



FIELD SERVICE MANUAL

PP 407 / PP 408

Field Service Manual PP 407/8

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.

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Great care has been taken to ensure that the information in this handbook is accurate and complete. Should any errors or omissions be discovered, however, or should any user wish to make suggestions for improving this handbook, he is invited to send us the relevant details.

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1. Introduction

This manual is covering the two printers



- Fanfold printer with cutter
(8707-251-xxxxx)



- Fanfold printer without cutter
(8707-248-xxxxx)

and it's customer specific variants.

The operation, functionality, subassemblies, and parts are mostly alike. In most illustrations, the printer with the cutter is used. In case there are differences in the Handling you will find the note:

- ***Printer without cutter***
- or
- ***Printer with cutter***

All the spare parts and subassemblies named here, which don't have an indication of the printer type in its name can be used for both printers.

The names of the parts, which are dedicated to one of the printers, ends with the special printer name.

The manual is divided into the following chapters:

1 Introduction

This chapter gives an overview about the manual and some basic information's.

2 Safety Precautions

This chapter contains all the important instructions a service technician should obey during a service action.

3 Keeping the Printer Running

This chapter instructs the user about preventive measures for trouble-free operation of the Printer.

4 Specific Printer Functions

This chapter describes some basic functions of the printer, which should be known by persons of the technical support staff for this product.

5 Printer Subassemblies

This chapter comprises diagrams, depicting the printer's subassemblies, The internal wiring scheme and arrangement of the collective connectors.

6 Built In Diagnostics and Trouble Shouting

This chapter gives a description of some problems and how to isolate the failures with regard to spare parts and field replaceable units concerned.

7 Procedures for Removal and Reassembly of Subassemblies and Spare Parts

This chapter contains all removal and reassembly procedures for an on- site- or workshop-repair of the printer.

8 Spare Parts Reference List

This Chapter gives an overview of spare parts and its ordernumber

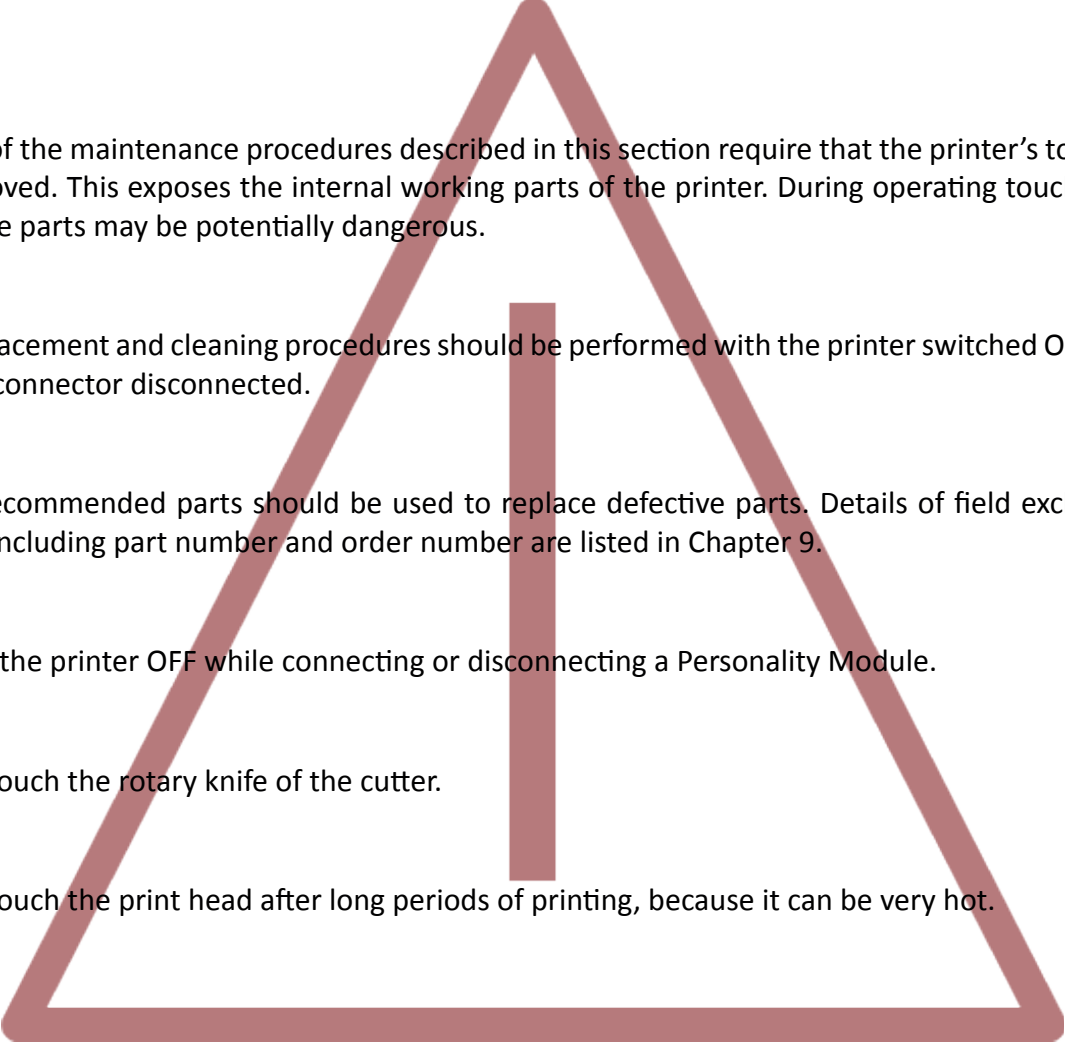
9 Menu Structure PP 407 / PP 408

This Chapter shows the Menu-Tree.

10 Field Service Notes

This Chapter contains helpfull Informations of technical Steps how to.

2. Safety Precautions


- 
- A large, hollow red triangle with a vertical red bar in the center, serving as a warning symbol for safety precautions.
- Some of the maintenance procedures described in this section require that the printer's top housing is removed. This exposes the internal working parts of the printer. During operating touching some of these parts may be potentially dangerous.
 - All replacement and cleaning procedures should be performed with the printer switched OFF and the mains connector disconnected.
 - Only recommended parts should be used to replace defective parts. Details of field exchangeable parts, including part number and order number are listed in Chapter 9.
 - Switch the printer OFF while connecting or disconnecting a Personality Module.
 - Don't touch the rotary knife of the cutter.
 - Don't touch the print head after long periods of printing, because it can be very hot.

3. Keeping the Printer Running

3.1 Basic Rules

Never print over the area of Pin holes nor the edges of the fanfold paper. Otherwise the print head can be damaged.

Never print with no paper loaded or no ribbon cartridge is installed in the printer.

Put the printer in stop mode immediately a paper ja occurs, using the  [START/STOP] key at the operator panel.

Very important:

Don't cut through labels.

Cutting through sticky labels leaves glue on the blade and on the paper guide sheets of the cutter.

This may result in blocking of the cutter module and may cause paper jam.

In addition small parts of a cut through label may detach from its paper and get stuck under the print head shield, on the platen, on top of the paper-in- sensor, on paper transport rollers, or on paper transport guides.

In case this happens yet by incident, it must be cleaned immediately. The danger is, to get hurt.

3.2 Cleaning Preferred Materials

The following materials and cleaning lubricants are recommended for use in the maintenance procedure:

- Lint-free cloth
- Platen Cleaner C/CP09, commercial no: 8709 004 10931
- Vacuum cleaner
- Silicon Oil for resolving of glue.

3.3 Cleaning the Platen and Surrounding Areas

The user should clean the printer every six months or after 50,000 prints, whichever occurs first. If you experience paper feed problems, or if the print head carriage movement becomes affected, cleaning should be carried out more often.

Note: the Page Counter (PGCNT) in the PRINT-TEST 3 will give you information about actual number of printed pages. See sample next page.

CONFIGURATION

FW	20815776	F-D	0.2	F-X	0.3	PM	00-013665-0
NFQ	1500	DSF	100	NLSF	100	LSF	100
GSF	80	NFT	270	TNA1	230	TNA2	260
TNA3	260	CAC	2.60	NDLC	2.2	PGC	46
PGCNT	143299	SBP	36				

C031 ISO 8859/1	C032 ISO 8859/15	C034 ISO 8859/5
C032 ISO 8859/9	C061 IBM SET 1	C062 IBM SET 2
C063 IBM CODE PAGE	C071 EPSON EXT. GCT	C100 CODE PAGE EE
C101 CODE PAGE EE2	C912 GREEK CHR. SET	C069 ALL ICT TABLE
C091 BARCODE		
DATA	ROMAN NLQ	ROMAN LQ
SANS SERIF NLQ	SANS SERIF LQ	COURIER NLQ
COURIER LQ	PRESTIGE NLQ	PRESTIGE LQ
SCRIPT NLQ	SCRIPT LQ	OCR B LQ
OCR A LQ	ORATOR-C NLQ	ORATOR-C LQ
ORATOR NLQ	ORATOR LQ	DATA LARGE

CHARACTER SET : EPSON EXT. GCT 1: U.S.A.

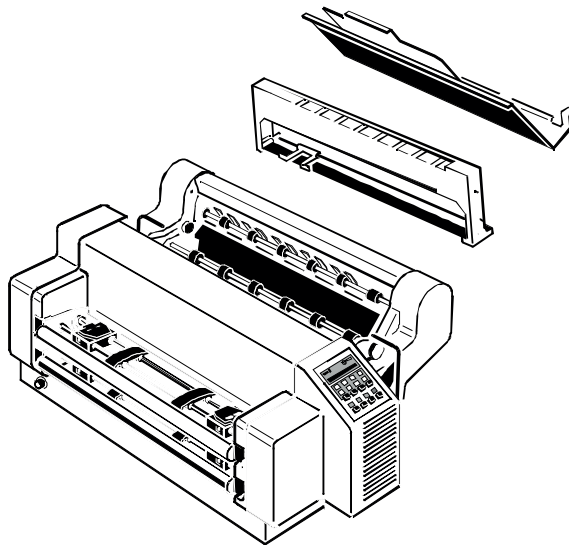


ect.

3.3.1 Cleaning Procedure

- Power the printer ON and remove the top cover.
- Remove the ribbon cassette.
- Power the printer OFF.
- Thoroughly brush and vacuum all accessible areas to remove any paper flock and dust.
- Clean the platen's surface, the paper pressure rollers and the transport rollers using the platen cleaner. In order to access the transport rollers loosen the green screws and remove the metal bar with the metal rollers.
- Clean the covers and the operator panel with a damp, lint-free cloth. Do not use cleaning solvents or excessive amounts of water.
- Insert the ribbon cassette.
- Remount the top cover.

Note: Cutting through labels is not allowed. But if it has happened yet, thoroughly remove all the glue from the blade and the paper feeding guides in the cutter. For dissolving use lubricants like silicon oil.



3.4 Status and Error Messages during Operating

The following messages are displayed if a condition exists which prevents normal operation of the printer.

LOCAL

Entered when was pressed. The STOP indicator is lit.

COVER OPEN

Displayed when the top cover is open and the printer is in the READY or BUSY mode.

LOAD TRACTOR UPPER or LOWER

Displayed when the host sends a form feed or print command to an empty tractor cassette. The printer enters the STOP mode.

PAPER JAM TRF

Displayed if line feeds fail to move fanfold paper correctly.

TEAR OFF PAPER

This message is displayed when the menu selection is **TEAR OFF** and the printer moved paper into the tear off position. Operator must "tear off" the fanfold paper along the back edge of the printer (paper should be torn off from left to right).

CUTTER ERROR (*only printer with cutter*)

Check the plug of the cable for the cutter on the rear of the printer again. A paper jam, the blade locked, or the cutter defective is also possible - see chapter **6.6 Paper Jam**.

CUT TRF LOW OK? / CUT TRF UP OK? (*Printer with cutter*)

Cut position is outside of the tolerance area. Remove paper, tear-off, and insert the paper again.

ELECTR-FAN ERROR

Check or change the left or right Fan B for the electronic subassembly. See also chapter 9 List of Spare Parts Part No.: 5112 292 6240X

MOTOR-FAN ERROR

Check or change the left or right Fan cpl. for the horizontal motor. See also chapter 9 List of Spare Parts Part No.: 5112 292 6018X

TEMP.SENSOR ERR.

Change cable Assy PTC for horizontal motor (Thermo-Sensor). See also chapter 9 List of Spare Parts Part No.: 5112 292 0988X

During operation the following error messages may also occur:

Display	Meaning	Cause
AGC ERROR	AGC ADJUST procedure fault	<ul style="list-style-type: none"> • Distance print head and platen faulty • Print head loose • Platen incorrectly installed • Ribbon not inserted • Horizontal drive without function • Platen got dirty
HORIZ. DRIVE ERROR	Horizontal drive without function	<ul style="list-style-type: none"> • Horizontal drive blocked • Paper jam • Distance of platen gap too narrow • AGC procedure not in workable position • Platen incorrectly installed • No AGC ADJUST after print head or platen replacement • Device electronic faulty • Encoder strip missing • Horizontal drive faulty
PARITY ERROR	Protocol error	<ul style="list-style-type: none"> • Check protocol setting of printer and host
BUFFER OVERFLOW		
FORMAT ERROR		
FRAMMING ERROR		

For other messages refer to Section **6.2 Error Messages during Power Up**.

4. Specific Printer Functions

4.1 Print Gap Adjustment

Principle

The print head carriage is mounted on two parallel guide rails, which provide for a precise movement over the completely print range in horizontal direction. The lower rail is built up as an eccentric shaft. The eccentric arrangement is driven by a stepper motor (AGC-Motor). Those both elements are responsible for the precise adjustment of the print gap, which is the distance between the print head top and the paper respectively the platen assembly.

In conjunction with print gap adjustment, the following three different procedures have to be distinguished:

Calibration of the print gap adjustment mechanics, called Automatic Gap Control Adjustment (AGC Adjust)

Automatic print gap adjustment, called Automatic Gap Control (AGC)

Programmed print gap adjustment, called Programmed Copy Control (PCC) AGC Adjust and AGC are performed by means of the AGC Procedure. AGC Adjust can be called up via the operator panel and is performed after installation of a Personality Module with a new firmware revision.

AGC is automatically performed after changing from online - offline – online, and after changing of the paper path.

PCC is performed if the command PCC is sent to the printer. For reference see “Quick Reference” of the printer control commands in the appendix of the user manual.

4.2 AGC Procedure

At the start the print head/carriage is horizontally positioned at the AGC Position

The carriage is permanently moved in horizontal direction by a distance of 1/120" to the left and right hand side of the AGC Position.

The time period for horizontal movement is permanently recognized by

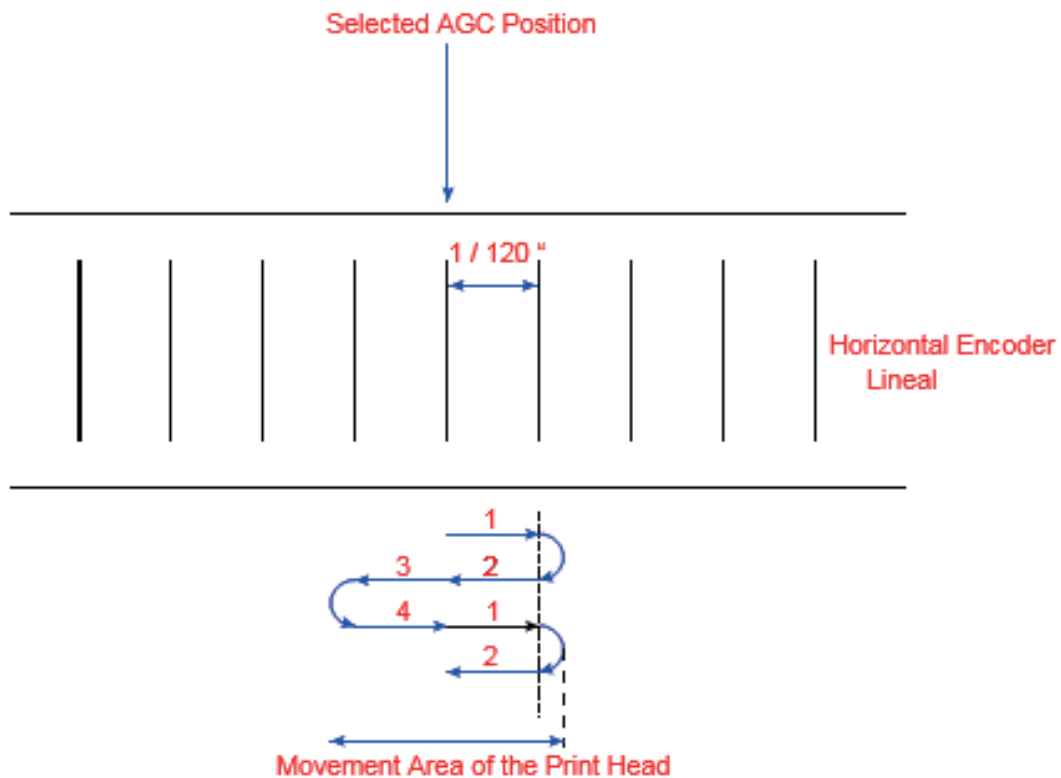
The firmware and checked against a reference value.

Simultaneously to the above shuttling the print head / carriage is moved towards the platen assembly by means of the AGC drive until the print head top gets in contact with the platen assembly or the surface of the paper.

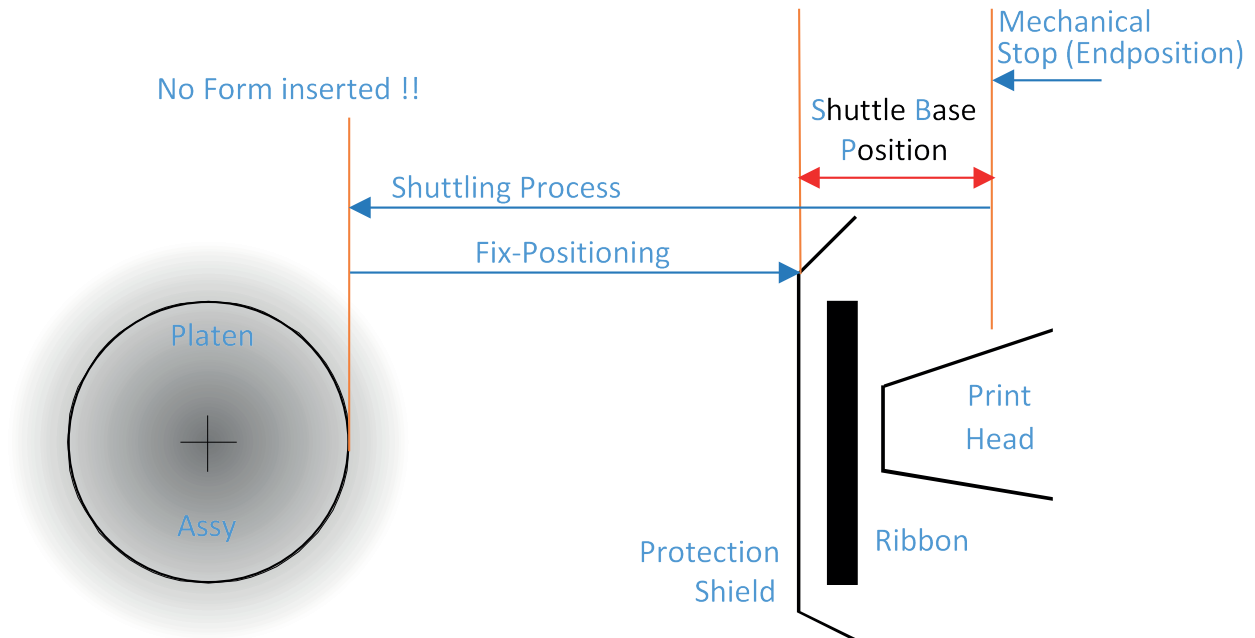
The contact of the print head top with the surface of the paper or the platen assembly is recognized by the firmware by checking the time

Interval for positioning within the shuttling process.

Note: Horizontal Drive Error will not be checked by this procedure. If the movement of the print head is to hard the printer use 0.5 a more.



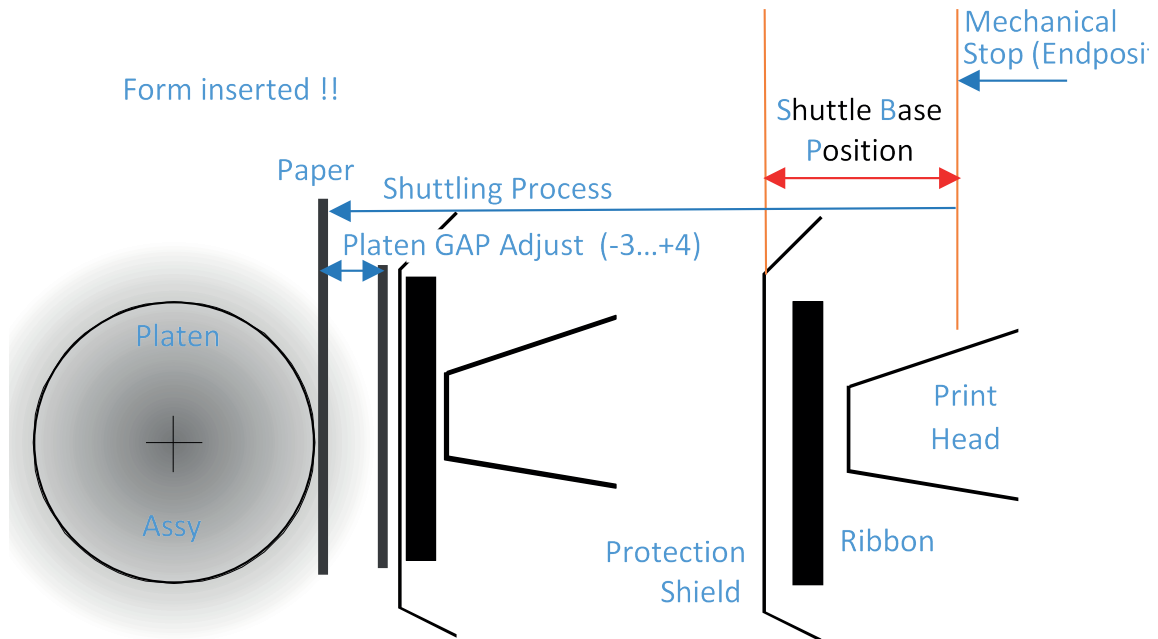
4.3 AGC Adjust



- The print head/carriage is positioned at the AGC Position
- The AGC procedure is started. It can be started from any value of the print gap.
- The print head/carriage is positioned against the mechanical stop
- As soon as the mechanical stop has been reached the so called "AGC procedure" is started
- After finishing the AGC Procedure the carriage is positioned according to the Shuttle Basis Position (see SBP in Print Test 3).

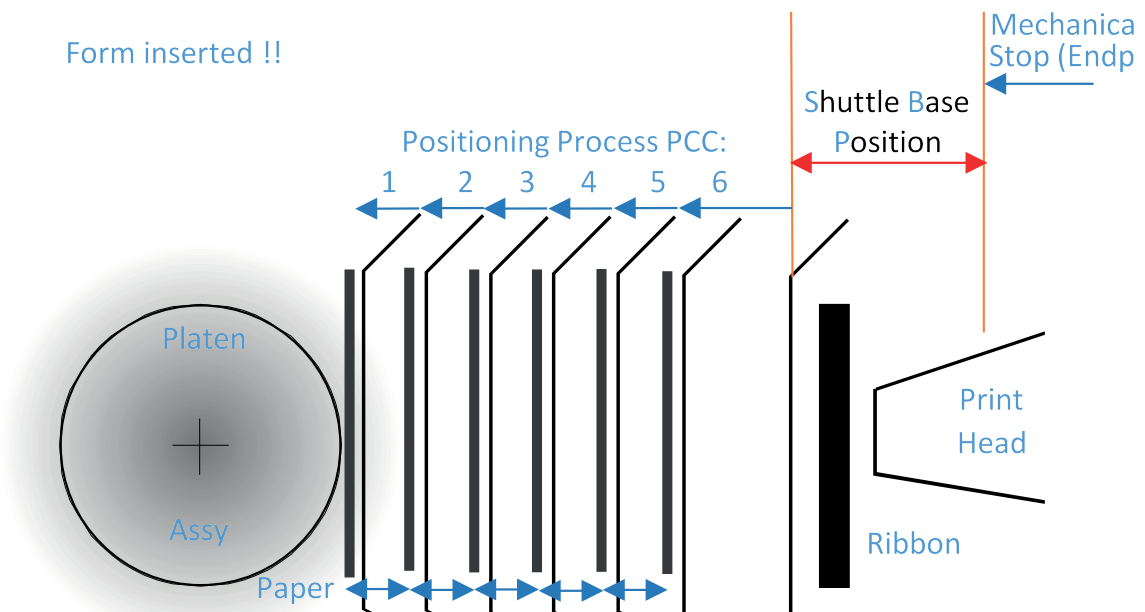
Note: No form, but ribbon to be inserted.
Tolerance range for SBP: -12 ... +72.

4.4 Automatic Gap Control (AGC)



- AGC can be started from any value of the print gap.
 - The print head/carriage is positioned at the Shuttle Basis Position
 - As soon as the SBP has been reached, the so called “AGC Procedure” is started
- After finishing the shuttling process the carriage is positioned according to the proper print gap value.

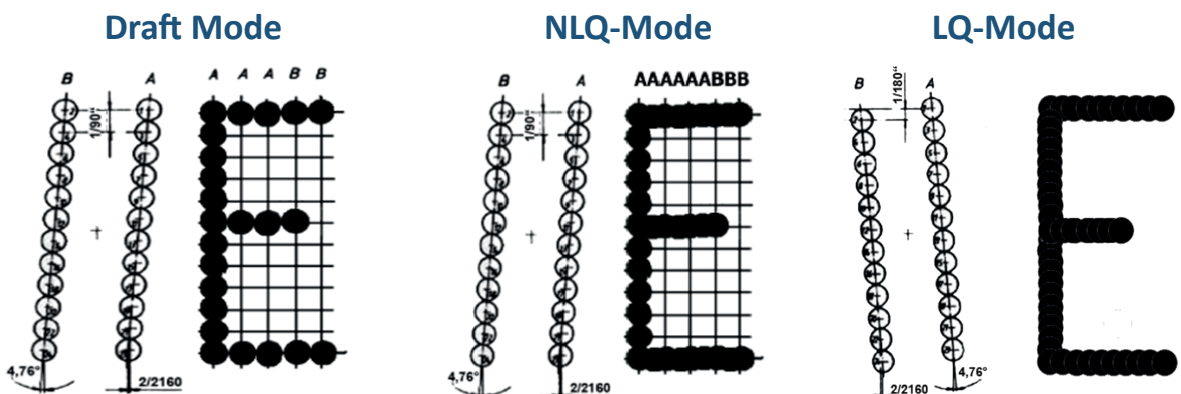
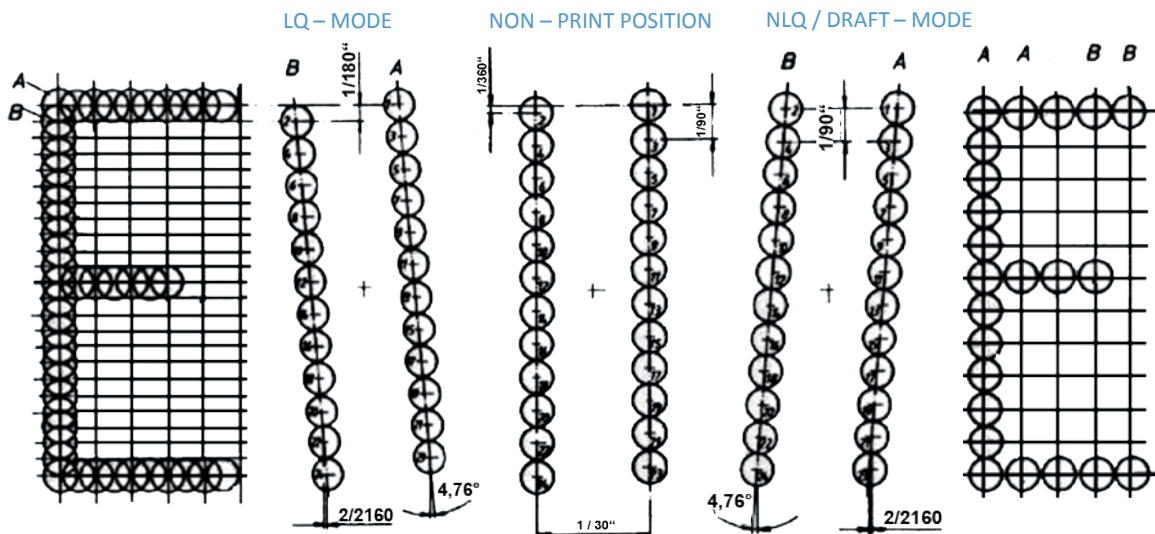
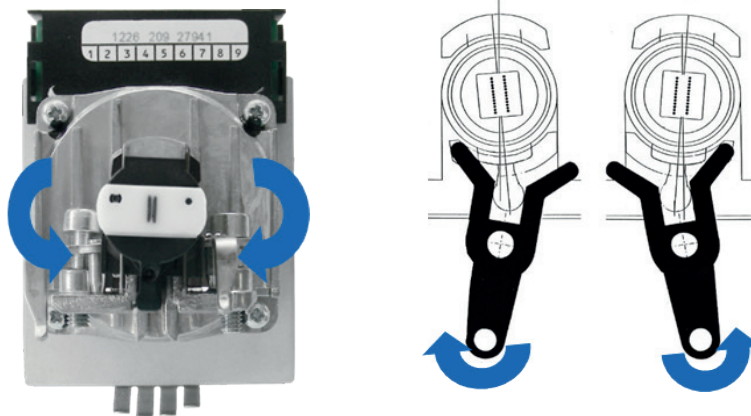
4.5 Programmed Copy Control (PCC)



- The print gap is set according to the value commanded by the PCC command.

4.6 Print Head - Tilting Principle

- The nose of the print head can be tilted according to the scheme above.
- The different tilting positions are used for realizing of the different print modes and therefore different print speeds and print resolutions.
- Switching between both print head tilting positions is accomplished by positioning of the carriage to be the most right hand side position.



4.7 Printing Speeds

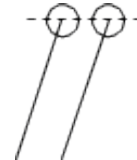
4.7.1 Printing Speed in DATA mode

Inclination Position

Needle frequency **2.100** Hz of the Print Head Lug

Number of columns per character: 12, 2x 12 needles in use Number of needles per character: 3, each other needle activated

- = needle activated
- = needle not activated



1	2	3	4	5	6	7	8	9	10	11	12
●	○	●	○	●	○	●	○	●	○	●	○

$$\text{Print Speed} = \frac{\text{needle strokes per second}}{\text{number of needles per Character}} = \frac{2100}{3} = 700 \text{ cps}$$

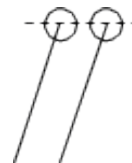
4.7.2 Printing Speed in NLQ mode

Inclination Position

Needle frequency **2.100** Hz of the Print Head Lug

Number of columns per character: 36, 2x 12 needles in use Number of needles per character: 6, each 3rd needle activated

- = needle activated
- = needle not activated



1	2	3	4	5	6	..	..	..	34	35	36
●	○	○	●	○	○	●	○	○	●	○	○

$$\text{Print Speed} = \frac{\text{needle strokes per second}}{\text{number of needles per Character}} = \frac{2100}{6} = 350 \text{ cps}$$

4.7.3 Printing Speed in LQ mode 1 ¹⁾

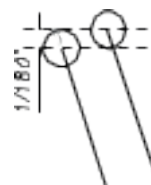
Inclination Position

Needle frequency **2.100** Hz of the Print Head Lug

Number of columns per character: 36

Number of needles per character: 12, each 3rd needle activated

- = needle activated
- = needle not activated



1	2	3	4	5	6	..	..	..	34	35	36
●	○	○	●	○	○	●	○	○	●	○	○

$$\text{Print Speed} = \frac{\text{needle strokes per second}}{\text{number of needles per Character}} = \frac{2100}{12} = 175 \text{ cps}$$

4.7.4 Printing Speed in LQ mode 2 ¹⁾

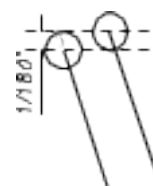
Inclination Position

Needle frequency **2.100** Hz of the Print Head Lug

Number of columns per character: 36

Number of needles per character: 18, each other needle activated

- = needle activated
- = needle not activated

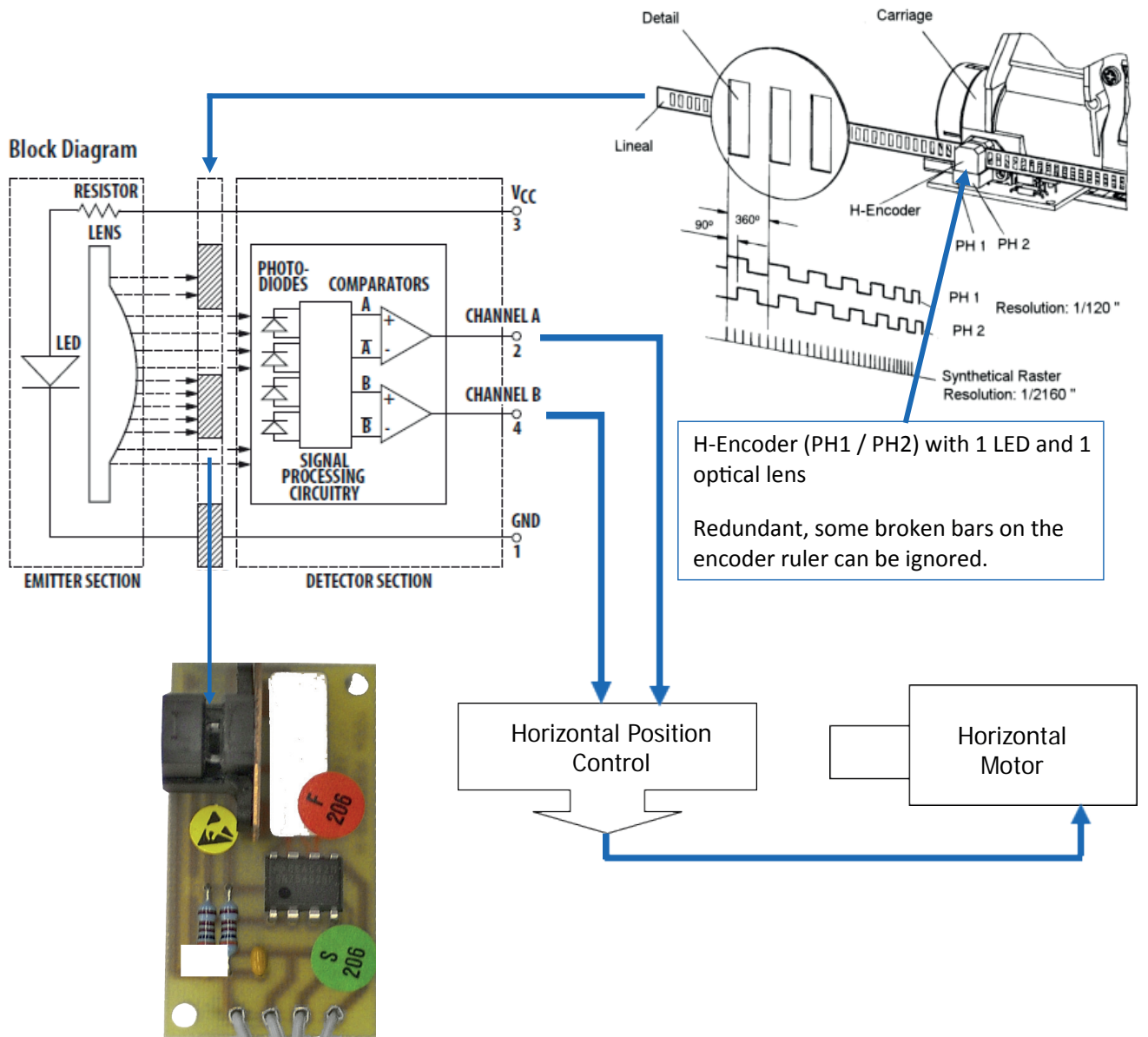


1	2	3	4	5	6	..	..	..	34	35	36
●	○	●	○	●	○	●	○	●	○	●	○

$$\text{Print Speed} = \frac{\text{needle strokes per second}}{\text{number of needles per Character}} = \frac{2100}{18} = 117 \text{ cps}$$

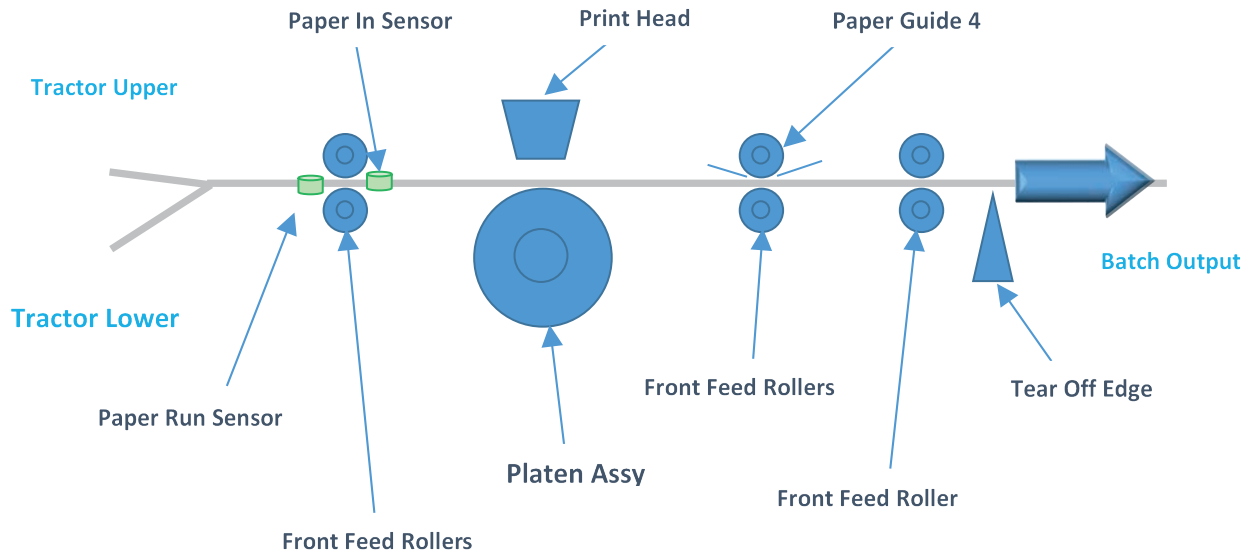
1) Depending on the selected font

4.8 Positioning System-Horizontal Positioner

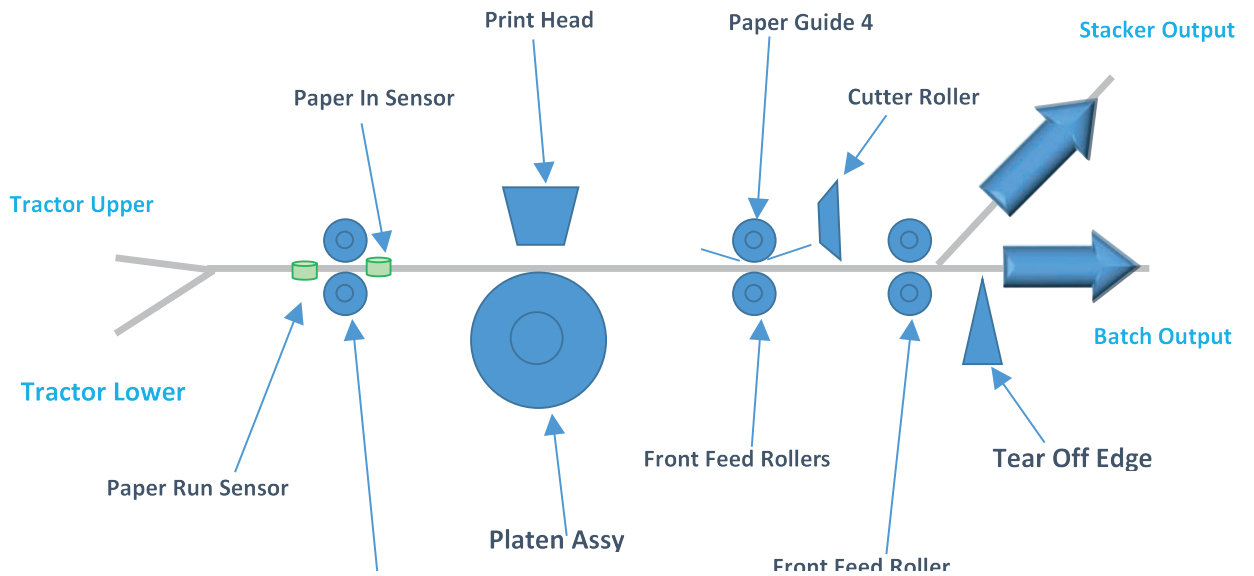


4.9 Paper Path

4.9.1 Paper Transportation Principle - Printer without Cutter



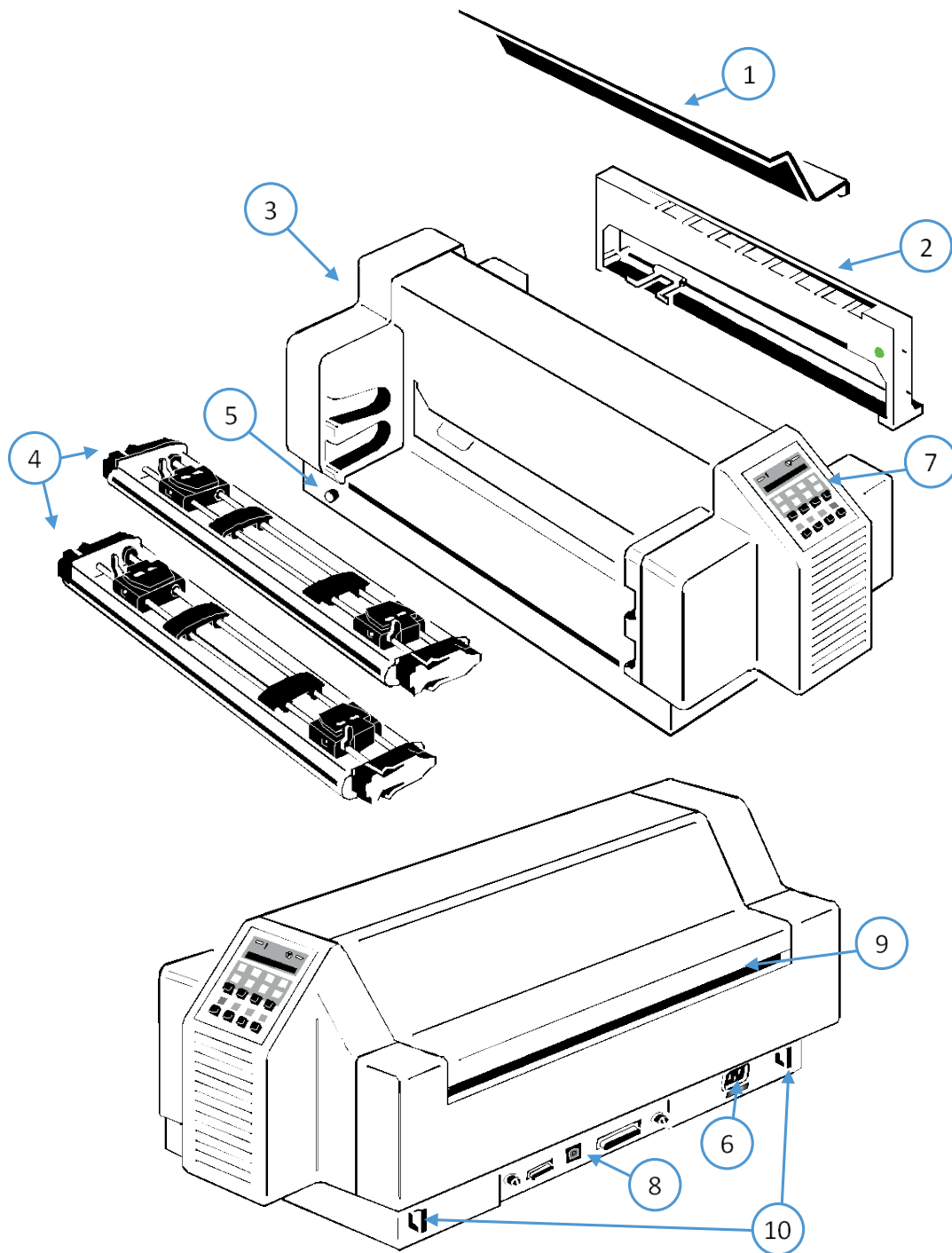
4.9.2 Paper Transportation Principle - Printer without Cutter



4.10 Basic Elements of the Printer

4.10.1 Printer without Cutter

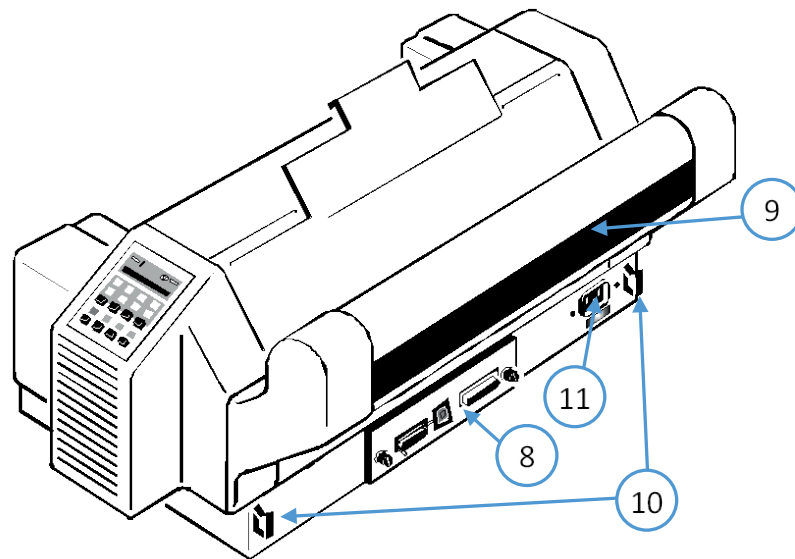
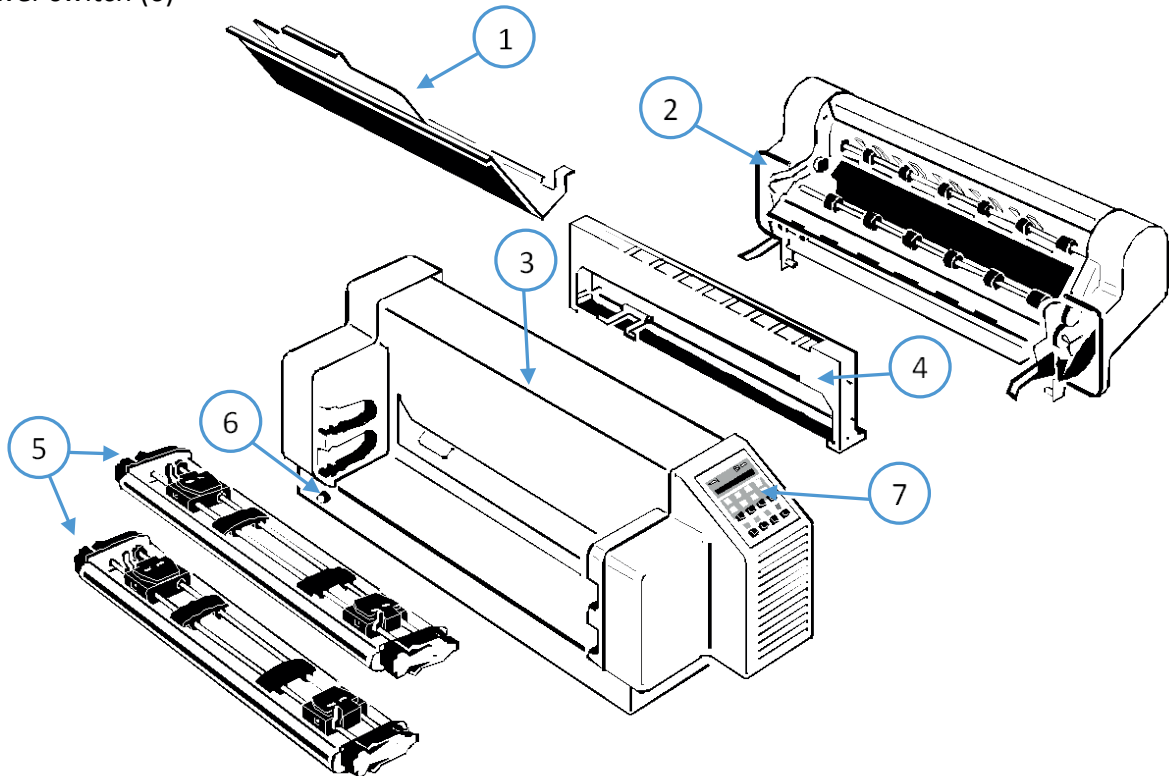
- | | |
|-----------------------|-------------------------------------|
| Top cover (1) | Power cord socket (6) |
| Ribbon cassette (2) | Control panel (7) |
| Printer base (3) | Interface serial, parallel, USB (8) |
| Tractor cassettes (4) | Tear off edge (9) |
| Power switch(5) | Cable clip(10) |



4.10.2 Printer with Cutter

- Top cover(1)
- Cutting device (2)
- Printer base (3)
- Ribbon cassette (4)
- Tractor cassettes (5)
- Power switch (6)

- Operator panel (7)
- Interface serial, parallel, USB (8)
- Tear off edge (9)
- Cable clip (10)
- Power cord socket (11)



4.11 Main Subassemblies

4.11.1 Printer without Cutter

The main subassemblies are:

Mechanical assembly (1)

Electronic assembly (2)

Tractor cassetts (3)

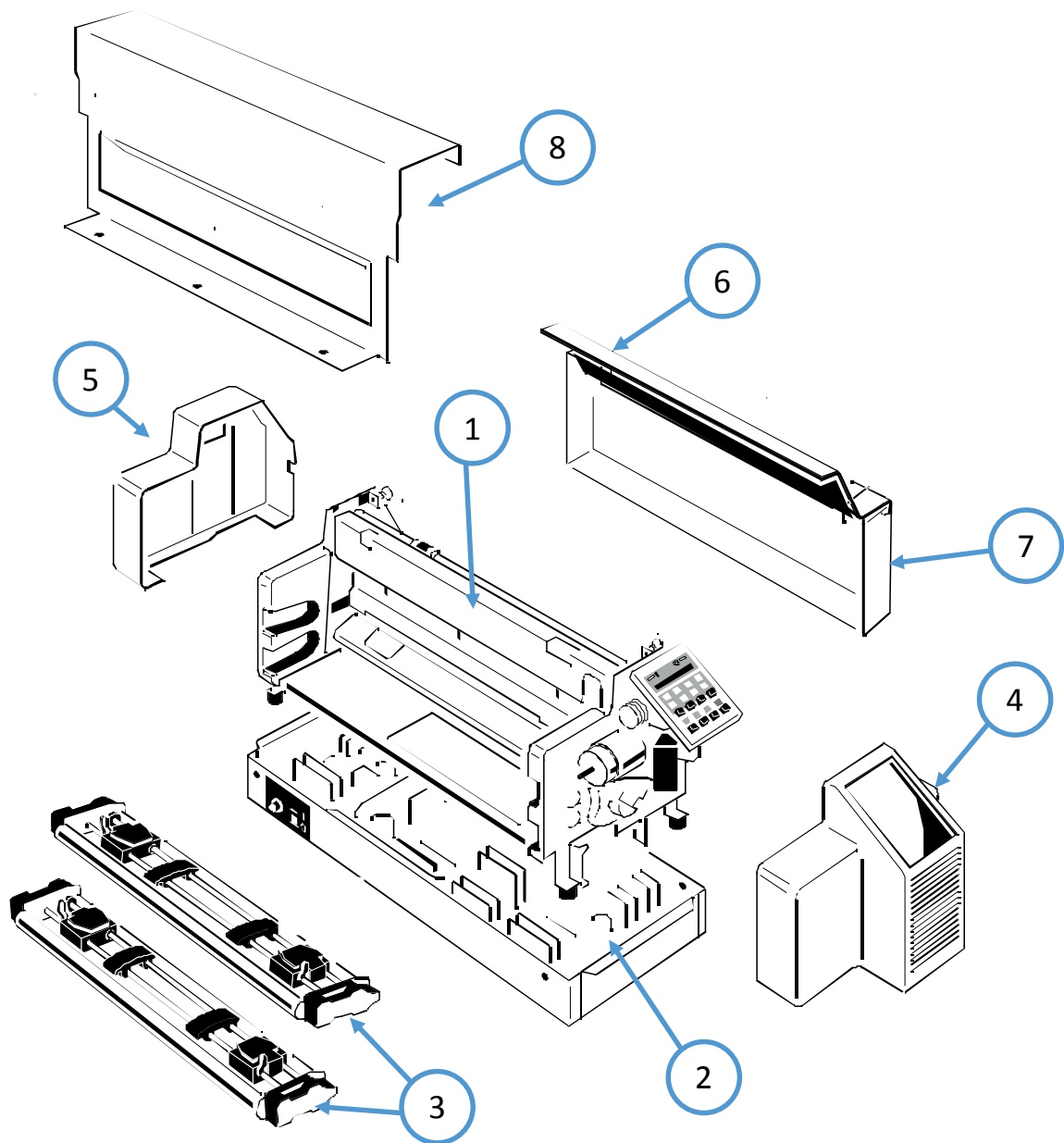
Right cover (4)

Left cover (5)

Top cover (6)

Rear cover (7)

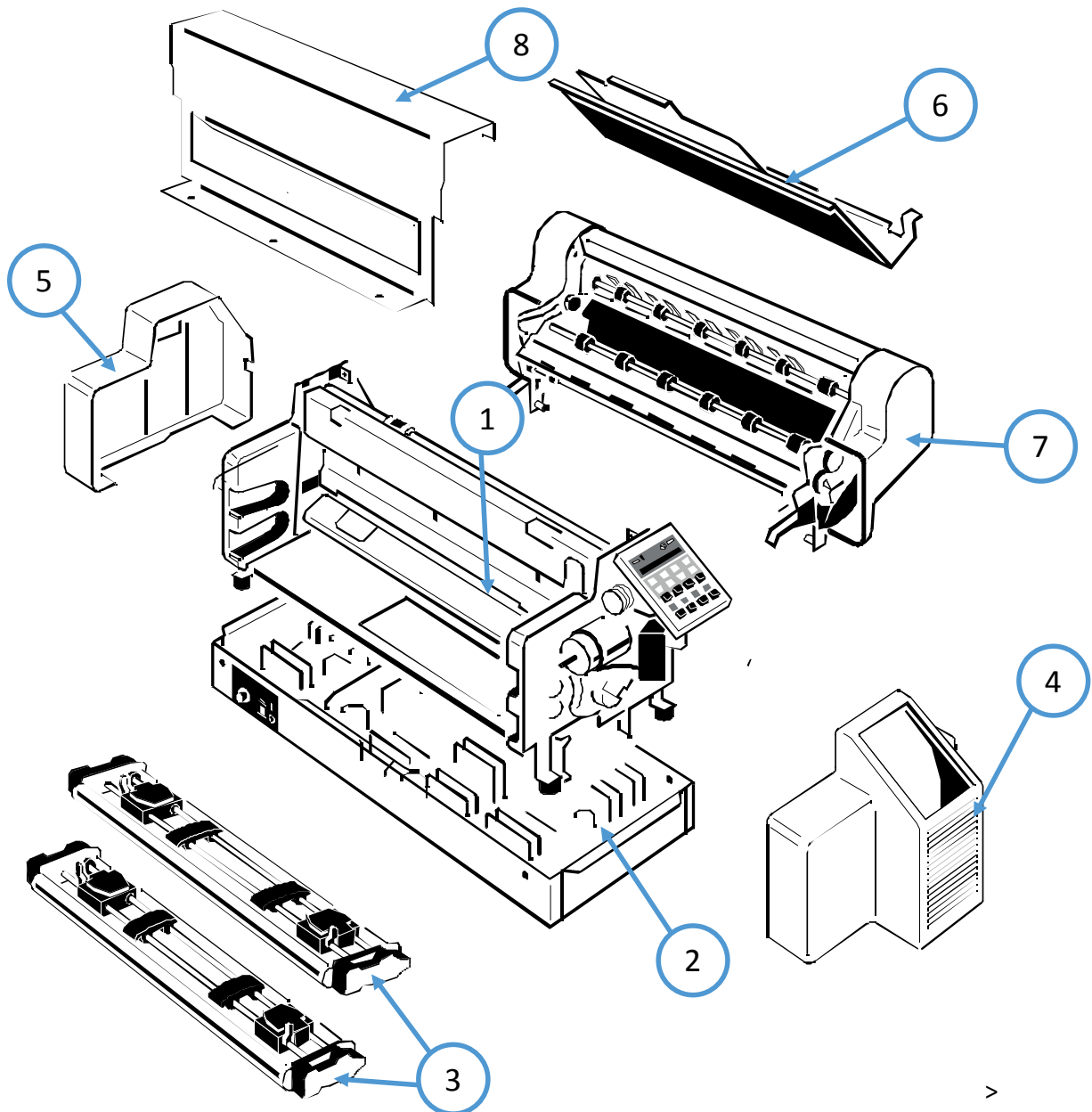
Front cover (8)

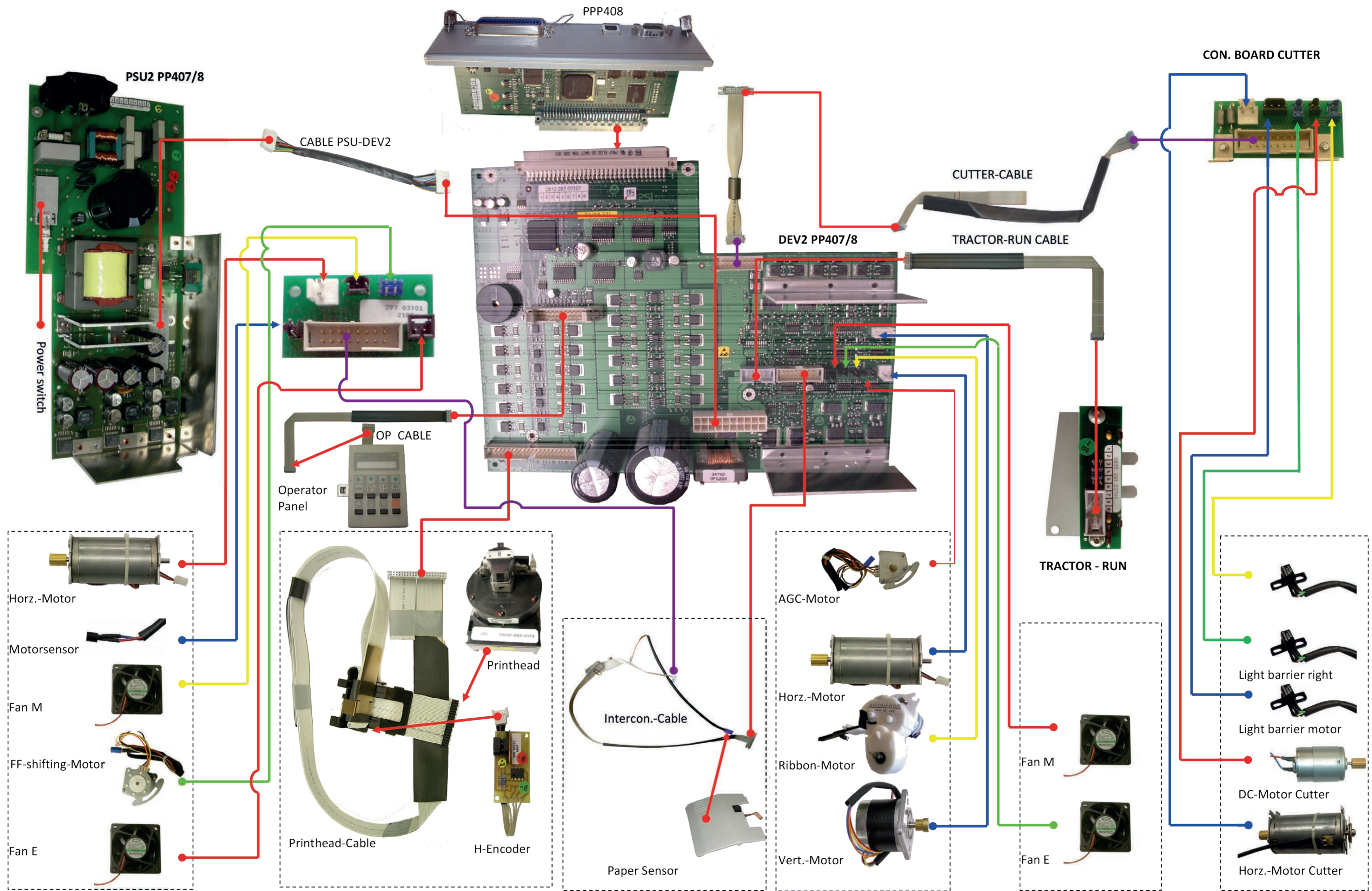


4.11.2 Printer with Cutter

The main subassemblies are:

- Mechanical assembly (1)
- Electronic assembly (2)
- Tractor cassetts (3)
- Right cover (4)
- Left cover (5)
- Top cover (6)
- Cutter (7)
- Front cover (8)





5. Built In Diagnostics and Trouble Shooting

How to Use This Section

- Find the category in which your problem occurs. The problem categories are:
- Power-related Problems
- Error Messages
- No Printout
- Operation-related Problems
- Print-related Problems
- Paper Jam
- Ribbon or Carriage-related Problems

For example, if the print appears very light on the paper, look at Section Print- related Problems.

- Find the symptom description that most closely matches the printer symptom. In this example you would look at the symptom „Print faint or of poor quality.“
- Try the first suggestion under that heading.
- If the suggestion does not cure the problem, try the next suggestion.
- If none of the suggestions enable you to continue printing, or if the fault is not listed, contact your service.

Each time when the printer is switched “ON” the display indicates TEST while the internal self-tests are run. If the test is completed successfully “READY 4 ELQ” will be displayed. If an error message is displayed please refer to the section 6.2 Error Messages during Power Up. All other messages on the display are described in section 6.2 Status and Error Messages during Operation.

5.1 Power- related Problems

Power indicator does not come On when power is switched On

- Check that the power cord and plug are securely fitted to the printer and to an electrical outlet.
- Ask for the power connector connections (and fuse, if fitted) to be verified.
- Ask for the building electrical supply to be verified.

5.1.1 Error Messages during Power Up

After switching the power ON the printer runs a self-test. During the test the following messages may be shown on the display:



Display	That means ...	Cause / Action
No information, POWER ON Indicator not lit.	No power	<ul style="list-style-type: none"> • Mains cable not connected • Mains switch cable not connected
green and yellow LED give light but no reaction	hang up in reset after power on	<ul style="list-style-type: none"> • Print PSU2 defective • Print DEV2 defective
#####	Firmware does not work	<ul style="list-style-type: none"> • PM not inserted • PM not correctly inserted • no firmware on PM
TEST.... (flashing)	Initializing of the EEPROM	<ul style="list-style-type: none"> • After first POWER ON with new firmware (different code number) • Contents of the EEPROM faulty • PM installed into another printer type
I/O OK	EEPROM located on the Port addressable	<ul style="list-style-type: none"> • EEPROM- defective (DEV2)
Waiting for Data	No firmware available	<ul style="list-style-type: none"> • Download a new firmware



If all tests have been passed successfully the following message will be displayed:

Display	That means ...	Cause / Action
READY/BUSY	The Printer is OK	<ul style="list-style-type: none"> • Printer ready for operation

5.1.2 Messages during normal operation

The following error messages may occur (for further operator panel messages please refer to Status and Error Messages):

Display	That means ...	Cause / Action
AGC ERROR	AGC ADJUST procedure fault	<ul style="list-style-type: none"> Distance print head and platen faulty Print head loose Platen incorrectly installed Ribbon not inserted Horizontal drive without function Platen got dirty
HOR. DRIVE ERROR	Horizontal drive without function	<ul style="list-style-type: none"> Transport lock not removed Horizontal drive blocked Paper jam Distance of platen gap too narrow AGC procedure on not workable position Platen incorrectly installed No AGC ADJUST after print head or platen replacement Device electronic fault Encoder strip missing Horizontal drive fault
STOP	The printer is in STOP mode	<ul style="list-style-type: none">  Press to continue
COVER OPEN	Top cover is open and the printer is in READY or BUSY mode	<ul style="list-style-type: none"> Close the cover and press to continue
LOAD TRACTOR LOWER / UPPER	Displayed when the host computer issues a paper feed or print command and no paper is left. The printer switches to STOP mode.	<ul style="list-style-type: none"> Insert paper and press 
PAPER JAM TRF	Displayed if the continuous paper is not transported correctly when using the tractor feeder with successive line feeds.	<ul style="list-style-type: none"> for troubleshooting see section Operating Problems and section Error Diagrams.

Display	That means ...	Cause / Action
PAP. TEAR OFF	Appears when switching from the current paper source to another paper source and the continuous paper could not be moved to the park position. The continuous paper must be torn off along the back edge of the printer, which is directly above the continuous paper exit (from left to right).	<ul style="list-style-type: none"> press  the paper is moved back to the park position so that the newly selected paper source can be used.
REMOVE PAPER	Displayed when switching from the currently selected tractor to another paper source, where the continuous paper could not be moved to the park position. The continuous paper must be torn along the back edge of the printer, which is just above the rear paper exit and torn off (from left to right):	<ul style="list-style-type: none"> Remove Paper and press 

5.2 No Print out

Test print out does not start.

- Check, that all covers has been closed.
- Check, that paper is loaded in the printer.

5.2.1 Printing does not start

- Make sure that the READY or BUSY message is displayed. If there is a different message displayed please refer to the above error message table.
- Make sure that the printer is connected to the host computer. (Refer to section 1.13 Connection to a Computer). Make sure that connectors are properly fixed at both ends.
- Make sure that the printer is receiving data from the host computer.
- Make sure that the correct protocol is enabled. (Refer to Appendix A.2 Configuring the Printer and Appendix B Interface Description)
- Make sure that you have selected the correct port (if the automatic feature has not been selected).
- Make sure that paper is loaded.
- Make sure that the ribbon is installed.
- Examine the ribbon path. Does the ribbon pass in front of the whole printhead? Adjust the ribbon if necessary.
- Fanfold paper in lower or upper tractor does not advance
- Make sure that the right tractor is selected.

5.2.2 Operation related problems

Paper is not positioned at perforation for tear-off

- Select the correct form length using the Set-up feature.
- Set top of form by performing a Parking function.
- Refer to Appendix **A.4 Vertical Positioning Adjustment**.


Paper tears or jams


- Examine the paper path; remove any obstructions
- Is the paper too loose or too taut between the tractors?
- If the holes in the paper are deformed at their outer edges, the paper is too taut.
- If the paper rises between the tractors, it is too loose.
- Readjust the tractor spacing so that the paper lies smoothly but without any tension.
- Ensure that the paper is horizontally aligned on the pins.
- Open the printer's top cover. If necessary, loosen the two green screws and remove the paper guide plate to gain access to the paper

Parking paper and resetting top of form


Tear off paper on perforation (fold)

Press 

Press  until the paper is in the park position.

Press  Printing will resume at the top of the next form.

Print head carriage does not move smoothly/does not move at all

- Examine the paper path. Remove any obstructions.
- Examine the carriage area for obstructions. Remove, where necessary.
- Press  until the paper is in the park position.
- Make sure that the transport lock has been removed
-

5.2.3 Print related problems

Expression weak or of poor quality.

- Was the right paper used? Chapter 7 Technical Data contains a detailed specification of usable paper types. Replace the paper if it does not conform to specification.
- Check that the ribbon is properly tensioned.
- Does the ribbon have to be replaced? If necessary, replace with a new ribbon.
- Is the ribbon cassette used correctly? Adjust if necessary.

Characters do not print evenly or are not uniform in pitch

- Examine the paper path for dirt or other obstruction that may cause the gap between print head and platen to vary. Remove the obstruction.

Printed lines overlap.

- Examine the paper path for dirt or other obstructions that may prevent the platen from rotating freely. Remove the obstruction.

Part of printed text is missing (loss of data)

- If you are using Serial communications check the buffer control setting in Set-up.
- Check the data flow control setting on the host computer.

On Pre-Printed forms, the printing on the copies is not aligned with the Pre-Printed matter

- Adjustment via tractor vertical positioning
- Part of printed text is missing (loss of data)
- If you are using Serial-Communications check the buffer control setting in Set-up.
- Check the data flow control setting on the host computer.

If the printout or the character set is not ok, the following procedure can help to clear the situation.

SELECTION	RESULT	CHECK
Select and start PRINT TEST 1	Print not OK or partly missing?	<ul style="list-style-type: none"> • PAPER SOURCE • selection incorrect Ribbon worn or not installed • Print head worn
Stop SELF TEST and start regular printing	No printing starts	<ul style="list-style-type: none"> • Printer READY 1 ELQ ? • Interface cable not connected properly • Interface selection incorrectg
	Some characters are not correct	<ul style="list-style-type: none"> • Emulation • Character set • National version • Word length • Baud rate • Parity bit • Protocol
	Font (FONT) nd / or Pitch quality false	<ul style="list-style-type: none"> • Font • Pitch • Line
	Problem still there?	Call servive

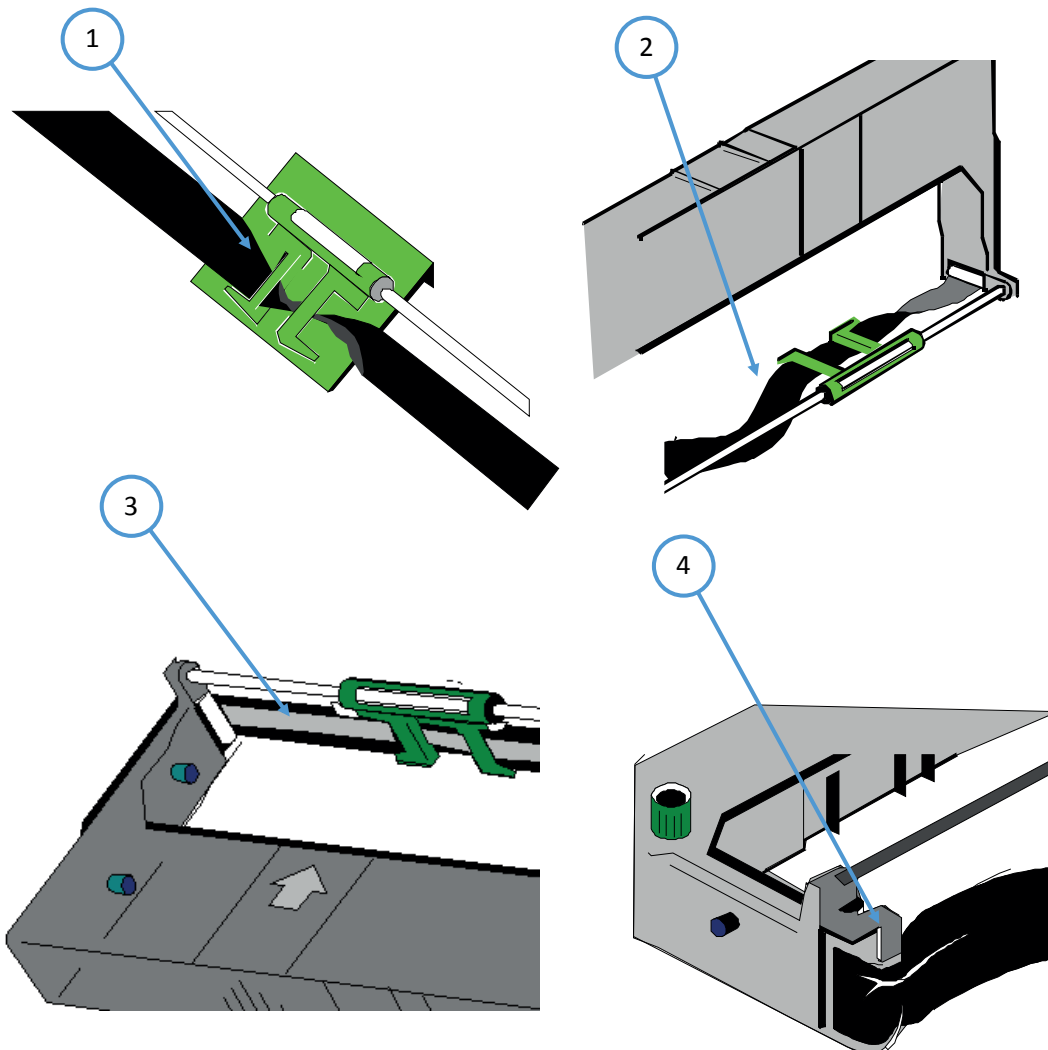
5.2.4 Problems with ribbon

If you have problems with the ribbon, make sure that the ribbon is:

- is properly tensioned (2)
- not worn or dried out (3)
- not torn or otherwise damaged (1)
- not out of clip (4)

Carriage does not move smoothly:

- Check the paper path.
- Remove any obstacles.
- Check if all packaging material has been removed.
- Check the carriage area for foreign objects.
- Remove any foreign objects.



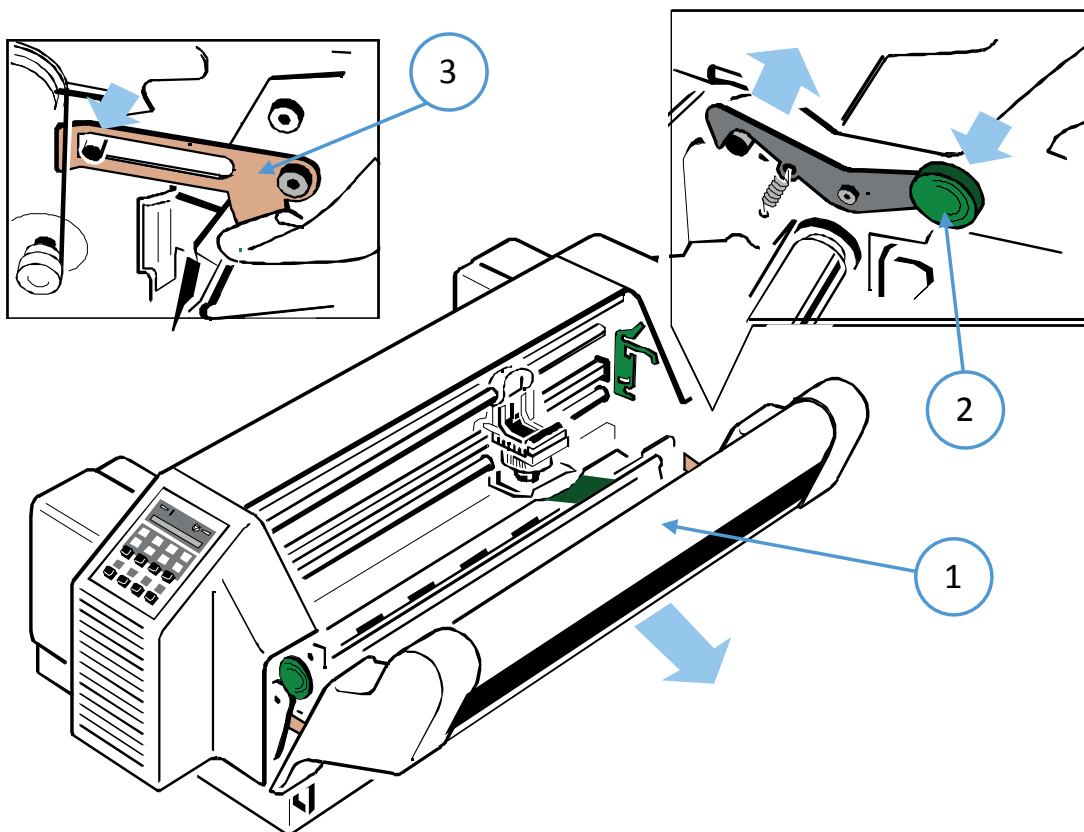
5.3 Process diagrams for troubleshooting

5.3.1 Paper jam TRF

Note: Do not turn off the printer in case of a paper jam to avoid data loss.

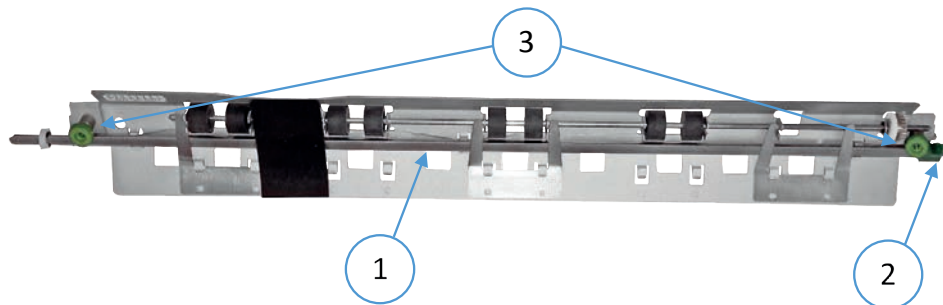
- Lift and remove the top cover.
- Grasp the cutter housing (1) (only for High Speed Fanfold Printer with Cutter) on both sides.
- Press down the green knobs (2) on the handles using your thumbs and swing the cutter to the rear. The spring clips (3) will keep the cutter in this open position.

The area where paper could be jammed is accessible now.



Note: On the cutter ledge covering the blade in the **High Speed Fanfold Printer with Cutter** is a label that cautions against touching the blade.


On the Paper Guide (above the platen) is the so-called „D wave“ (1) (the shaft is flattened at the top and has the appearance of a large „D“ in cross section). At the right end of the D-shaft is a green lever (2). If you swing this towards the rear of the paper exit, the pinch rollers lift slightly and jammed paper can be easily removed.



- Remove the two green screws (3) from the paper guide and remove the paper guide. Lift the paper guide slightly and pull the D-shaft including the guide plate out of the sleeve to the right. Now you can access the jammed paper.
- If the paper is hanging in the guide of the cutter with a high-performance continuous printer with a cutter, the knife bar can be folded up to remove it.
- The cut through a label leaves adhesive residues on the cutting blade and is therefore not permitted. If it happens, it can cause disruptions in the tailor. Also, small sections that remain on the backing paper may come loose and stick under the shield of the printhead or block the knife. The shield or knife must be cleaned if it is dirty. It is best to use a cloth soaked in spirit.

Attention: The knife wheel in the high performance continuous printer with cutter is very sharp. There is a risk of injury!

When the paper jam has been cleared, the following steps are performed depending on the action taken:

- Swing back the D-shaft - or if removed, guide the D-shaft into the sleeve and tighten the paper guide with the green screws.
- For high-performance continuous printers with Schneider, swing back the male connector. Then the cutting device is grasped with both hands right and left - pressed all the way to the printer so that the retaining clips (2) are visible and snap in with an audible „click“.
- Close the Top cover
- Press  to put printer to online state

6. Procedures for Removal and Reassembly

This chapter describes the removal procedures which are necessary for proper handling of the spare parts and subunits of the printer.

For detailed order information and description of the spare parts see list

Note: All removal procedures consists of several steps.

- to show preparation
- to indicate the main removal steps.

Part: Kit Cover Engine 407

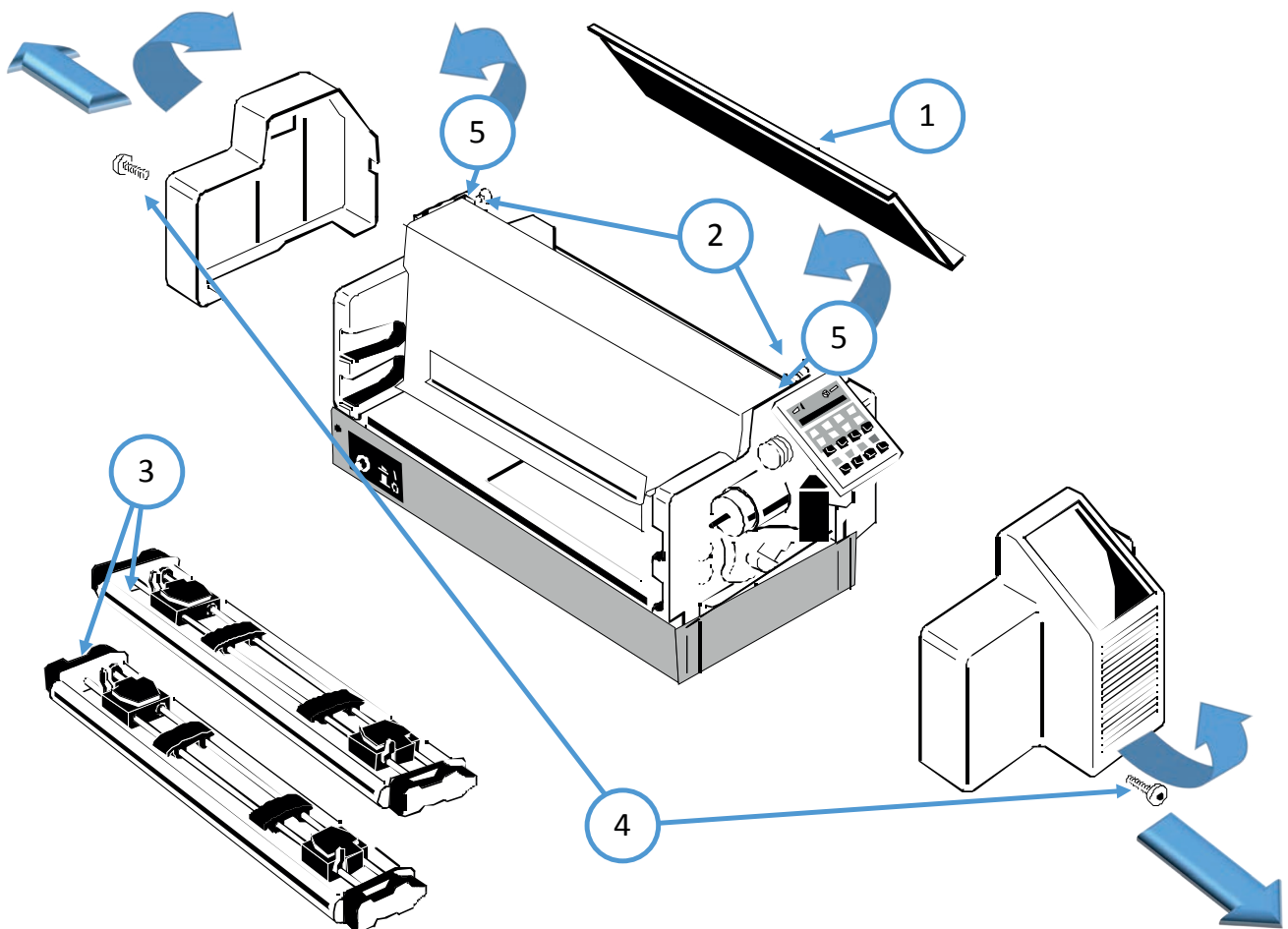
Part No.: 5112 292 6288x
 Order No.: 5322 310 32138
 FSI: 5112 991 14632

Steps: Remove Part

- Disconnect mains cable
- Remove the tractor cassettes (3)
- Remove the top cover (1)
- Remove screws (4) on both sides
- Loosen screws (2)
- Lift up a little the top cover (5) to Remove the left- and right hand side - engine covers by Snapping the off their upper fixation

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Rear Cover PP407

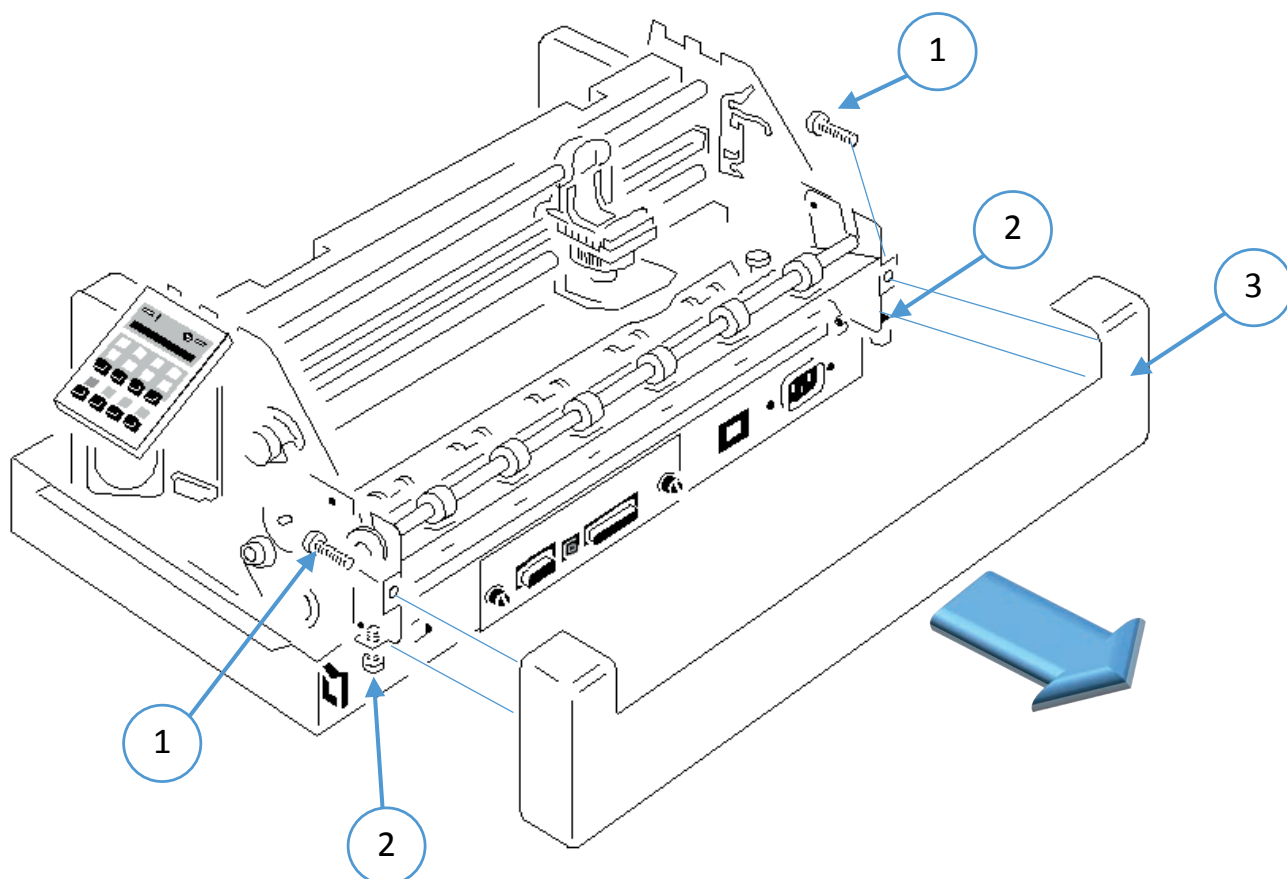
Part No.: 5112 212 6244X
Order No.: 5322 447 80639
FSI: 5112 991 134261

Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Remove screws (1)
- Loosen screws (2)
- Remove the Rear Cover (39)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Rear Cover PP408

Part No.: 5112 212 6244X

Order No.: 5322 447 80639

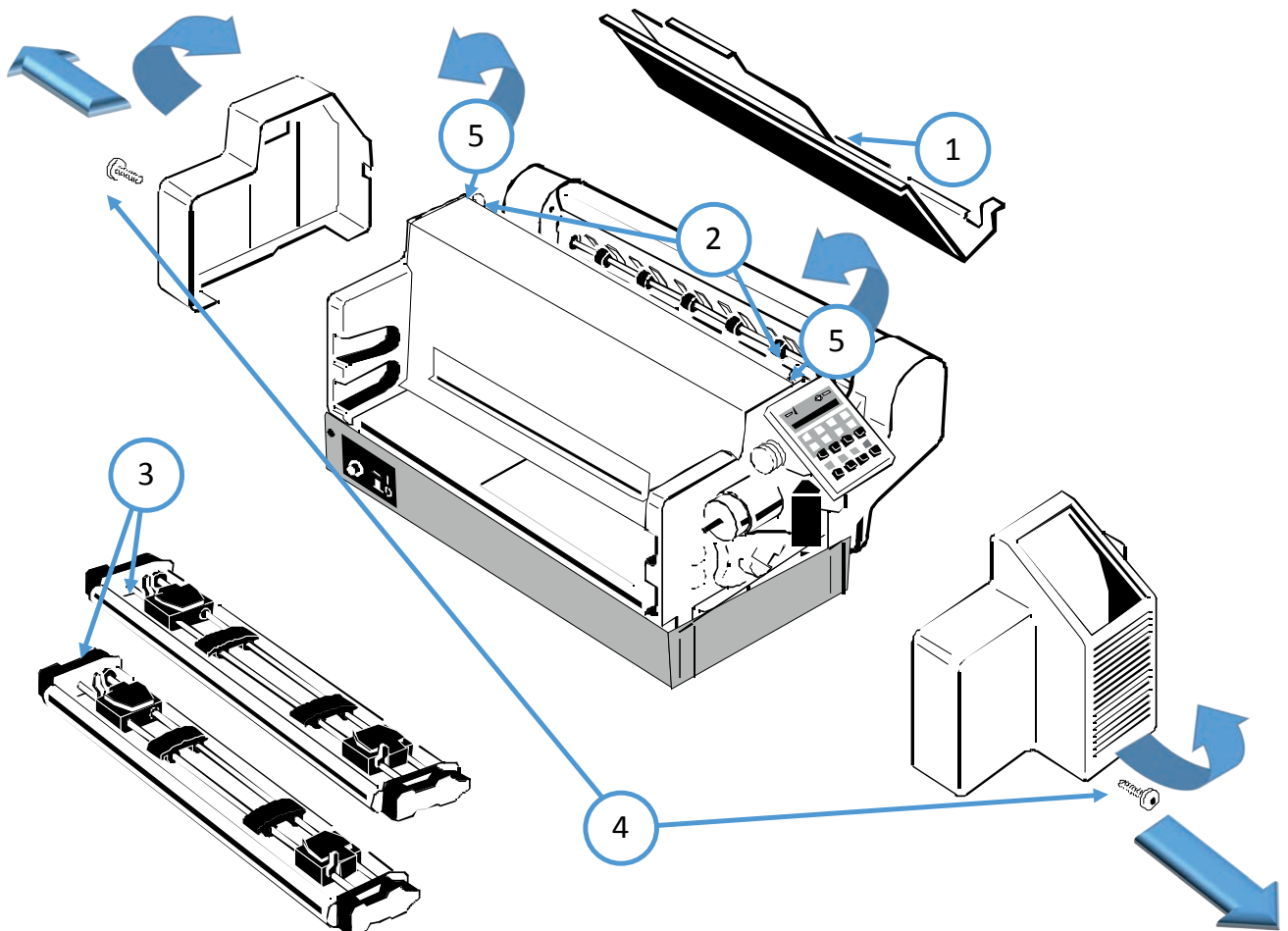
FSI: 5112 991 13102

Steps: Remove Part

- Disconnect mains cable
- Remove the tractor cassettes (3)
- Remove the top cover (1)
- Remove screws (4) on both sides
- Loosen screws (2)
- Lift up a little the top cover (5) to Remove the left- and right hand side - engine covers by Snapping the off their upper fixation

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Cutter PP408-2

Part No: 5112 293 0325X

Order No: 8707 901 00048

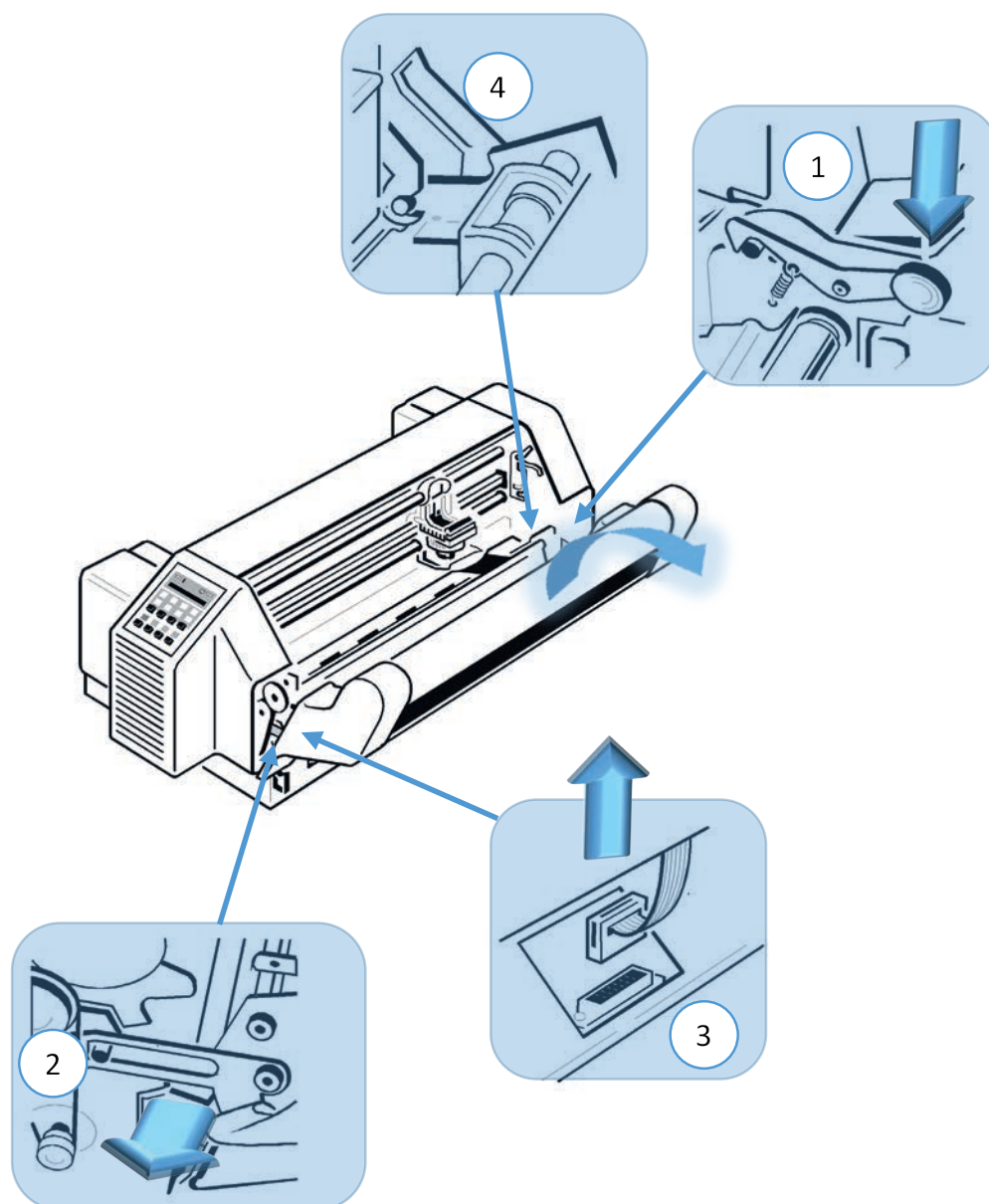
FSI: 5112 991 14001

Steps: Remove Part

- Disconnect mains cable
- Hold it and simultaneously release it by pushing the release knobs (1)
- Swivel down the cutter after releasing
- Hold it during pushing clips (2+4) outwards
- Remove Cutter Cable (3)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Print PSU2 PP408 - R 230V

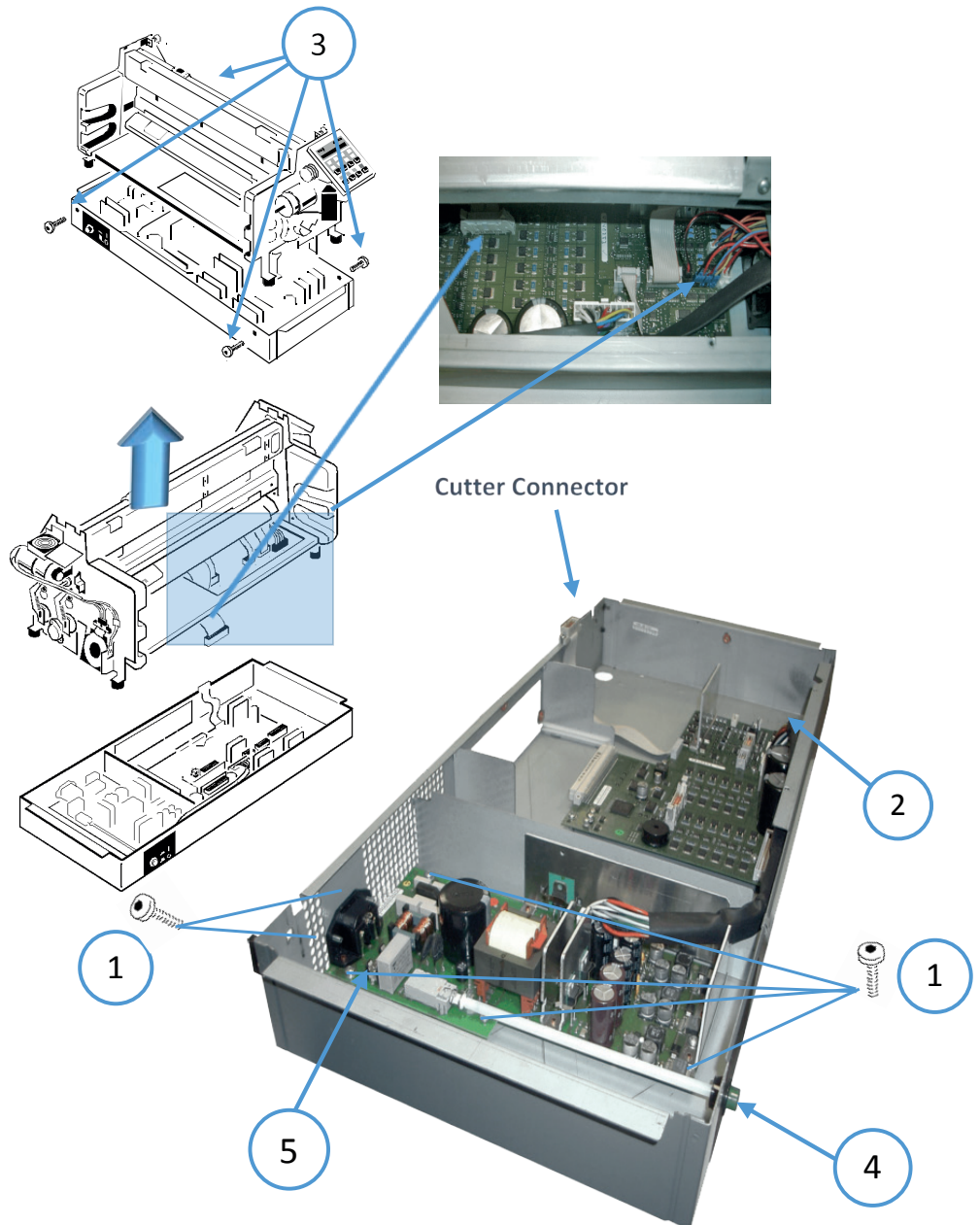
Part No: 5112 293 0042X
 Order No: 8707 901 00024
 FSI: 5112 991 13353

Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Remove power lever (4)
- Remove screws (see Part: Kit Cover Engine)
- Disconnect all eleven (twelve by PP408) cables
- Remove the printer engine from the electronic subassembly
- Remove the power supply cable from the DEV2 (2)
- Remove fixation screws for Print PSU2 and Power plug (1)
- Remove Print PSU2

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Fuse (5)

Part: Operator Panel 40B-R

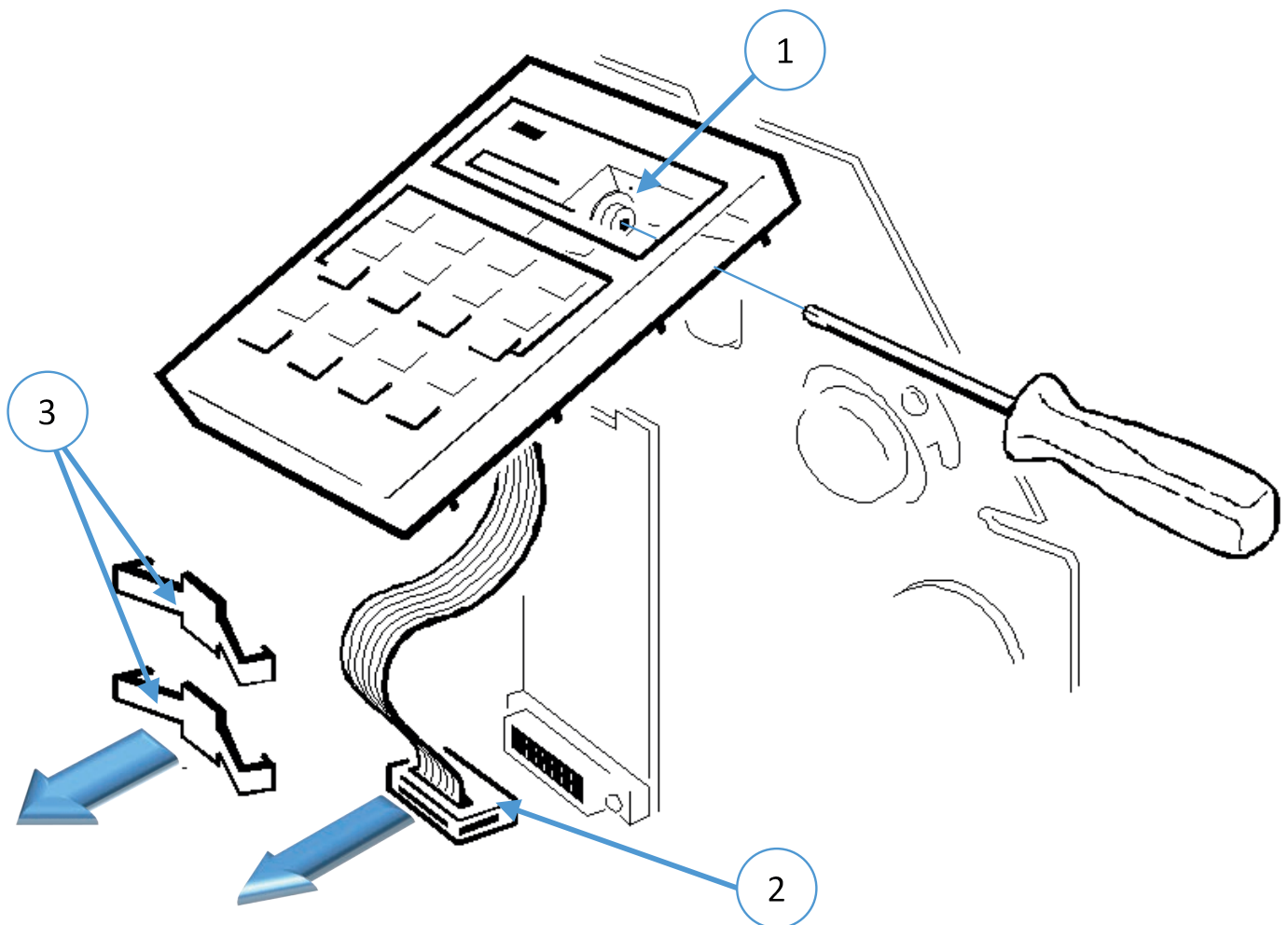
Part No: 5112 292 6418X
Order No: 8707 901 00015
FSI: 5112 991 13284

Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Loosen the fixation screw (1) underneath of the operator panel
- Remove the cable fixation clips (3)
- Disconnect the connection cable from plug (2)
- Remove the Operator Panel Assy

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Fan CPL PP407/408-2 (Operator Panel Side)

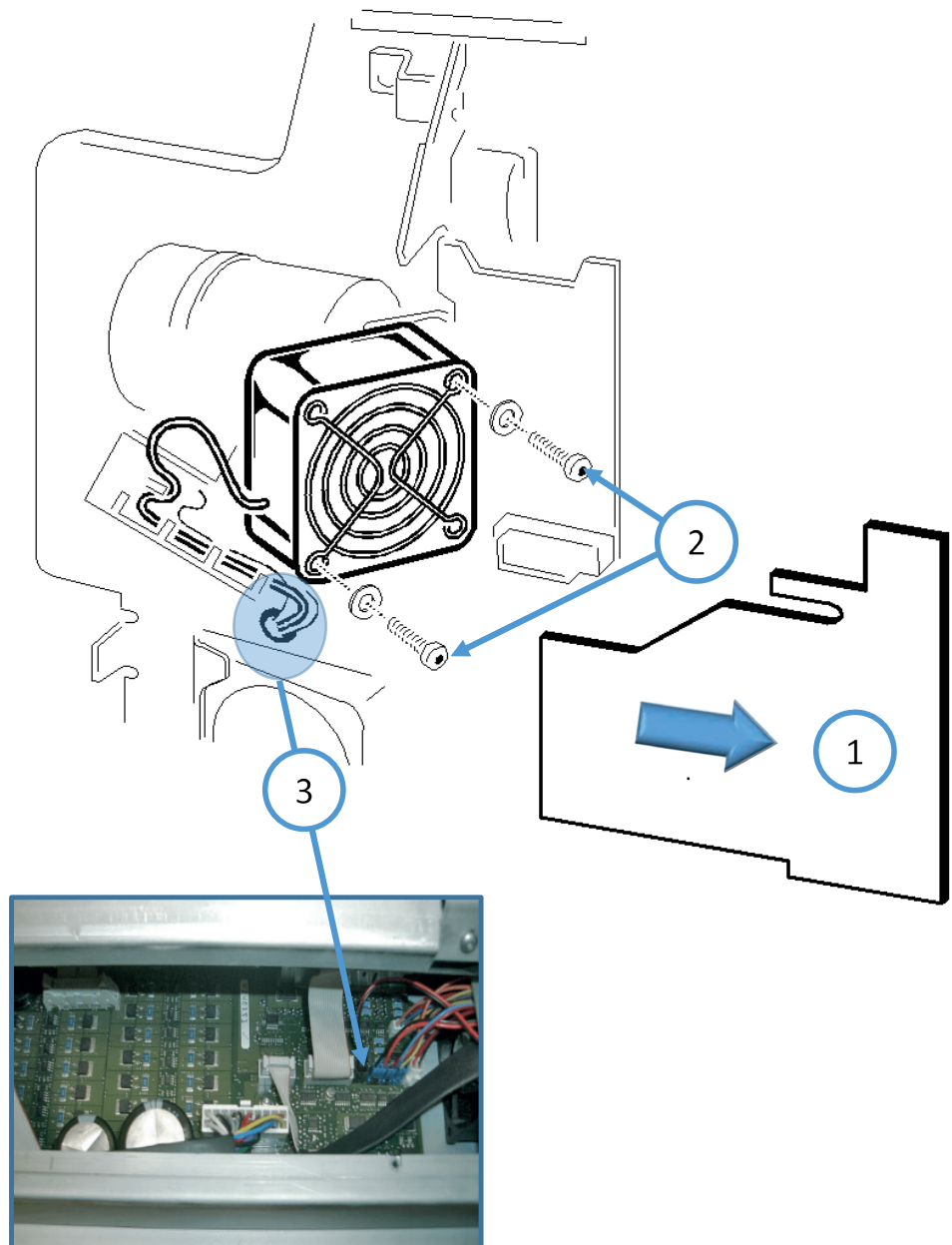
Part No: 5112 280 1298X
Order No: 8707 901 00037
FSI: 5112 991 13303

Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Swivel down the cutter - only printer with cutter
- Remove metal sheet (1)
- Remove the Fan connection cable from the DEV2 (3)
- Remove to screws (2) of the Fan M

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence

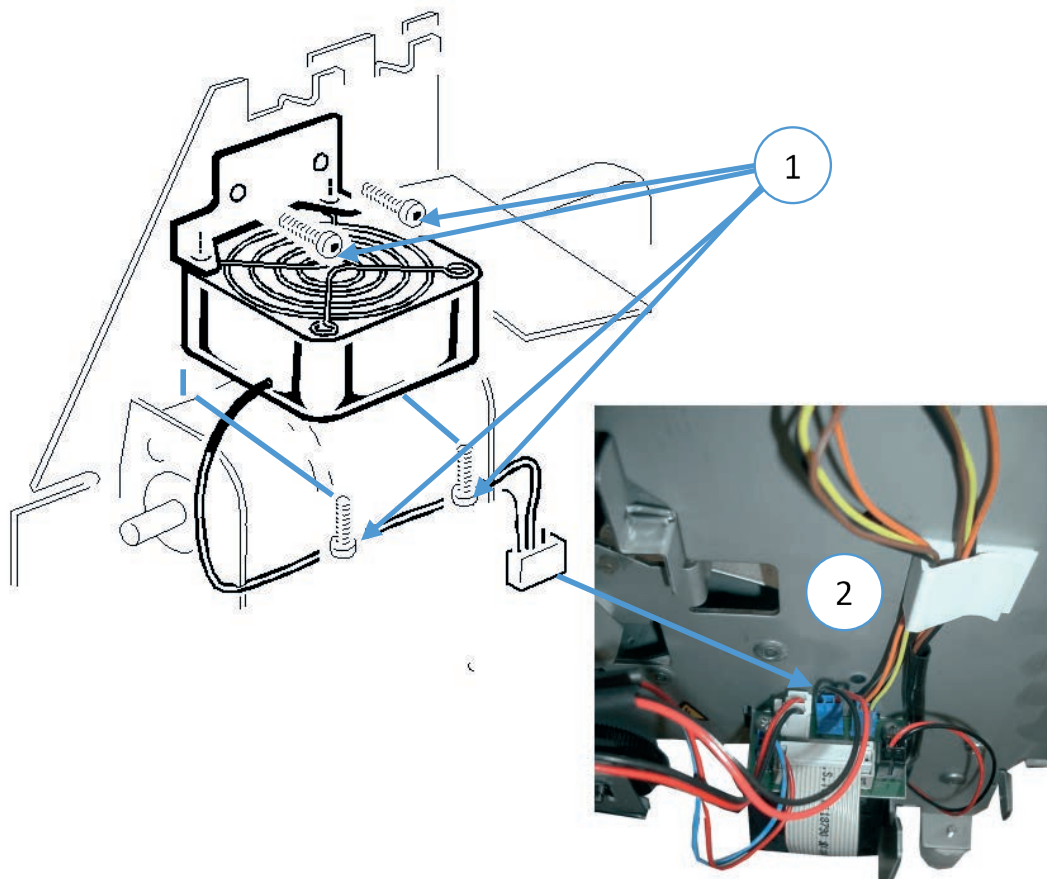


Part: Fan cpl PP407/408-2
(Non Operator Panel Side)Part No: 5112 280 1298X
Order No: 8707 901 00037
FSI: 5112 991 13313**Steps: Remove Part**

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Remove the Fan cable (B) interconnection board
- Remove four screws (A) the Fan cpl. inclusive fixture
- Remove the Fan cpl. From fixture

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Print Head Cable 407/8-2

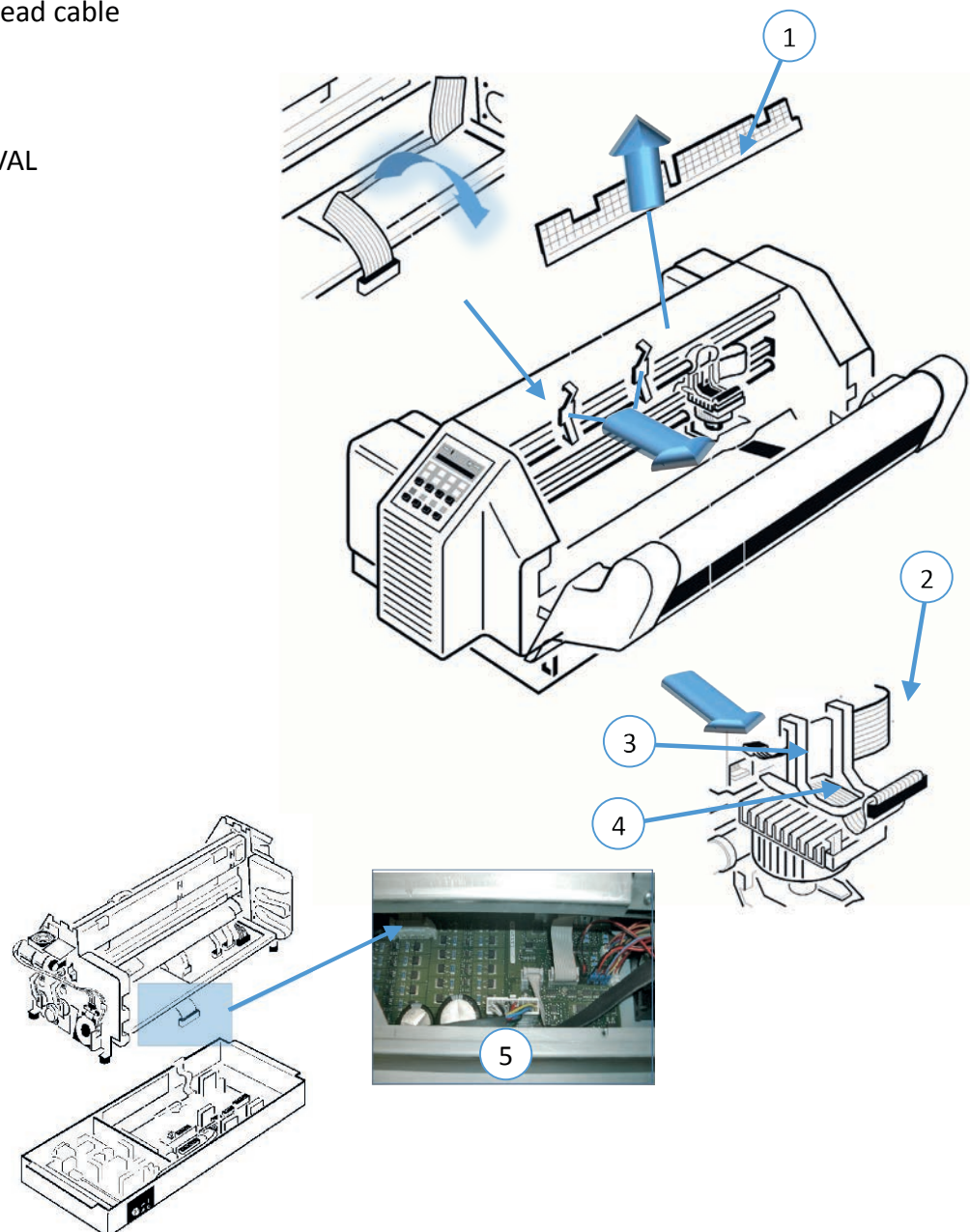
Part No: 5112 280 1296X
 Order No: 8707 901 00038
 FSI: 5112 991 13412

Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Disconnect print head cable from the print head
- Remove the noise reduction foam (1) from the cable channel
- Clip the plastic support (2) from the print head carriage, by First releasing clamps (3)
- Disconnect the wire-to-wire connection (4) of the H-Encoder Assy
- Disconnect the print head cable from the CU-DEV2 (5)
- Remove the print head cable

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Encoder Stripe 2

Part No: 5112 292 7454X
Order No: 5322 466 11114
FSI: 5112 991 13435

Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Remove screws (1)
- Remove the Encoder Stripe (outside to the left)

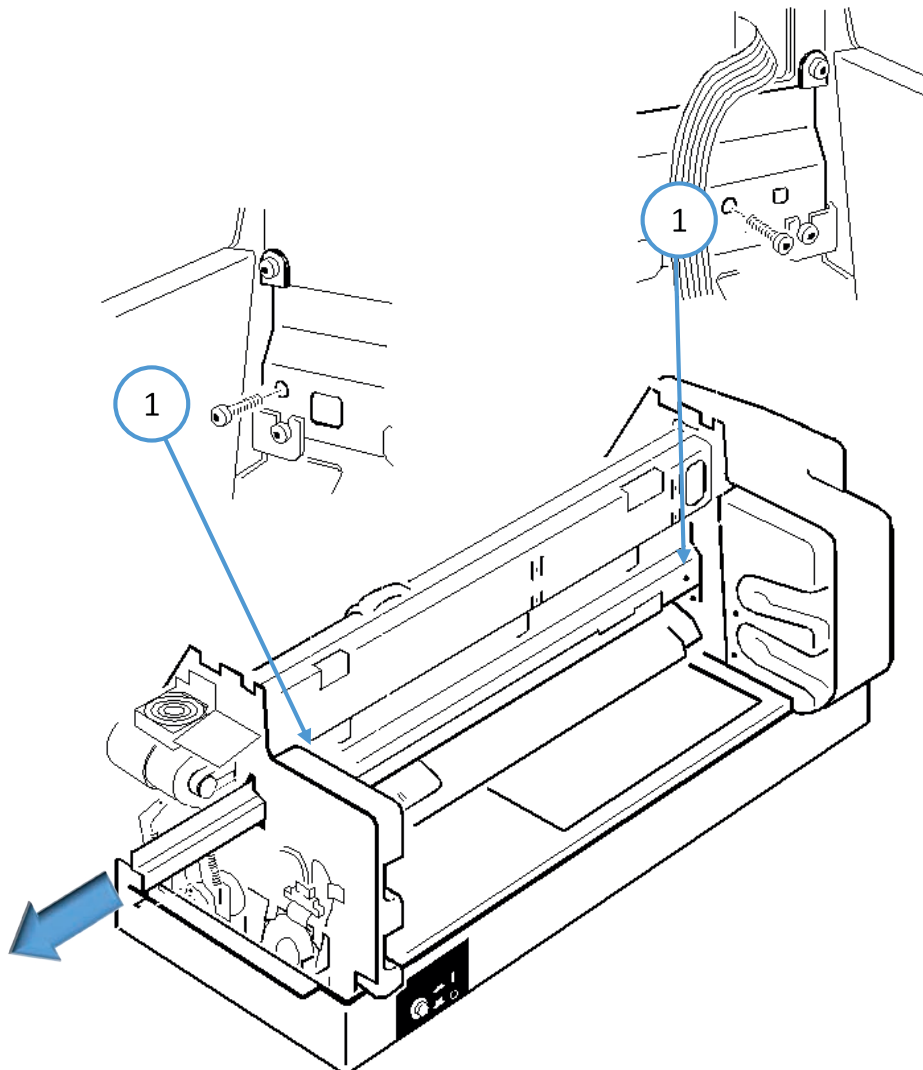
Caution: Please don't touch the lineal

REASSEMBLING

Move the carriage to the center position

Execute the REMOVAL procedure in reverse sequence

Caution: Please pay attention, that the encoder strip is mounted in the correct position and assure, that the strip is slipping underneath the first two steel noses, visible from the front side of the printer.



Part: Stepper Motor 1.8 DEG-2

Part No: 5112 280 1286X

Order No: 8707 901 00035

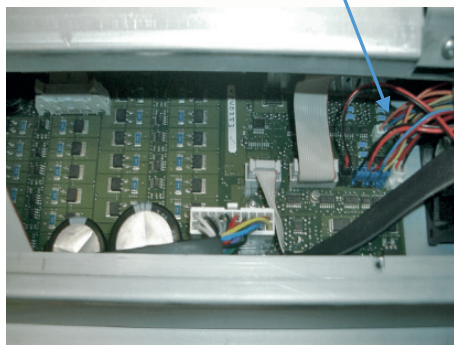
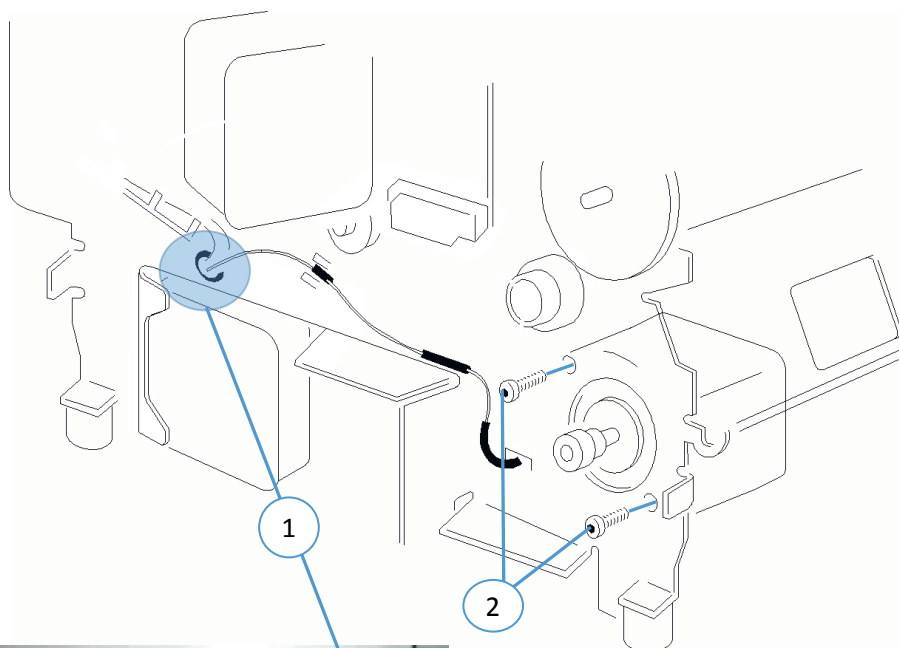
FSI: 5112 991 12873

Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Disconnect connection cable (1) of the V-Motor (see Part: DEV2) Feed it through the opening of the chassis
- Remove metal sheet
- Remove fixation screws (2) of V-Motor, disengage the drive belt and remove the V-Motor

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Stepper Motor 7.5 DEG (for D-Shaped Shafts)

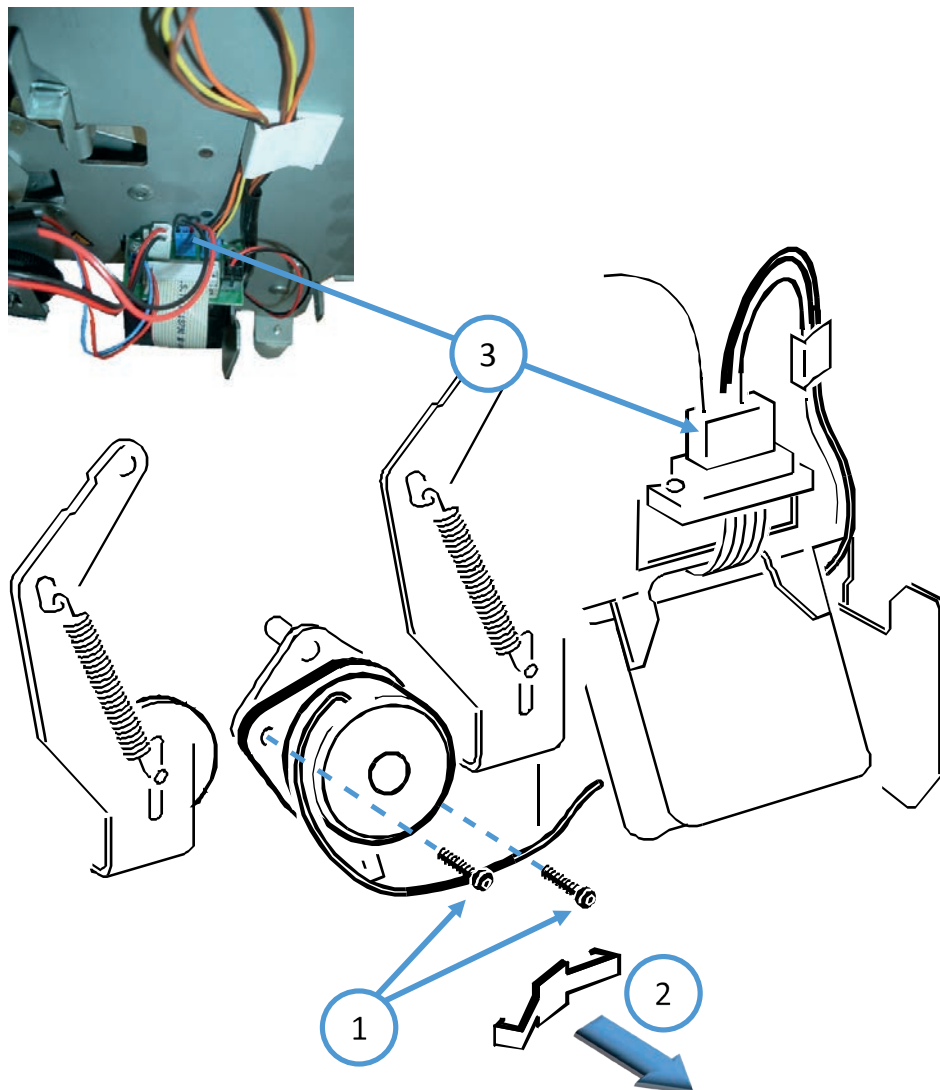
Part No: 5112 209 2759X
Order No: 8707 901 00034
FSI: 5112 991 13493

Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Remove the cable clip (2)
- Remove the cable from the collective connector (3)
- Remove screws (1)
- Remove the stepper motor

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Stepper Motor 7.5 DEG (for AGC-drive)

Part No: 5112 209 2759X
Order No: 8707 901 00034
FSI: 5112 991 104583

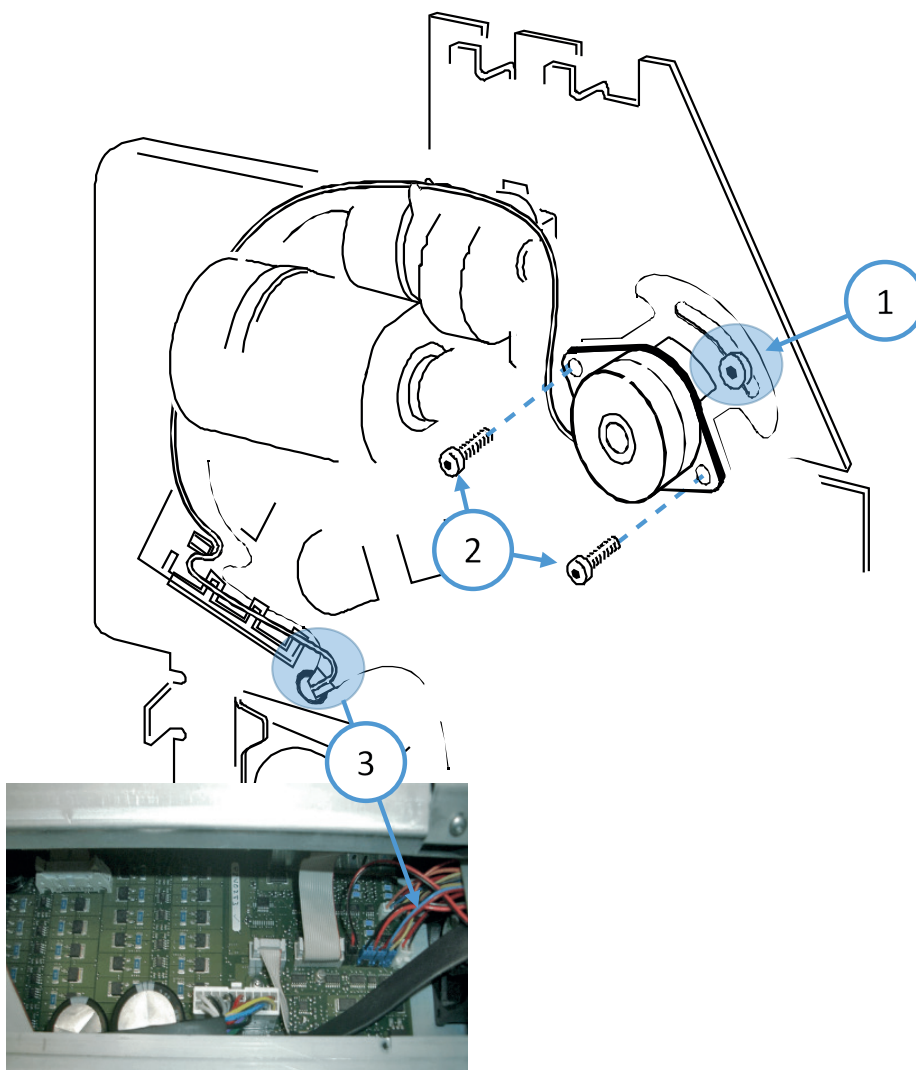
Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Remove metal sheet
- Remove crews (2) of the AGC - Motor
- Remove the fixture of the operator panel including fan M
- Remove the connection cable of the AGC motor from the cable guide and collective connector (3)

Warning: Do not loosen lock tied screws (1). This is a factory adjustment; field adjustment is critical!

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Fan B CPL -R
(Operator Panel Side)

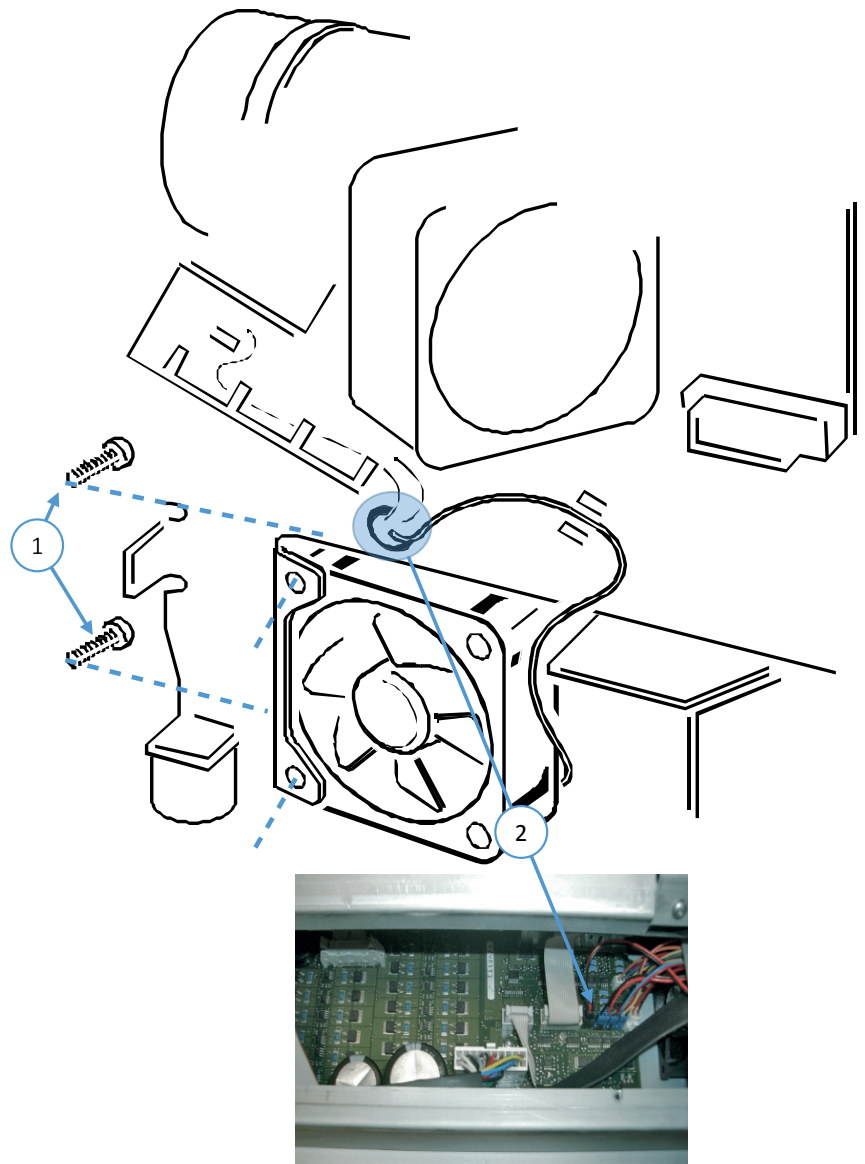
Part No: 5112 293 6240X
Order No: 8707 901 00023
FSI: 5112 991 13323

Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Remove screws (see Part: Kit Cover Engine)
- Disconnect all interconnection cables from the DEV2
- Remove the printer engine from the electronic subassembly
- Remove metal sheet
- Remove the connection cable (A) of Fan B from the cable guide and collective connector
- Remove fixation screws (B) of Fan B and remove it

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Fan B CPL -R
(Operator Panel Side)

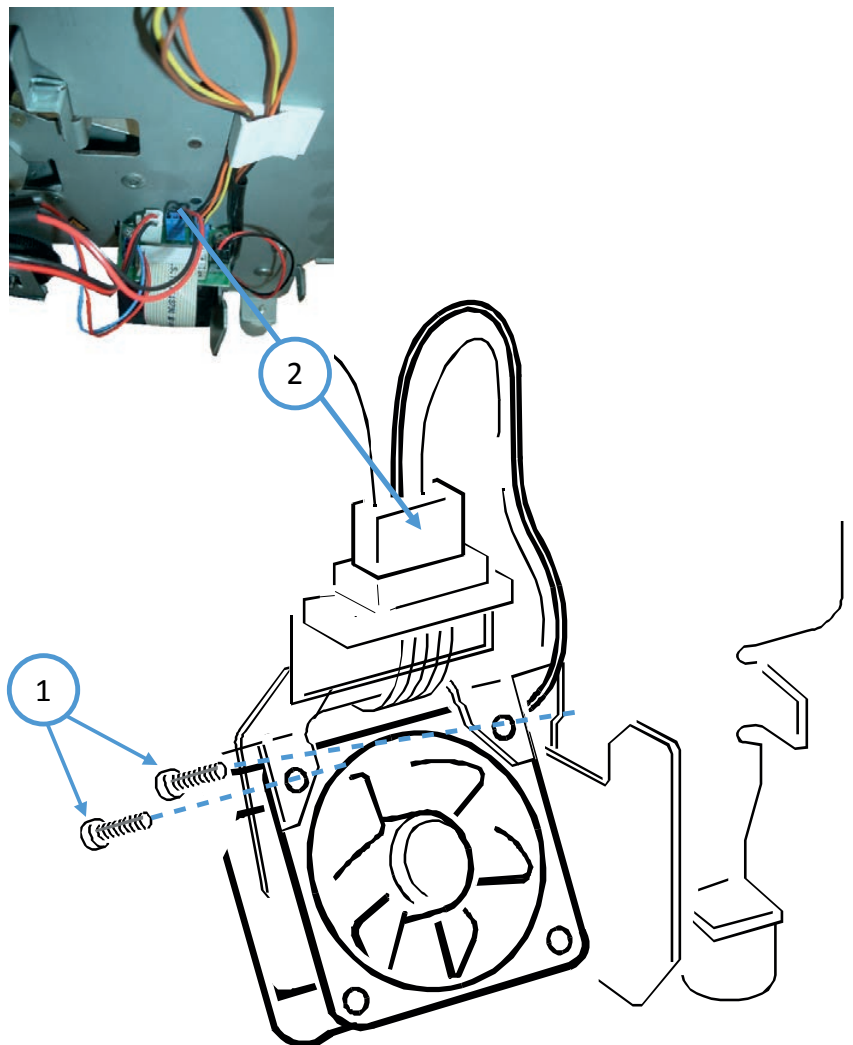
Part No: 5112 293 6240X
Order No: 8707 901 00023
FSI: 5112 991 13333

Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Remove screws (see Part: Kit Cover Engine)
- Disconnect all five interconnection cables
- Remove the printer engine from the electronic subassembly
- Remove connection cable (A) of Fan B from the cable guide and collective connector
- Remove fixation screws (B) of Fan B and remove it.

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Print H-Encoder

Part No: 5112 293 0361X
Order No: 8707 901 00031
FSI: 5112 991 13462

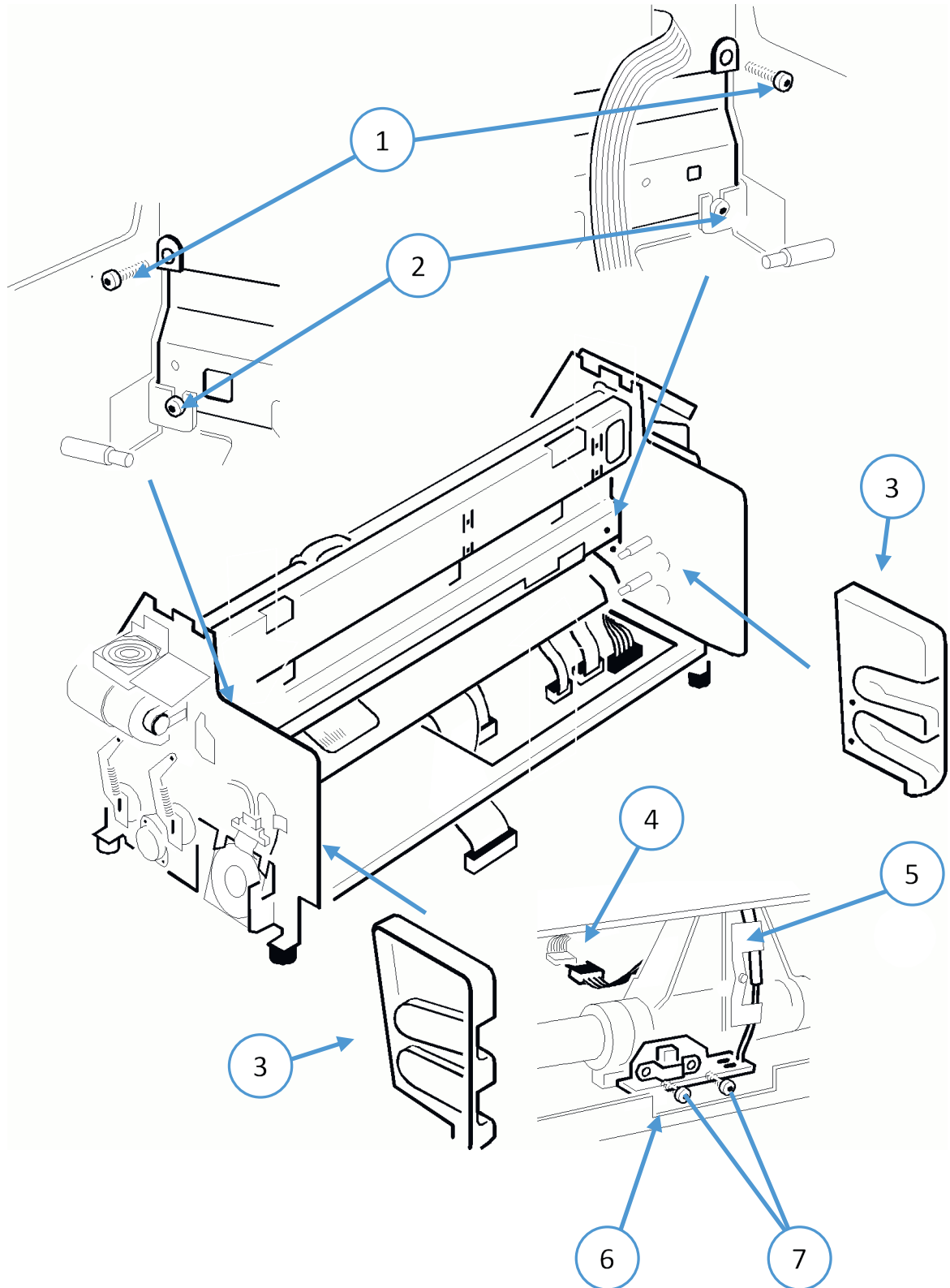
Steps: Remove Part

- Disconnect mains cable
- Remove all encasing parts (see Part: Kit Cover Engine)
- Disconnect all five interconnection cables
- Remove the printer engine from the electronic subassembly
- Remove the Encoder Strip Assy (see Part: Encoder Strip Assy)
- Remove the noise reduction foam (see Part: Cable Assy Print Head)
- Remove both fixtures of the tractor cassettes (3)
- Remove the upper screws (1) and Loosen screws (2) and remove the mounting plate
- Move the carriage to the cut out (6)
- Disconnect the print head cable from the print head
- Disengage the plastic support from the print head carriage and disconnect the wire to wire connection H- Encoder / print head cable (5)
- Remove the cable clamp (4) from the carriage
- Remove screws (7) of the Print Head H-Encoder Assy and remove it

see picture next page.

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Paper Sensor 407/8-R

Part No: 5112 293 6243X

Order No: 8707 901 00027

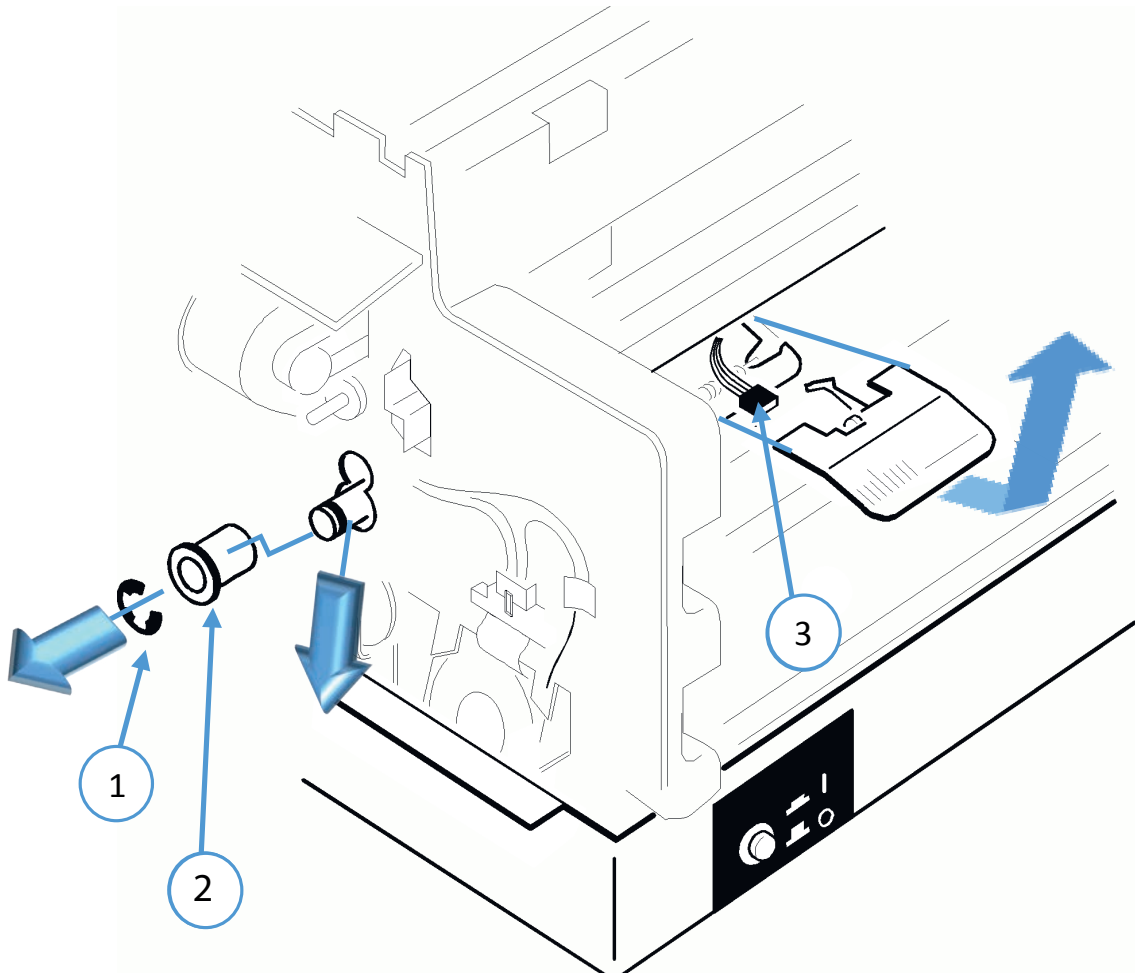
FSI: 5112 991 13383

Steps: Remove Part

- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Remove circlip (1) and bearing (2). The axle falls down
- Remove the paper sensor by lift up and clipping it backwards off
- Disconnect the cable (3)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: H-Motor right PP407/408

Part No: 5112 293 0322X
 Order No: 8707 901 00040
 FSI: 5112 991 13433

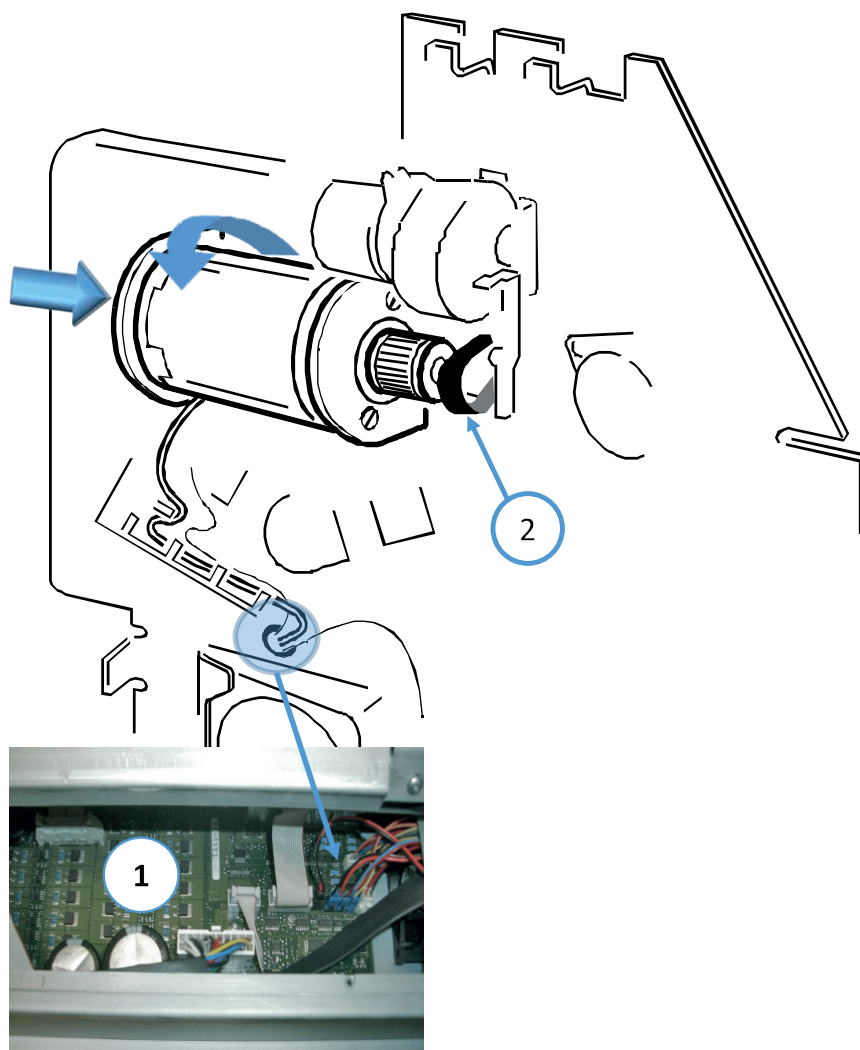
Steps: Remove Part

- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Disconnect the cable of the Horizontal Motor (see Part: DEV2)
- Remove the fixture of the operator panel including Fan and operator panel
- Remove the connection cable of the Horizontal Motor from the cable guide and collective connector (1)
- Disengage the drive (2) belt from the motor
- Remove Horizontal Motor right cpl. (press to rear and swing out)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence

Note: By reassembling the tension of the drive belt must be adjusted carefully. Please use the special tool to tighten the belt (H-Dr. Belt-Tightener Order No. 5322 522 10511).



Part: H-Motor left PP407/408

Part No: 5112 293 0323X

Order No: 8707 901 00039

FSI: 5112 991 13443

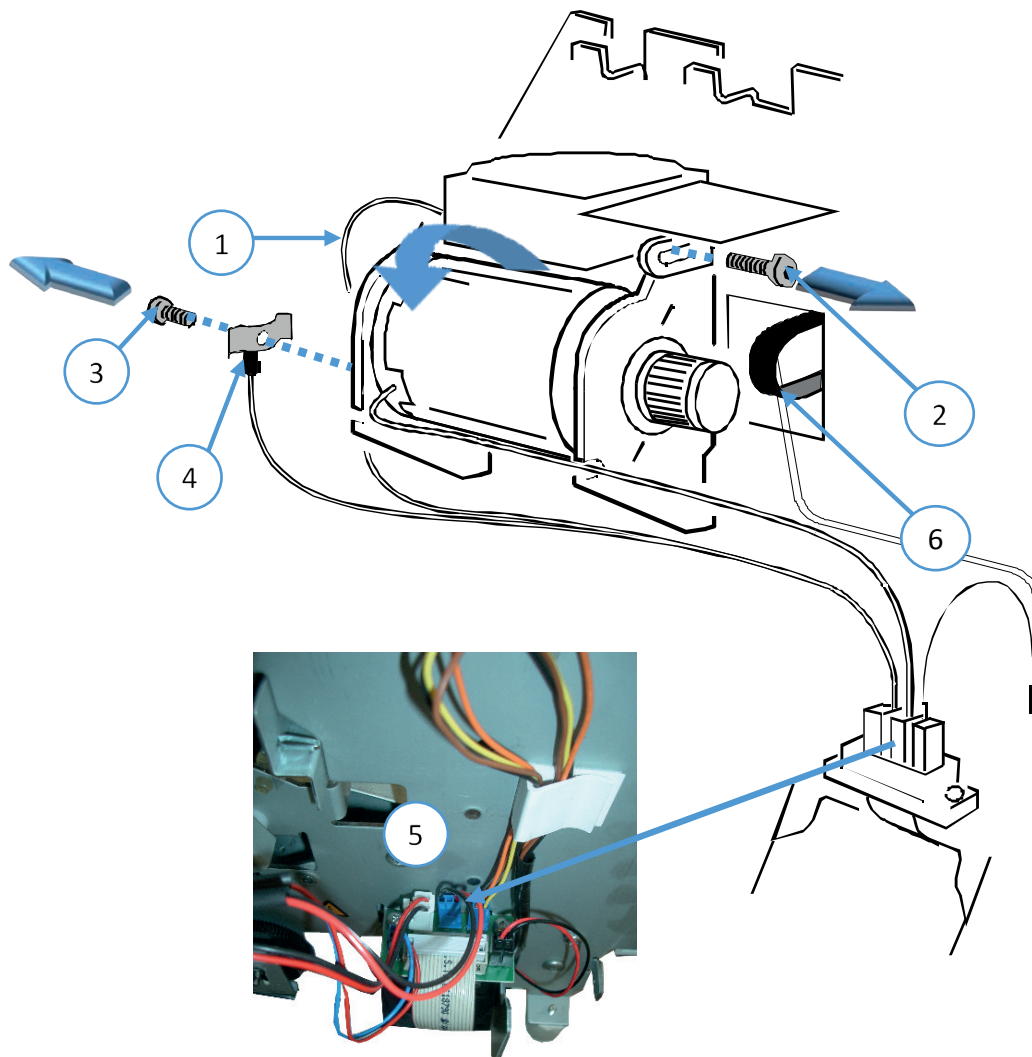
Steps: Remove Part

- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Remove the connection cable of Fan cpl (1)
- Remove the Thermo-Sensor incl. connection cable from the Fan (4) by screw (3)
- Remove the connection cable of the Horizontal Motor from the collective connector (5)
- Remove fixation screws (2)
- Disengage the drive belt (6) from the H-Motor
- Remove Horizontal Motor left cpl.

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence

Note: By reassembling the tension of the drive belt must be adjusted carefully. Please use the special tool to tighten the belt (H-Dr. Belt-Tightener Order No. 5322 522 10511).



Part: Ribbon Gear-2

Part No: 5112 293 0327X
 Order No: 8707 901 00033
 FSI: 5112 991 13483

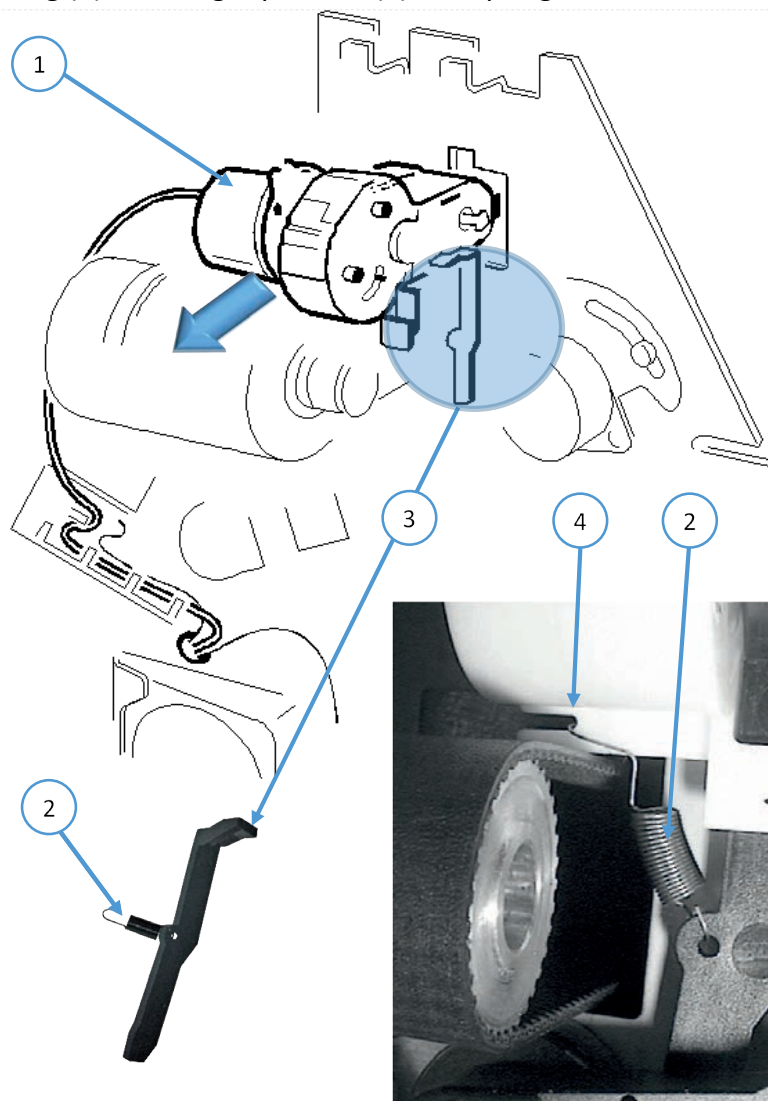
Steps: Remove Part

- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Disconnect connection cable of the ribbon drive motor (see Part: DEV2)
- Remove the printer engine from the electronic subassembly
- Remove metal sheet
- Remove the fixture of the operator panel including Fan and operator panel
- Loosen the spring (2) and remove the lever (3)
- Push the ribbon gear (1) lock tab and remove the ribbon gear

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence

Note: Fix the spring (2) in the right position (4) The spring does not touch the belt!



Part: Shaft I

Part No: 5112 292 6032X

Order No: 5322 535 93473

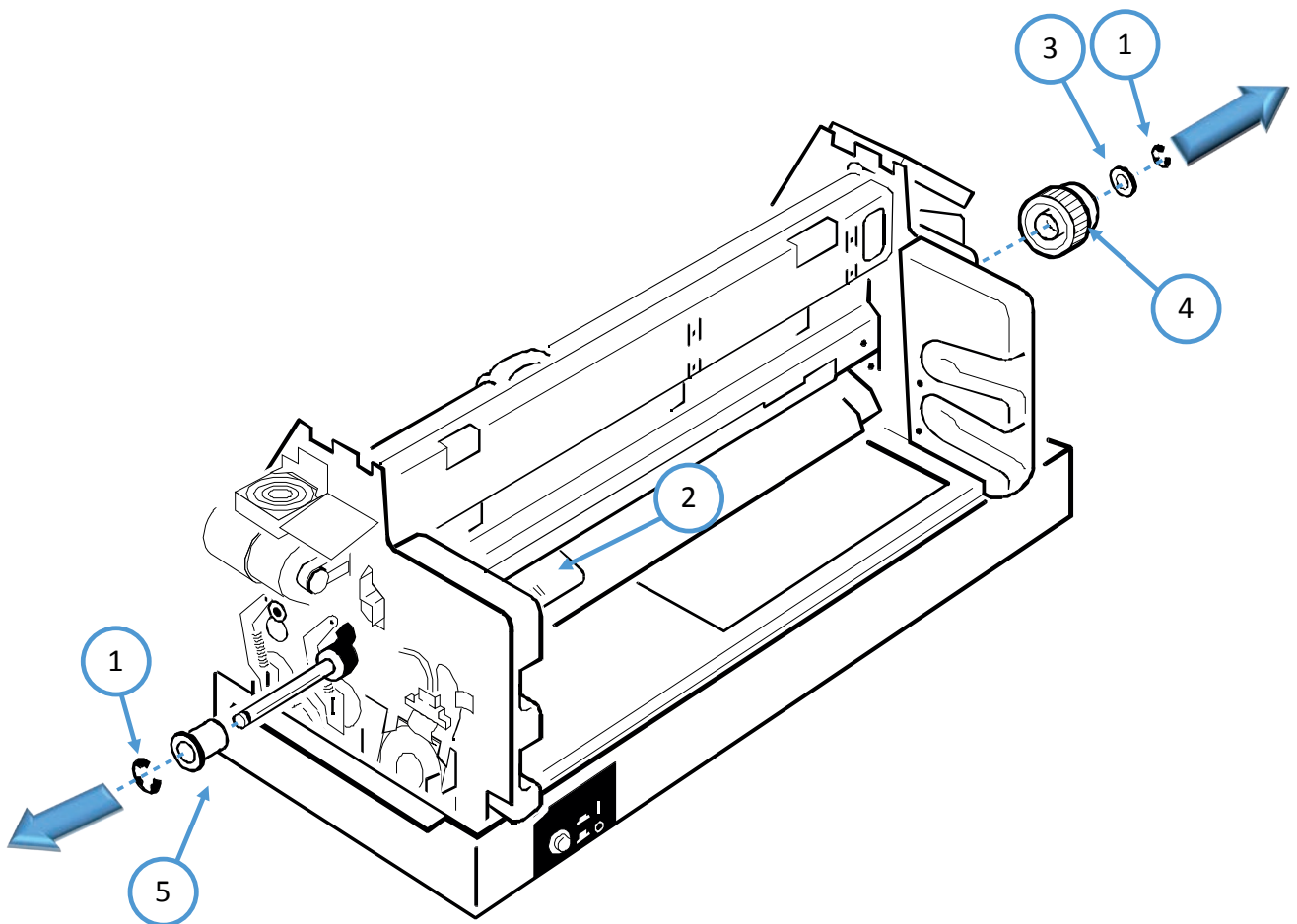
FSI: 5112 991 13362

Steps: Remove Part

- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Swivel down the cutter (see Part: Cutter) (only printer with cutter)
- Remove circlips (1) and washer (3)
- Remove Paper Sensor (2)
- Remove the drive belt from pulley (4) and remove belt pulley (4)
- Remove bearing (5)
- Slide out the shaft FF1 to the left through the opening of the printer frame.

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Shaft II

Part No: 5112 292 6022X

Order No: 5322 535 93474

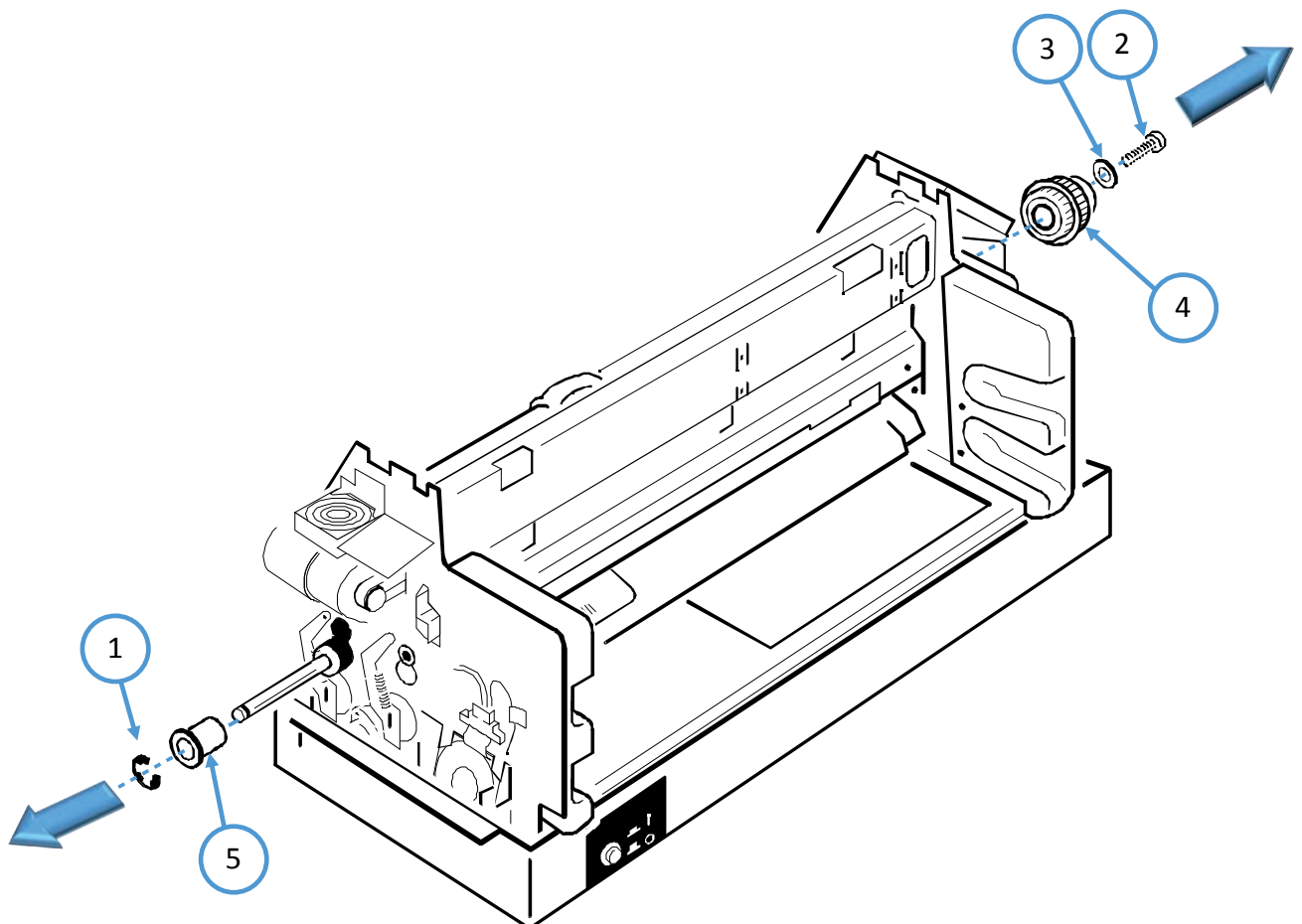
FSI: 5112 991 13372

Steps: Remove Part

- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Swivel down the cutter (see Part: Cutter) (only printer with cutter)
- Remove the drive belt from both pulleys
- Remove Screw (2), washer (3) and belt pulley (4)
- Remove circlip (1) and the bearing (5)
- Push the shaft FF2 either right or left, through the openings of the printer frame.

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Kit V-Drive Belts

Part No: 5112 292 6296X

Order No: 5322 310 32142

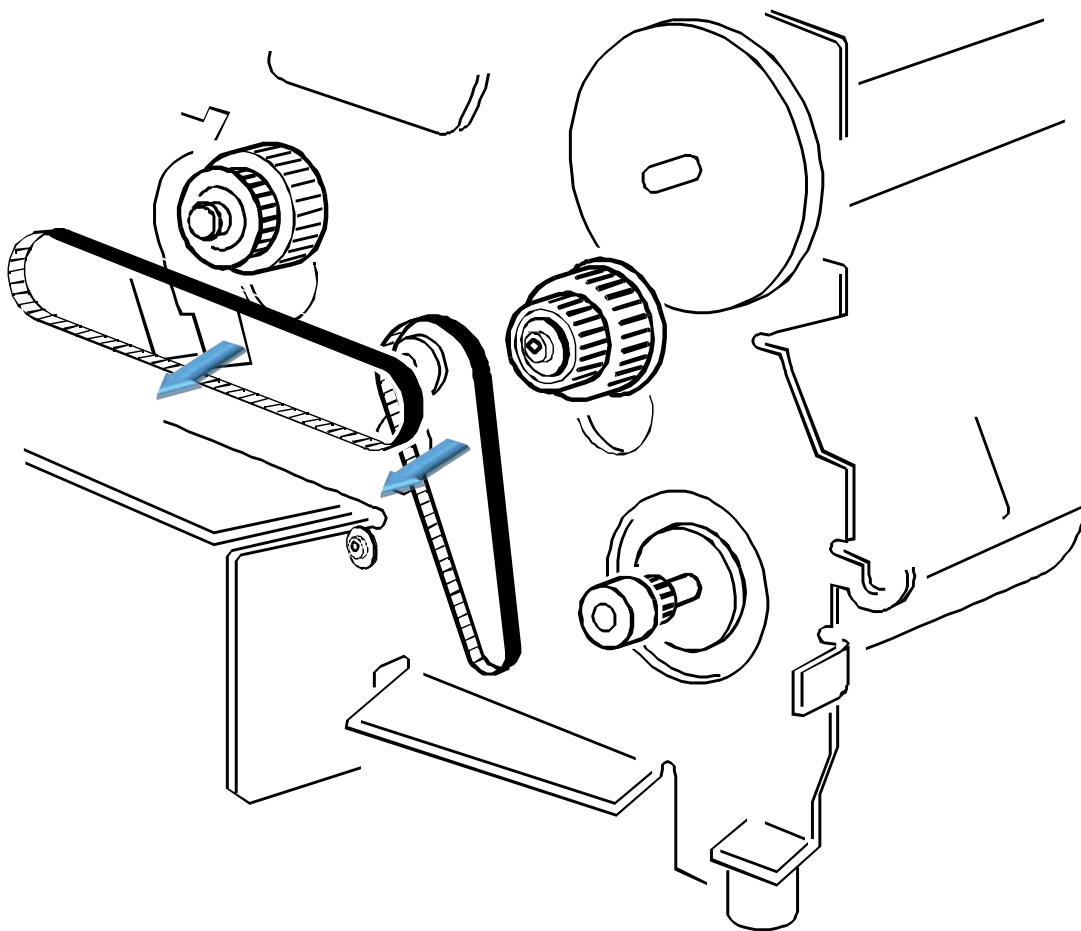
FSI: 5112 991 13132

Steps: Remove Part

- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Swivel down the cutter (see Part: Cutter) (only printer with cutter)
- Remove the metal sheet
- Exchange both drive belts

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Kit Pulley 2 407/8

Part No: 5112 292 7470X

Order No: 5322 310 32139

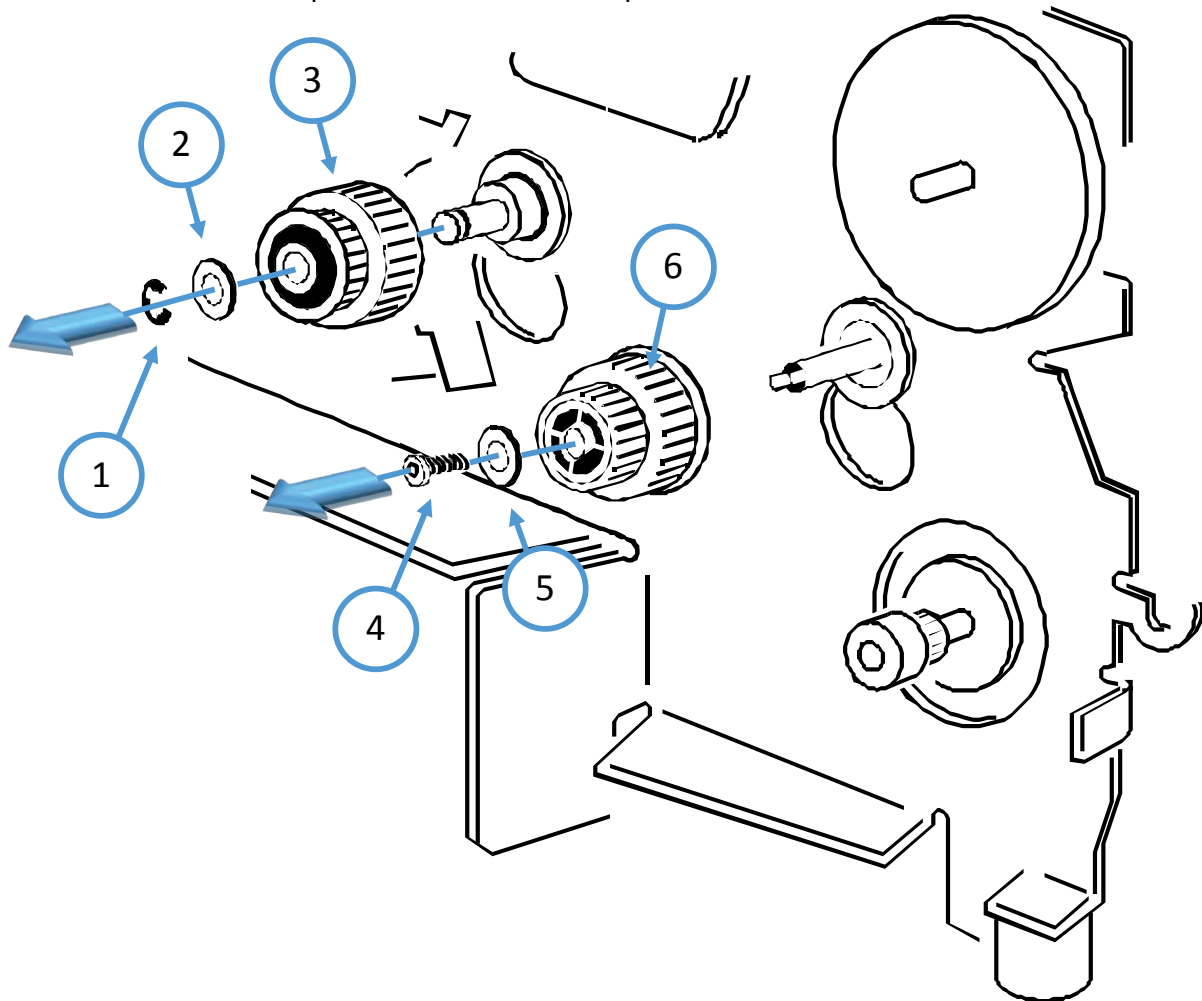
FSI: 5112 991 13403

Steps: Remove Part

- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Swivel down the cutter (see Part: Cutter) (only printer with cutter)
- Remove the metal sheet
- Exchange both drive belts
- Remove circlip (1), washer (2)
- Remove screw (4), washer (5)
- Exchange both pulleys (3) and (6)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence

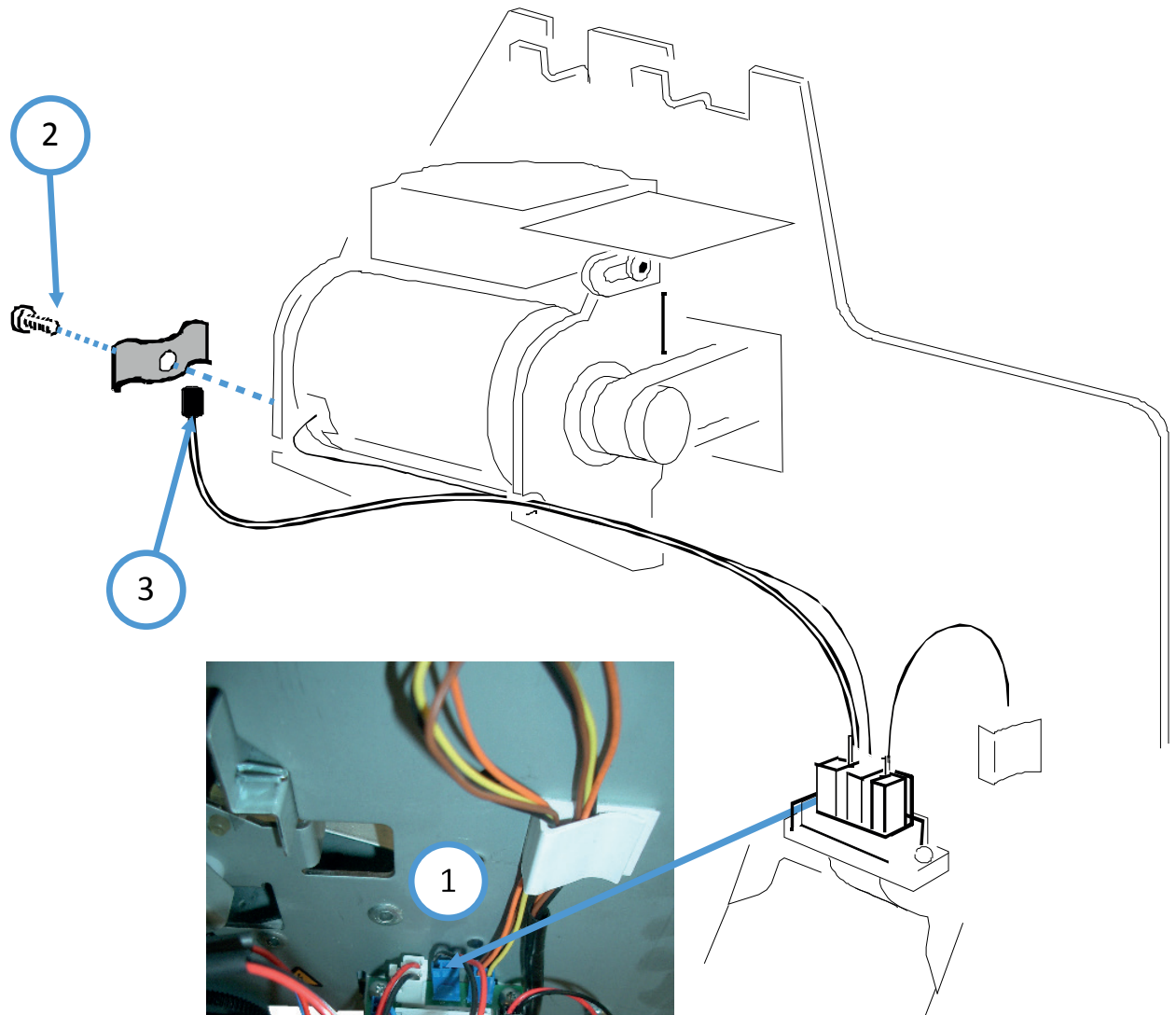


Part: Thermo-Sensor PP407/8-2Part No: 5112 280 1293X
Order No: 8707 901 00041
FSI: 5112 991 13294**Steps: Remove Part**

- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Swivel down the cutter (see Part: Cutter) (only printer with cutter)
- Remove Thermo-Sensor (3) from its fixation (2) to the Horizontal Motor
- Remove the connection cable of the PTC From the cable guide and collective connector (1)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: H-Drive Belt

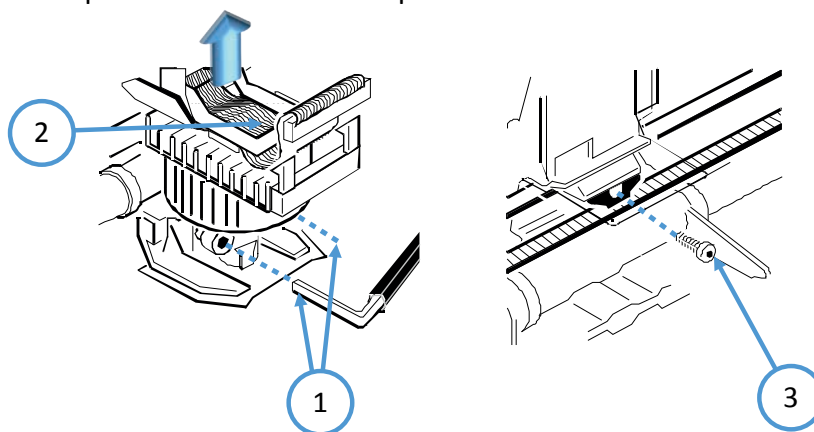
Part No: 5112 292 6295X
 Order No: 5322 310 32141
 FSI: 5112 991 13122

Steps: Remove Part

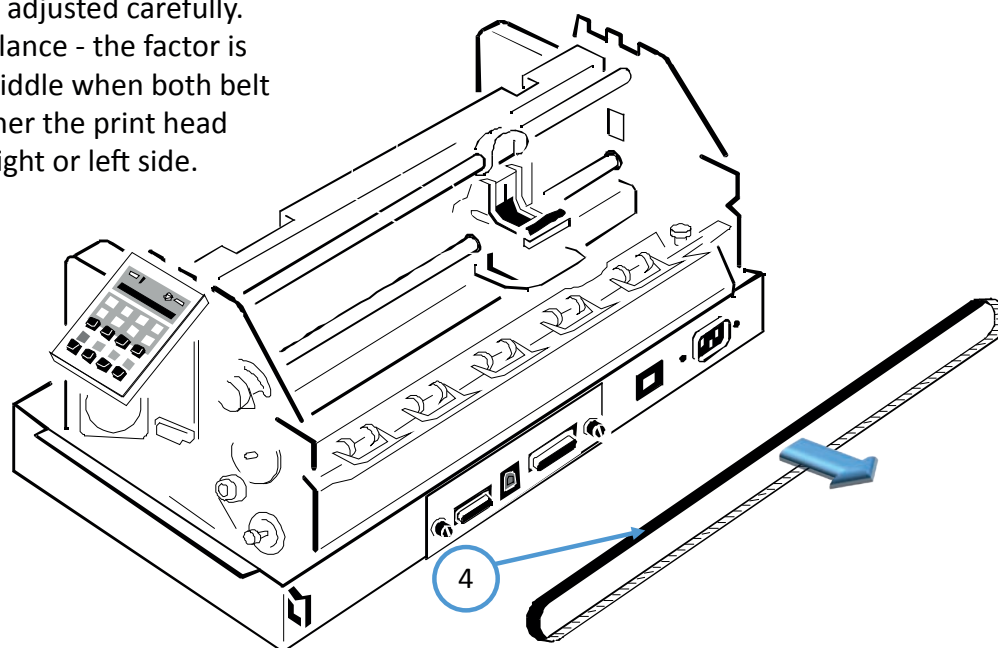
- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Disconnect and remove the print head (see Part: Print Head)
- Loosen fixation screw and decrease the belt tension
- Remove the drive belt from the carriage
- Remove the drive belt from both horizontal drive motors and exchange the new belt

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Note: By reassembling the tension of the drive belt must be adjusted carefully. Please use a spring balance - the factor is 9 to 10 N. in printer middle when both belt sides touches each other the print head should be parked on right or left side.



Part: Paper Guide 4

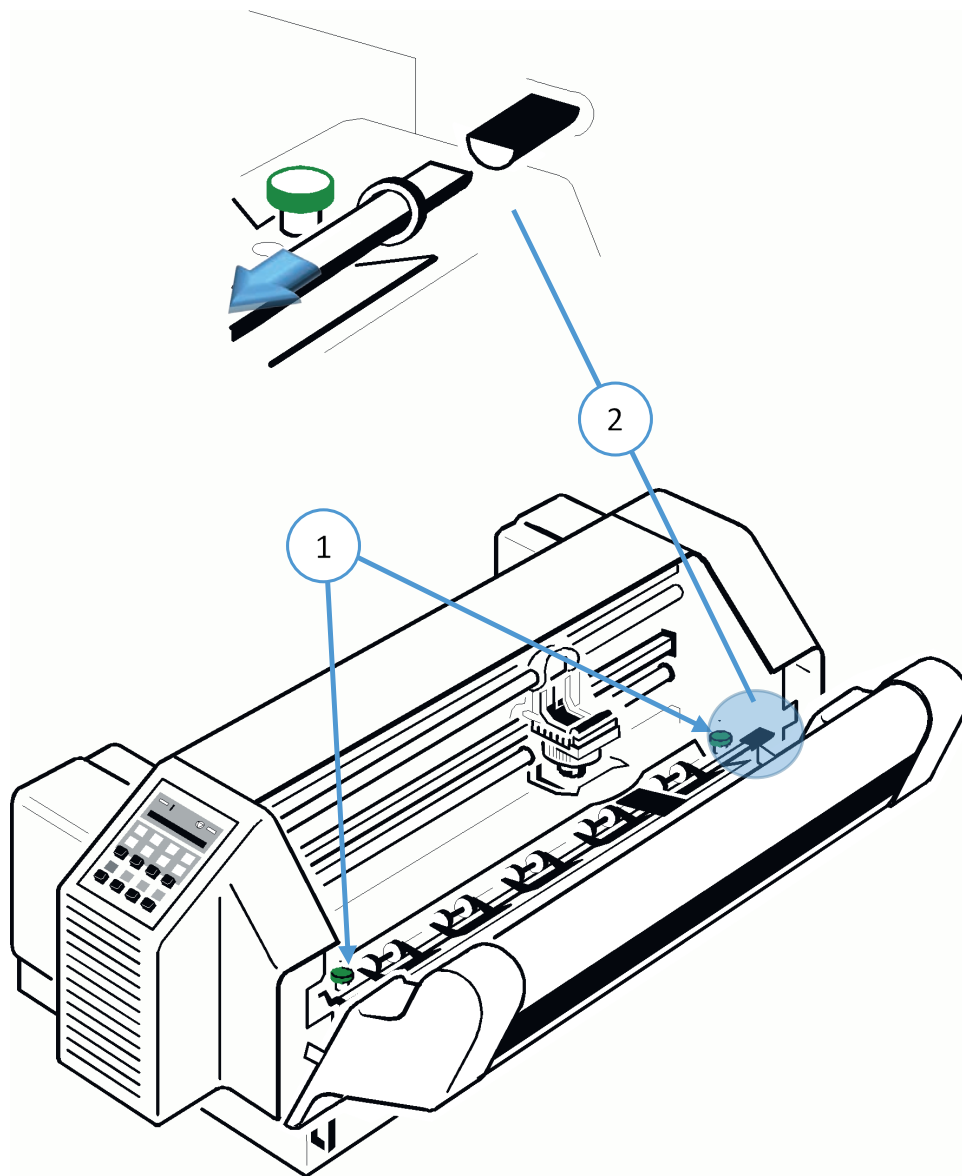
Part No: 5112 292 5494X
Order No: 5322 466 83095
FSI: 5112 991 13392

Steps: Remove Part

- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Swivel down the cutter (see Part: Cutter) (only printer with cutter)
- Loosen screws (1)
- Remove paper guide 4 and slide it out from the sleeve (2)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Kit Tractor Exit

PP407 only

Part No: 5112 292 6783X

Order No: 5322 310 10628

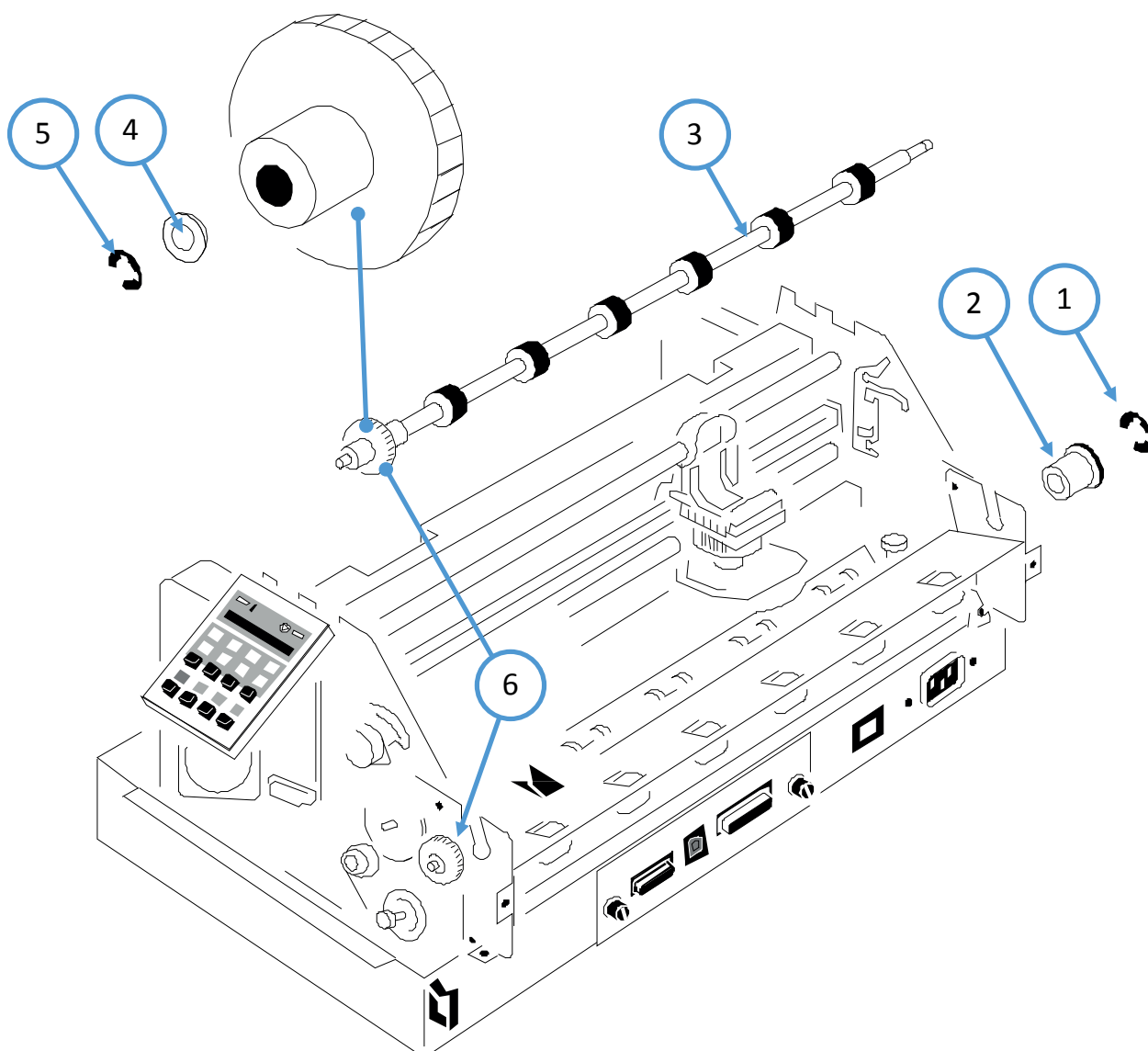
FSI: 5112 991 14642

Steps: Remove Part

- Disconnect mains cable
- Remove the left hand side engine cover (see Part: Kit Cover Engine)
- Remove rear cover (see rear cover PP407)
- Remove the circlips (1) and bearing (2)
- Lift the Shaft Tractor Exit (3) up and move the Shaft Tractor Exit out.
- Exchange the free-wheeling gear (6), the washer (4), and the circlip (5) by the new one, which is attached to the spare part

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Kit Tractor Exit

PP408 only

Part No: 5112 292 6287X

Order No: 5322 310 32137

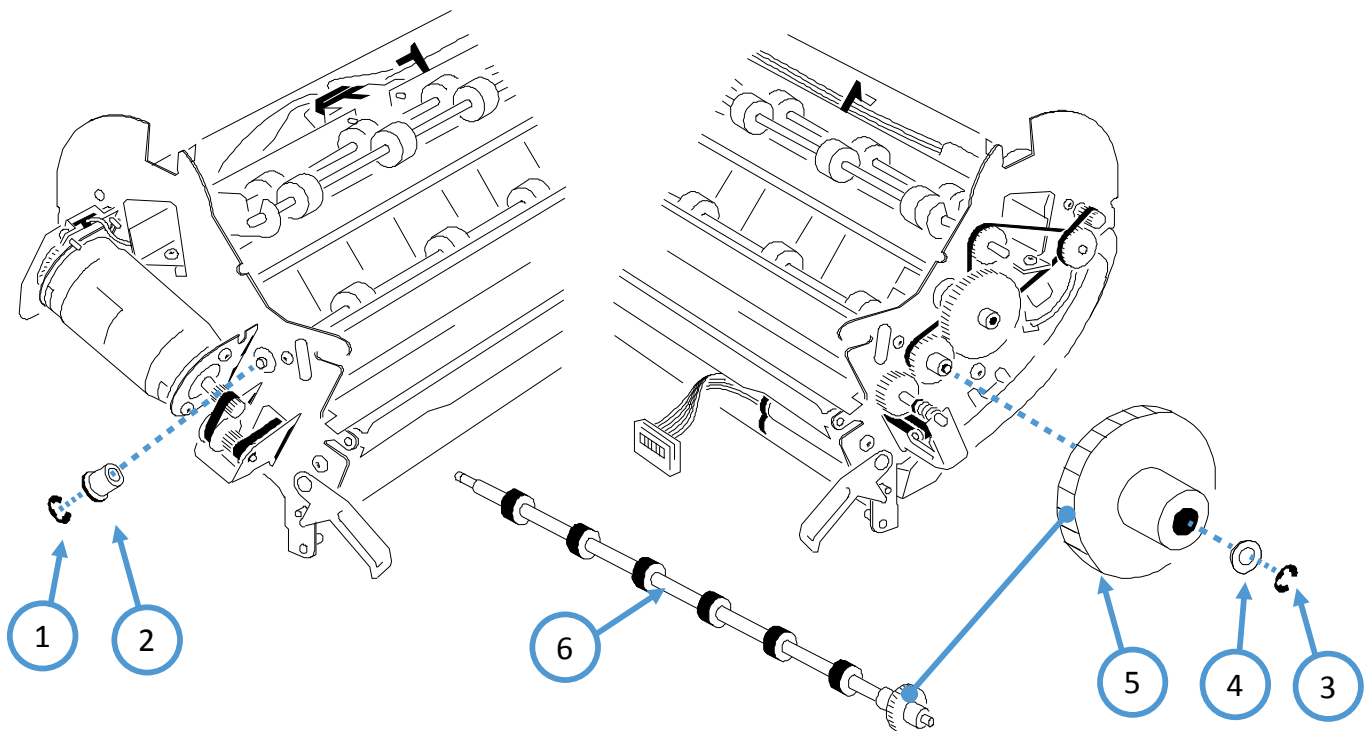
FSI: 5112 991 14932

Steps: Remove Part

- Disconnect mains cable
- Remove the cutter (see Part: Cutter) and all cutter covers
- Remove circlip (1) and the bearing (2) from the shaft
- Lift the Shaft Tractor Exit (6) up and move the Shaft Tractor Exit sidely out.
- Remove circlip (3), and washer (4) and exchange the free-wheeling gear (5), by the new one, which is attached to the spare part

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Protection Shield

Part No: 5112 292 3839X

Order No: 5322 466 92441

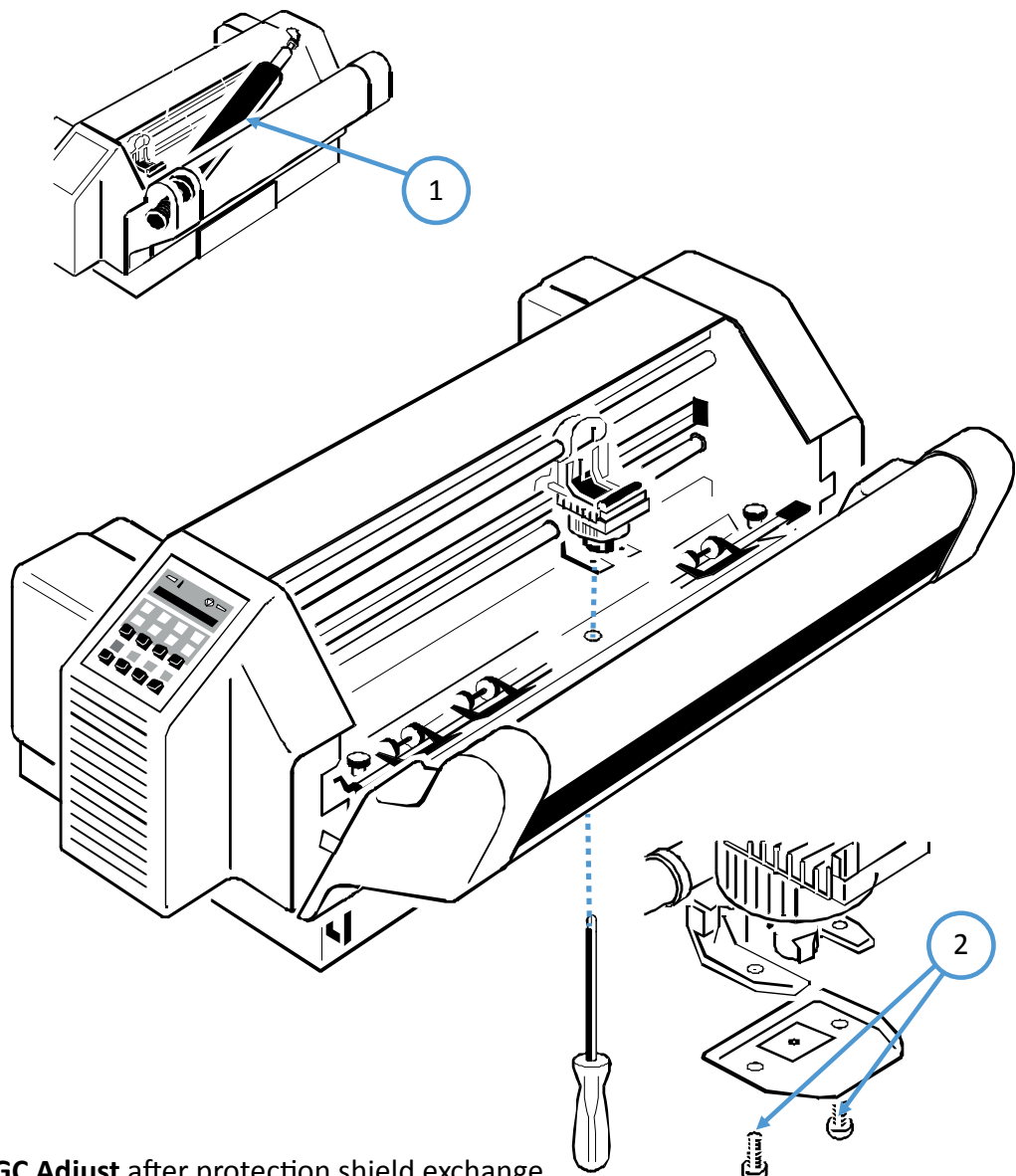
FSI: 5112 991 13472

Steps: Remove Part

- Disconnect mains cable
- Remove the ribbon cassettes
- Remove the platen assembly (1)
- Move the print head carriage in a position the fixation screws of the protection shield can be accessed through the hole in the bottom plate.
- Remove the protection shield by use of a Torx screw driver of a length of 110 mm

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Note: Perform **AGC Adjust** after protection shield exchange.

Part: Kit Cover Cutter

only PP 408

Part No: 5112 292 6287X

Order No: 5322 310 32137

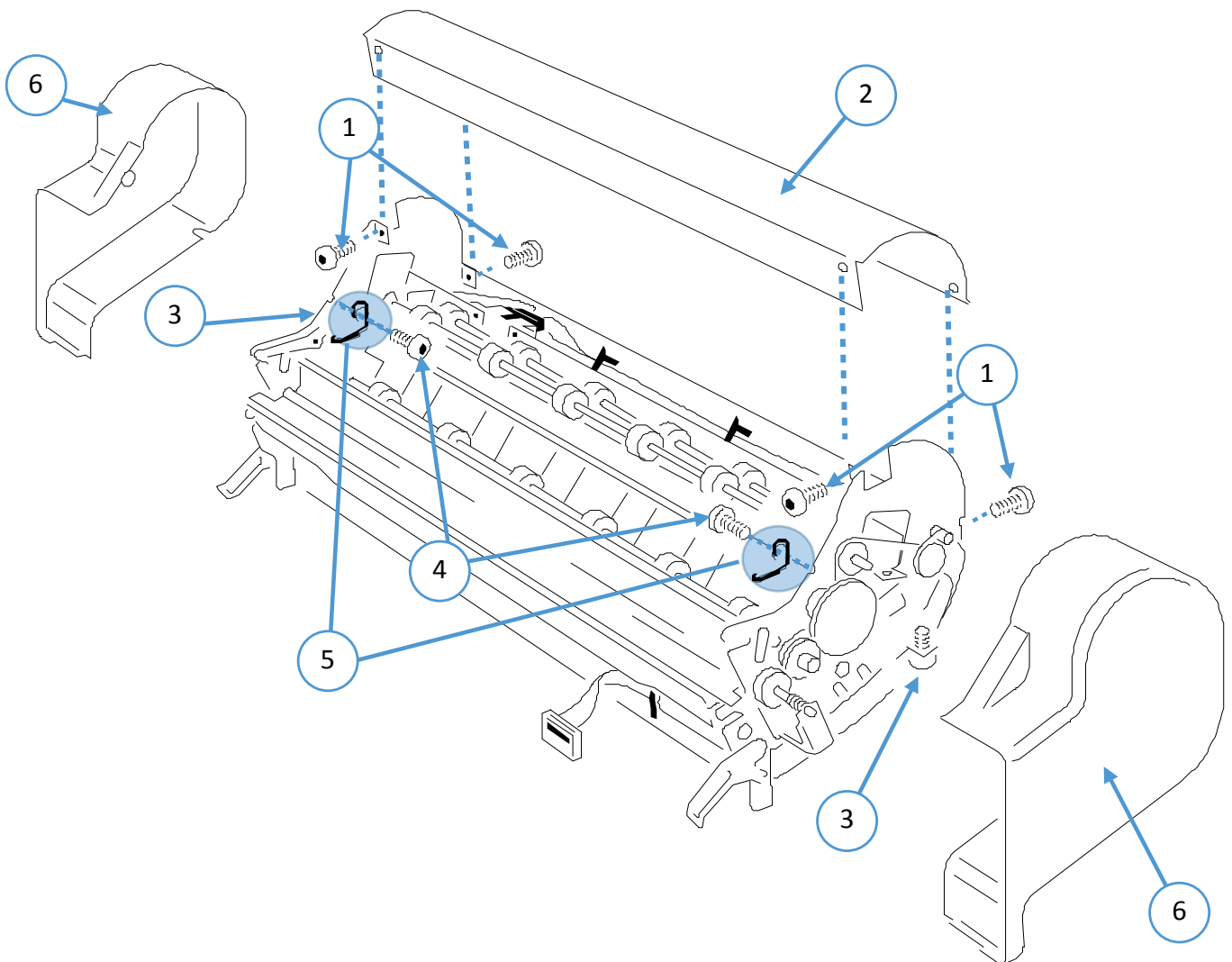
FSI: 5112 991 13091

Steps: Remove Part

- Disconnect mains cable
- Remove the cutter (see Part: Cutter)
- Remove screws (1)
- Remove the top cover of the cutter (2)
- Loosen screws (3)
- Remove screws (4); take care, that the antistatic springs (5) don't get lost !
- Remove the left and right hand side covers (6)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Cutter Conn. Cable PP408-2

only PP 408

Part No: 5112 280 1294X

Order No: 8707 901 00043

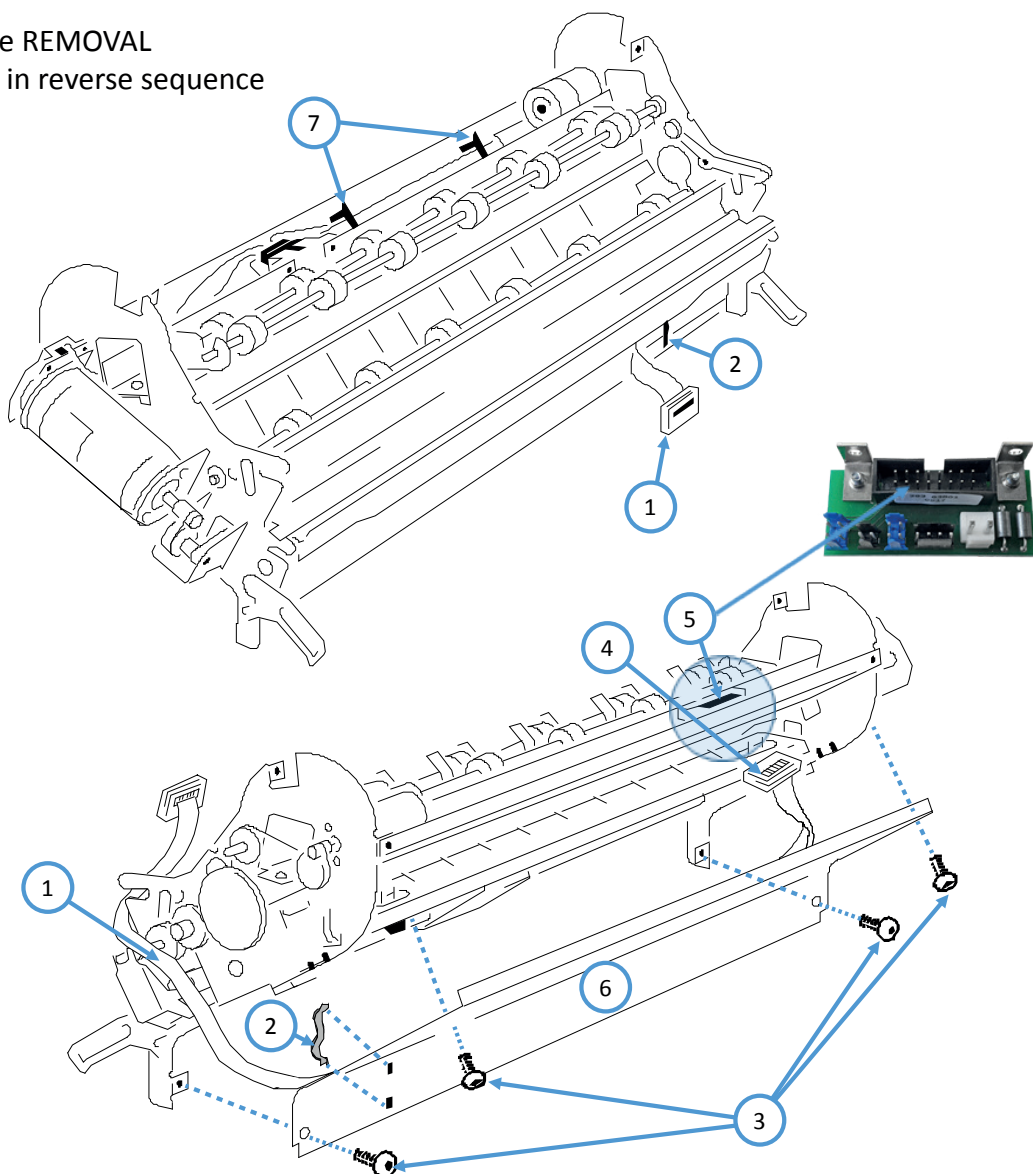
FSI: 5112 991 14851

Steps: Remove Part

- Disconnect mains cable
- Remove the cutter (see Part: Cutter)
- Remove Cutter covers
- Remove the cable clip (2) and the rear cover (6) by remove screws (3) of the cutter
- Disconnect and remove connector (4) from Board (5)
- Remove the plastic-clips (7) and slide the Cutter connection Cable (1) out of the metal frame

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Kit Cutter V-Motor cpl. PP408-2

only PP 408

Part No: 5112 280 1292X

Order No: 8707 901 00049

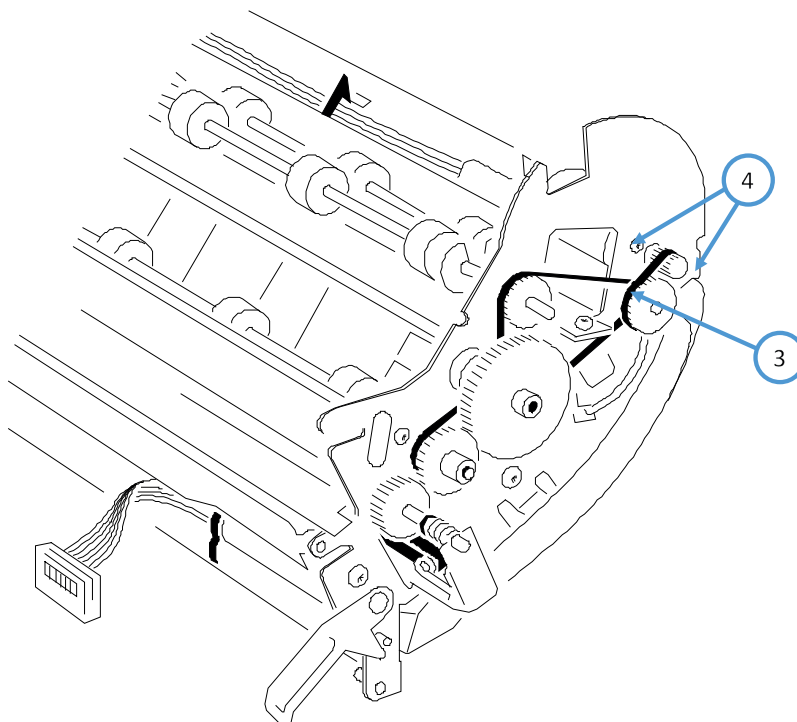
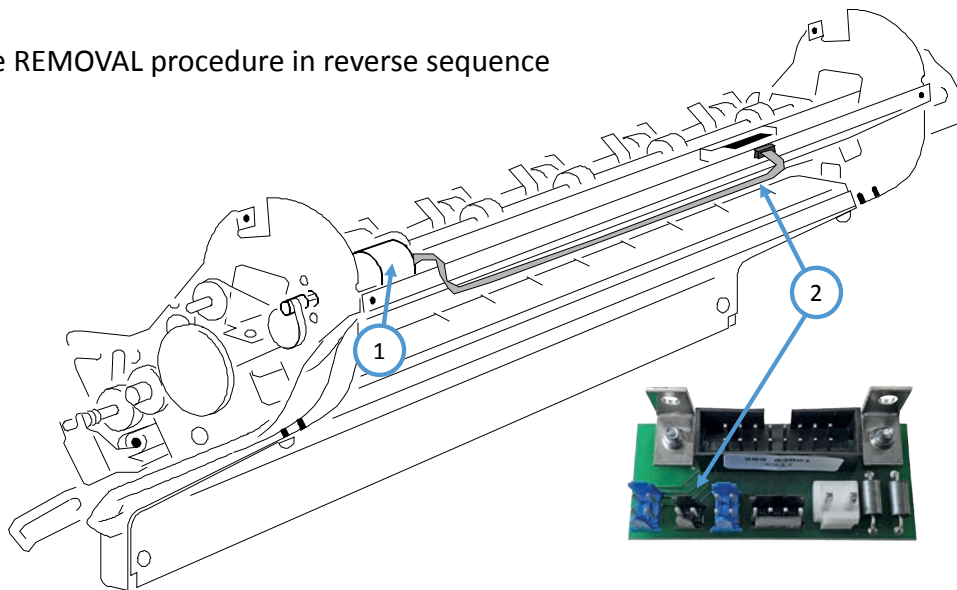
FSI: 5112 991 14812

Steps: Remove Part

- Disconnect mains cable
- Remove the cutter and remove all cutter covers.
- Disconnect Plug (2)
- Loosen screws (4)
- Remove the Belt (3) and the Vertical Transport Motor Assy (1)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Cutter Sensor Right-2

Part No: 5112 280 1289X
Order No: 8707 901 00045

Part: Cutter Sensor Left-2

(PP 408 only)

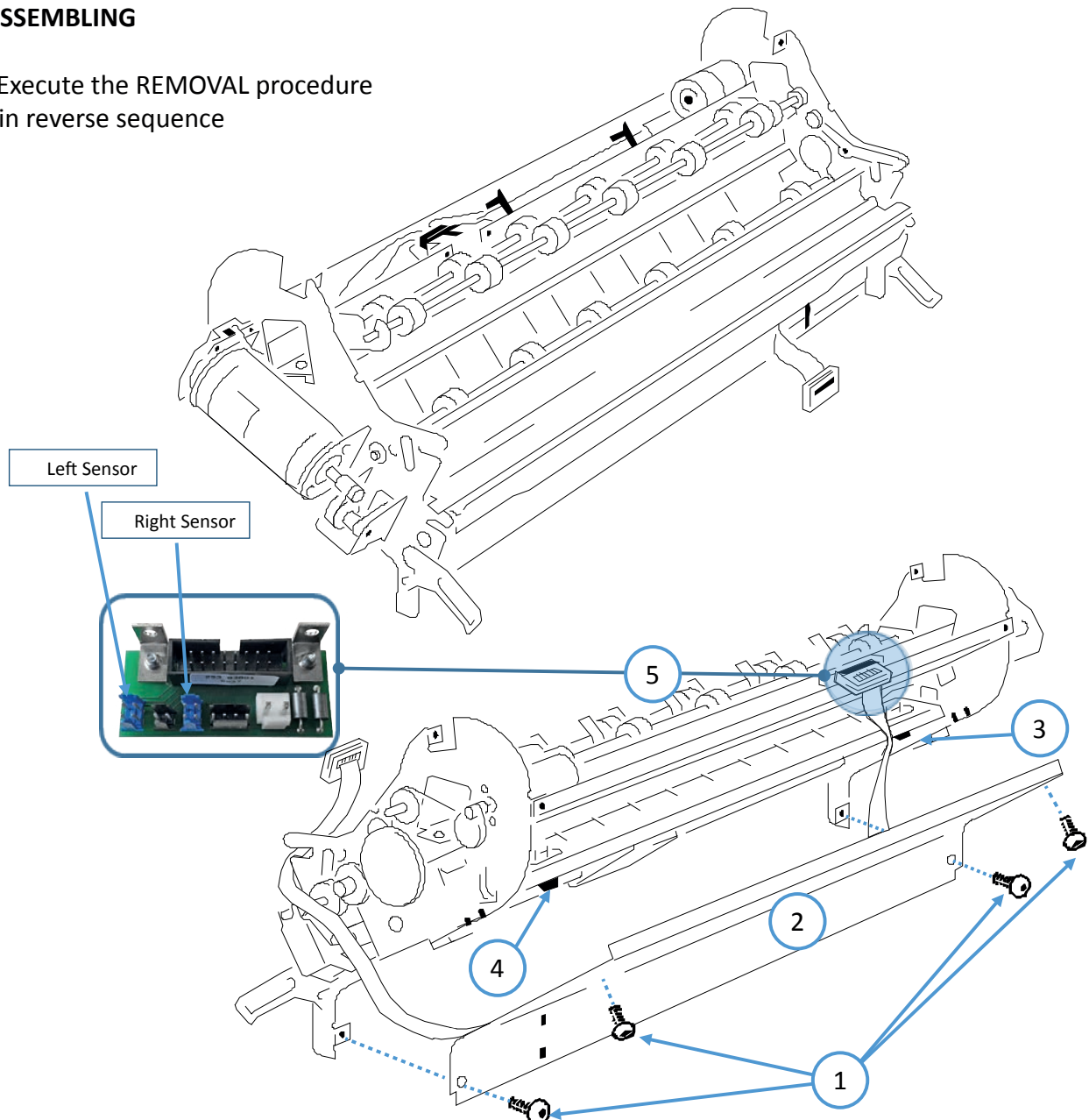
Part No: 5112 280 1288X
Order No: 8707 901 00046
FSI: 5112 991 14882

Steps: Remove Part

- Disconnect mains cable
- Remove the cutter (see Part: Cutter) remove top cover and the left and right hand side covers
- Remove screws (1) and the rear cover (2) of the cutter
- Disconnect the sensor from the collection connector (E) and feed the cable through the side wall
- Loosen screws of the Cutter Sensor (f)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Kit Cutter Carriage

(PP 408 only, incl. knife and belt)

Part No: 5112 292 6786X

Order No: 5322 310 10624

FSI: 5112 991 14863

Steps: Remove Part

- Disconnect mains cable
- Remove the cutter (see Part: Cutter)
- Remove screws and remove the top cover of the cutter
- Remove the left and right hand side covers
- Loosen the tension of the cutter carriage belt (6) by loose Nut (7)
- Remove the cutter tension (5) kit and roller (8)
- Remove circlip (4), axis (12), wheels and the cutter carriage cutter belts (2),(3)
- Remove four screws (1)
- Remove the Cutter Carriage Assy with both axis (9) , (10)

REASSEMBLING

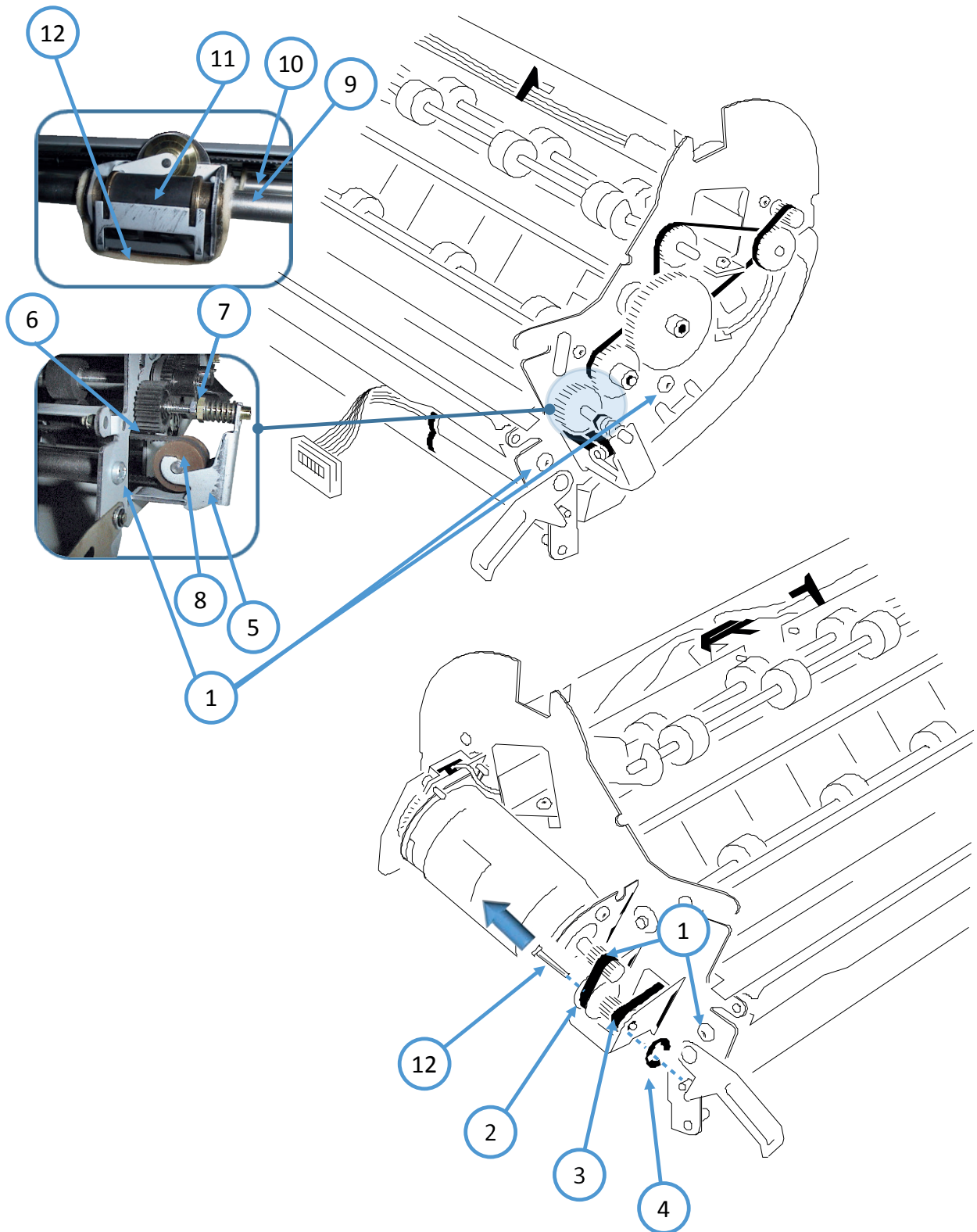
- Execute the REMOVAL procedure in reverse sequence

Note: The kit contains also a plastic turn back roller (8), the lever (5), the felt (12) and (11), and the sleeve (8). Replace all the old parts by the new one.

Important: Take care, that the belt tension kit is properly mounted. Carefully adjust the tension of the carriage drive belt

Procedure for proper adjustment of the drive belt tension:

- Move the cutter carriage in the middle position
- Tighten the belt by turning of the tightening nut (7) such, that the top of it is just in contact with the lever of the tension kit
- Fix the tightening nut with nut
- see picture next page.



Part: Cutter H-Motor S PP408-2

(PP 408 only)

Part No: 5112 293 0324X

Order No: 8707 901 00047

FSI: 5112 991 14902

Steps: Remove Part

- Disconnect mains cable
- Remove the cutter (see Part: Cutter)
- Remove screws and remove the top cover of the cutter
- Remove the left and right hand side covers
- Loosen the tension of the cutter carriage belt (3) by loose Nut (6) and spring (7)
- Remove the cutter tension (5) kit and roller
- Disconnect the motor from collection connector (8)
- Remove circlip (1), axis (4) and belt (2)
- Remove the cutter carriage Motor Assy

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence

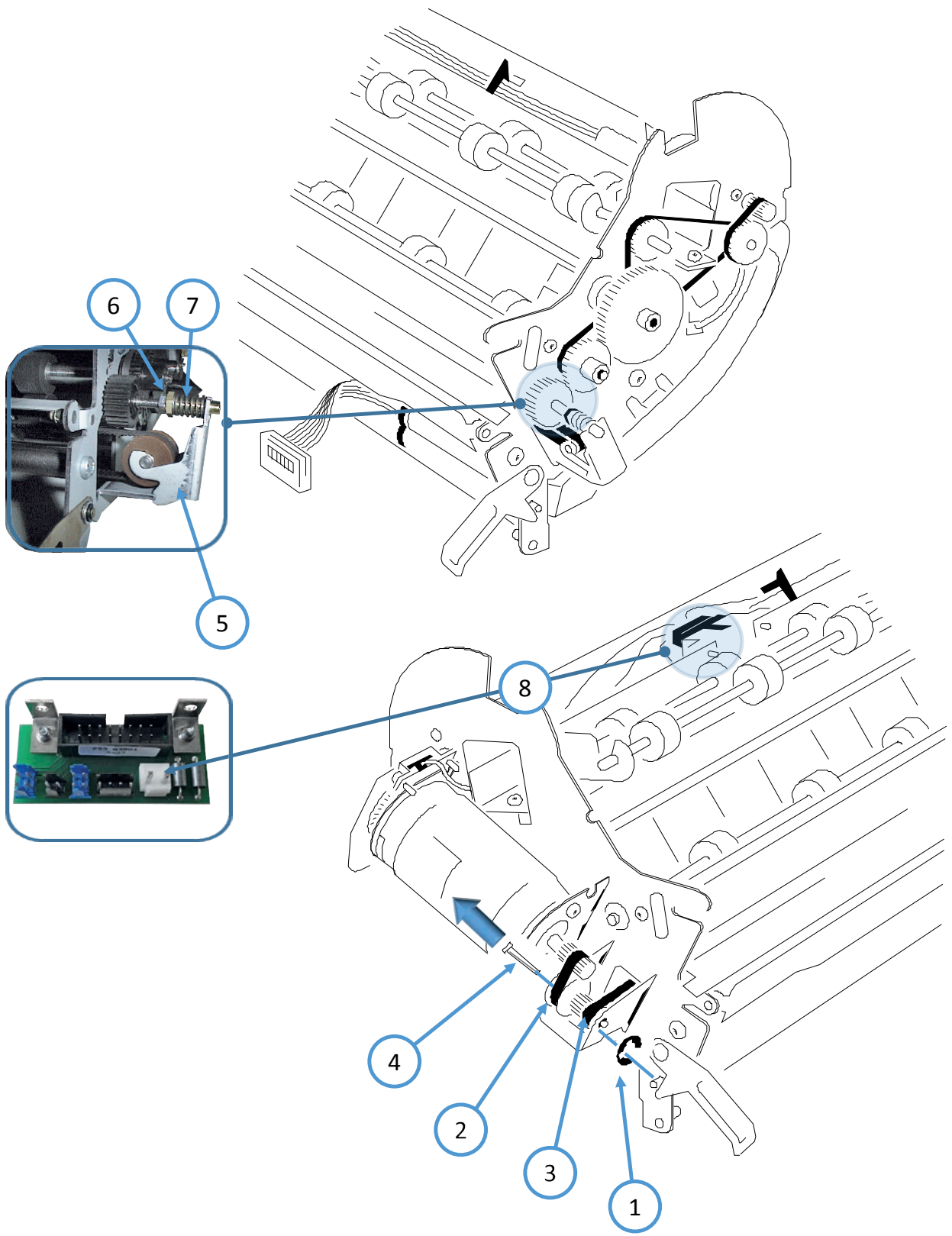
Important:

- Take care, that the belt tension kit is properly mounted.
- Carefully adjust the tension of the carriage drive belt

Procedure for proper adjustment of the drive belt tension:

- Move the cutter carriage in the middle position
- Tighten the belt by turning of the tightening nut (7) such, that the top of it is just in contact with the lever of the tension kit
- Fix the tightening nut with nut

- **see picture next page.**



Part: Kit Cutter V-Motor cpl. PP408-2

only PP 408

Part No: 5112 293 0581X

Order No: 8707 901 00044

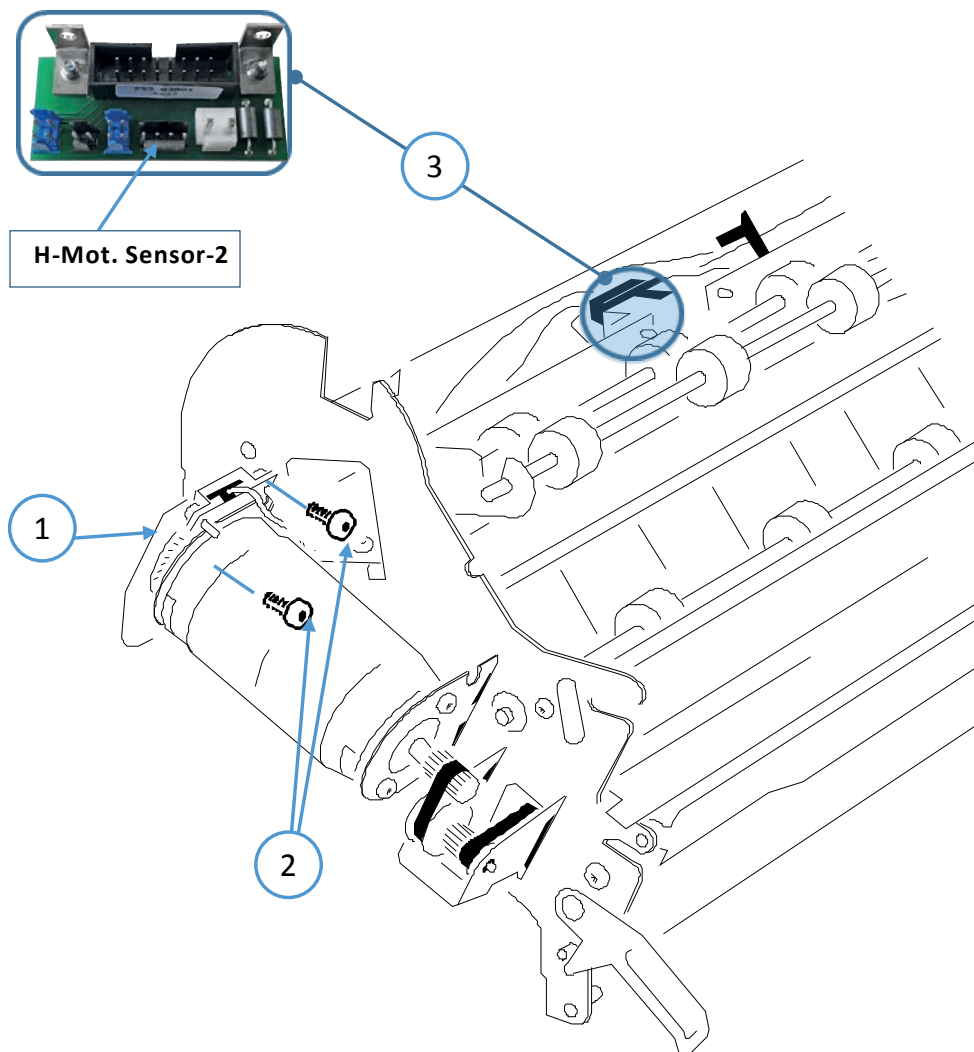
FSI: 5112 991 14892

Steps: Remove Part

- Disconnect mains cable
- Remove the cutter and remove all cutter covers.
- Loosen screws (2)
- Remove the metal frame (1), and the sensor
- Disconnect the sensor from the collection connector (3) and feed the cable through the side wall

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Kit Cutter Belts

only PP 408

Part No: 5112 292 6819X

Order No: 5322 310 10627

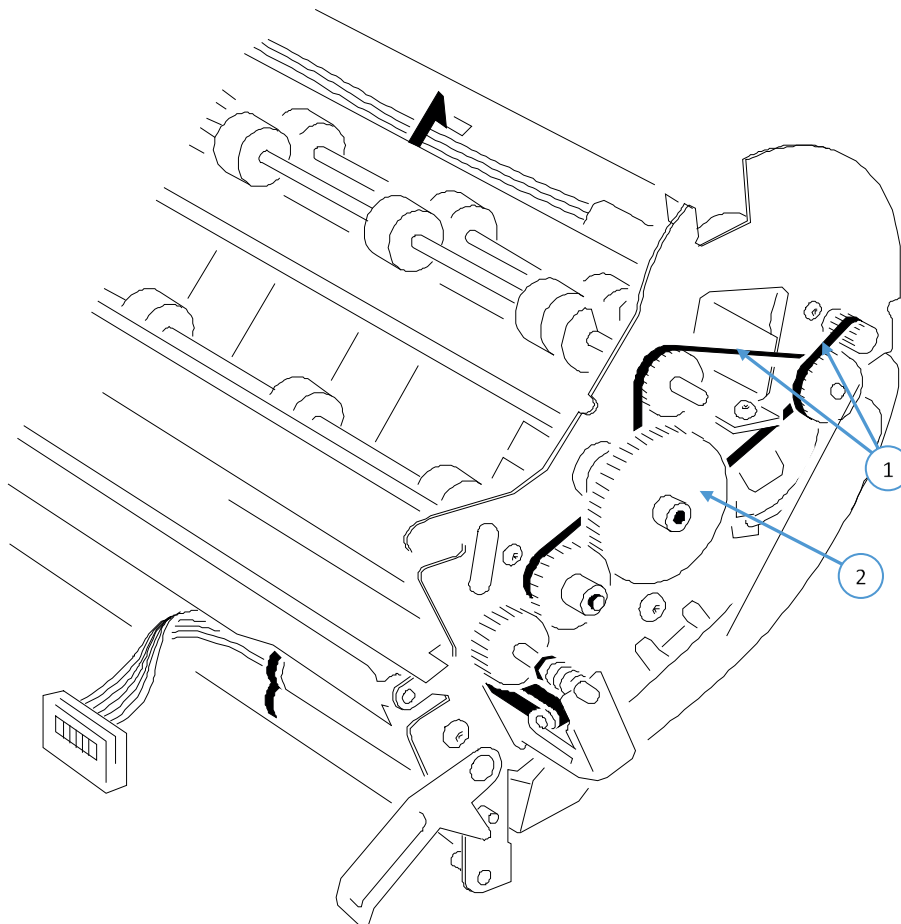
FSI: 5112 991 14921

Steps: Remove Part

- Disconnect mains cable
- Remove the cutter and remove all cutter covers.
- Remove Belts (1)
- Replace the belt pulleys as far as necessary; plastic clips of gear wheel (2) will be destroyed by exchange the belt (1)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Kit Tractor Run 408-2

only PP 408

Part No: 5112 293 0042X

Order No: 8707 901 00024

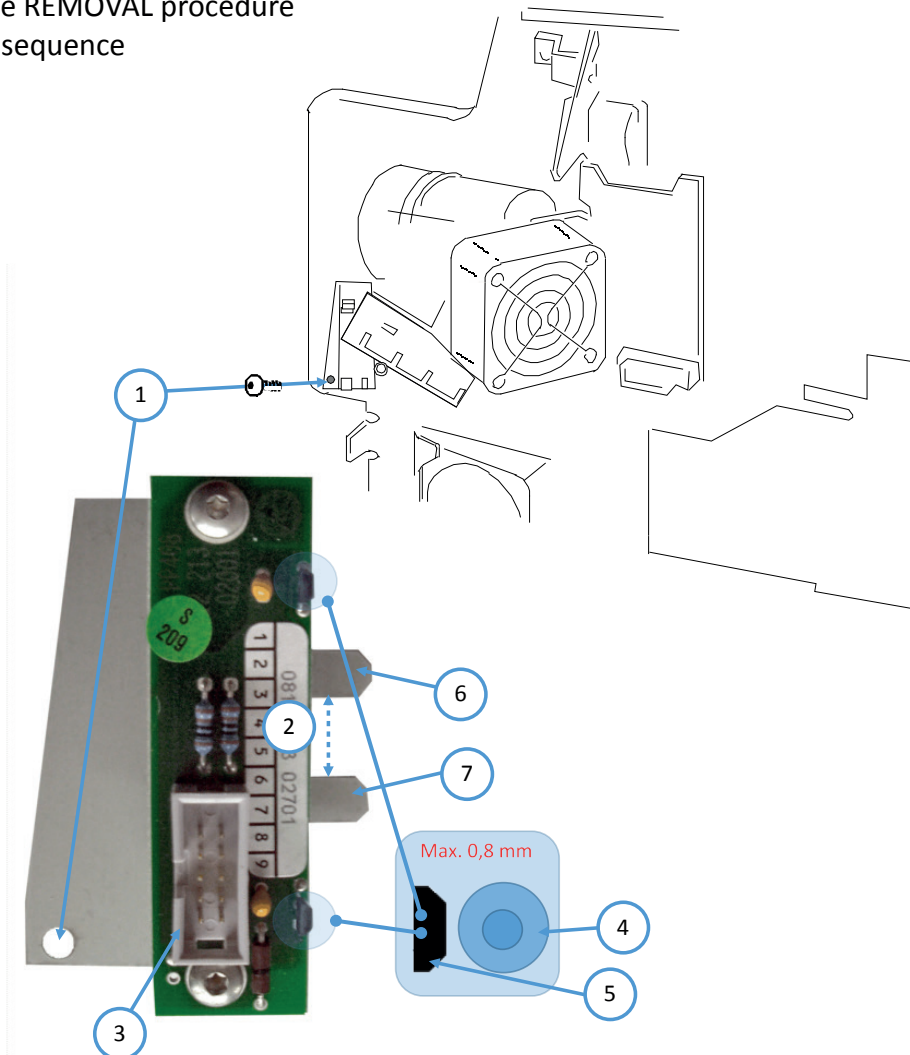
FSI: 5112 991 15093

Steps: Remove Part

- Disconnect mains cable
- Remove cover right
- Remove the right hand fixture of the tractor cassette (see Part: Print H-Encoder)
- Remove the Tractor Run 408 board
- Disconnect cable connector (3)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence
- Insert the Tractor Run 408 board and fix it with screw (6) in the hole (1) Connect the cable to the connector (3)
- Note: Be sure that parts (2) are between the upper (6) and lower (7) tractor drive and that the metal frame carrier of the Tractor Run 408-board is in closed contact with the bearings of the tractor drive gears.
- The gap between the sensor (E) and the activators (K) should not exceed 0.8 mm.
- Execute the REMOVAL procedure in reverse sequence



Part: Kit Cutter Cover Springs

only PP 408

Part No: 5112 200 1146X

Order No: 8707 250 99008

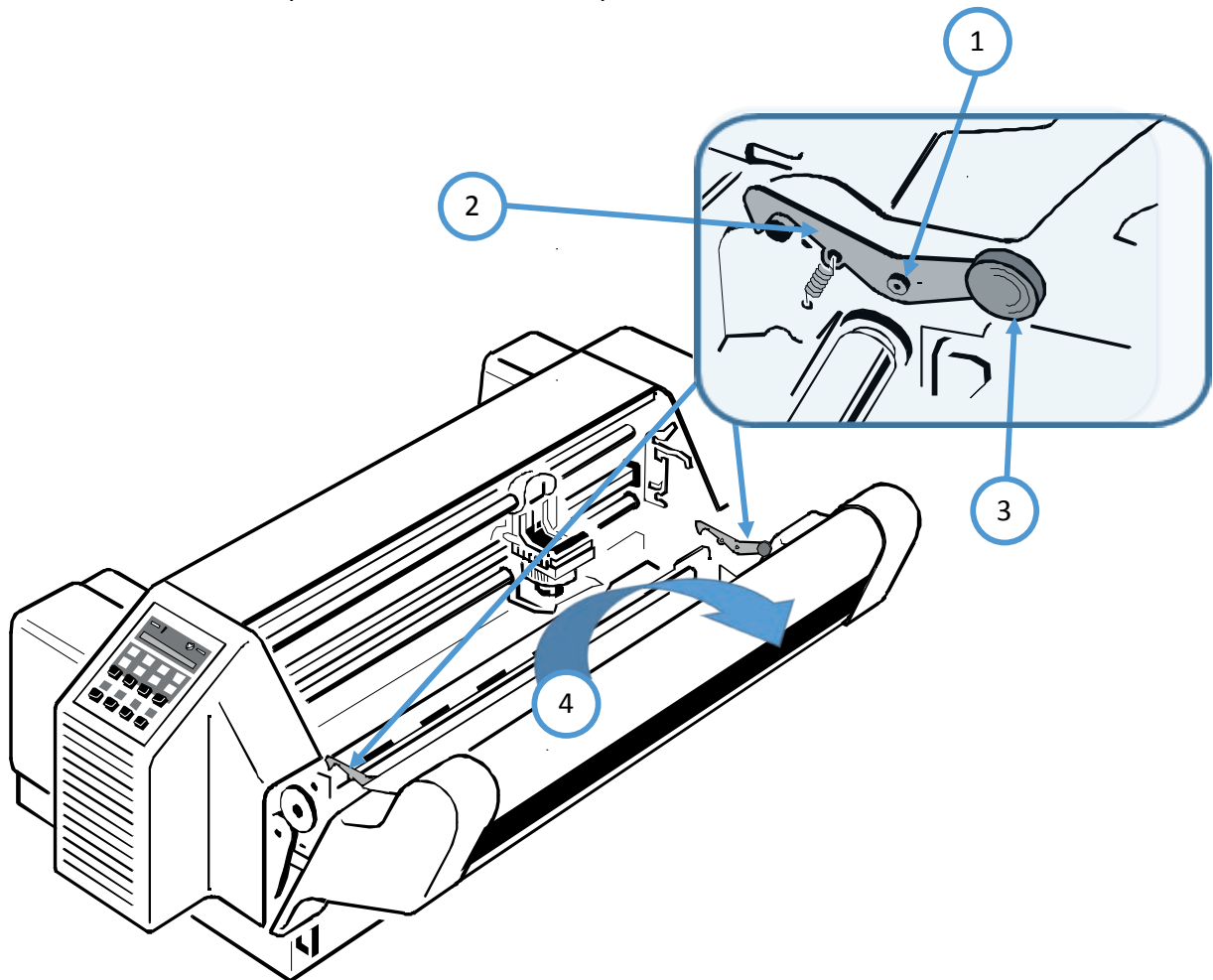
FSI: 5112 991 17381

Steps: Remove Part

- Disconnect mains cable
- Grasp the cutter housing (4) on both sides. Press down the green knob (3) on the handles using your thumbs and swing the cutter to the rear.
- Remove the handles by removing the circlip (1)
- Remove the Cutter Cover Springs (D)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Carriage 407/408

Part No: 5112 292 5499X
 Order No: 8707 901 00001
 FSI: 5112 991 17942

Steps: Remove Part

- Disconnect mains cable
- Remove the cutter (only printer with cutter) and the housing (see Parts: Cutter and Kit Cover Engine)
- Remove the encoder stripe (see Part: Encoder Stripe)
- Remove the cable print head from the print head carriage (see Print Head Cable)
- Remove Print Head (see Print Head)
- Remove the safety-plate (1)
- Remove operator panel socket including operator panel and fan by removing screw (4), but leave the interface cable connected.
- Remove the horizontal motor (see Part H-Motor right)
- Remove the tractor gear (see Part Tractor Gear)
- Remove the two screws (3) and the upper rail (2)
- Release springs (5), (6), and remove lever (8) including spring
- Remove the screws (12) and push the shaft (13) including the plastic segment (9) out towards the right hand side of the chassis
- Remove carriage (14)

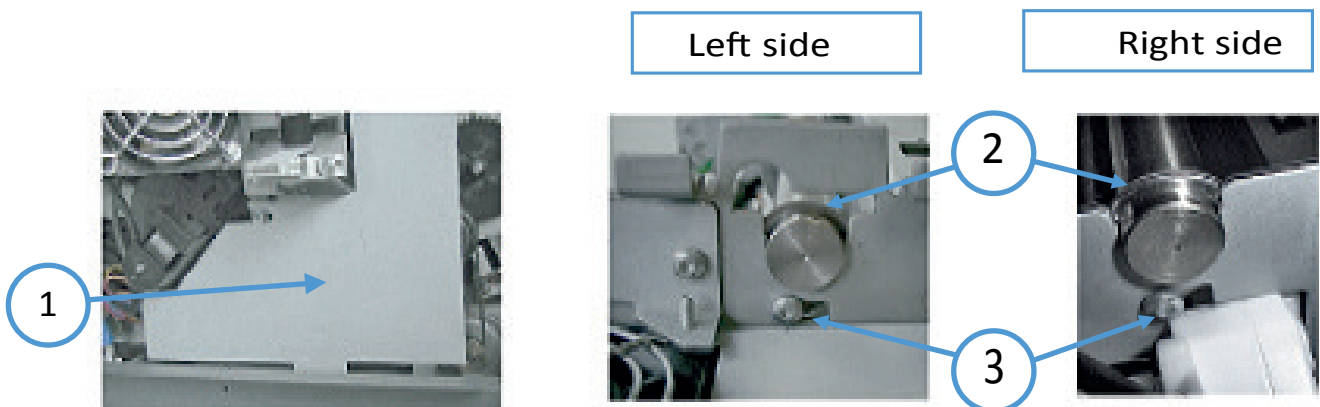
Note: The plastic segment (9) cannot be removed Slide the carriage (13) out of the guide rail

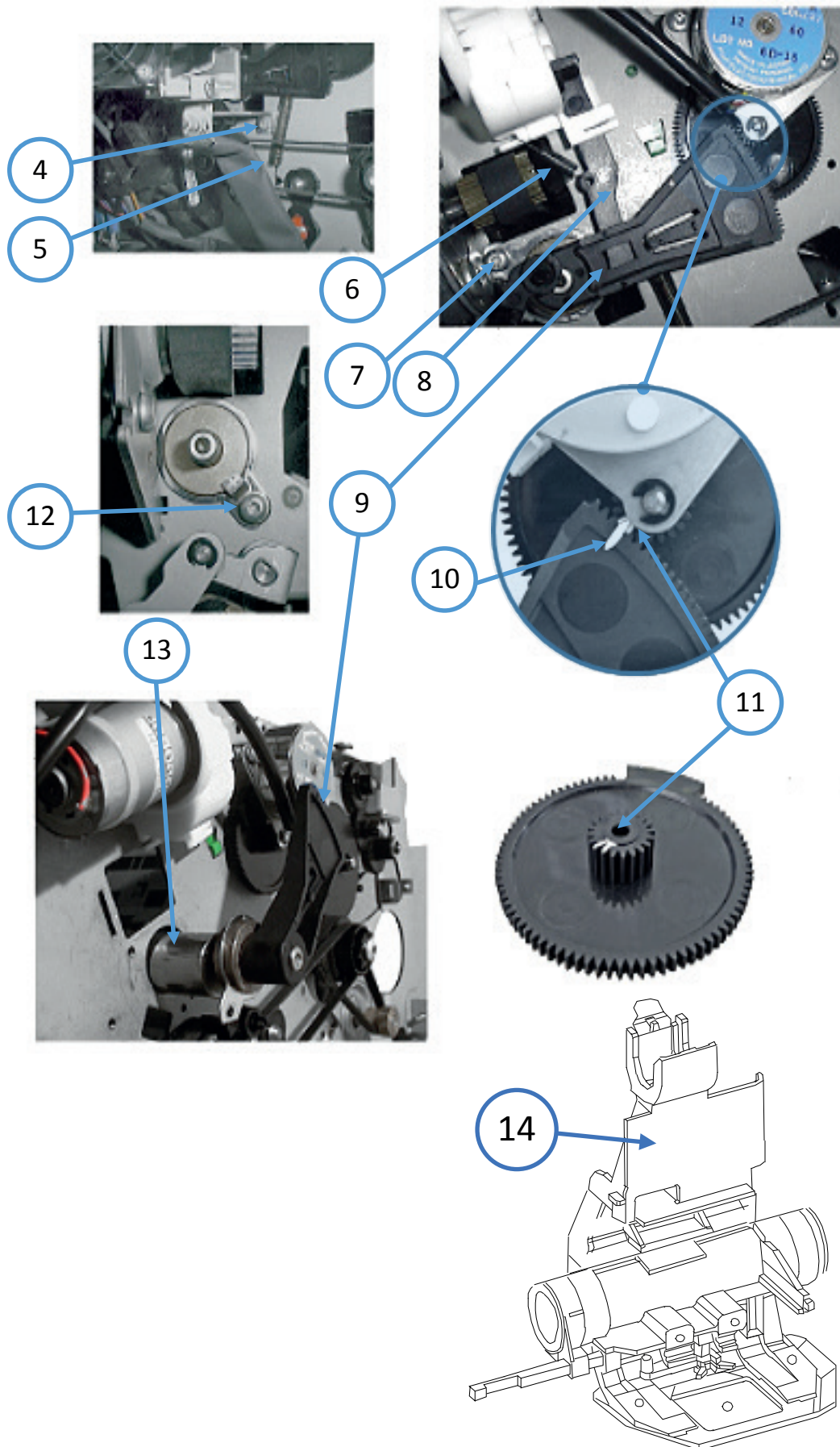
REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence

Note: Engage the plastic segment in that way, that the guide rail (13) with the marker (10) aligns with the marker (11) on the AGC gear

- see also picture next page.





Part: Tractor Gear

Part No: 5112 292 3803X

Order No: 5322 522 10432

FSI: 5112 991 17961

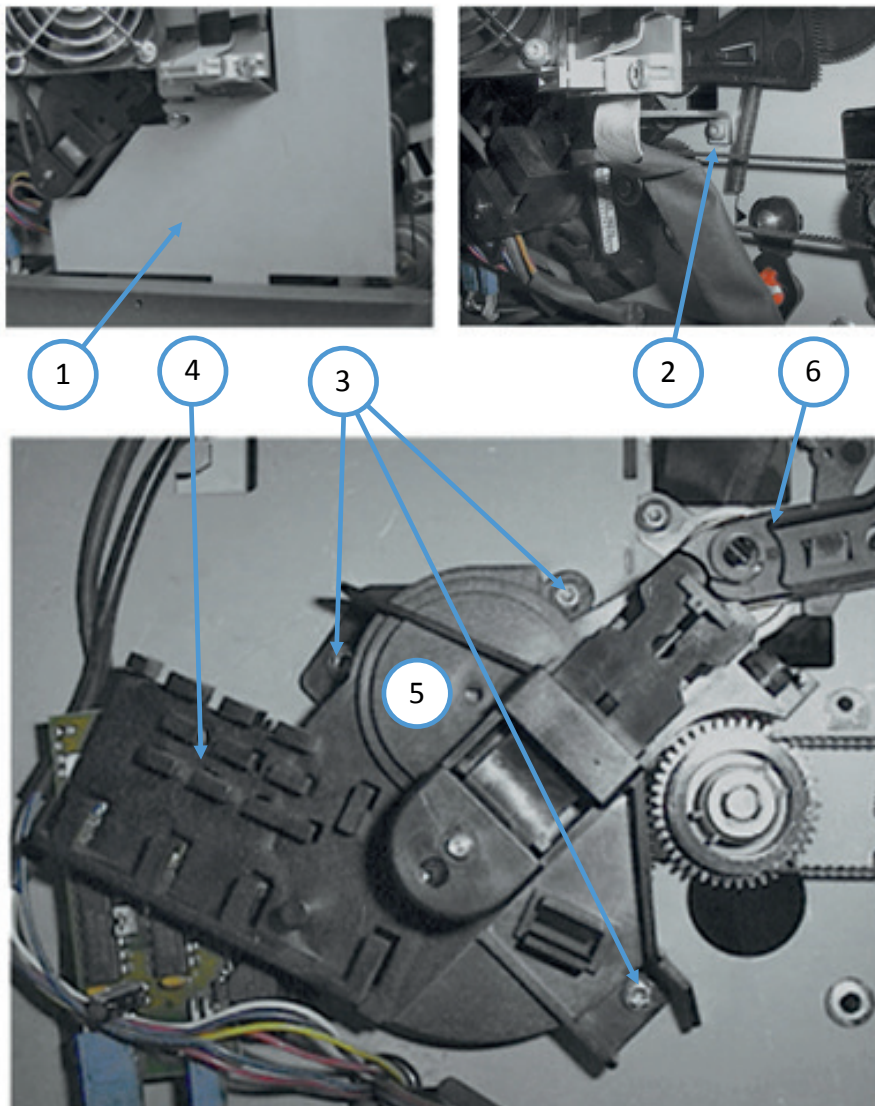
Steps: Remove Part

- Disconnect mains cable
- Remove the cover right
- Remove the safety-plate (1)
- Remove operator panel socket including operator panel and fan by removing screw (2), but leave the interface cable connected.
- Remove all cables from the cable guide (4)
- Remove the three screw (3)
- Remove the tractor gear (5)

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence

Note: Hold up the guide (6) during fixing the tractor gear (5).



7. Wearing Parts

This chapter describes the removal procedures which are necessary for proper handling of the wearing parts of the printer.

Note: All removal procedures consists of several steps indicated with a:

To show preparation and to indicate the main removal steps.

In terms of preventive actions for keeping the printer running, following operation for the life time of wearing parts is given:

- Ribbon Cartridge: 16 million characters (draft quality)
- Print Head: 400 million characters (draft quality) (approximately 350,000 pages in PRINT TEST 2 [ECMA-132] format)
- Platen Assy: > 800,000 pages

Recommendation for cleaning: Transport Rolls, Platen Assy, and Pick up Rolls every 50,000 Pages

Note: the Page Counter (PGCNT) in the PRINT-TEST 3 will give you information about actual number of printed pages. See sample next page.

CONFIGURATION

FW	20815776	F-D	0.2	F-X	0.3	PM	00-013665-0
NFQ	1500	DSF	100	NLSF	100	LSF	100
GSF	80	NFT	270	TNA1	230	TNA2	260
TNA3	260	CAC	2.60	NDLC	2.2	PGC	46
PGCNT	143299	SBP	36				

C031 ISO 8859/1	C032 ISO 8859/15	C034 ISO 8859/5
C032 ISO 8859/9	C061 IBM SET 1	C062 IBM SET 2
C063 IBM CODE PAGE	C071 EPSON EXT. GCT	C100 CODE PAGE EE
C101 CODE PAGE EE2	C912 GREEK CHR. SET	C069 ALL ICT TABLE
C091 BARCODE		
DATA	ROMAN NLQ	ROMAN LQ
SANS SERIF NLQ	SANS SERIF LQ	COURIER NLQ
COURIER LQ	PRESTIGE NLQ	PRESTIGE LQ
SCRIPT NLQ	SCRIPT LQ	OCR B LQ
OCR A LQ	ORATOR-C NLQ	ORATOR-C LQ
ORATOR NLQ	ORATOR LQ	DATA LARGE

ZEICHENSATZ : EPSON EXT. GCT 1: U.S.A.



usw.

Part: Print Head PP40x-2

Part No: 5112 293 0326X

Order No: 8707 251 90501

FSI: 5112 991 10378

The platen need to be replaced after approximatively 800,000 pages compare page counter „PGCNT“ in the printer test („TEST 3“ - „HW-AUSBAU“).

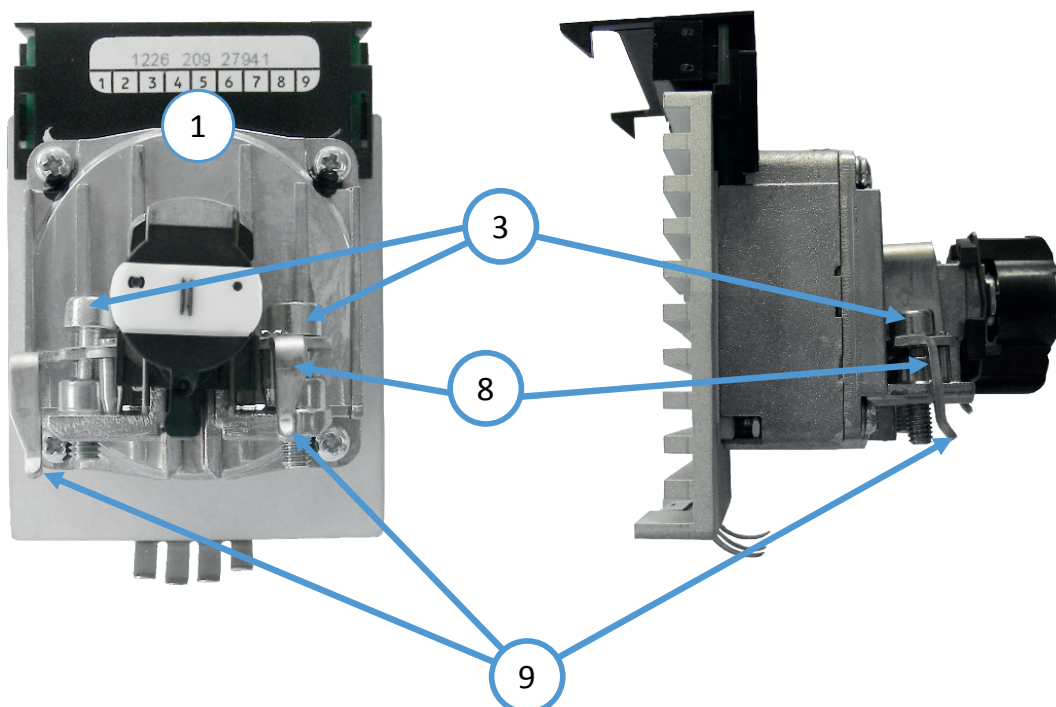
Steps: Remove Part

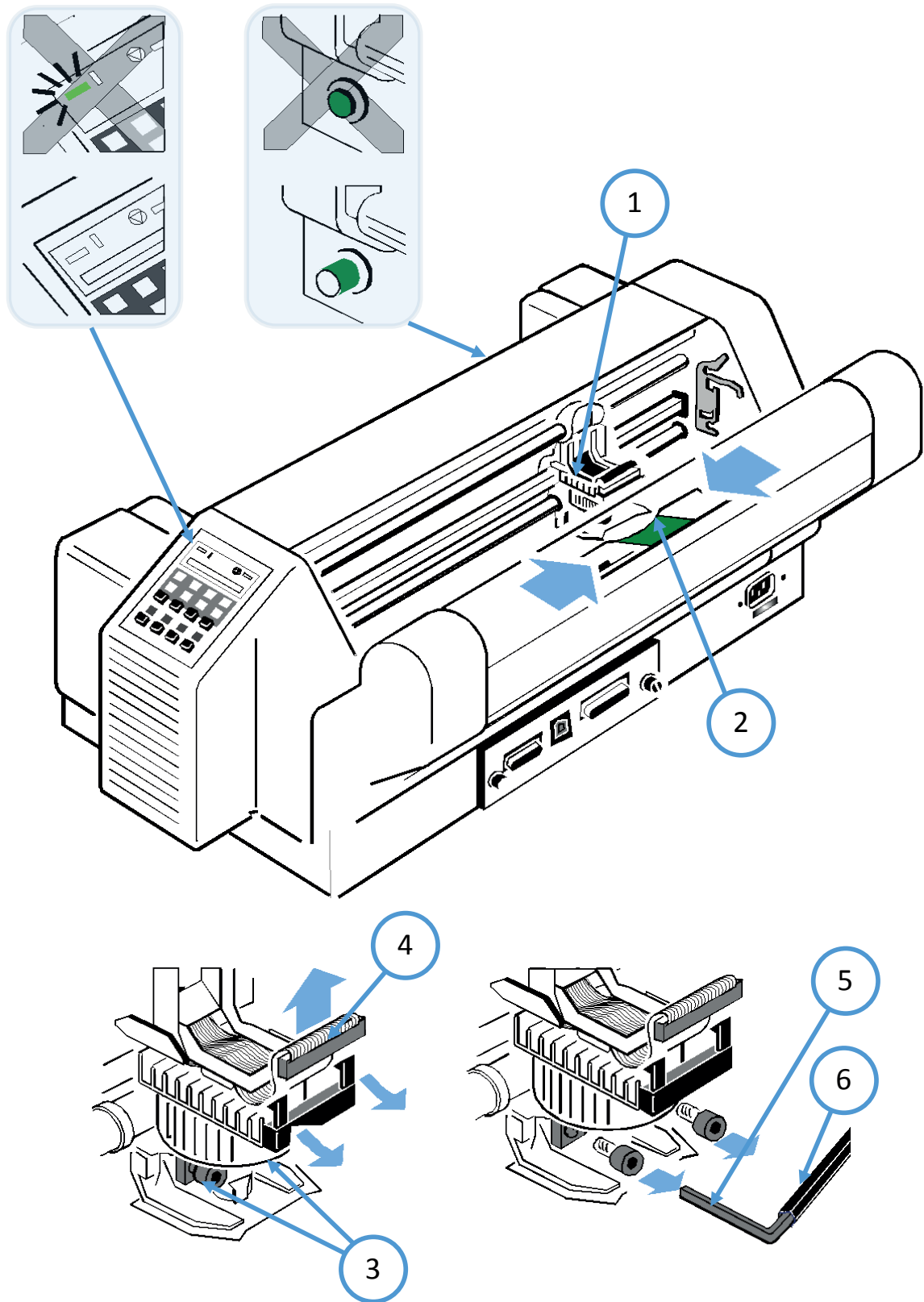
- Turn on the printer, open the top cover, and lift it up.
 - The print head moves to the position opposite the green insertion aid (2) over the oval sheet metal cutout.
 - Switch the printer off.
 - Remove the ribbon cassette.
 - Disconnect the printhead cable (4).
 - Using the supplied tool (5) remove the two fixing screws (3) of the printhead. The enclosed plastic sleeve (6) is to be used as an extension for the Allen (5) key.
 - Pull the print head (1) out of the printer.
- **see also picture next page.**

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence
- Hold the print head (1) in its mounting position and press it against its stop in direction of the platen. The two noses (9) of the adjustment guide (8) support this procedure. Fix crews (3)

Attention: After replacing the print head, run the MENU-function **AGC ADJUST** without any paper inserted into the printer to set new parameters for AGC.





Part: Platen PP407/8

Part No: 5112 293 0326X

Order No: 8707 251 90501

FSI: 5112 991 10378

A change of the platen roller may become necessary after about 800,000 pages (compare page counter „PGCNT“ in the printer test „TEST 3“ - „HW-AUSBAU“).

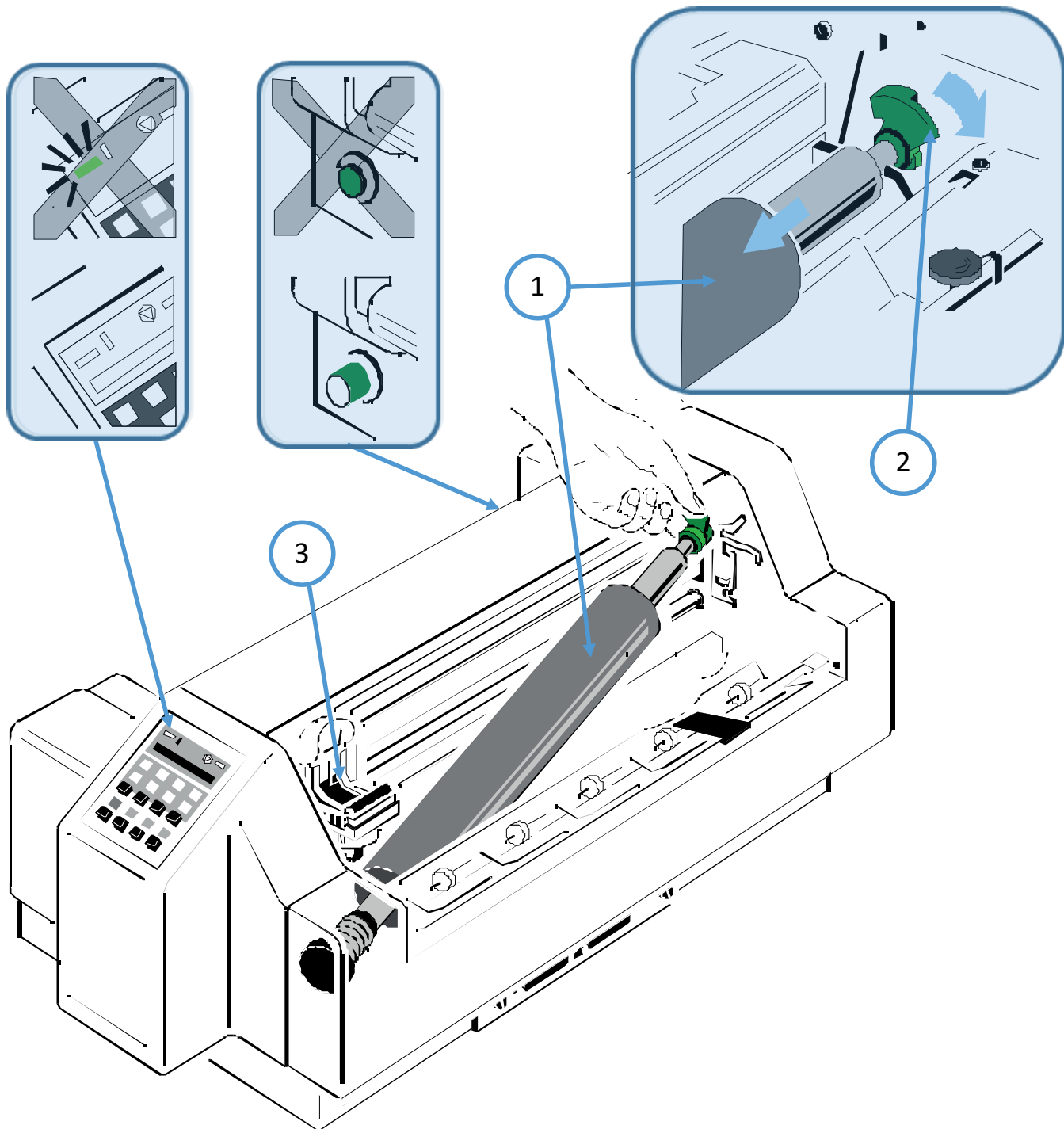
Steps: Remove Part

- Open the top cover and remove it upwards.
- Swivel down the cutter (PP 408 only)
- Remove the ribbon cassette.
- Turn off the printer.
- Push the print head (3) to the far right.
- Release the green lock (2) on the left end of the platen.
- Pull the platen roller (1) about 10 mm to the left, then release the left end of the platen roller from its holder and remove the platen roller from the right holder.
- Remove the platen roller (1) from the printer.

- **see also picture next page.**

REASSEMBLING

- Execute the REMOVAL procedure in reverse sequence



Part: Ribbon Cassette S/RC 78
Ribbon Cassette S/RC 96 (XXL)

Order No: 8709 002 37801

Order No: 8709 002 39601

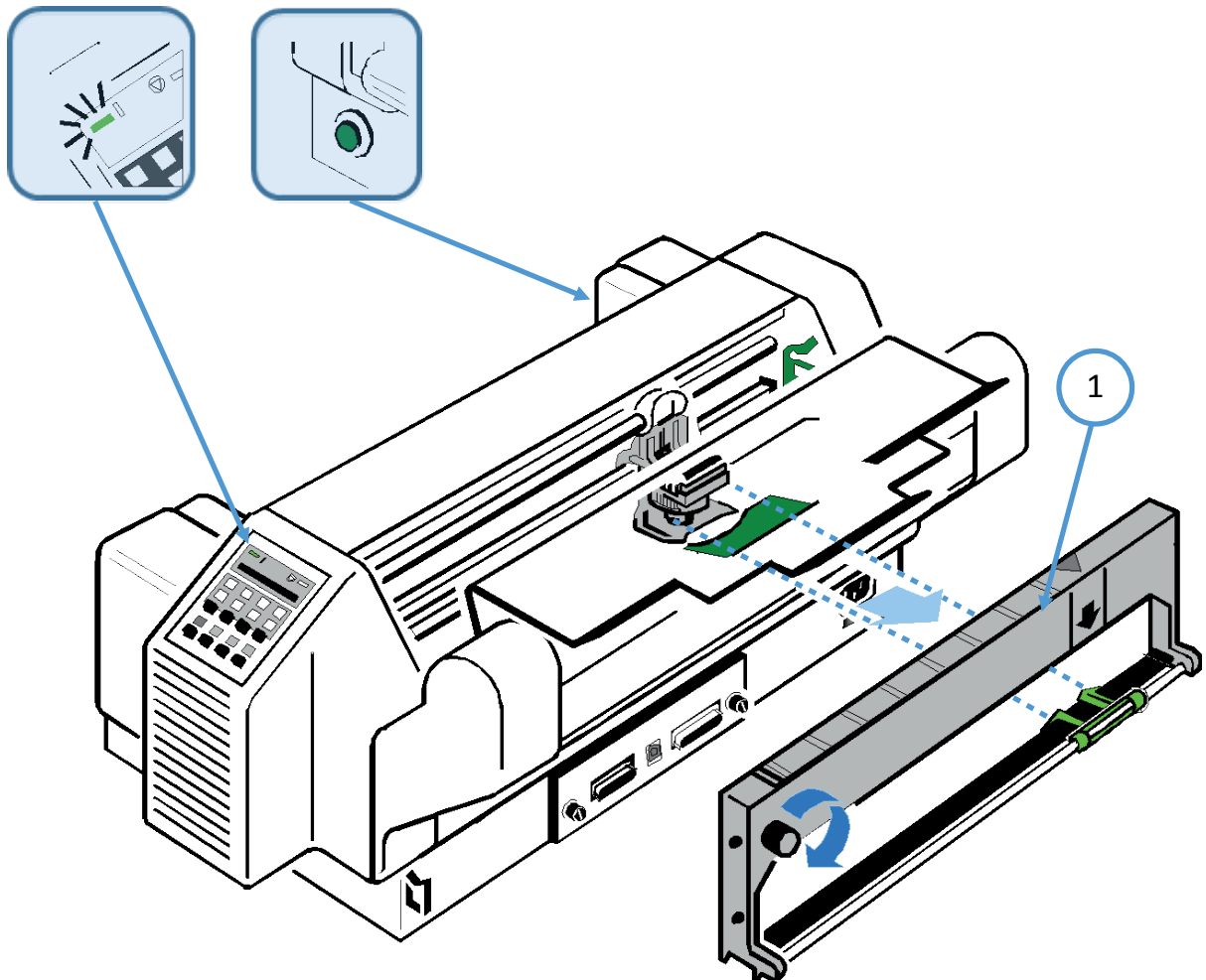
A change of the platen roller may become necessary after about 800,000 pages (compare page counter „PGCNT“ in the printer test „TEST 3“ - „HW-AUSBAU“).

Note: It is recommended to use only original ribbon puts out by our company. Using other ribbons will void your warranty.


Steps: Remove Part

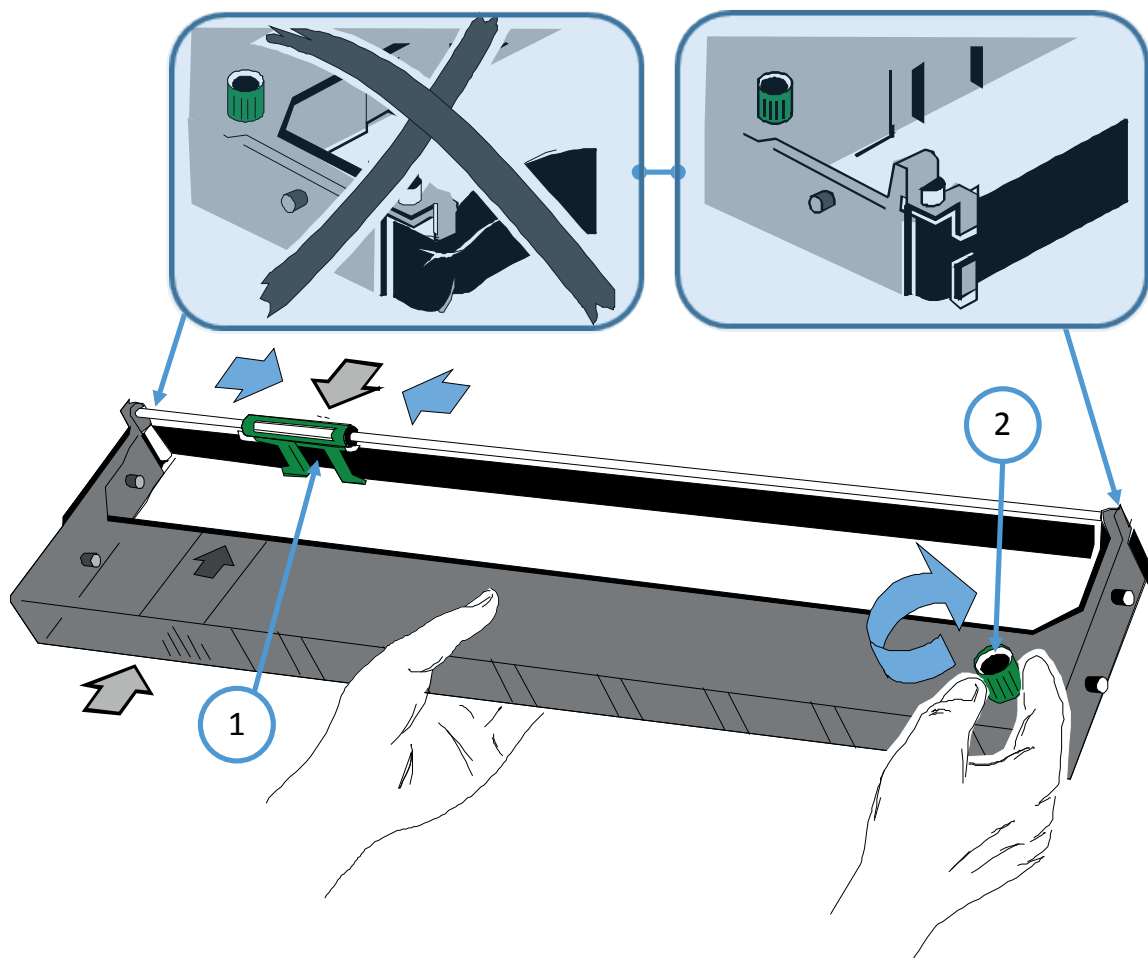
Caution: Never manually move the print head fully to the right-hand stop (you could change the way of the paper output).

- Power on printer
- Open the top cover and remove it upwards.
- The print head will parked automaticly in the ribbon change positio
- Swivel down the cutter (PP 408 only)
- Remove the ribbon cassette.(1)

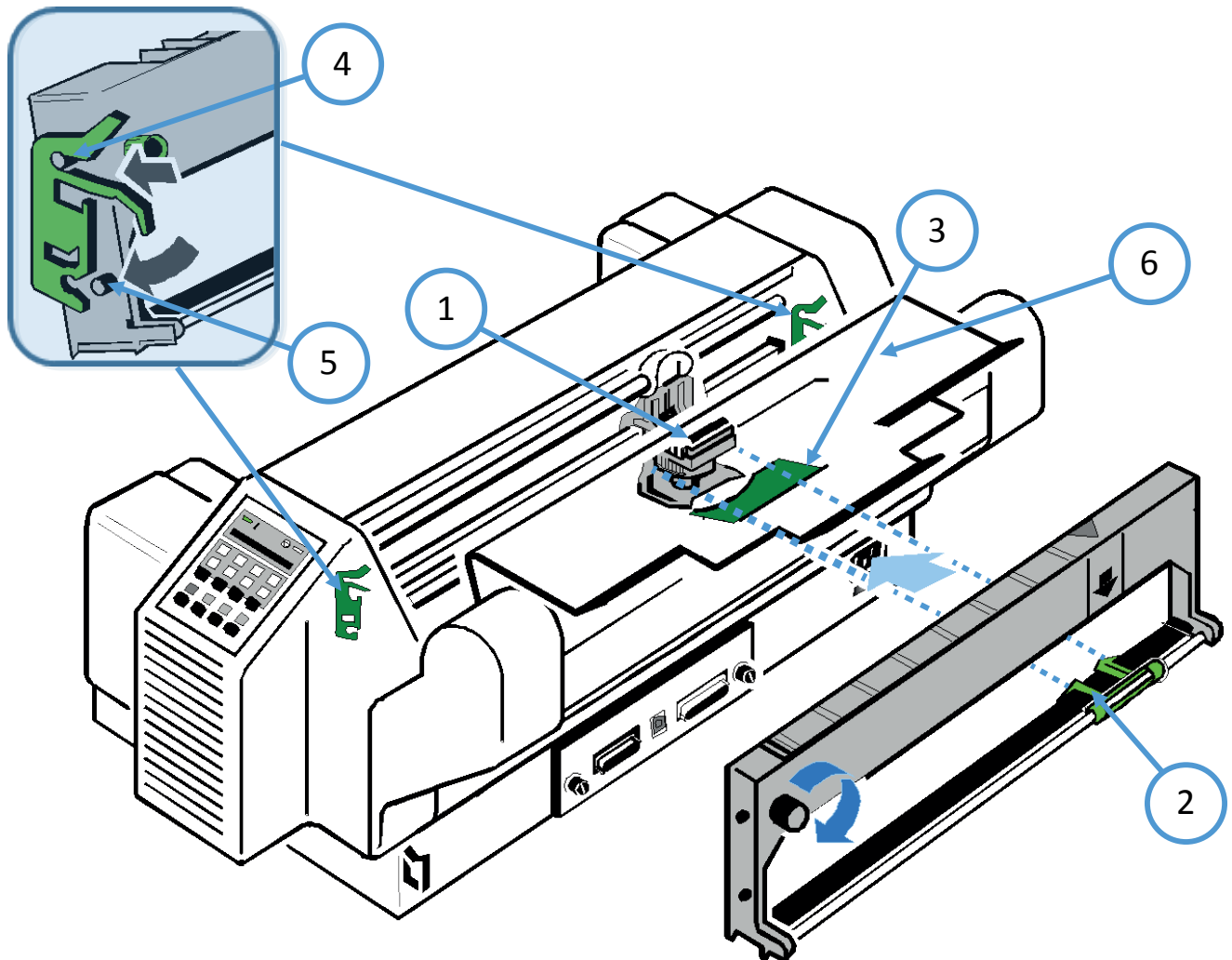


Installing a ribbon cassette

- Switch the printer ON at the power switch; Power LED is lit and waits for the message READY 1 ELQ or INSTALL RIBBON.
- If the printer is busy (message BUSY 1 ELQ) press .
- Put the ribbon cassette out of the box
- Remove any excess slack by turning the green knob (2) on the ribbon cassette clockwise. Move the ribbon feed guide (1) to the position indicated on the plastic housing of the cassette.

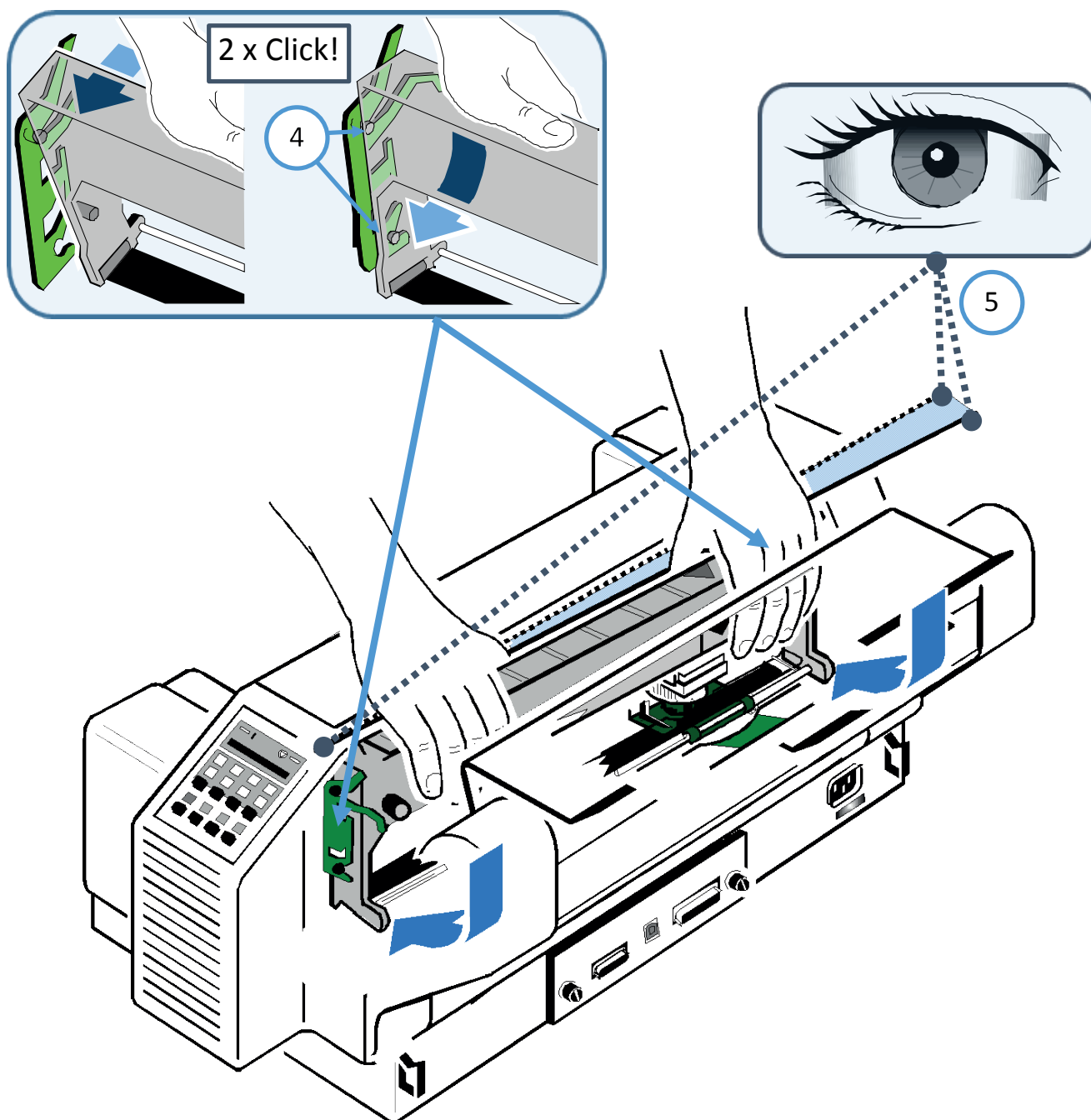


- Lift the top cover (6) The print head will move to the correct position, aligned with the cut out in the paper guide plate to facilitate the installation of the ribbon cassette.
- Feed the ribbon cassette down into the printer with the ribbon facing down.
- Then place the upper assembly pins (4), (5) of the cassette on both sides of the upper part of the green ribbon holder. In this position, the ribbon guide (2) contacts the green plastic clip (3)



- Then move the cassette towards you until it clicks into place on both sides. Now swivel the ribbon under the print head until the lower retaining pins click (click!).

Note: At each end of the ribbon cassette there are two pins (4) which keep the cassette in position when mounted. When installed correctly it clicks twice. The ribbon cassette is not parallel to the printer's housing (5).



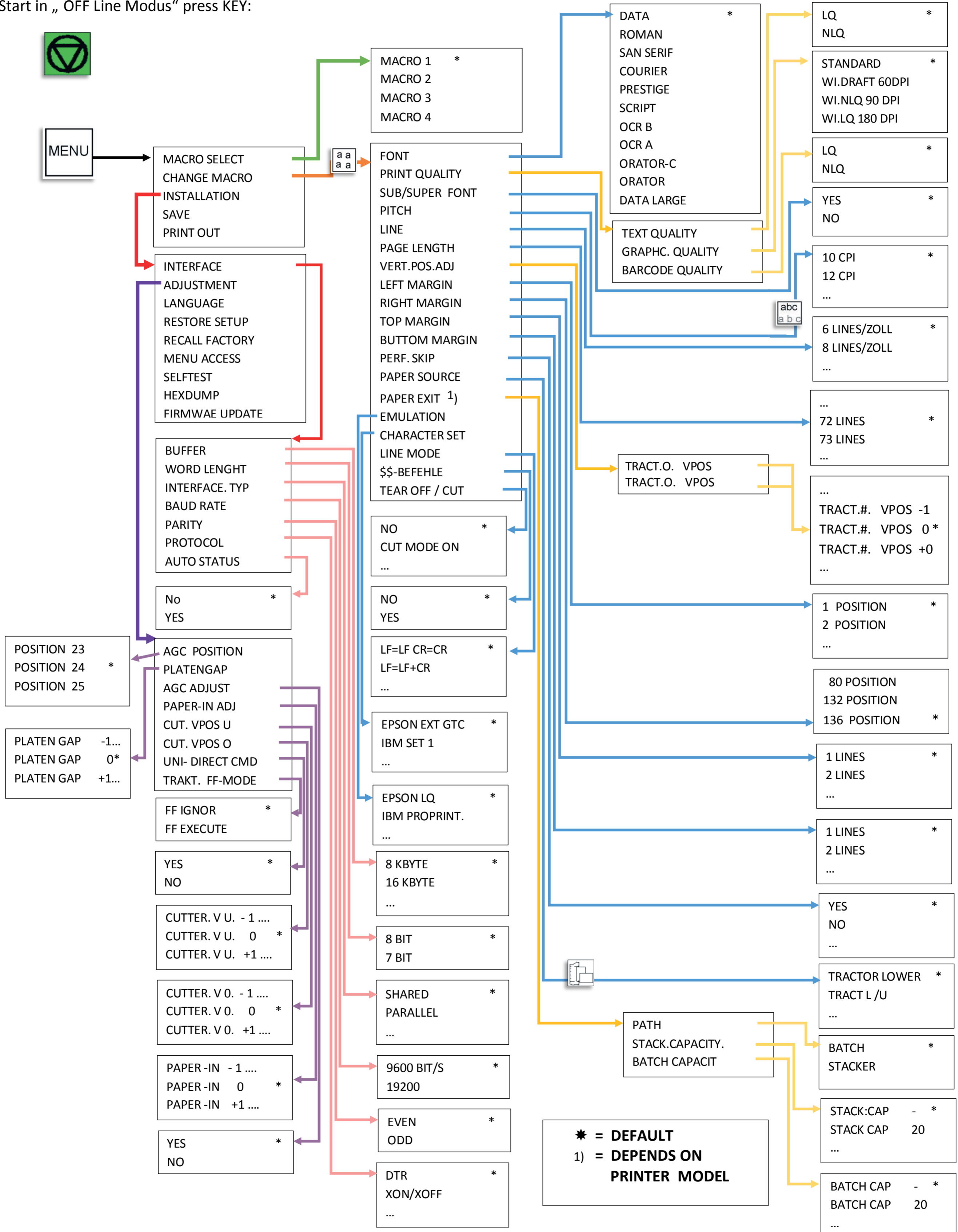
8. Spare Parts Cross Reference List

SPARE PART	ORDER NUMBER
Ribbon Cassette Fabric Black S/RC 78	8709 002 37801
Ribbon Cassette Fabric Black S/RC 96	8708 002 39601
Print Head PP40x-R	8707 251 90501
Platen Assy	8707 250 90808
Kit Tractor Exit	5322 310 10628
Kit Pulley 2 407/8	5322 310 32139
Shaft FF1	5322 310 93473
Shaft FF2	5322 310 93474
Paper Guide 4	5322 466 83095
Printer Stand PP 407 / 8	8707 251 90504
Stacker Option	8707 340 90513
Tractor Cassette	8707 250 90507
Cut Sheet Tray PP 408	8707 250 90512
Kit Cover Engine	5322 310 32138
Rear Cover PP 407	5322 447 80639
Kit Cover Cutter	5322 447 80639
Print PSU2 - R 230V	8707 901 00024
Print DEV2 PP407/8-2	8707 901 00036
Operator Panel	8707 901 00015
H-Drive Belt	5322 310 32141
Print Head Cable PP 407/8-2	8707 901 00038
Encoder Stripe	5322 466 11114
Print H-Encoder	8707 901 00031
H-Motor Left PP407/8-2	8707 901 00039
H-Motor Right PP407/8-2	8707 901 00040
Carriage PP407/8	8707 901 00001
Protection Shield	5322 466 92441
Ribbon Gear	8707 901 00033
Stepper Motor 7.5 DEG	8707 901 00034
Stepper Motor 1.8 DEG	8707 901 00035

SPARE PART	ORDER NUMBER
Tractor Gear	5322 522 10432
Kit Transport Roller PP408	5322 310 10623
Paper Sensor 407/408 - R	8707 901 00027
Belt Stepper	5322 358 20369
Belt Form Feed	5322 358 20391
Fan CPL 407/8-2	8707 901 00037
Kit Tractor Run PP 408-2	8707 901 00042
Thermo Sensor PP407/8-2	8707 901 00041
Kit Tractor 2 Left	8707 901 00061
Kit Tractor 2 Right	8707 901 00062
Kit Tractor Flaps	8707 901 00007
Kit Lubrication Felt	5322 310 32108
Kit Left Stopper	5322 310 11261
Kit Cont. Exit Gear	5322 522 10746
Kit Carriage Axles	8707 901 00056
Kit Key Map OP	8707 901 00057
Cutter PP408-2	8707 901 00048
Cutter H-Motor PP408-2	8707 901 00047
Cutter V-Motor CPL-2	8707 901 00049
Kit Cut H-Mot Pulley	5322 310 10625
Kit Cutter Carriage	5322 310 10624
Kit Cutter Belts	5322 310 10627
Kit Cutter Flaps	5322 310 11126
Kit Cutter Conn. Cable	8707 901 00043
Cutter H-Mot Sensor PP408-2	8707 901 00044
Cutter Sensor Right PP408-2	8707 901 00045
Cutter Sensor Left PP408-2	8707 901 00046
Cover Open Clip	8709 010 93421

9. Menu-Structure PP 407 / PP 408

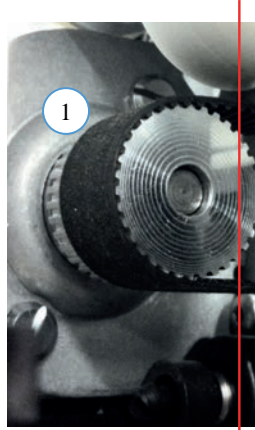
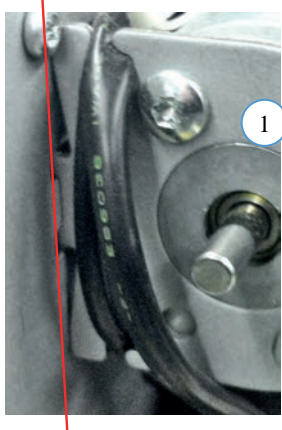
Start in „ OFF Line Modus“ press KEY:



10. Fieldservice Notes

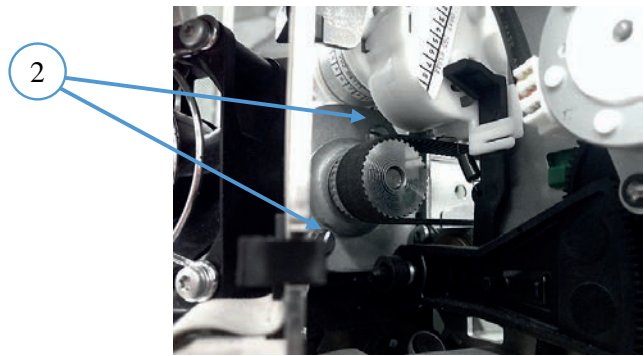
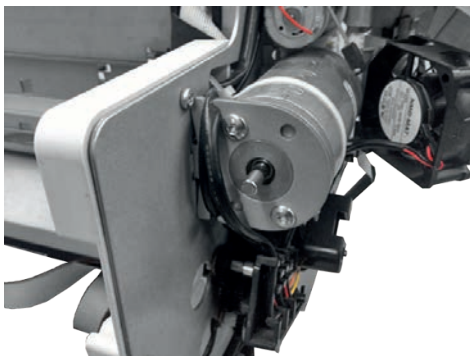
10.1 Synchronization / Adjust of the horizontal belt

For the correction of the horizontal belt, the motor mounting screws are loosened slightly, but the H-belt this must remain tense. Please check in advance, the left motor (1) is applied parallel to the sidewall.

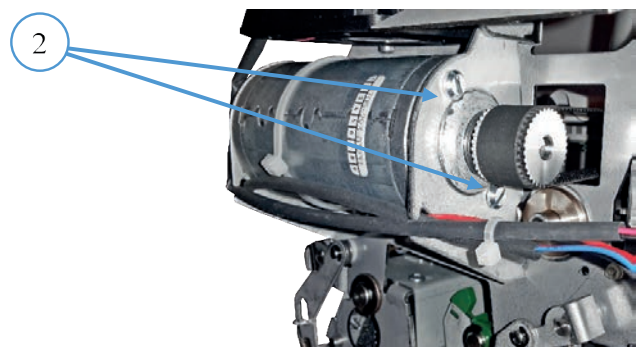
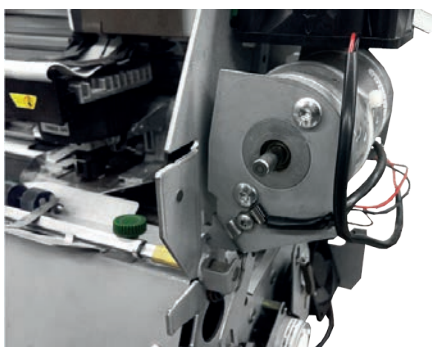


- Loosen the 4 screws (2) on both motor plates a bit, so that the motor can move freely in the right position.

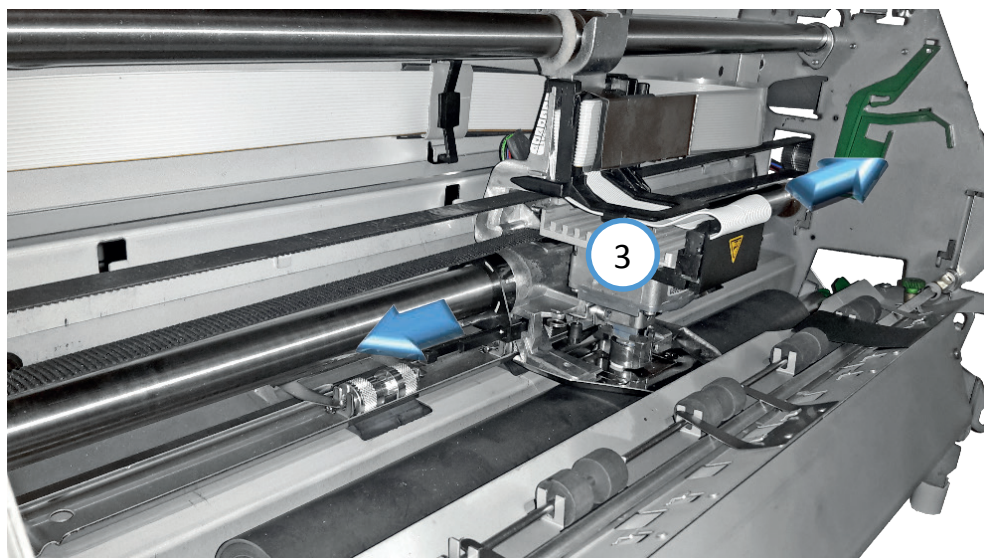
Motor right



Motor left



- If the screws (2) released, move the carriage (3) several times back and forth. The horizontal belt should now be balanced..



- Fix screws (2).












10.2 Perform AGC-adjust

In case of poor printing quality or print head exchange a adjustment of the print gap (AGC) needs to be performed.

STANSARD FUNCTION:

- Selection Function AGC adjust = YES in the installation menu.

Note: Start AGC-Adjust with ribbon installed and without any paper in the continuous path.

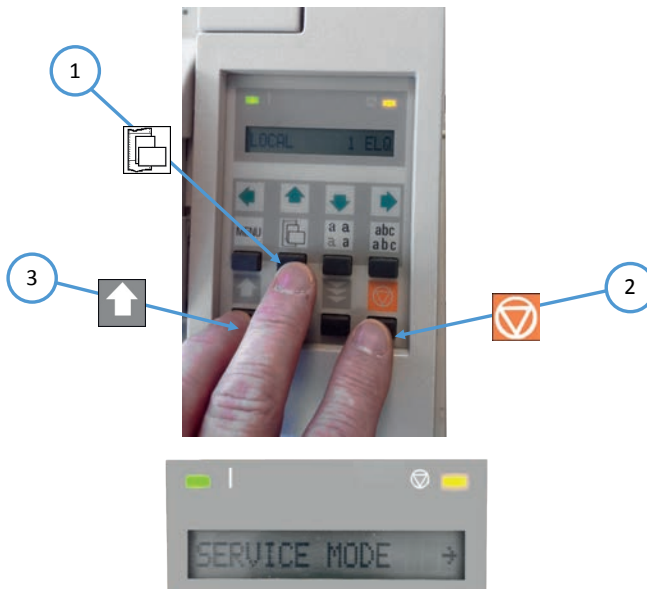
KEY	DESCRIPTION	DISPLAY	
	START / STOP	STOP	1 ELQ
	MENU	MACRO SELECT	
	DOWN	INSTALLATION	
	RIGHT	INTERFACE	
	DOWN	ADJUSTMENT	
	RIGHT	AGC POSITION	
	DOWN	AGC ADJUST	
	RIGHT	NO	
	DOWN	YES	
	RIGHT	YES *	
AGC starts (performed 4 times in 90° rotating)			
	START / STOP	READY	1 ELQ

10.3 Change PGC

In case of problems of printquality on thin papers (> 60gr/m2) it's possible to change the basic PGC Value. This value defines the fixed print gap (print distance platen to print head)

SPECIAL FUNCTION in the Service Menu:

Invoked in STOP mode "LOCAL mode" (offline) into the "Service Menu".
For this, the follows buttons has pressed simultaneously.



- Enter the Servicemenu with Key












KEY	DESCRIPTION	DISPLAY
	START / STOP PAPER SOURCE FORM FEED	SERVICE MODE
	KEY RIGHT	NFQ
	KEY DOWN	PGC
	KEY RIGHT	46 (default factory set)
	KEY DOWN/UP	CHANGE VALUE +- BUT CAREFUL THIS WILL HAVE INFLUENCE TO FLOATING OF THE RIBBON
	KEY RIGHT	TO SELCET PGC MARKED BY ASTERIX *
	KEY LEFT	PGC
	KEY DOWN	SAVE
	SAVE	AN ASTERIX IS SET TO SAVE (BLINKS AND SAVE)
	START / STOP	LOCAL 1 ELQ

Attention: If the paper will change, please remember that PGC is changed. Set paramter back to default (46).

10.4 Change Start Marco

Select a Macro which should be to set default by start up.













How to change default macro:

KEY	Description	Display
	START / STOP	LOCAL 1 ELQ
	MENU	MACRO SELECT
	KEY RIGHT	MACRO 4
	KEY DOWN	Select your Macro
	KEY RIGHT	TO SELCET HEX DUMP MARKED BY ASTERIX *
	3 TIMES KEY LEFT	INSTALLATION
	KEY DOWN	SAVE
	SAVE	AN ASTERIX IS SET TO SAVE (BLINKS AND SAVE)
	START / STOP	LOCAL 1 ELQ

10.5 Justify Tear-Off Position

This parameter can be used to compensate mechanical tolerances which may cause a misalignment between the perforation edge of a continuous form and the tear-off position as well as the cutting position, in case the cutting option is installed.

The range within which variations can be met is - $\frac{15}{60}$ " bis + $\frac{360}{60}$ " the page and „+“

KEY	Description	Display
	START / STOP	LOCAL 1 ELQ
	MENU	MACRO SELECT
	KEY DOWN	INSTALLATION
	KEY RIGHT	INTERFACE
	KEY DOWN	ADJUSTMENT
	TEAROFF V.POS.	V.POS. = 0
	KEY DOWN / UP	CHANGE VALUE +- 1/60 inch
	KEY RIGHT	TO SELCET HEX DUMP MARKED BY ASTERIX *
	3 TIMES KEY LEFT	INSTALLATION
	KEY DOWN	SAVE
	SAVE	AN ASTERIX IS SET TO SAVE (BLINKS AND SAVE)
	START / STOP	LOCAL 1 ELQ

10.6 CUT V-POS

(only displayed in PP 408)

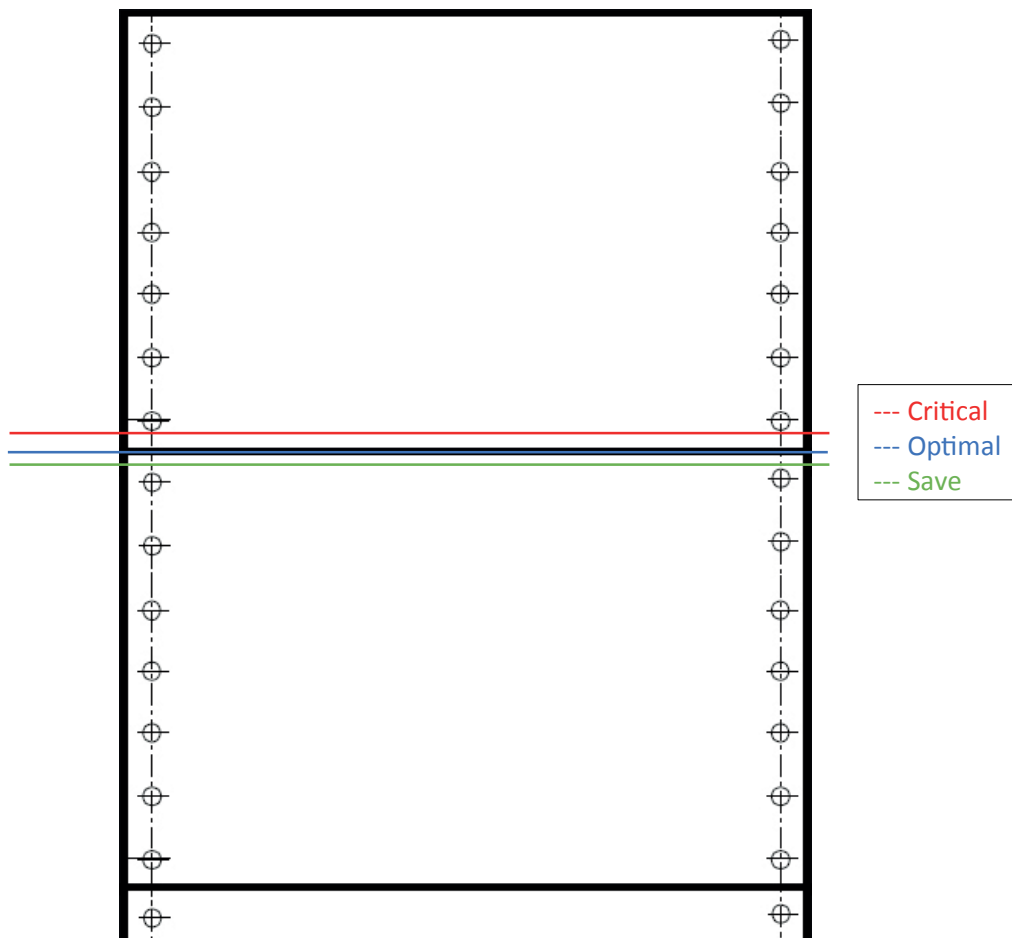
A vertical FON adjustment of the cutting position form is possible via the control panel. The parameters for the lower and upper tractor can be changed in the range of $- 8/60$ „to $+ 8/60$ “. This value allows the cutting position to be adjusted to the continuous form.

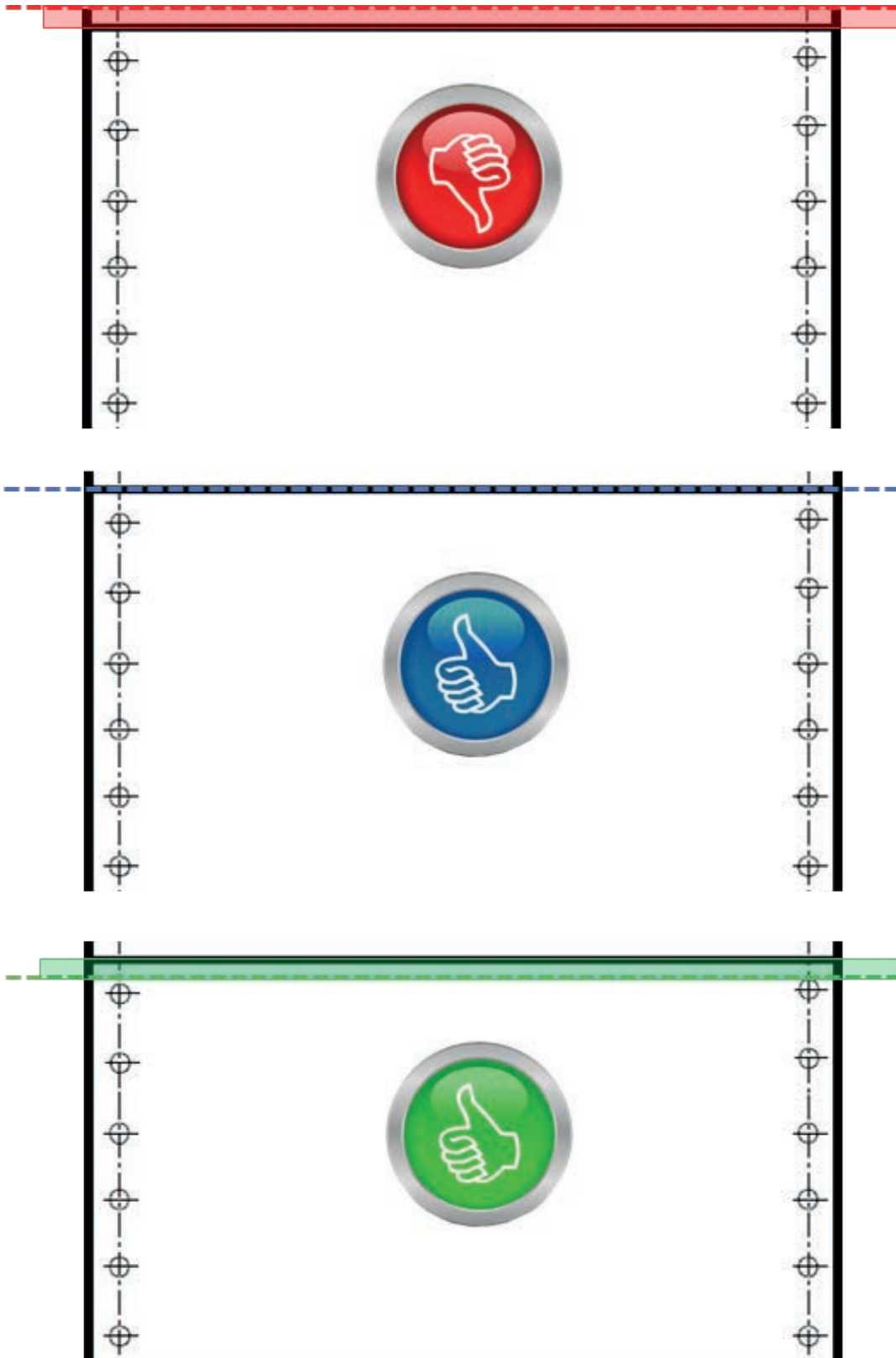
The default value is zero. The following values are possible:

$\pm 1 = \pm 1/60$ „ = $\pm 0,42$ mm	$\pm 5 = \pm 5/60$ „ = $\pm 2,12$ mm
$\pm 2 = \pm 2/60$ „ = $\pm 0,85$ mm	$\pm 6 = \pm 6/60$ „ = $\pm 2,54$ mm
$\pm 3 = \pm 3/60$ „ = $\pm 1,27$ mm	$\pm 7 = \pm 7/60$ „ = $\pm 2,96$ mm
$\pm 4 = \pm 4/60$ „ = $\pm 1,69$ mm	$\pm 8 = \pm 8/60$ „ = $\pm 3,39$ mm

Increasing the value shifts the paper further upwards and thus down the cutting position on the continuous paper. By reducing the value, the cutting position on the paper shifts upward.

Note: The CUT V-POS must be adjusted so that the cut is exactly on the perforation or in the area up to 0.5 mm below the perforation. This avoids that a left over by the cutting remaining side of the perforation before folding and can lead to the paper jam. When cutting adhesive labels, a cut through the label should always be avoided. The cutting device is contaminated by adhesive residues.






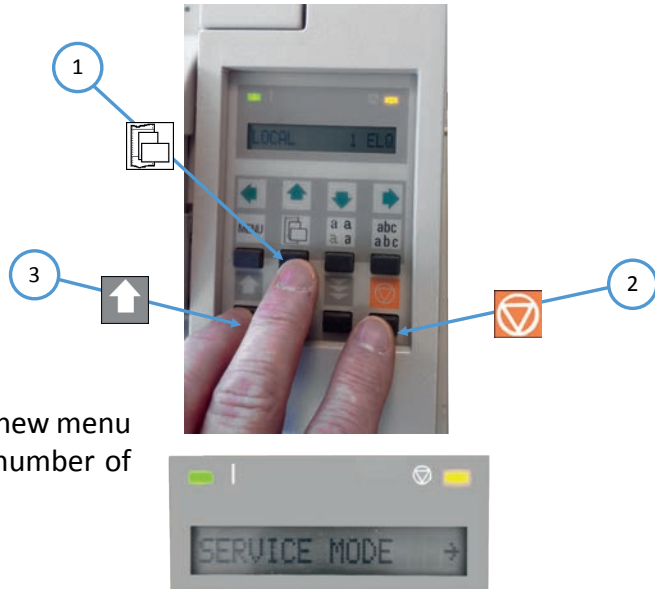
10.7 Enable PCC instead of AGC

The printer works normally in AGC mode to detect automatically the paper sickness. In some cases it is necessary to work with fixed copies. To change from AGC to PCC you have to define a parameter in the service mode.

SPECIAL FUNCTION in the Service Menu:

Invoked in STOP mode "LOCAL mode" (offline) into the "Service Menu". For this, the following buttons are pressed simultaneously.











- Enter the Servicemenu with Key 



In each macro it is now for all paper sources a new menu entry "... PCC" This statement indicates the number of copies.

Example:

TRACTOR PCC: 1 COPIE
 2 COPIES
 3 COPIES

KEY	Description	Display
	START / STOP PAPER SOURCE FORM FEED	SERVICE MODE
	KEY RIGHT	NFQ
	KEY DOWN	AGC ENABLE
	KEY RIGHT	AGC „YES“
	KEY DOWN/UP	SET FROM „YES“ TO „NO“
	KEY RIGHT	TO SELECT HEX DUMP MARKED BY ASTERIX *
	KEY LEFT	AGC ENABLE
	KEY DOWN	SAVE
	SAVE	AN ASTERIX IS SET TO SAVE (BLINKS AND SAVE)
	START / STOP	LOCAL 1 ELQ

10.8 Corrective for Problems with insert of thin papers less than 60 $\frac{g}{m^2}$

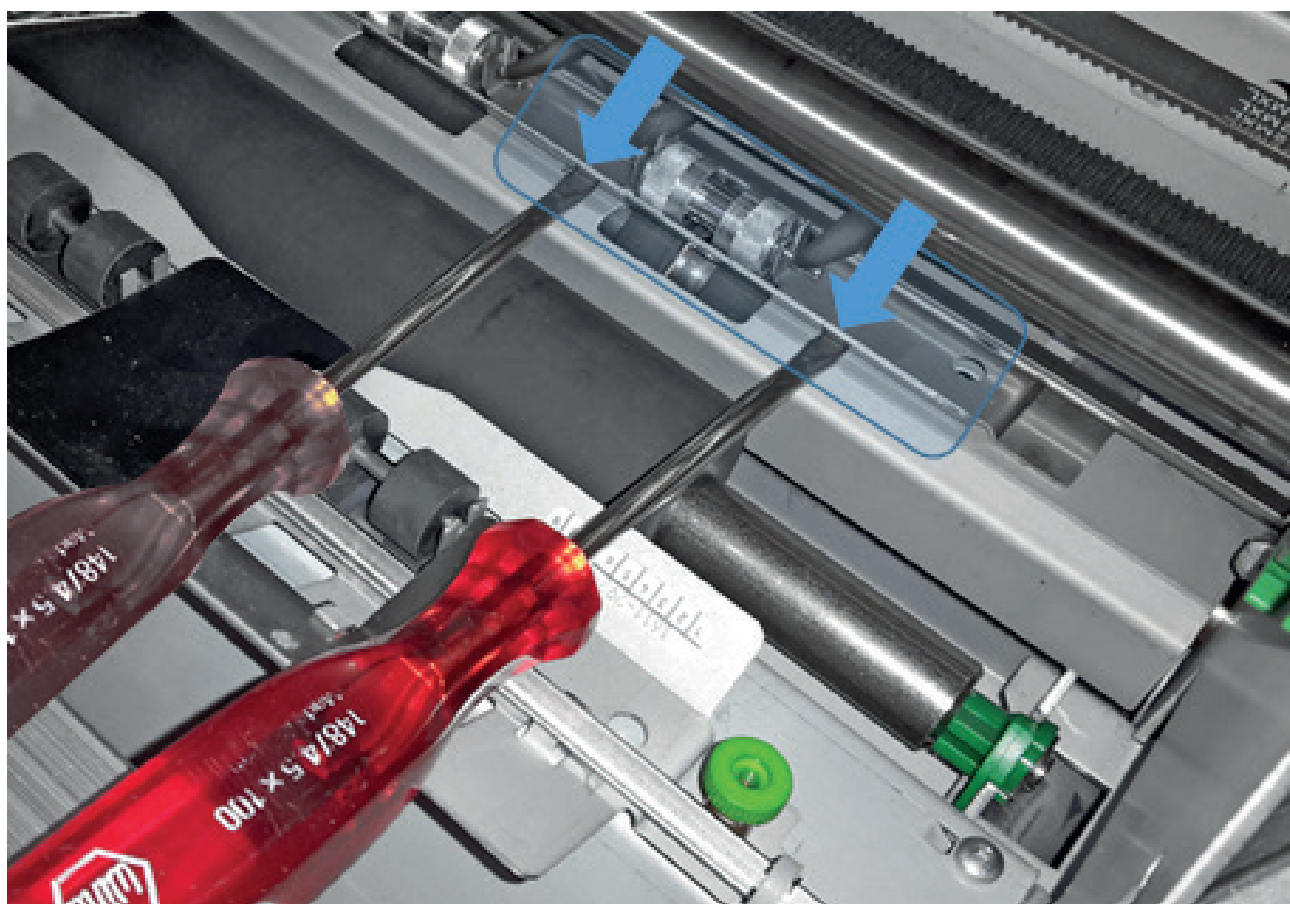
In some cases it may happen that the insert of thinner papers is stocking in front of the printer or insert with wave on the right side of the printer.

The reason for this is that the transmitting to the printer input (paper guide plate 1) dimensionally may be too narrow a bit by welding on of the upper sheet.

By carefully wide of the input it's possible, that thinner papers (specified min. 60 g/m²) to process.

To open the Gap in the area of the right and left of the first feed roller use a flat blade screwdriver.

Attention: not too strong. The welds may not break.













10.9 Lock Menu (Menu access)

Locking the menus to avoid operator intervention.

The access area for the selection and adjustment of menu functions can be set with MENU ACCESS into three categories.

- **ALL FUNC.** All menu functions are for to the user Available (default).
- **QUICK SET OFF** The quick settings for macro selection, Vertical positioning and continuous shift in the READY or ACTIVE mode are disabled. The printer displays after pressing one of these keys to a brief notification LOCKED.
- **ONLY MACROS** The user can select a macro defined by reaching either the READY or ACTIVE mode on the macro fast selection and or in STOP mode by pressing the key, the level of the macro selection. Changes to the settings are not possible.
 - Adjustment of the vertical positioning (VERT.POS.JUST.) can be selected.
 - The adjustment of continuous forms can be selected.
 - **NO ACCESS** Access to the menu, the user is not possible.
- In all settings the MENU PRINT function is effective.

KEY	Description	Display
	START / STOP	LOCAL 1ELQ
	MENU	SELECT MACRO
	KEY DOWN	INSTALLATION
	KEY RIGHT	INTERFACE
	KEY DOWN	MENU ACCESS
	KEY RIGHT	ALL FUNC. (Select down arrow desired function)
	KEY LEFT	MENU ACCESS
	KEY DOWN	SAVE
	SAVE	AN ASTERIX IS SET TO SAVE (BLINKS AND SAVE)
	START / STOP	LOCAL 1 ELQ

10.10 Unlock Menu (Menu access)

Locking the menus to avoid operator intervention.


The access area for the selection and adjustment of menu functions can be set with MENU ACCESS into three categories. To provide the complete menu "all functions" must be set

Switch off printer. Keys  Start / Stop and  Menu press simultaneously and turn the printer.

If the message MENU ACCESS is displayed release the buttons.

Select ALL FUNCT. In the Menu with  Key and mark with  Key an Asterix (*).
The menu should be saved to make it permanent.



Enter the Menu „Menu access“ with Key  and select ALL FUNC. To make it permanent use save function.

10.11 Skip over perforation

Lifting the print head up by passing to the next page.













The print head can be lifted up at the side edges in order to prevent the paper sticking to the ribbon guide. This is done using the PERFORATION JUMP (PERF. SKIP) menu (macro) items.

STANSARD FUNCTION:

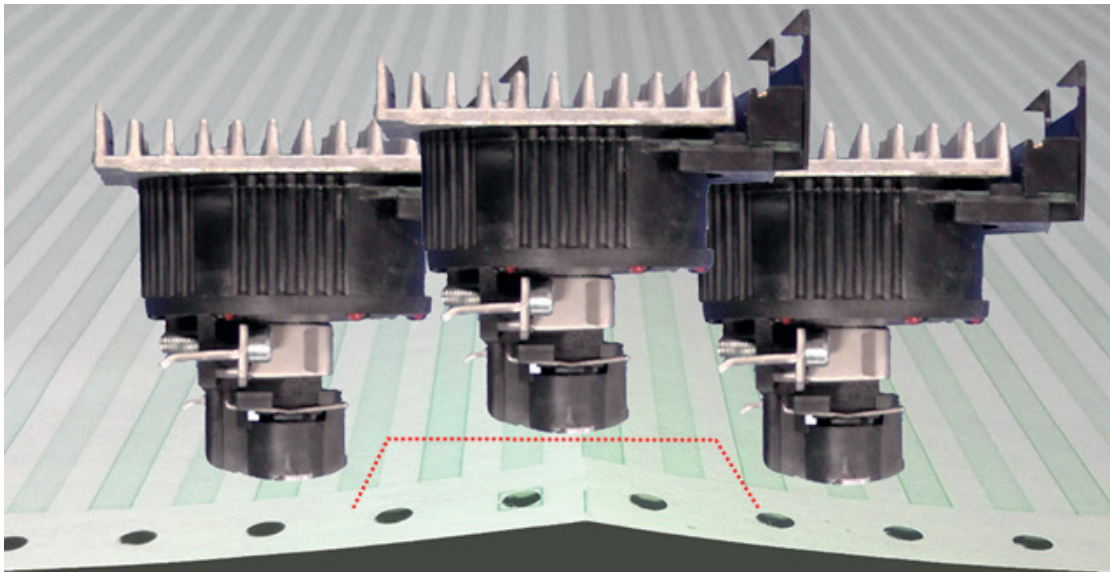
- Selection PERF.SKIP = YES the printer uses the upper and lower margins.
- Selection PERF.SKIP = NO, is printed over the perforation. Sample a 12 inch form can be printed with this setting on all 72 lines. This setting ignores all values for the top and bottom edges.

EXTENSIONS:

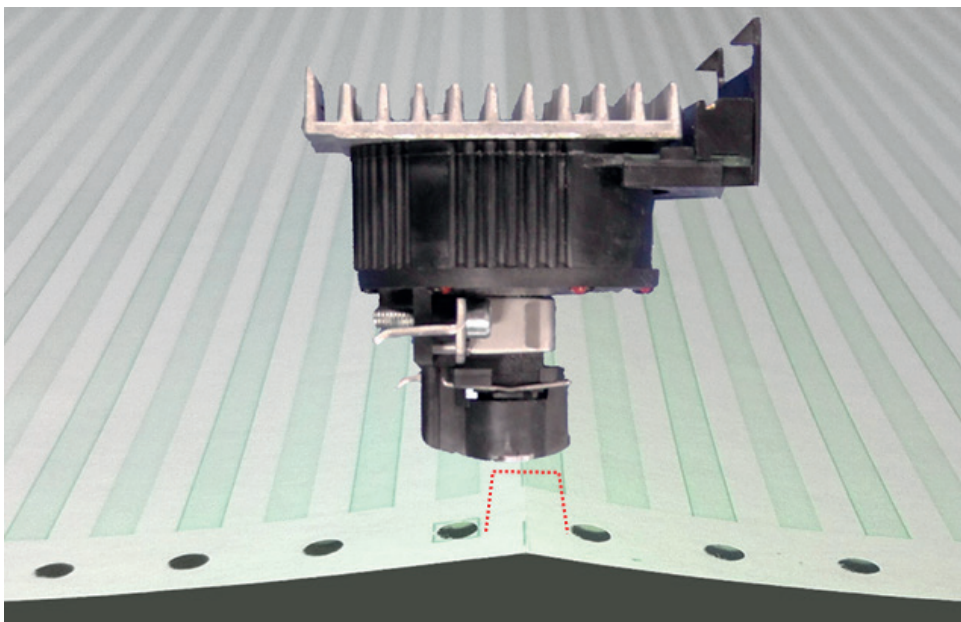
- Selectio PERF.SKIP = YES / UEBERLAPP the printer uses the upper and lower margins of the paper and lifts the print head up to this area.
- Selection PERF.SKIP = NO / UEBERLAPP the printed head lifts up only in the area of the perforation over the perforation.

KEY	Description	Display
	START / STOP	STOP 1 ELQ
	MENU	MACRO SELECT
	DOWN	CHANGE MAKRO
	RIGHT	FONT
	DOWN	PERF. SKIP
	RIGHT	YES *
	DOWN	YES/OVERLAP
	RIGHT	YES/OVERLAP *
	2 TIMES LEFT	CHANGE MACRO
	2 TIMES DOWN	SAVE
	RIGHT	MENU SAVE (BLINKT 3 X) *
	START / STOP	READY 1 ELQ

- When **PERF.SKIP = YES / OVERLAPP** is set, the printer uses the top and bottom paper margins (1 inch) and raises the printhead to most upper position to that area.



- If **PERF.SKIP = NO / OVERLAPP** is set, the print will print across the perforation and will raise the print head up only in the area of perforation.

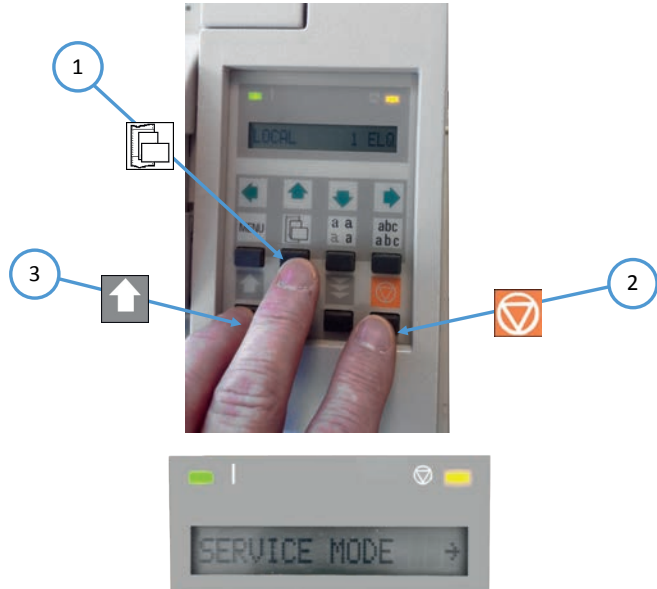


10.12 Left/Right adjust

In case of problems of disalignment of Barcode, Graphics or Text the lines can be adjust for left/right movement.

SPECIAL FUNCTION in the Service Menu:

Invoked in STOP mode "LOCAL mode" (offline) into the "Service Menu".
For this, the follows buttons has pressed simultaneously.



- Enter the Servicemenu with Key

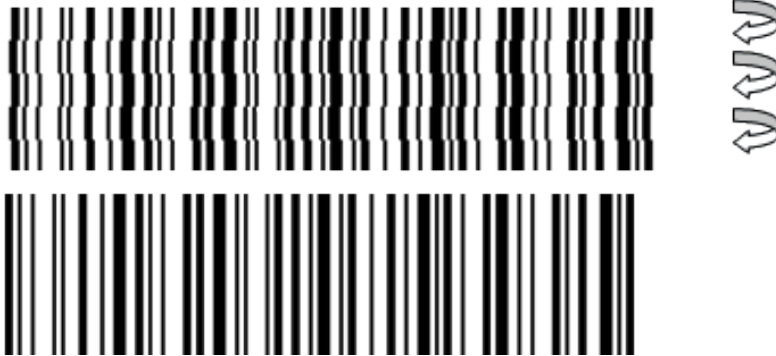


KEY	DESCRIPTION	DISPLAY
	START / STOP PAPERSOURCE FORM FEED	SERVICE MODE
	KEY RIGHT	NFQ
	KEY DOWN	LEFT/RI. .JUST
	KEY RIGHT	0
	KEY DOWN/UP	UPPER LINE TO THE LEFT BOTTOM LINE RIGHT
	KEY RIGHT	TO SELCET PGC MARKED BY ASTERIX *
	KEY LEFT	LEFT/RI. .JUST
	KEY DOWN	SAVE
	SAVE	AN ASTERIX IS SET TO SAVE (BLINKS AND SAVE)
	START / STOP	LOCAL 1 ELQ

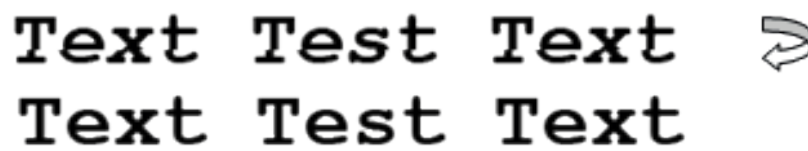
INFO:

The value of 1 is shifted about 1 needle left or right.

Example: Correction of a Barcode:










Example: Correction of a Text (Graphic True type):



10.13 Perform a HEX-Dump

The HEX-Dump provides the ability to analyse the data stream. It shows the control characters, which are sent to the printer. The HEX-DUMP can select in the Installation menu of the printer. By send of the original print file to the printer all data are now printed in HEX code.

How to enable the HEX-DUMP:

KEY	DESCRIPTION	DISPLAY
	START / STOP	LOCAL 1 ELQ
	MENU	MACRO SELECT
	KEY DOWN	INSTALLATION
	KEY RIGHT	INTERFACE
	KEY DOWN	HEX DUMP
	KEY RIGHT	TO SELCET HEX DUMP MARKED BY ASTERIX *
	START / STOP	STARTS HEX-DUMP

The printer is now demanding paper then it will print the following text.

HEX DUMP MODE

Page 01

0 1 2 3 4 5 6 7 8 9 A B C D E F

and wait for the printing Data..... If printing a file the each Data is printed as a HEX-Code.

HEX DUMP MODE

Page 01

0 1 2 3 4 5 6 7 8 9 A B C D E F

HEX-CODE

```

00 1B 5B 31 3B 34 20 72 1B 5B 37 73 1B 40 1B 5B 33
01 3B 30 33 32 77 1B 78 01 1B 5B 3B 3B 33 73 1B 32
02 1B 43 42 0D 0D 1B 4A FF 1B 4A 09 1B 24 1D 00 1B
03 2A 27 7D 00 0C 00 00 1C 00 00 18 00 00 30 00 00
04 FF FF 80 FF FF 80 00 00 00 00 00 00 00 00 00 00
05 00 00 00 00 00 18 01 80 78 03 80 60 07 80 C0 0D
06 80 C0 19 80 C0 31 80 C0 61 80 C0 C1 80 61 81 80
07 7F 01 80 1E 01 80 00 00 00 00 00 00 0F F8 00 3F
08 FF 00 70 07 00 E0 03 80 C0 01 80 C0 01 80 C0 01
  
```

```

.[1;4 r.[7s.[3
;032w.x.[;3s.2
.CB...J..J..#...
*').....0..
.....x.....
.....1..a.....a..
.....?
..P.....
  
```

ASCII-CODE

10.14 Firmware update

Programm (Firmware) Update PP 40x

PREPARATIONS

Service partners which are certified from PSi Matrix GmbH are able to create an account on the PSi-Partner Website. PSi provides different firmware releases for download:

<http://psi-matrix.eu/en/partner-login/firmware/>.

- Copy and unpack the (zip) file to <name.mot> in a directory on your PC.

If not already done, download the appropriate printer driver from

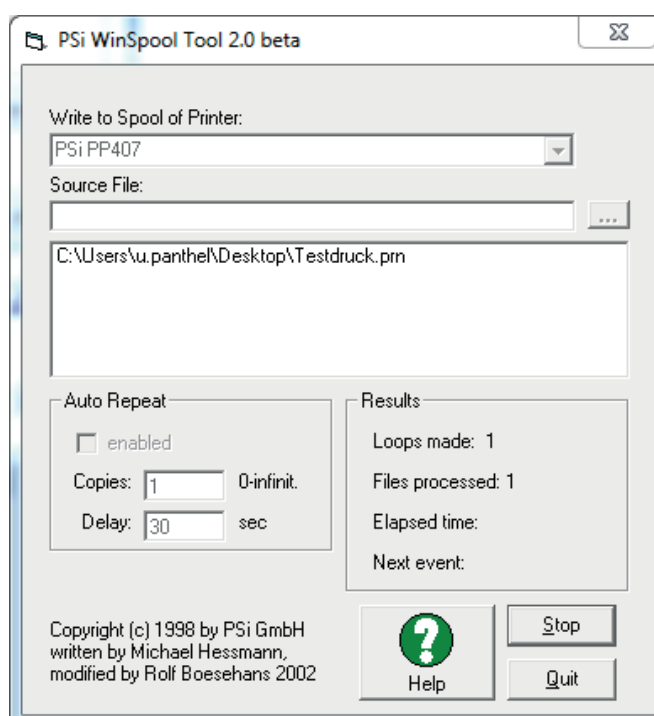
<http://psi-matrix.eu/en/printer-driver/>

- Install the driver. Any queries can be positively acknowledged. Alternatively, you can also install the available Windows standard driver Generic / Text only.
- Install a printer port (Ethernet, Parallel or USB)

For Firmware update PSi provides a Tool (SpoolTool)








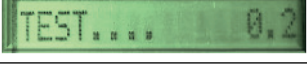
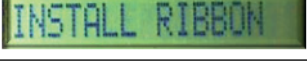

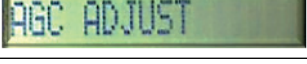
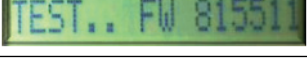

Load the Tool "PSi Winspool Tool" <http://psi-matrix.eu/en/tools/spooltool/>

- Install the "PSi winspool Tool" and start it. Choose the Installed printer and firmware source file.






- Before the update will start, prepare the printer for download.

Update Procedure:

STEP	DESCRIPTION	ACTION
1		Remove paper out of the printer.
2		Ensure that the USB, parallel or Ethernet connection is working. Perform a test printing sent from your PC.
3		Switch off the printer
4		Keep red button pressed and switch on the printer.
5		Wait until... (the numeric value shows the version of the bootloader)
6		...this display occurs. Then release the red button. Now the printer is ready for receiving firmware data.
7		Start Data-Transfer from the PC with the WinSpool Tool or via Dos copy Command.
8		Transfer is running
9		After Transfer the new firmware will installed in the Flash and saved
10		Is the update ok. You will hear a beep.
11		The printer waits 5s , for another update than.....
12		Resets automatically
13		This message ask you „is a ribbon installed“. Acknowledge with start/stop key 
14		The automatic AGC Adjust is performed. Remove paper before.
15		Display of the installed firmware, which can differ.
16		Initialization is done. The display can differ related to the installed emulation

- Error Messages while updating: If an error occurs, a longer signal tone can be heard and various error messages may be displayed.

ERROR DISPLAY	MEANING
	Unexpected data received. Wrong update file
	UPD.ABORTED (##)= Update not possible, disrupted data
	## = 99 = Upgrade security. To download this higher-level Firmware contact PSi Customer Support for a key code.
	## = 97 = RAM error, RAM size wrong or RAM defective
	## = 96 = FLASH memory too small, unknown type or defective flash memory

Alternative, if PNS Module is installed the Firmware update can be done by Function of WEB-Browser.

- Call Printserver WEB-Page (WEB-Browser IP-Adresse)

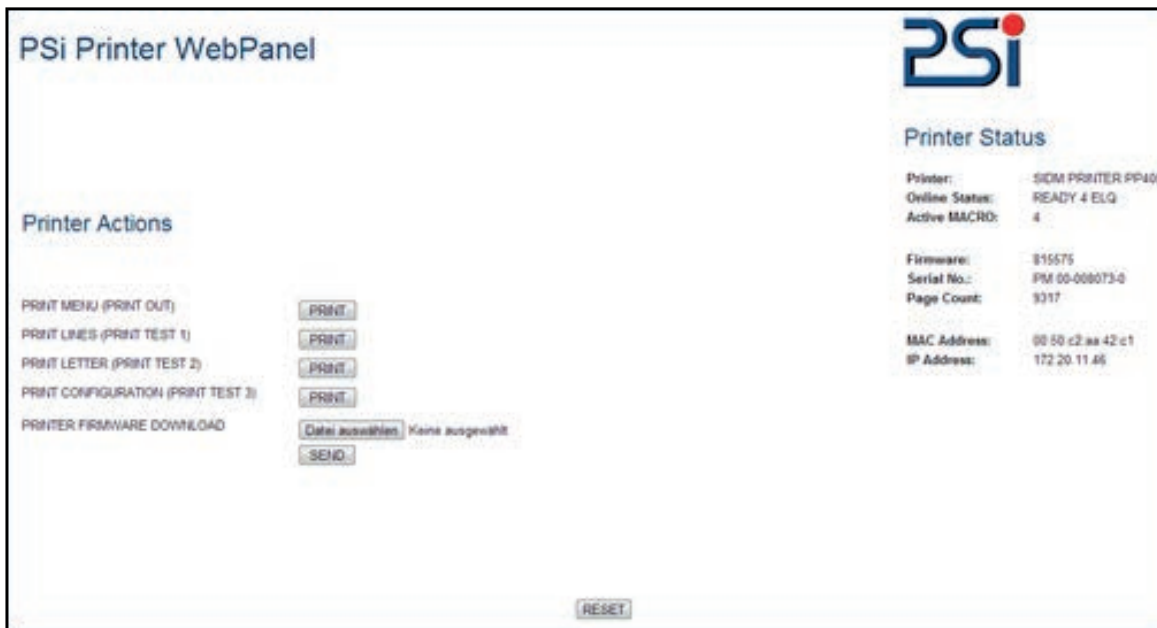


The screenshot shows the PSi Printer WebPanel interface. At the top left, it says "Welcome to PSi Printer WebPanel". Below this is a "Configuration and Administration" menu with several options: "Display Current Settings", "Basic Settings", "Configuration MACRO 1 - 4", "Network Administration", "Configuration Logical Printer", and "Printer Actions". On the right side, there is a "Printer Status" section with the following information:

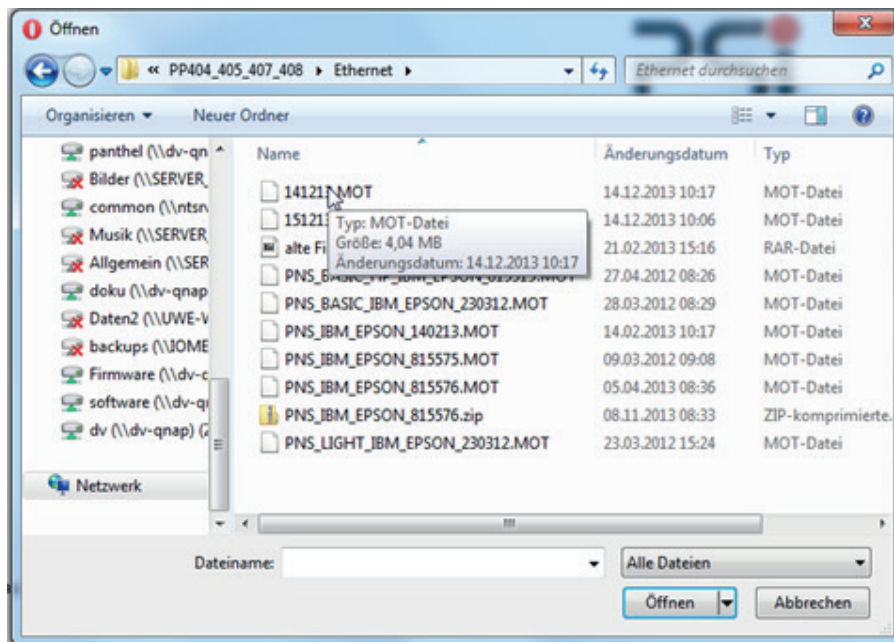
Printer:	SIDM PRINTER PP405
Online Status:	READY 4 ELQ
Active MACRO:	4
Firmware:	815575
Serial No.:	PM 00-000073-0
Page Count:	9317
MAC Address:	00 50 c2 aa 42 e1
IP Address:	172 20 11 46

Below the status information is a small image of three printers. At the bottom left, there is a "Refresh" button and a footer that reads "© 2011 by PSi Printer Systems International GmbH" and "Home | Technical Support".

- Choose: „Printer Actions“



- Open Printer Firmware Download




- Send firmware!

PRINTER FIRMWARE DOWNLOAD

141213.MOT

- The Update is running.

PSi Printer WebPanel


Firmware Download Process

⚠ Currently the file is uploaded to the printer and the flash memory will be programmed. During programming the connection to the printer will be lost. After the flash memory has been programmed the printer will reboot. You should be able to reconnect to the printer after several minutes.

Printer Status

Printer: SIDM PRINTER PP405
Online Status: RECEIVING 1594B0
Active MACRO: 4

Firmware: 815575
Serial No.: PM 00-008073-0
Page Count: 9317

MAC Address: 00:50:c2:aa:42:c1
IP Address: 172.20.11.46

- The Download-Status will be displayed.

Printer: SIDM PRINTER PP405
Online Status: RECEIVING 1594B0

- The time for „Update“ take ~ 5 Minutes after this time the printer can be reconnect.

Printer Status

Printer: SIDM PRINTER PP405
Online Status: READY 4 ELQ
Active MACRO: 4

Firmware: 141213
Serial No.: PM 00-008073-0
Page Count: 9317

MAC Address: 00:50:c2:aa:42:c1
IP Address: 172.20.11.46