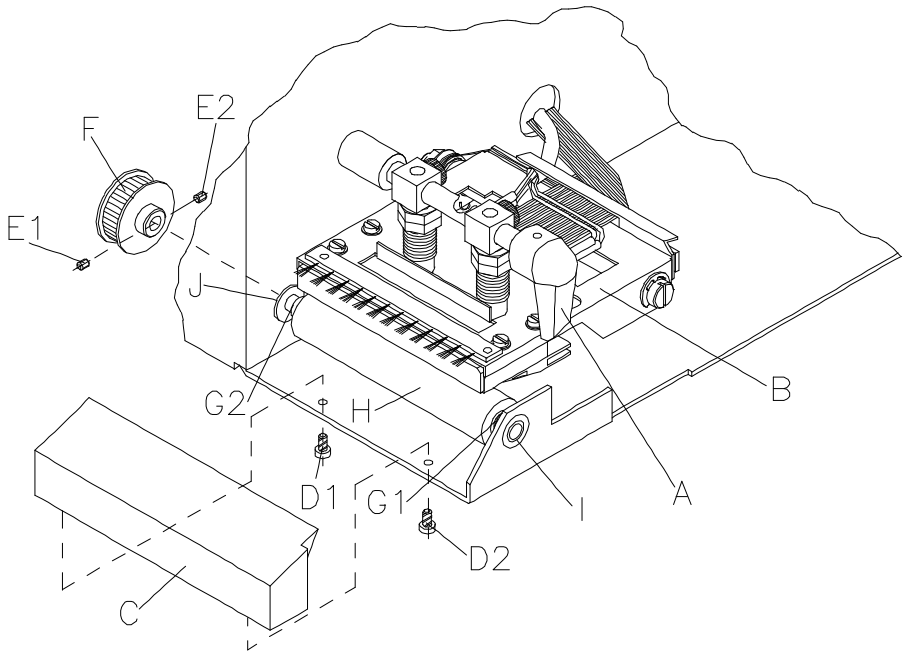
While cleaning the print head the printer has to be switched off!



- ▹ Turn up print head (2) by turning the lever (1) as if loading labels.
- ▹ The print head automatically turns up. If this does not happen please turn the print head manually but carefully up.
- ▹ Clean the print head only with dry cleaning solvent. As expedient a close-woven cotton cloth is recommended. In case this procedure is not sufficient the print head can be cleaned with a special cleaning foil (to be obtained from us).
- ▹ Turn down the printhead after cleaning by the lever (1).

Warning: Please never scratch, rub or use any hard materials to clean the printhead, because it is very sensitive.

3.4. Exchange of pressure roll

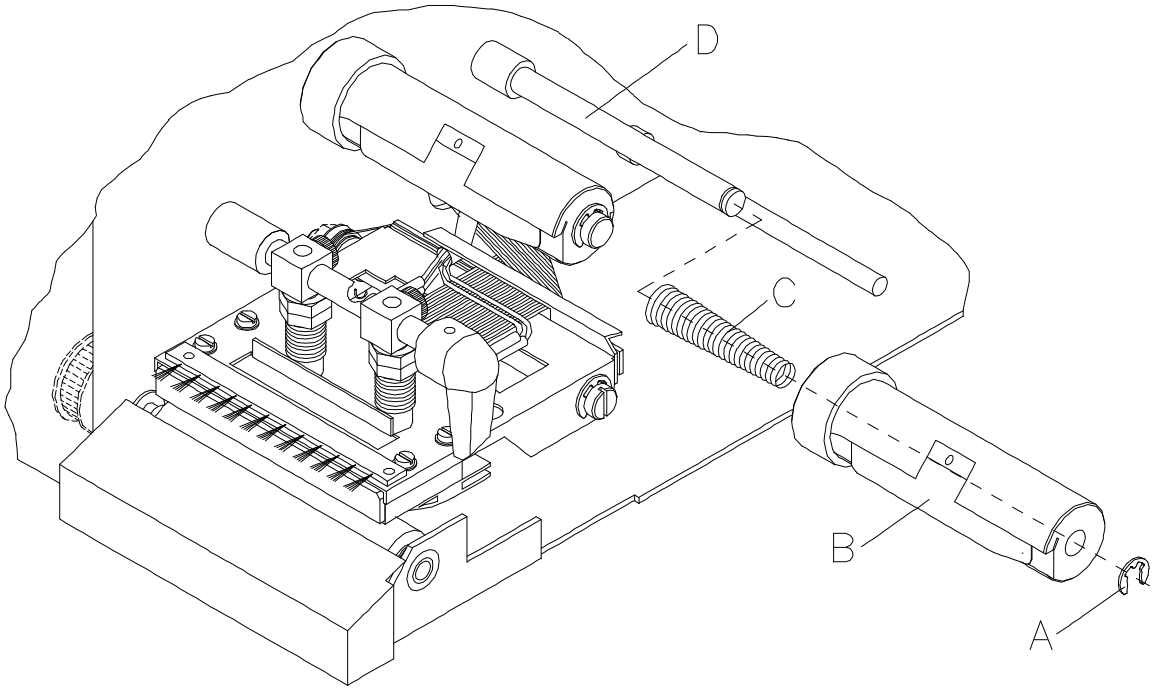


- ▹ Switch off machine and plug it out!
- ▹ At first remove 2 screws on the bottom of the printer and the lock-in bolts for the right cover at the top edge of the chassis, then take off left cover.
- ▹ Take off small front panel (C) after removing the screws (D1, D2).
- ▹ Lift print head bracket (B) with print head by turning the clamping lever (A) counter-clockwise.
- ▹ Loosen 2 locking screws (E1, E2) of the cogged belt drive.
- ▹ Remove 2 safety washers (G1, G2) from the rolling shaft.
- ▹ Press pressure roll (H) inwards and draw external ball bearing (I) off the rolling shaft.
- ▹ Take pressure roll with inner ball bearing (J) off the drilling to the front, in doing so hold the cogged belt drive (F).
- ▹ It is advisable to clean ball bearing in dry cleaning solvent and then lubricate it anew!

Installation:

- ▹ Installation of new roll and reinstallation of all component parts in opposite order.
- ▹ Regard that locking screw (E1 or E2) meets milled surface of the roll.

3.5. Exchange of ribbon unwinding roll



- ▹ Switch off printer and plug it out!
- ▹ Take off safety washer (A).
- ▹ Turn roll (B) clockwise and pull it outwards the pillar (D) at the same time.
  Attention: Danger of injury at thin spring steel plate.
- ▹ In case spring (C) remains in unwinding roll, pull it outside with rotary motion at the same time.

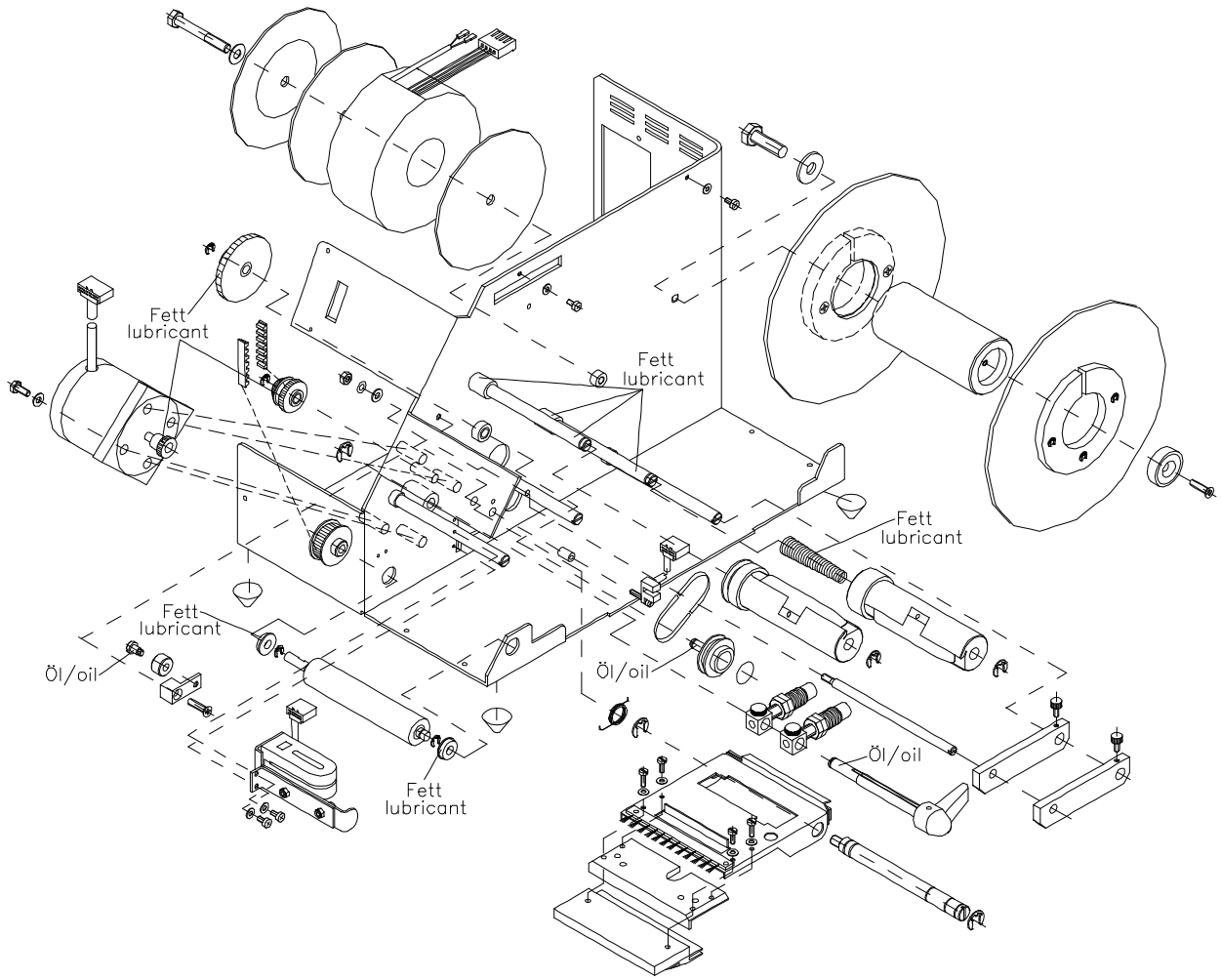
Installation:

- ▹ Lubricate pillar (D) according to chap. 3.6. and push spring (if possible a new one) approx. as far as 5 mm ahead of the setting surface of the pillar.
- ▹ Lubricate spring from outside.
- ▹ Turn the ribbon unwinding roll by clockwise rotations onto the spring.
  After approx. 10 rotations press the roll far inside and fix locking washer.

3.6. To oil and lubricate

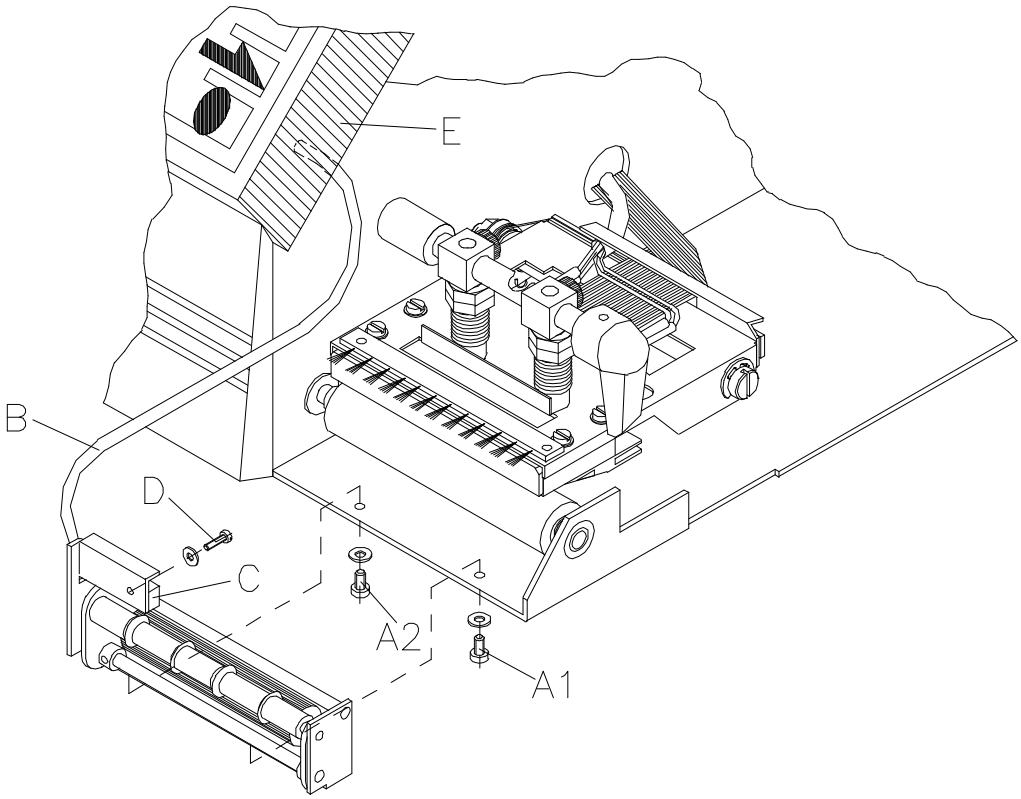
Following all oil and lubricate points of the printer are shown:

Note: The printer is to be oiled and lubricated completely twice a year!



3.7. Option dispenser

3.7.1. Exchange dispenser



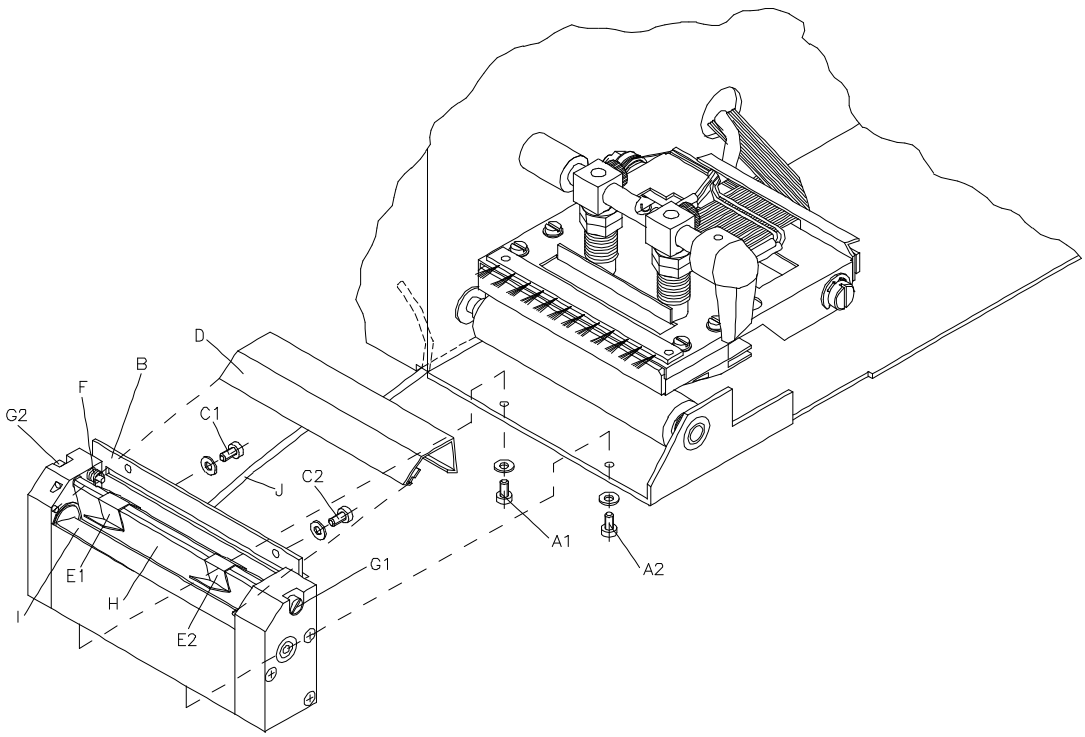
- ▹ Switch off machine and plug it out!
- ▹ At first remove 2 screws on the bottom of the printer and the lock-in bolts for the right cover at the top edge of the chassis, then take off left cover.
- ▹ Plug out JP4 on the circuit board (see specification on circuit board and cable photocell).
- ▹ Remove screws (A1, A2).
- ▹ Remove dispenser, in doing so guide photocell cable (B) with plug through the slot between back of the front panel (E) and chassis.
- ▹ If necessary the dispenser photocell (C) can be removed after having taken off the screw (D).

Installation:

- ▹ Installation of dispenser in opposite order.

3.8. Option cutter

3.8.1. Cleaning/ servicing/changing of cutter

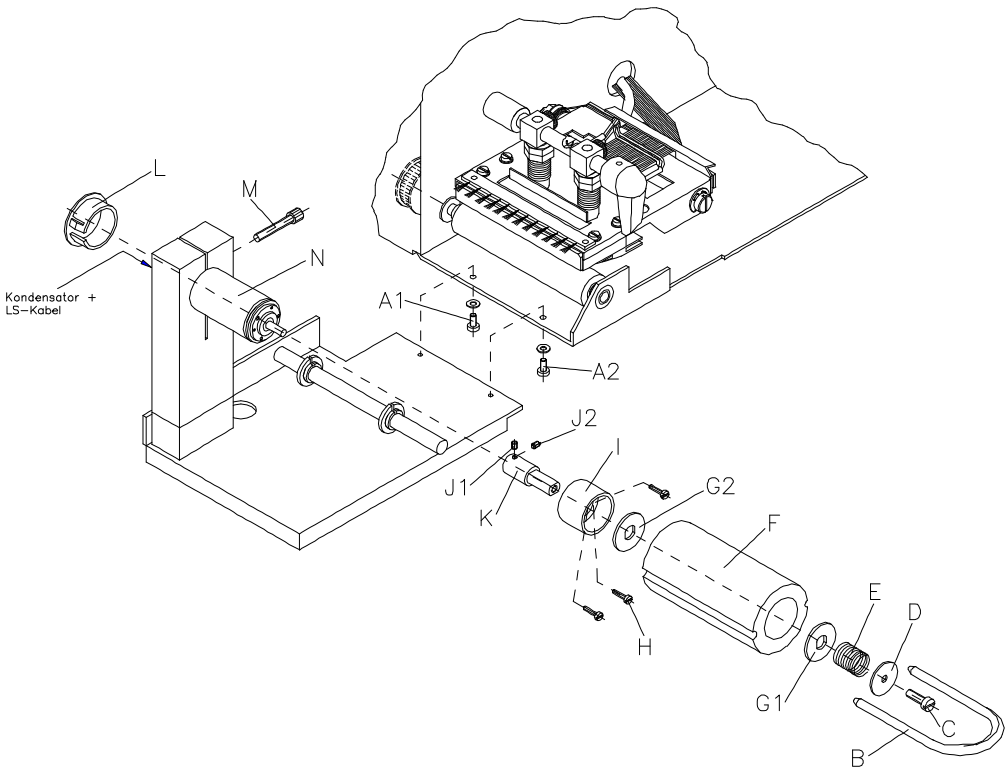


Attention: Danger of injury while working at the cutter!
Switch off printer and plug it out!

- ▹ At first remove 2 screws on the bottom of the printer and the lock-in bolts for the right cover at the top edge of the chassis, then take off left cover.
- ▹ Plug out JP 25 and JP 26 on the circuit board (see specification on circuit board on the left side of step motor).
- ▹ Remove screws (A1, A2). Take off cutter. In doing so guide cable (J) with plugs through the slot on the bottom of the chassis.
- ▹ After having removed the screws (C1, C2), take off the angular stay.
- ▹ Lever the upper cover plate (D) on the back of the cutter by means of a thin screwdriver for slotted screws over the setting surface and take it off then.
- ▹ Take off guiding plates (E1, E2). Unhook spring (F) (keep position in mind for correct reinstallation!)
- ▹ Release screws (G1, G2) and take off the cutting ledge (H).
- ▹ Clean cutting ledge and rotation cutter (I) with methylated spirit.
- ▹ Installation of all cutter parts in opposite order.
- ▹ Installation of cutter in opposite order.

3.9. Options winder PR 25 / PR 26

3.9.1. Exchange motor



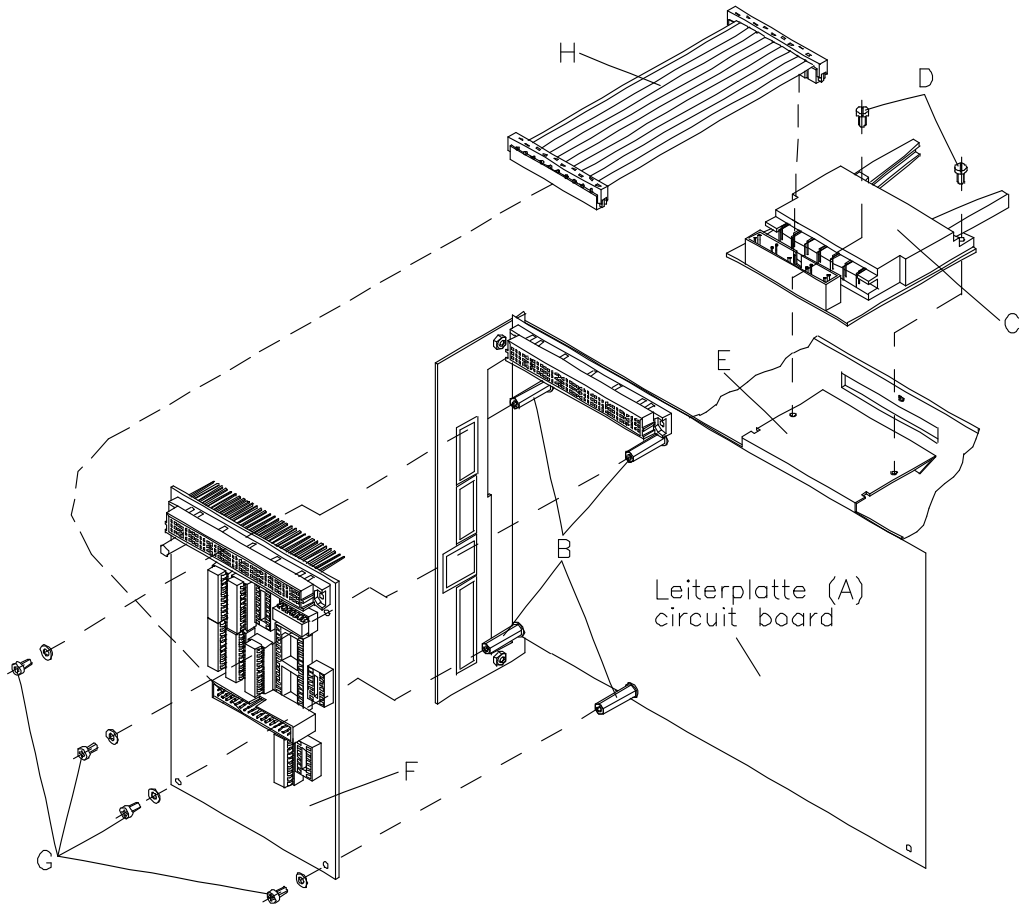
- ▹ Switch off printer and plug it out!
- ▹ Draw off 2-pin plug of the winder which you will find on the rear panel.
- ▹ After having removed the screws (A1, A2), take off winder.
- ▹ Draw off clamp (B), remove screw (C) together with washer (D) and pressure spring (E).
- ▹ Draw off winder roll (F) with integrated carrier plates (G1, G2) to the front.
- ▹ Release 3 screws (H) and draw off bearing (I) to the front.
- ▹ After having released the locking screws (J1, J2), draw off carrier plate (K).
- ▹ Remove cover cap (L); take off condenser and photocell cable on the back of the motor by using a gas blow-pipe. Release screw (M) and take off motor (N).

Installation:

- ▹ Installation of motor and reinstallation of all parts in opposite order.
- ▹ Lubricate motor (N) and bearing (I) from the outside only, whereas the carrier plates (G) from both sides.
- ▹ Strain screw (C) until it stops, release it approx. by 2 turns. In case of need the sliding clutch can be exactly adjusted by turning screw (C) to the right or to the left.

3.10. Option memory-card

3.10.1. Mounting of MC plug-in unit



- ▷ Switch off printer and plug it out!
- ▷ At first remove 2 screws on the bottom of the printer and the lock-in bolts for the right cover at the top edge of the chassis, then take off left cover.
- ▷ In case circuit board (A) is fixed with 4 cylindrical head screws, replace them by 4 spacer bolts (B) according to drawing.
- ▷ Introduce MC-plug-in unit (C) into the chassis opening and fix it with 2 screws (D) on the angular stay (E).
- ▷ Attach option board (F) to circuit board (A) following the drawing and fix it with 4 screws (G).
- ▷ Plug in connecting cable (H).
- ▷ Fix left cover again.

4. Possible sources of error

4.1. Error messages on the display

error message	possible causes	how to solve the problem
• print head temperature	• print head too hot	• wait until print head has cooled down
• line too high	• position of line outside of label	• place line in a lower position (Y↑) • check rotation, font
• line too low	• position of line outside of label	• place line in a higher position (Y↓) • check rotation, font
• font not installed	• selected font not existant	• check font and change
• character not in font	• character not included in font	• change font
• entry of consecutive numbers	• incorrect entry of consecutive numbering	• check entry of consecutive numbering and change
• magnification code	• entered SC factor is invalid	• check SC factor and change
• width lines or boxes	• line projects label rim	• change line graphic data
• graphic not found on MC	• selected graphic not stored on Memory-Card	• store the graphic on the Memory-Card
• check digit wrong	• entered check digit is faulty in check digit control	• recalculate check digit • check code data
• incorrect no. of digits	• entered number of characters invalid	• check code data
• incorrect entry of code	• mask statement code faulty	• check code statement
• internal font error	• faulty font	• Please contact your distributor.
• label or print head error	• no labels • print head not closed	• load labels • close print head

error message	possible causes	how to solve the problem
• no Memory-Card	• Memory-Card not / not correctly entered	• enter Memory-Card
• not enough memory	• max. storage space of Memory-Card is reached	• use a new Memory-Card • delete files on Memory-Card that are no longer needed
• write protected	• "Write Protect"-switch on Memory-Card is "ON"	• use a new Memory-Card • deactivate write protection
• wrong type of Mem-Card	• wrong Memory-Card entered (256 K)	• check type of Memory-Card and • enter Memory-Card 128 K
• label exists already	• label name already stored on Memory-Card	• change label name
• no label exists	• label name not stored on Memory-Card	• search through the contents of the Memory-Card and select the desired name
• unknown error	• internal storage error on Memory-Card	• store data anew • use a new Memory-Card
• serial EEPROM	• max. write cycles reached	• change EEPROM
• printing active	• when copying a Memory-Card whilst print command is active	• wait until printer is ready
• command statement wrong	• invalid command statement	• check command statement and change
• overrun	• receiving byte is written though it hasn't been cleared yet	• transmit anew • Please contact your distributor.
• framing	• wrong Baudrate	• check Baudrate and change
• parity	• wrong parity	• check parity and change

error message	possible causes	how to solve the problem
• number of lines	• in printing mode "continuous labels" number of lines too low	• correct number of lines
• interface protocol	• incorrect setting of SOH and ETB	• change interface protocol
• ribbon or print head error	• no transfer ribbon • print head not closed	• load transfer ribbon • close print head
• cutter	• no cutter available • cutter will not be switched off (cutter photocell or micro-switch are defective)	• print mode "Cutter OFF" or connect cutter • Please contact your distributor.
• power failure please wait	• loss of voltage supply	• check power line and surroundings
• no RTC installed	• no RTC ram	• add RTC ram
• RTC-mode	• RTC entry incorrect	• check RTC entry and change
• RTC-format string	• RTC format string faulty	• check RTC format string and change
• dispenser photocell defect or not connected	• dispenser photocell defective • dispenser photocell not connected	• exchange dispenser photocell • connect photocell

4.2. General errors

In case of error you should generally check, if all fuses are in order, see chapter 2.4.

error	possible causes	how to solve the problem
• bad or wrong print	• wrong contrast adjustment	• adjust contrast in menu item "Printer parameters"
	• print head or pressure roll sticky / dirty	• clean with methylated spirits or use cleaning foil (cleaning of printhead not with spirit) (for Kyocera print heads only) order-no.: 97.14.008
	• print head defective, pressure roll is run in	• exchange defective parts, see chapter "3.1." and "3.3."
	• driver module defective	• exchange U24
	• various dots are missing	• exchange print head
	• print head is badly adjusted	• see chapter "3.2. Adjustment of print head"
• irregular print	• pressure finger in wrong position	• relocate finger as long as print is regular
• no print	• incorrect voltage supply	• measure voltage of print head, eliminate error
	• driver module defective	• exchange U24
• no data transmission	• interface module defective	• RS232: exchange U37 • Centronics: exchange U43 or / and U36
	• wrong interface protocol adjustment	• correct interface protocol
	• wrong "Baudrate" adjustment	• check adjustment of Baudrate (sender and receiver have to be adjusted the same)
	• interface cable (external) defective res. wrong	• check cable
• Memory-Card will not be read / does not snap in	• snap fastener at plug-in defective	• exchange Memory-Card board order-no.: 70.25.030
• no data onto Memory-Card	• battery empty	• exchange battery order-no.: 27.02.002

error	possible causes	how to solve the problem
• wrong entry via external keyboard	• keyboard defective	• exchange keyboard
• display is dark (although the printer runs)	• display defective • activation wrong • voltage supply is missing	• exchange display • exchange U16 • check fuses and supply line
• no entry possible via foil keyboard	• foil keyboard defective • flex print harness of foil keyboard is not plugged in correctly • earthing strap is not connected	• exchange foil keyboard • insert cable carefully in JP5 • connect earthing strap
• transport irregular / labels run through without stopping	• photocell dirty • photocell defective • photocell adjusted wrong	• clean photocell • exchange photocell • see chapter "2.1.3. Photocells"
• no transport of labels	• cogged belt torn • motor res. motor activation defective	• exchange cogged belt • see chapter "2.1.6. Motor signals"
• transfer ribbon is not rewound	• vulcollan drive belt is broken • freewheeling bearing in gear-wheel is defective	• exchange drive belt • exchange gear-wheel
• ventilator is not running	• ventilator defective • voltage missing	• exchange ventilator • measure voltage, eliminate error
• RTC is not running	• battery defective • RTC defective	• exchange battery • exchange RTC (U2)
• cutter does not cut (correctly)	• blunt cutting edge • cutter is dirty	• return cutter • clean cutter (see chapter "3.8.1")
• label dispenser is not working	• dispensing photocell dirty / defective • control input defective • label transport defective • photocell level not correctly adjusted	• clean / exchange dispensing photocell • exchange U5 • see above: "no label transport"' • adjust level in menu "Printer-initialisation"

error	possible causes	how to solve the problem
• ribbon is creasing	• ribbon-unwinder defective	• exchange unwinding roll (see chapter "3.5. Exchange of ribbon unwinding roll")
	• spring in ribbon-unwinder does not work	• exchange unwinding roll (see chapter "3.5. Exchange of ribbon unwinding roll")
	• guiding shaft for ribbon is bent	• shaft must be adjusted, so that ribbon stops creasing. If this is not possible, return printer for repair.
	• pressure roll is run in	• exchange roll (see chapter "3.4. Exchange of pressure roll")
	• angular stay is bent at dispenser	• adjust or exchange angular stay

It is recommended to make a test print from time to time to check if all dots are working properly.