

User Manual

MP Nova

Direct Thermal
Thermal Transfer



MP Nova4 DT

MP Nova4 TT

MP Nova6 DT

MP Nova6 TT

MP Nova8 DT

DATAMAX[®]
A DOVER COMPANY



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1. Introduction

Conditions

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The MP Nova printers with their unique technology have been developed to offer a range of different applications. Thank you for choosing a Datamax printer for your business needs. The high quality, user-friendliness and simple maintenance procedures of the MP Nova direct thermal (DT) and thermal transfer (TT) printers make them the perfect choice.

Manufacturer Address:

Datamax Corporation

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Item number: 540430

2. Safety

Safety & Certification



Safety Requirements

Datamax disclaims all responsibility regarding the CE directive if the printer is used, altered or installed in any way other than described in this manual.



This symbol is used to indicate circumstances that may be dangerous to the user or that cause damage to the equipment.

Please Note the Following Warnings:

- Never use sharp or pointed tools when cleaning or replacing the print head.
 - Remember to handle the print head with care.
 - Don't use any sharp objects to remove labels from the print roller.
 - The MP Nova printers have double fuses. The fuses are rated at 250 volt, 4.0 A, AT-type. Fuses must be UL-approved.
 - The circuit board contains a battery. Used batteries should be disposed of in accordance with the manufacturer's instructions.
 - Please read all instructions before using the printer for the first time.
-

2. Safety



Safety & Certification

- The printer should be connected to the power supply indicated on the voltage plate. If you are unsure of the type of power supply available, please contact Datamax service personnel.
- The printer is equipped with a plug suitable for earthed sockets. This is a safety measure. If the plug does not fit the power socket, a qualified electrician must replace it.
- We do not recommend the use of extension cables.

The power cable must not be subjected to pressure. Ensure that the printer is not placed anywhere where the cable can be stood on.

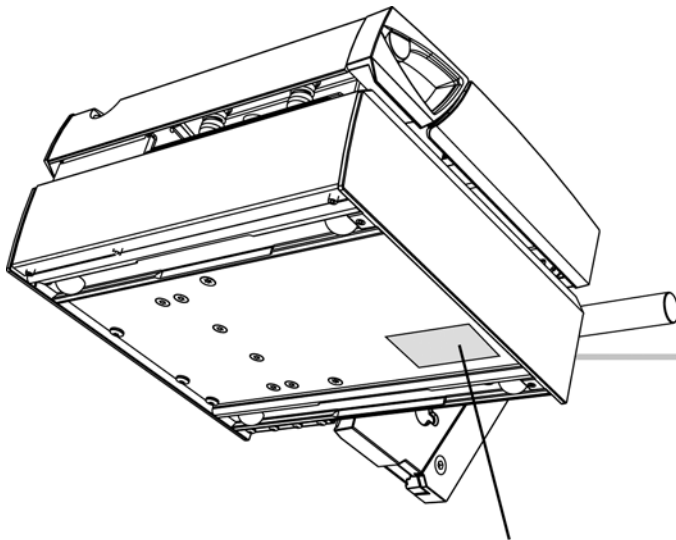
- Check that the power switch is off (in the '0' position) before connecting the power cable.
 - Do not use liquids or aerosols when cleaning this printer. Always use Datamax's special cleaning cloths.
 - Do not attempt to open the electronic unit or other sealed parts! The user cannot service these parts.
 - Never use sharp or pointed tools when cleaning or replacing the print head.
 - Do not use cables that exceed 5 meters in length for RS232-communication. Signals may be corrupted or lost as a result. This is particularly important in environments where there are high levels of electrical interference.
 - Disconnect the power to the printer and call in qualified personnel under the following conditions:
 - ❖ The power cable or plug is damaged or worn.
 - ❖ Liquid has been spilled on the printer.
 - ❖ Rain or water has got into the printer.
 - ❖ The printer is not functioning correctly despite that the user has followed the instructions for use.
 - ❖ You have dropped the printer or the casing has been damaged.
 - ❖ The printer is not functioning correctly and requires service.
-

2. Safety

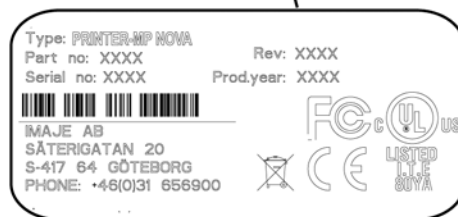
Safety & Certification



Machine Sign



100-240 V AC 4.0A 50/60Hz



Certification and Approvals

2. Safety

Safety & Certification



The MP Nova printers are certified in accordance with the requirements for CE marking.

CE = European Commission



The MP Nova printers are UL-approved.

UL = Underwriter Laboratories USA

CE Standards & Directives

MP Nova printers are subject to the following standards:

In accordance with European directives applicable to the products, that is to say:

- With the electromagnetic compatibility directive EMC Directive 89/336/CEE with the European standards which are its technical answer.
- With the Low Voltage Directive 93/68/CEE and with the European standards which are its technical answer.

The above referenced product bears the CE mark.

3. Product Presentation



The MP Nova Series

Datamax achieves diversity with its thermal printers, the MP series. Powerful and intelligent with a multitude of functionality you would not expect from one of the smallest printers on the market.

They are built on a platform with advanced software, offering wide possibilities from simple local solutions to integrated solutions working over Internet.

Typical Applications:

- Manufacturing
- Warehousing
- Healthcare
- Transport
- Ticketing

Printer Models



MP Nova4 DT, 200 dpi
Item number: 745130.
MP Nova4 DT, 300 dpi
Item number: 745160.



MP Nova6 DT, 200 dpi
Item number: 765130.



MP Nova8 DT, 200 dpi
Item number: 785130.



MP Nova4 TT, 200 dpi
Item number: 745140.
MP Nova4 TT, 300 dpi
Item number: 745165.



MP Nova6 TT, 200 dpi
Item number: 765140.

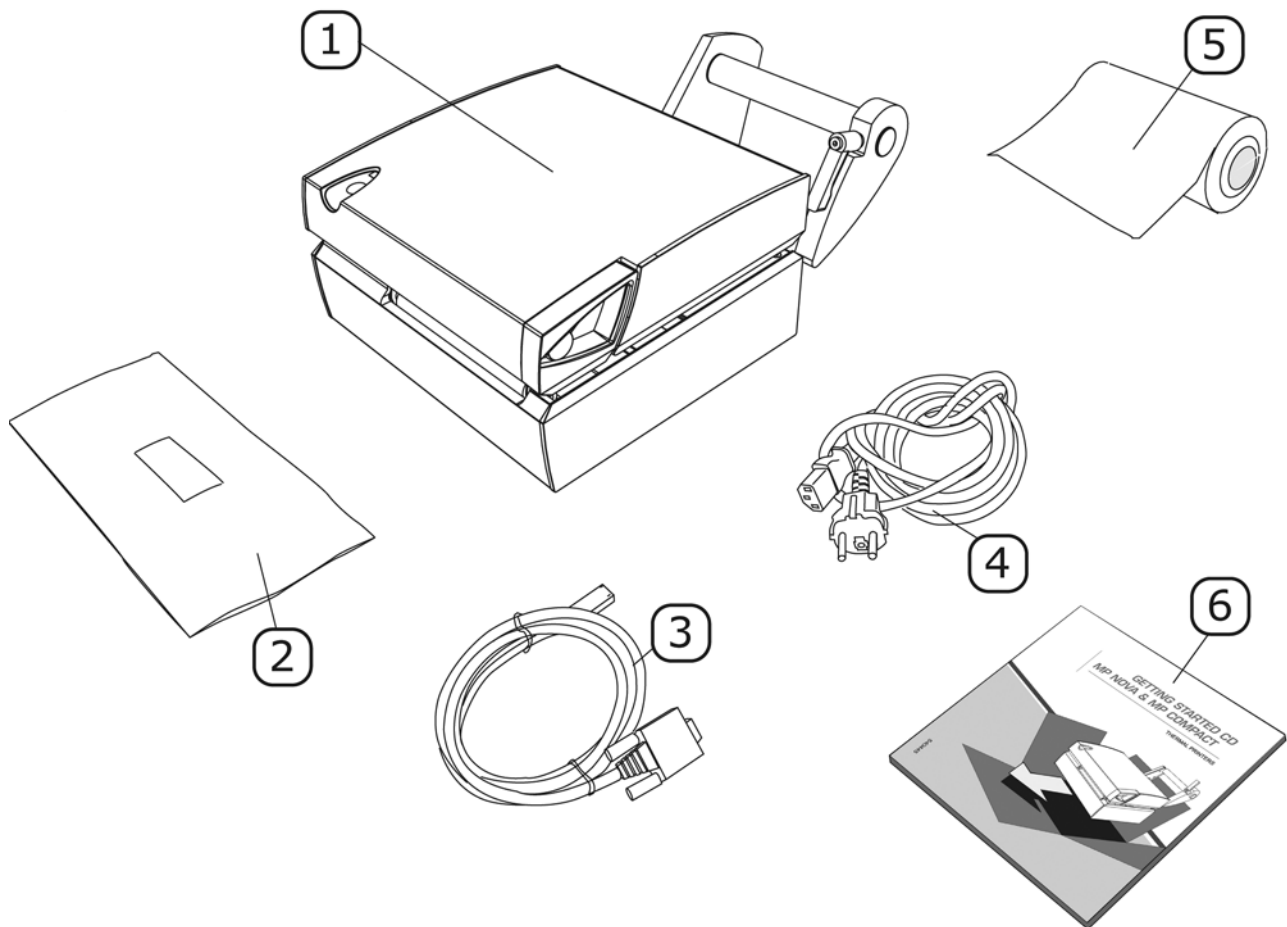
4. Product Overview



4.1 In the Box

MP Nova4 DT & MP Nova6 DT

The following items should be included in the box when you receive your new MP Nova4 DT or MP Nova6 DT printer:



1. 1 x MP Nova4 DT or MP Nova6 DT
2. 1 x Cleaning cloth
3. 1 x Communication cable (Serial RS 232)
4. 1 x Power cable
5. 1 x Media roll
6. 1 x Getting Started CD

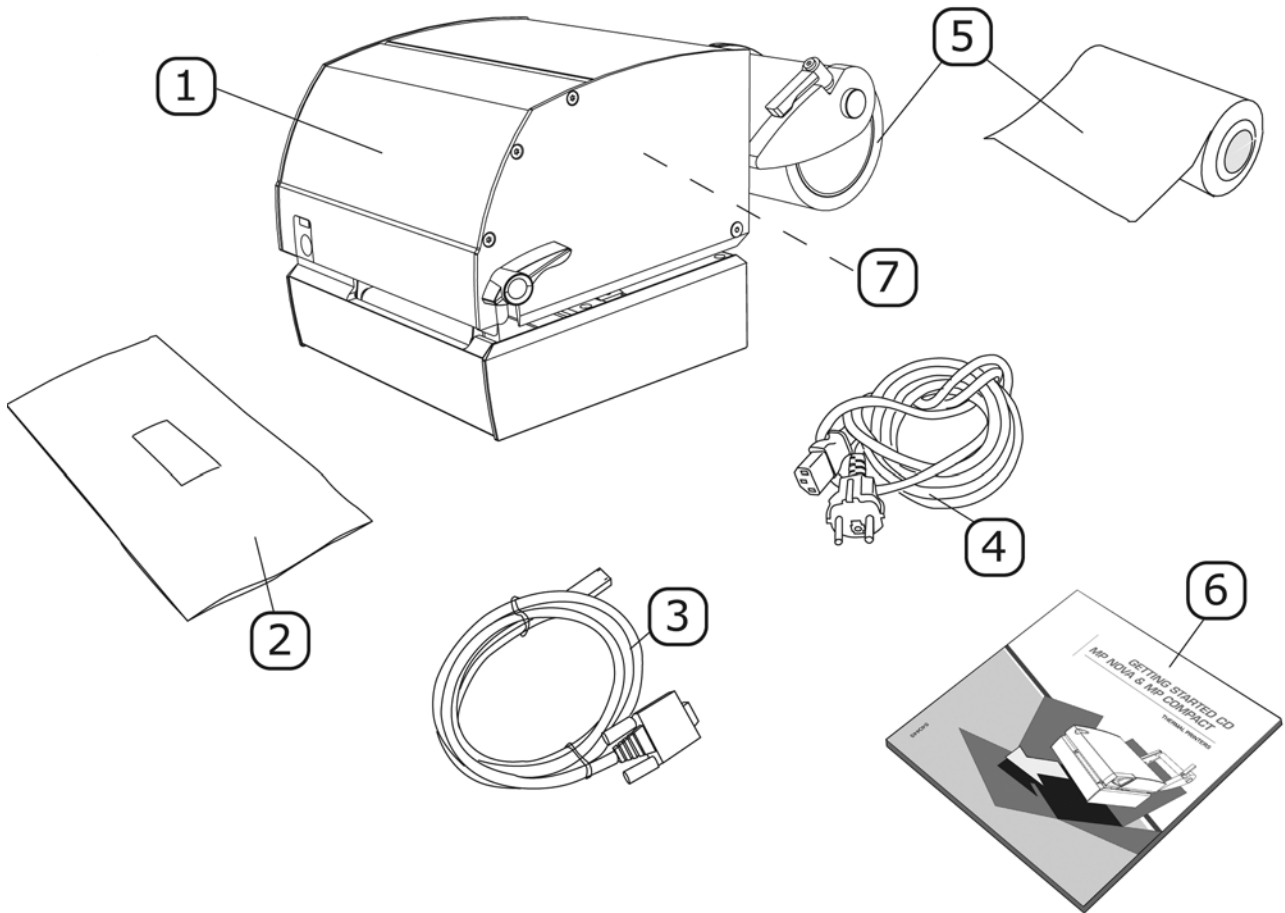
4. Product Overview



4.1 In the Box

MP Nova4 TT & MP Nova6 TT

The following items should be included in the box when you receive your new MP Nova4 TT or MP Nova6 TT printer:



1. 1 x MP Nova4 TT or MP Nova6 TT
2. 1 x Cleaning cloth
3. 1 x Communication cable (Serial RS 232)
4. 1 x Power cable
5. 1 x Media roll
6. 1 x Getting Started CD
7. 1 x Ink ribbon, loaded in the machine

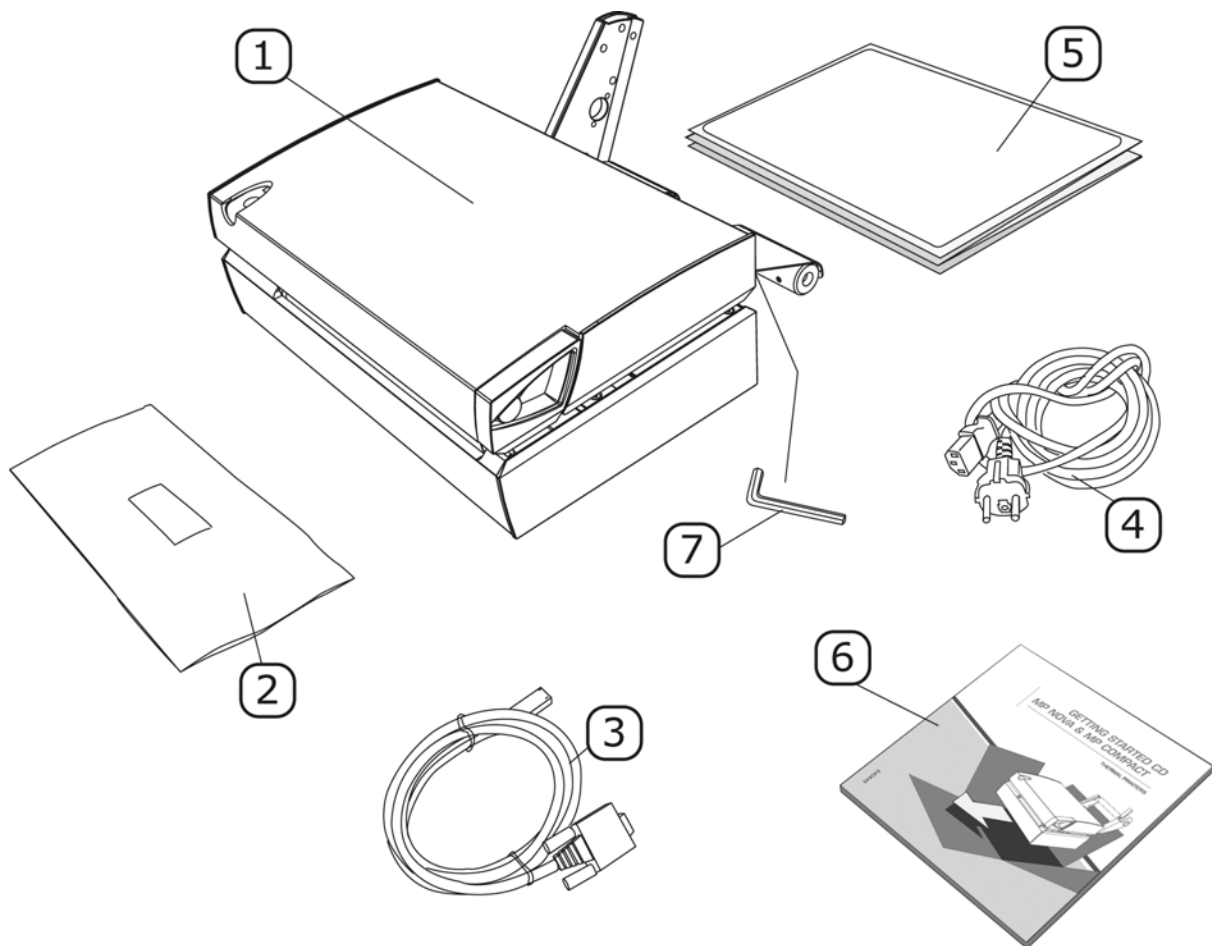
4. Product Overview



4.1 In the Box

MP Nova8 DT

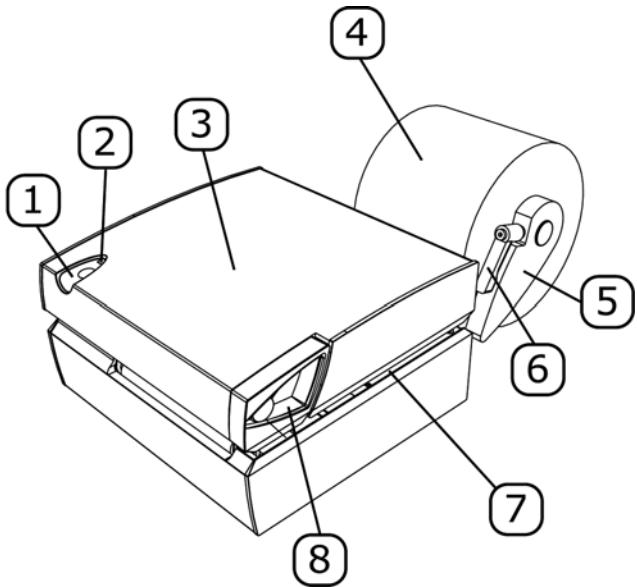
The following items should be included in the box when you receive your new MP Nova8 DT printer:



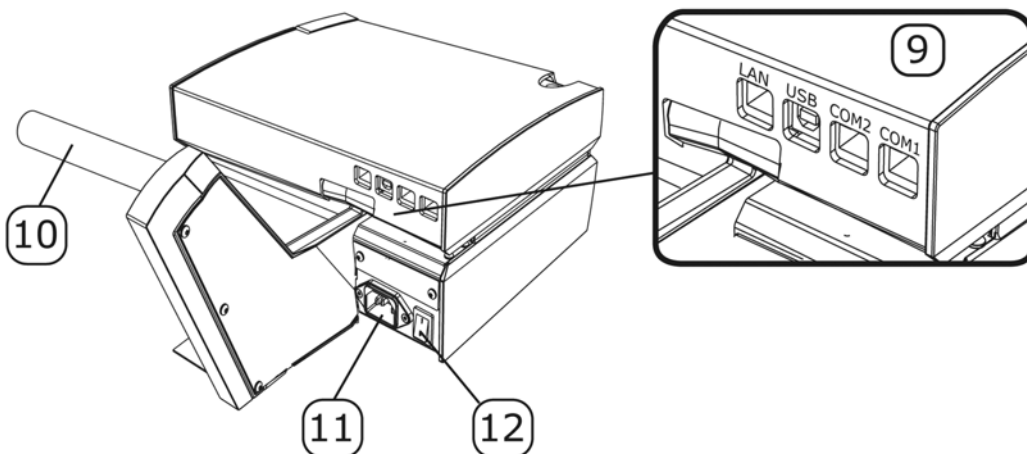
1. 1 x MP Nova8 DT
2. 1 x Cleaning cloth
3. 1 x Communication cable (Serial RS 232)
4. 1 x Power cable
5. 1 x Fan-folded media
6. 1 x Getting Started CD
7. 1 x Allen key (2 mm) mounted underneath the fan-fold steering

4. Product Overview

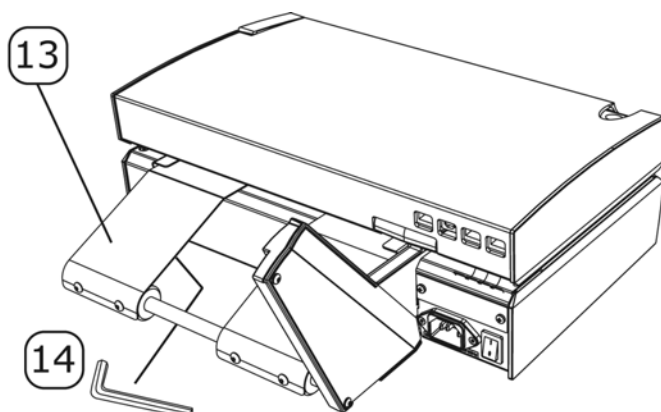
4.2 MP Nova4, 6 & 8 DT – Printer Parts



- 1. Print button
- 2. Status lamp (LED)
- 3. Cover
- 4. Media roll
- 5. Roll steering
- 6. Roll guide lock
- 7. Media track
- 8. Handle



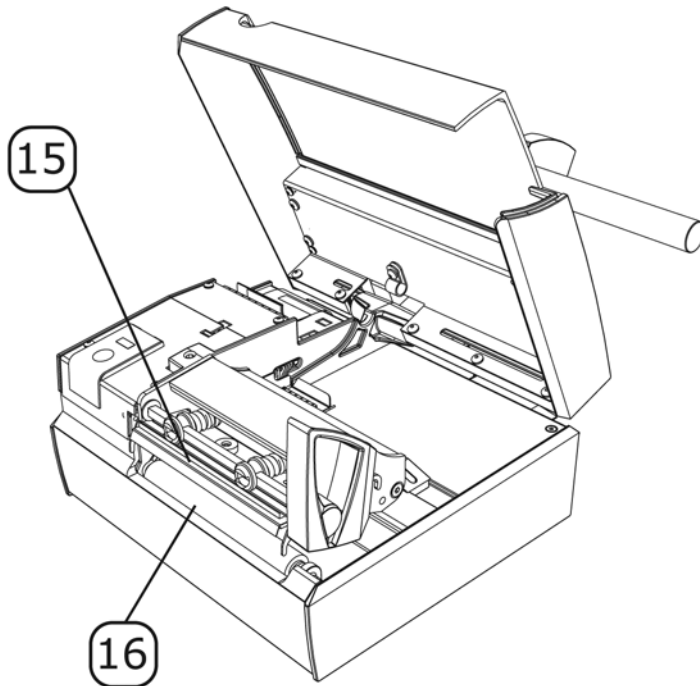
- 9. Communication ports



- 10. Unroll shaft
- 11. Power connection
- 12. Power switch
- 13. Fan-fold steering (MPNova8)
- 14. Allen Key (2 mm), mounted underneath the fan-fold steering (MPNova8)

4. Product Overview

4.2 MP Nova4, 6 & 8 DT – Printer Parts



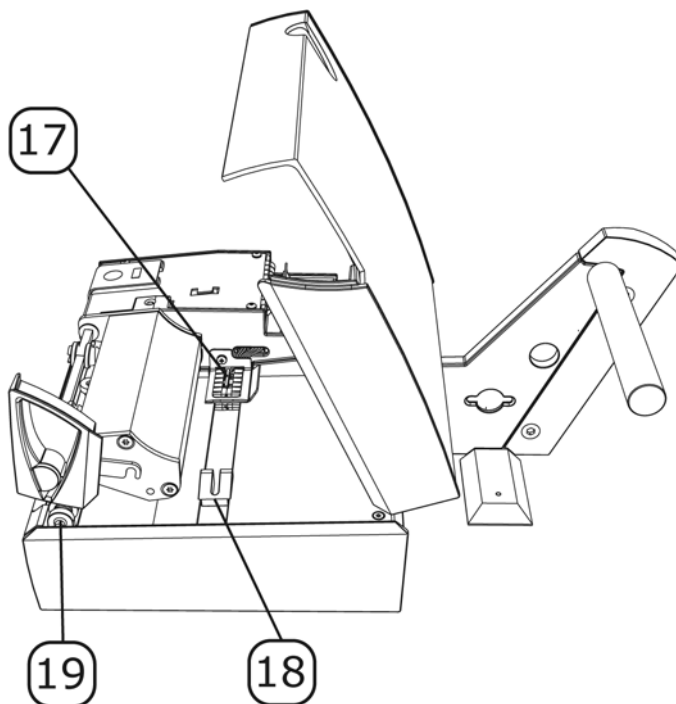
15. Print head

16. Print roll

17. Media Positioning Sensor (MPS)

18. Paper guide

19. Outer plate holder



17

19

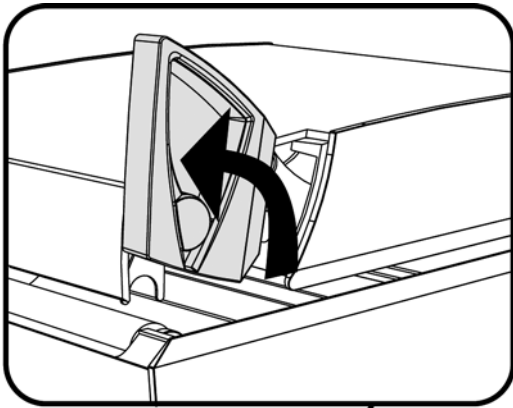
18

4. Product Overview

4.3 Opening and Closing the Cover



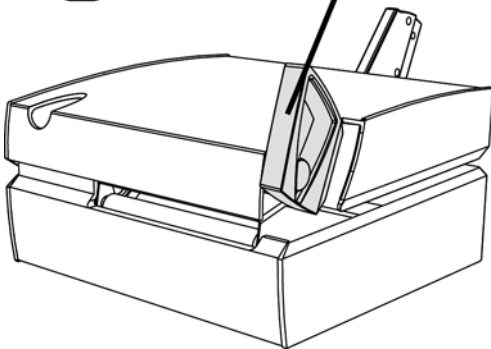
Open MP Nova4, 6 & 8 DT



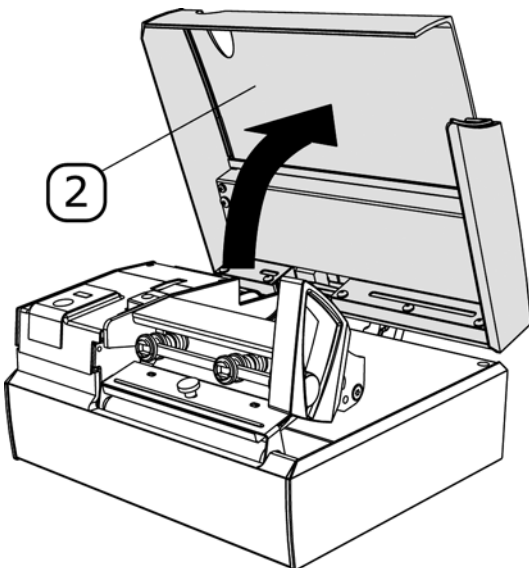
1. Pull handle.

2. Open cover.

1



2

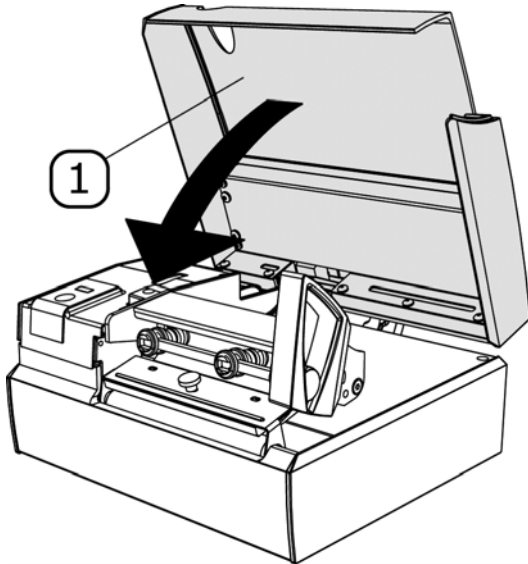


4. Product Overview

4.3 Opening and Closing the Cover



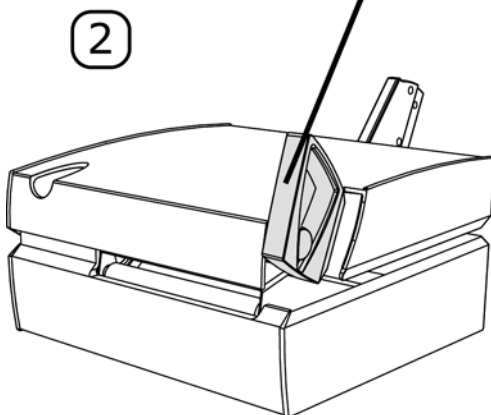
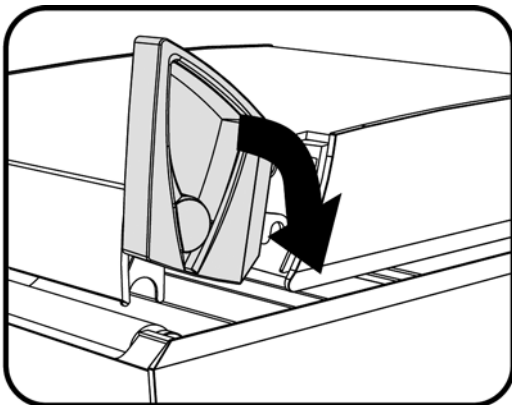
Close MP Nova4, 6 & 8 DT



1. Close cover.

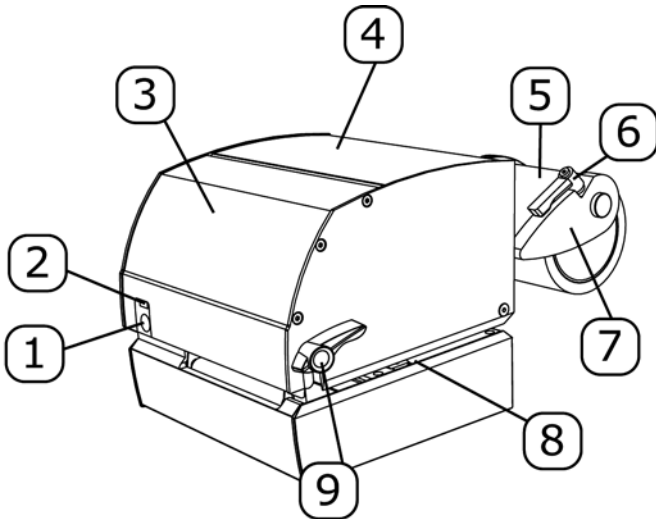
2. Fold handle. (Print head will be engaged.)

Note: Make sure the handle is folded all the way down.

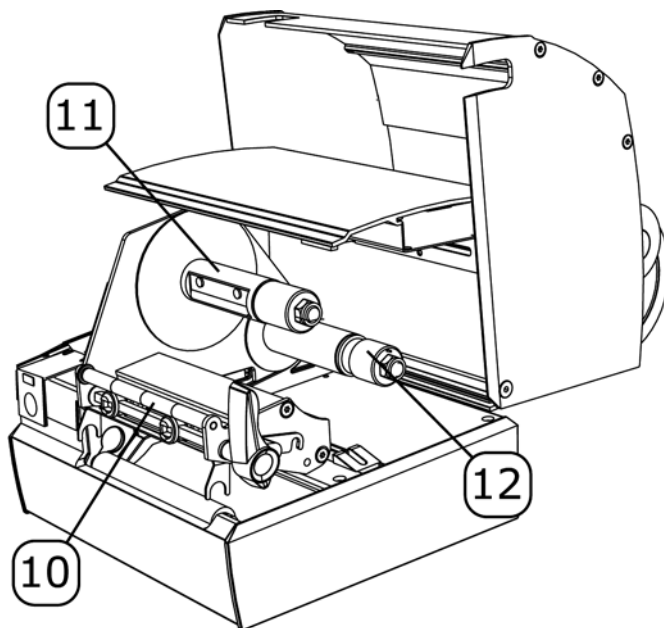


4. Product Overview

4.4 MP Nova4 & 6 TT – Printer Parts



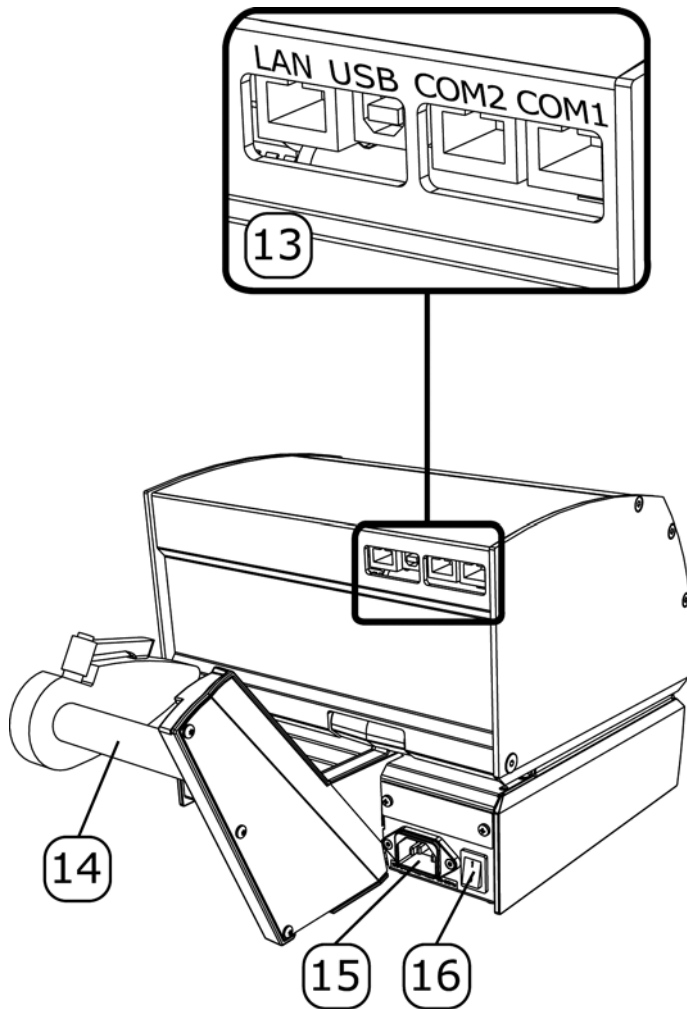
1. Print button
2. Status lamp (LED)
3. Front cover
4. Rear cover
5. Media roll
6. Roll guide lock
7. Roll steering
8. Media track
9. Handle



10. Ink ribbon guide
11. Rewind spool
12. Unwind spool

4. Product Overview

4.4 MP Nova4 & 6 TT – Printer Parts



13. Communication ports

14. Unroll shaft

15. Power connection

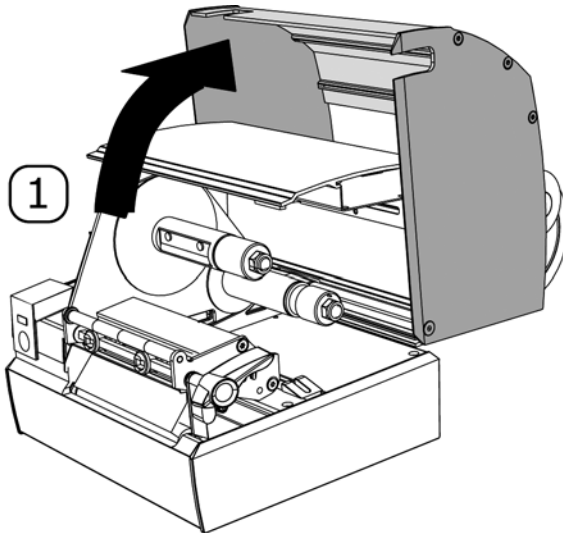
16. Power switch

4. Product Overview

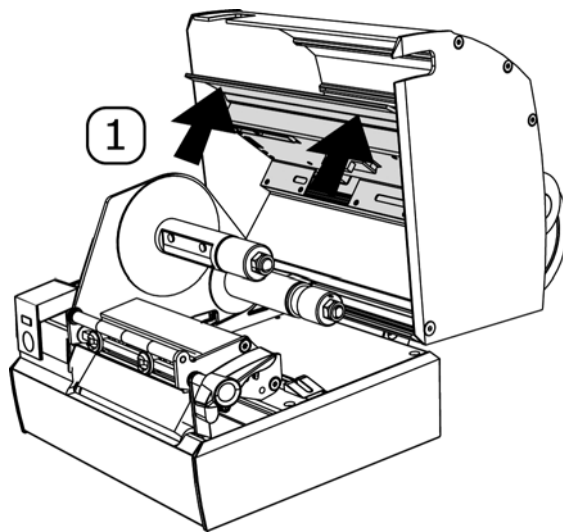
4.5 Opening and Closing the Cover



Open MP Nova4 & 6 TT



1. Open cover. The inner cover slides automatically up together with the cover.

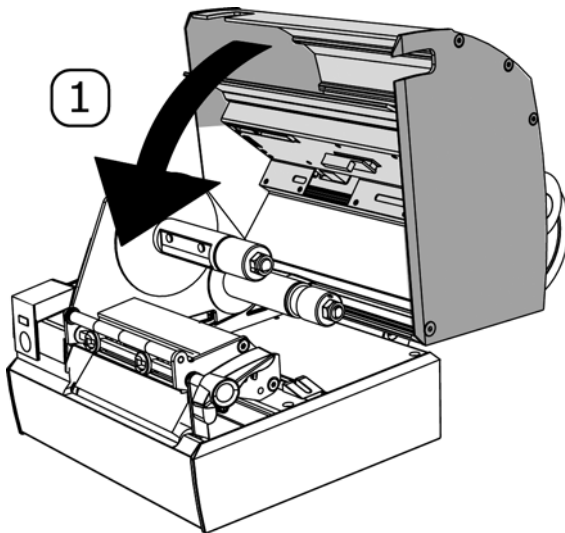


4. Product Overview

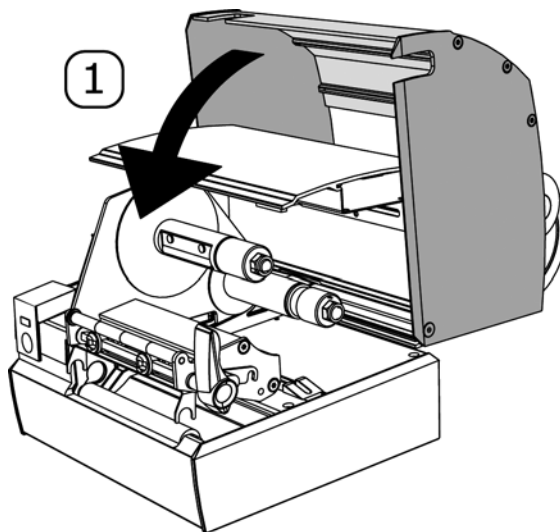


4.5 Opening and Closing the Cover

Close MP Nova4 & 6 TT



1. Close cover. The inner cover slides automatically down together with the cover.



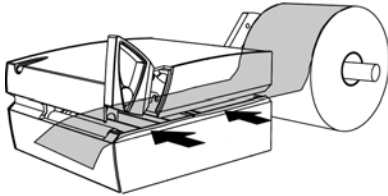
5. Getting Started

5.1 Overview

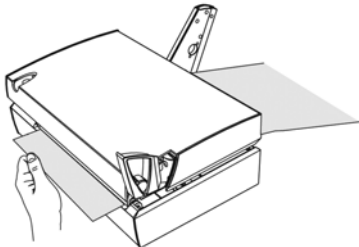


MP Nova4, 6 & 8 DT

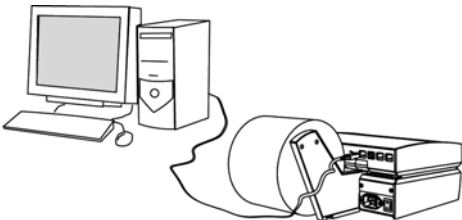
1. Insert media, MPNova4 & 6 DT, see chapter 5.3.1



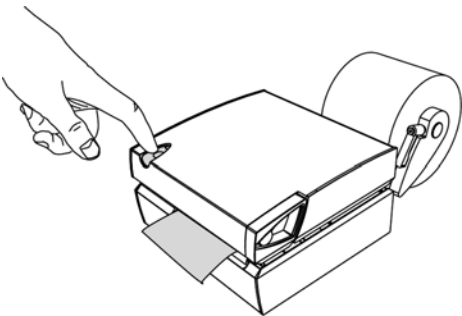
Insert media, MPNova8 DT, see chapter 5.3.2



2. Connecting, see chapter 5.6.



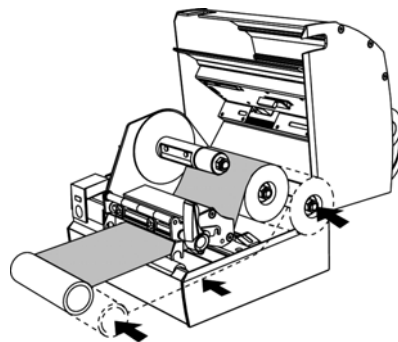
3. Run a test print, see chapter 5.7.



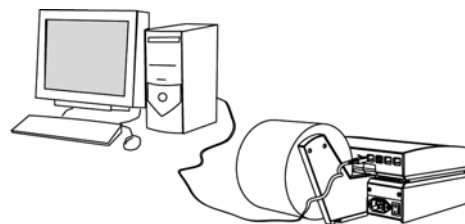
MP Nova4 & 6 TT

1. Insert media. See MP Nova4 & 6 DT (no 1) in the left column.

2. Insert ink ribbon, see chapter 5.5.



3. Connecting, see chapter 5.6.



4. Run a test print. See MP Nova4 & 6 DT (no 3) in the left column.

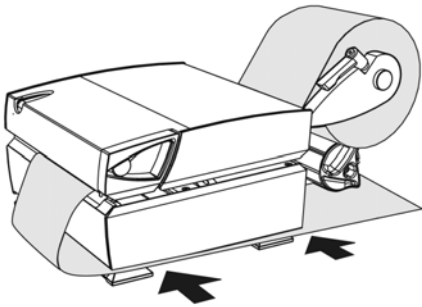
5. Getting Started

5.2 Overview Peel-Off

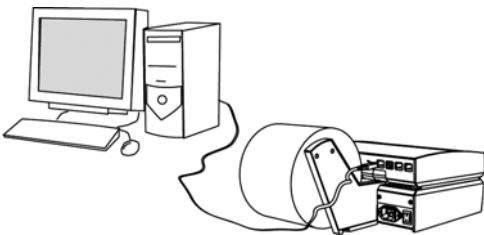


MP Nova4 & 6 DT Peel-Off

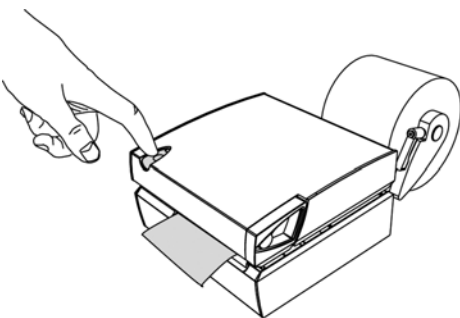
1. Insert peel-off media, see chapter 5.4



2. Connecting, see chapter 5.6.



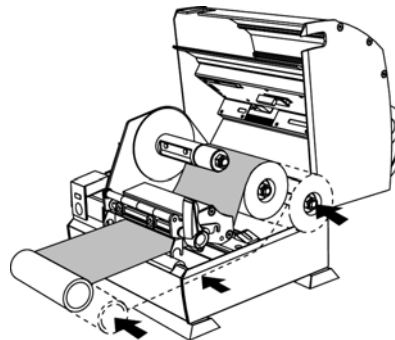
3. Run a test print, see chapter 5.7.



MP Nova4 & 6 TT Peel-Off

1. Insert peel-off media. See MP Nova4 & 6 DT Peel-off (no 1) in the left column.

2. Insert ink ribbon, see chapter 5.5.



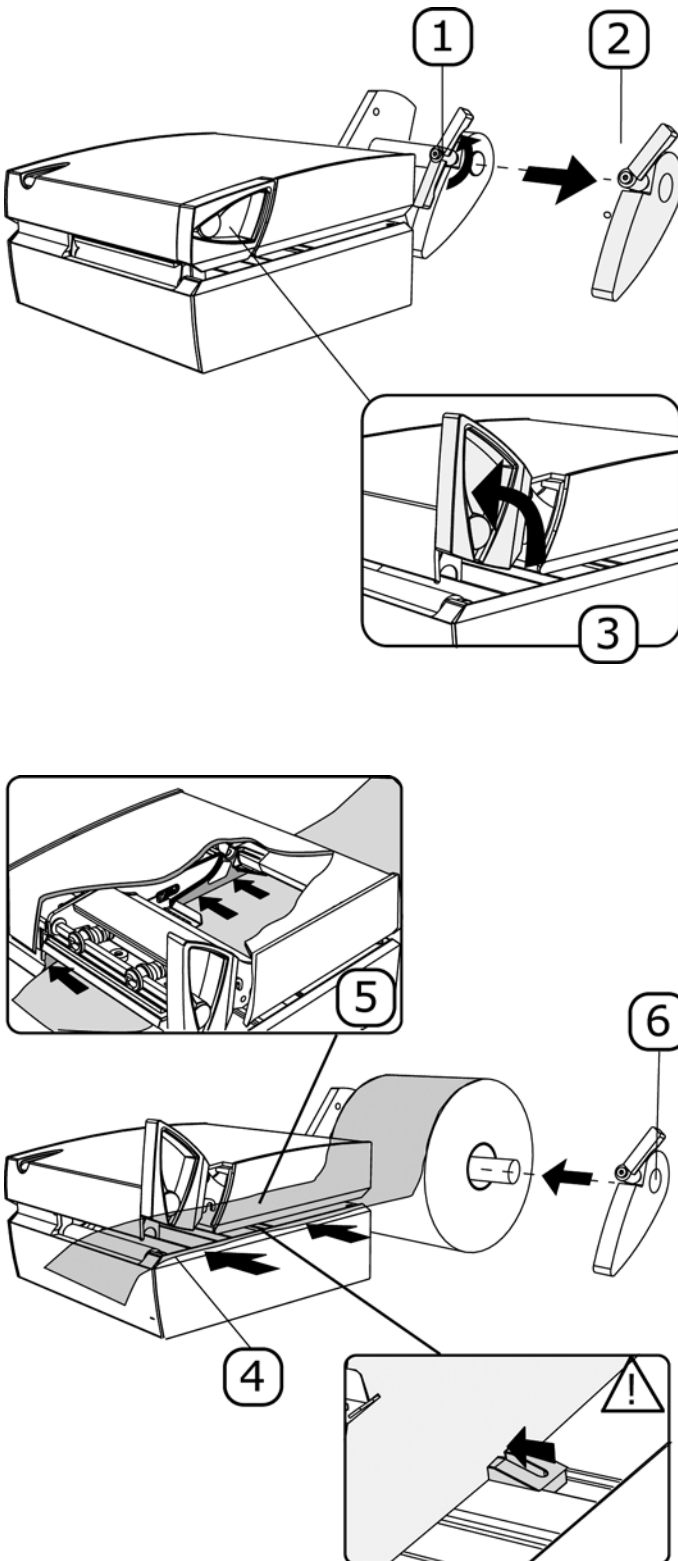
3. Connecting, see chapter 5.6.



4. Run a test print. See MP Nova4 & 6 DT Peel-off (no 3) in the left column.

5. Getting Started

5.3.1 Inserting Media MP Nova4 & 6



Note:

The pictures shown describe an **MP Nova4 DT**. The process works just the same for **MP Nova6 DT** and **MP Nova4 & 6 TT**.

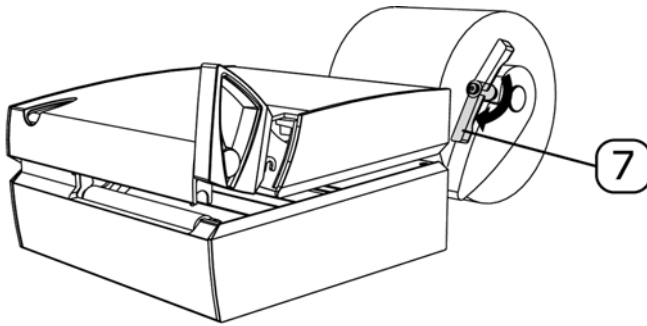
1. Undo the roll guide lock.
2. Remove the roll guide from the media shaft.
3. Pull handle to lift the print head from the roller.
4. Position a new media roll onto the spool and insert the media from the side into the printer's media track.
5. Check that the media is aligned with the internal printer wall.

! Make sure the outer roll guide suits the width of the media. If necessary, open the cover and adjust the outer roll guide. (Only necessary when changing media type.)

6. Put the roll guide on the unroll shaft. Push it against the roll for optimum control.

5. Getting Started

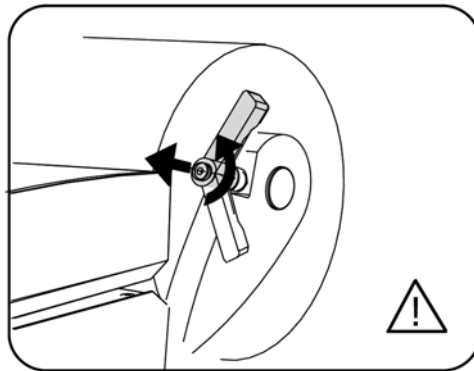
5.3.1 Inserting Media MP Nova4 & 6



7. Lock the roll guide lock (turn the handle clockwise). The roll steering shall guide the roll, but shall not be tight.

! Note:

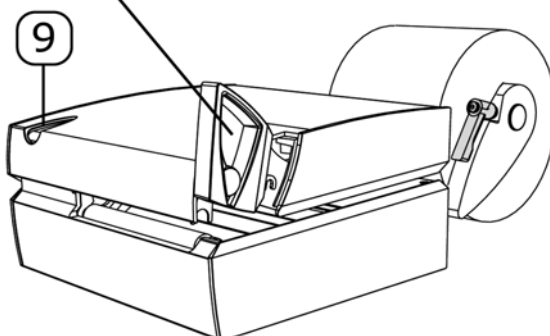
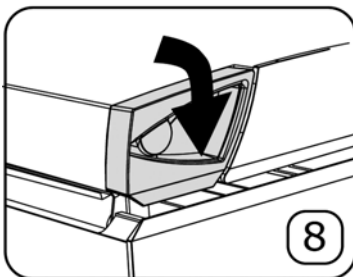
If the roll guide lock cannot be properly tightened (**Note:** not too tight), lift the lock upwards, rotate it back half a turn, lower it and retighten.



8. Fold the handle (the print head folds automatically onto the roller).
9. Press the print button a few times until the printer automatically finds the correct position of the media.

Note:

If necessary, make a test printout and auto adjust the media positioning sensor as described in chapter 5.7.



10. If you have an:

MP Nova4 or 6 DT: go to Test Print, chapter 5.7.

MP Nova4 or 6 DT Peel Off: go to Inserting Media Peel-Off Kit, chapter 5.4.

MP Nova4 or 6 TT: go to Inserting Ink Ribbon, chapter 5.5.

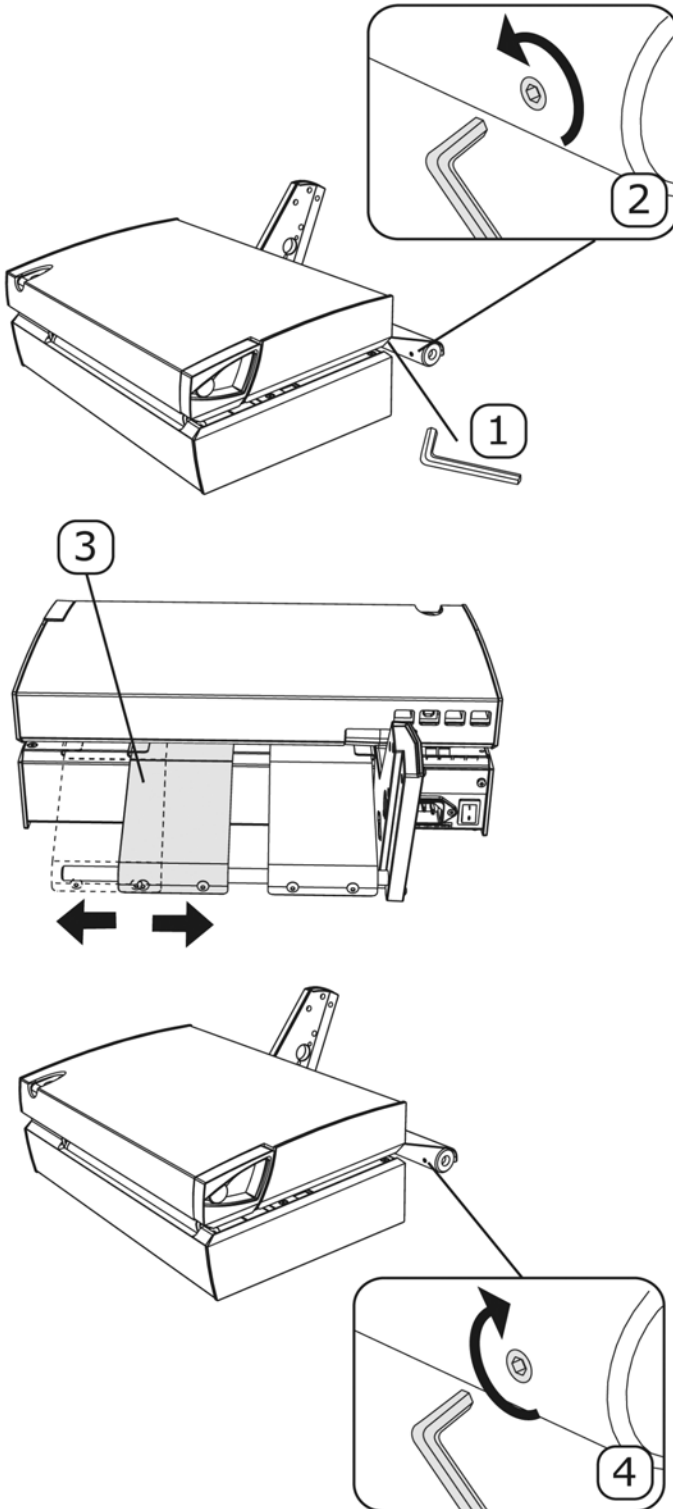
MP Nova4 or 6 TT Peel Off: go to Inserting Media Peel-Off Kit, chapter 5.4.

5. Getting Started

5.3.2 Inserting Media MP Nova8 DT



Adjusting the Fan-Fold Steering



Note:

It is only necessary to adjust the fan-fold steering when changing media type.

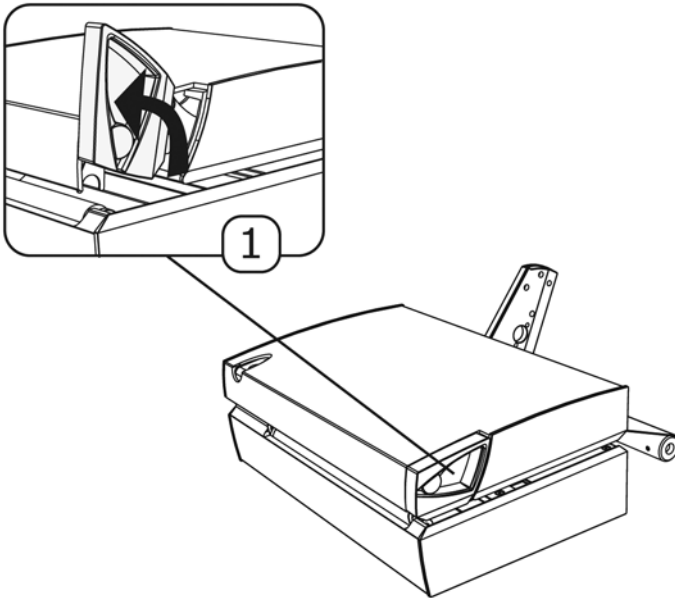
1. An Allen key (2 mm) is mounted underneath the fan-fold steering.
2. Loosen the Allen screw to unlock the fan-fold steering.
3. Position the fan-fold steering to fit the width of the media.
4. Tighten the Allen screw to lock the fan-fold steering in its new position.
5. Replace the Allen key.

5. Getting Started

5.3.2 Inserting Media MP Nova8 DT



Inserting Media

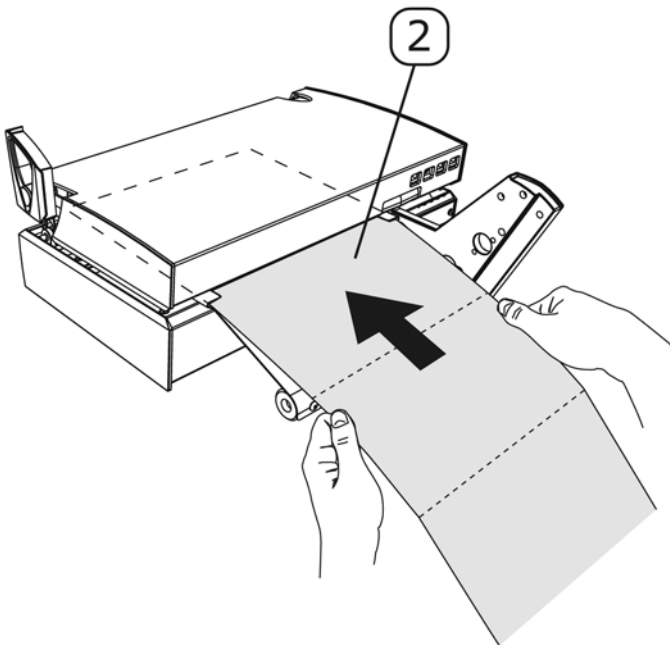


1. Pull handle to lift the print head from the roller.
2. Insert the media through the fan-fold steering and through the printer.

Note:

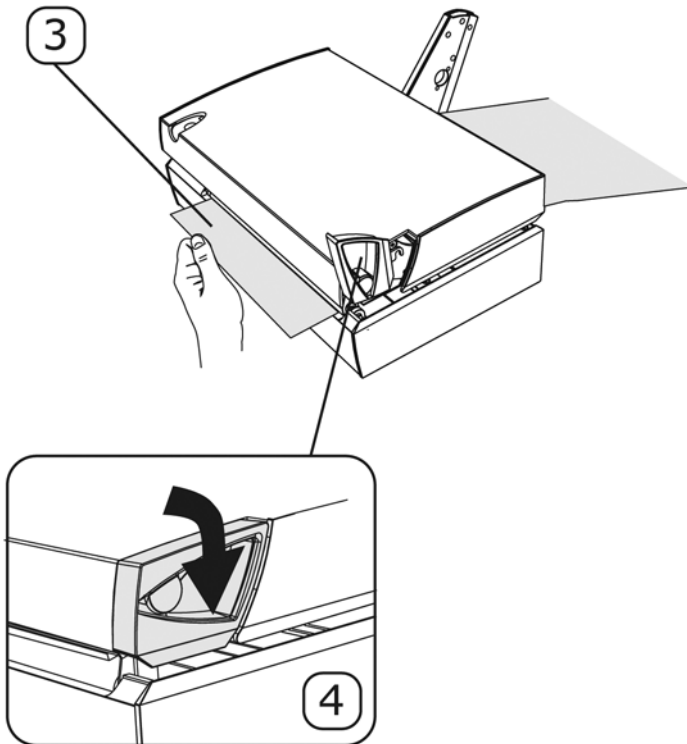
Make sure the fan-fold steering suits the width of the media. To adjust the steering see previous page.

Make sure the media is placed so that it will feed easily into the printer.



5. Getting Started

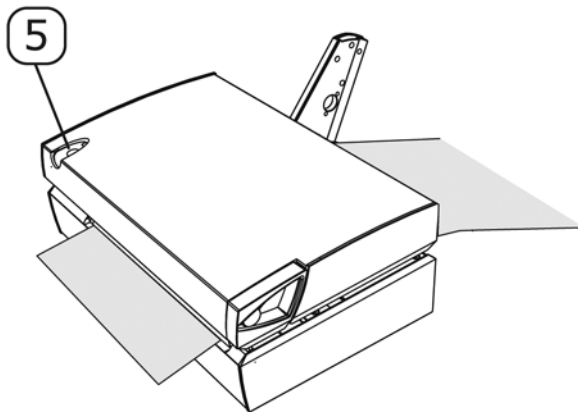
5.3.2 Inserting Media MP Nova8 DT



3. Pull out some of the media.
4. Fold the handle (the print head folds automatically onto the roller).
5. Press the print button a few times until the printer automatically finds the correct position of the media.

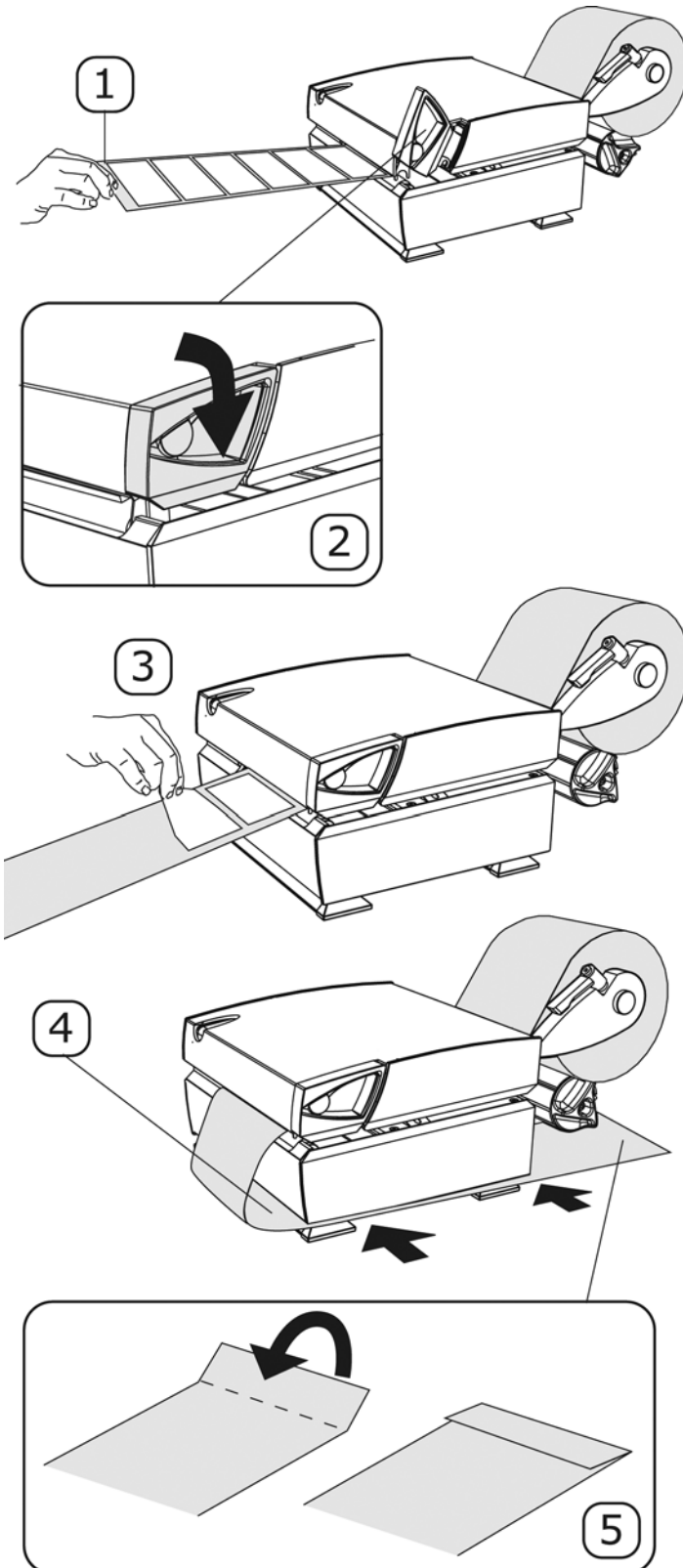
Note:

If necessary, make a test printout and auto adjust the media positioning sensor as described in chapter 5.7.



5. Getting Started

5.4 Inserting Media – Peel-Off Kit



Note:

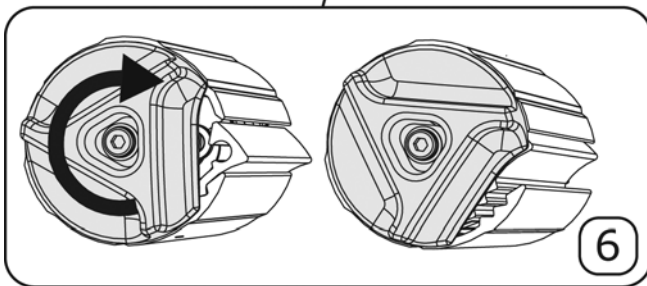
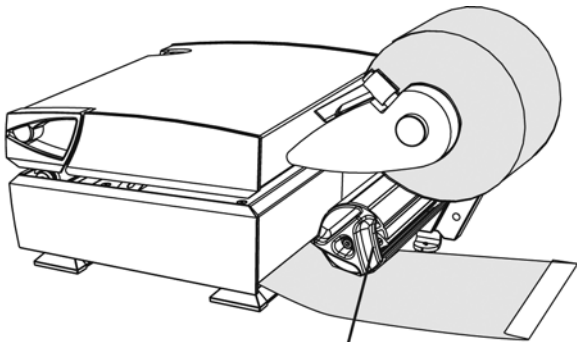
The pictures shown describe an **MP Nova4 DT Peel-Off**. The process works just the same for **MP Nova4 & 6 TT Peel-Off & MP Nova6 DT Peel-Off**.

First insert media. The peel-off media inserts in the same way as the media described in chapter 5.3.1.

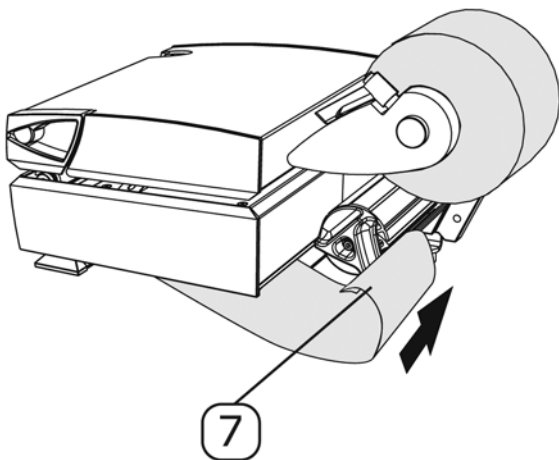
1. Lift the handle and then pull, 40 cm of the label roll, out of the printer.
2. Fold the handle.
3. Remove all the labels on the exposed section.
4. Pull the backing paper under the printer.
5. Fold 2 cm of the backing paper to make it slide more easily into the rewind unit slot

5. Getting Started

5.4 Inserting Media – Peel-Off Kit

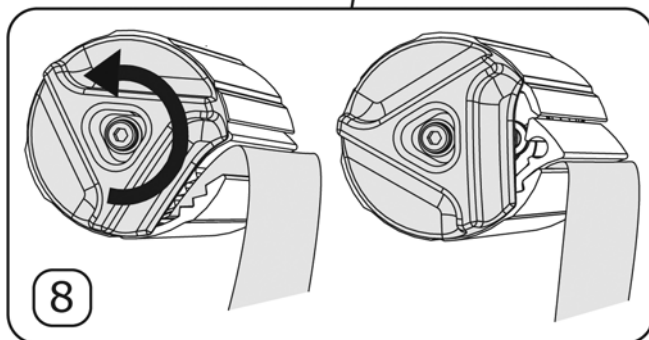
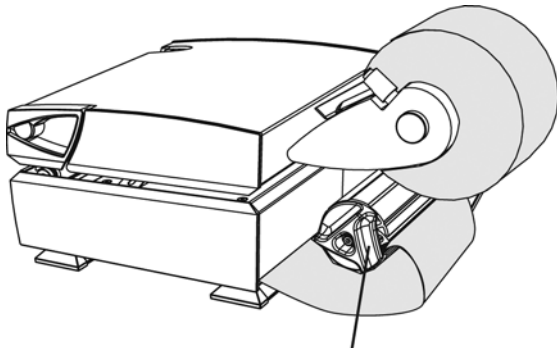


6. Open the rewind unit slot by turning the knob clockwise while holding the cylinder firmly.
7. Slide the backing paper into the rewind unit slot.



5. Getting Started

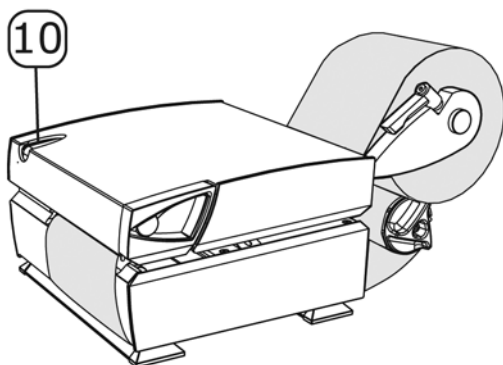
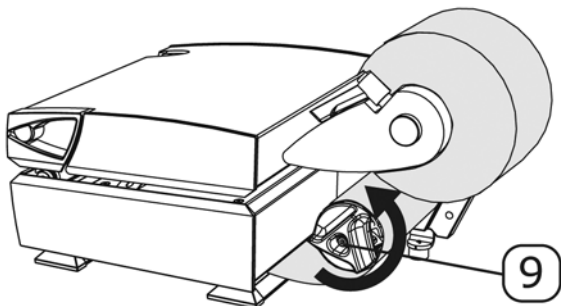
5.4 Inserting Media – Peel-Off Kit



8. Close the rewind unit slot by turning the knob counter-clockwise while holding the cylinder and backing paper firmly.
9. Roll the backing paper around the rewind unit by turning the knob counter-clockwise. This increases the tension of the backing paper.
10. Press the print button a few times until the printer automatically finds the correct position of the media.

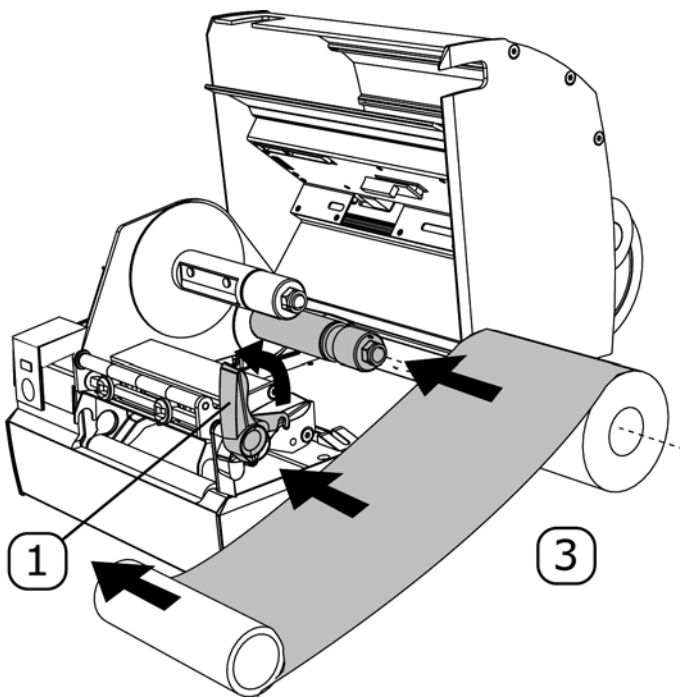
Note:

If necessary, make a test printout and auto adjust the media positioning sensor as described in chapter 5.7.



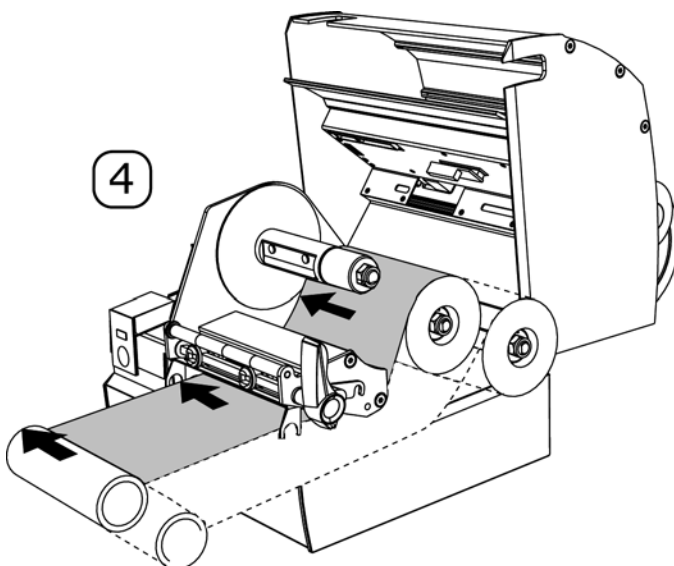
5. Getting Started

5.5 Inserting Ink Ribbon – MP Nova4 & 6 TT



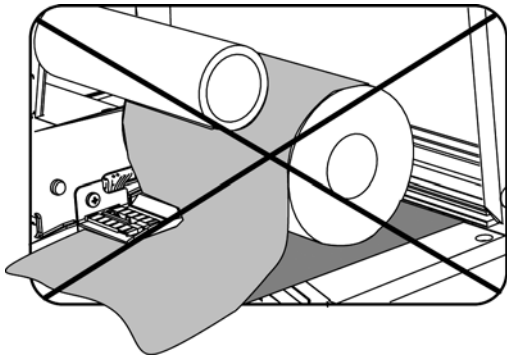
1. Undo the handle and open the cover.
2. Remove the old ink ribbon.
3. Slide the new ink ribbon on to the spool.
4. Feed the ink ribbon under the print head.

Note: Check that the inked side of the ribbon is facing downwards.



5. Getting Started

5.5 Inserting Ink Ribbon – MP Nova4 & 6 TT

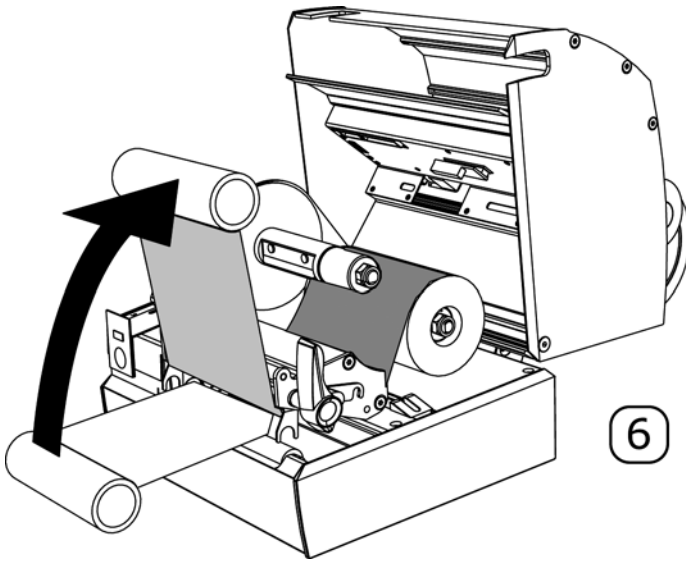


5

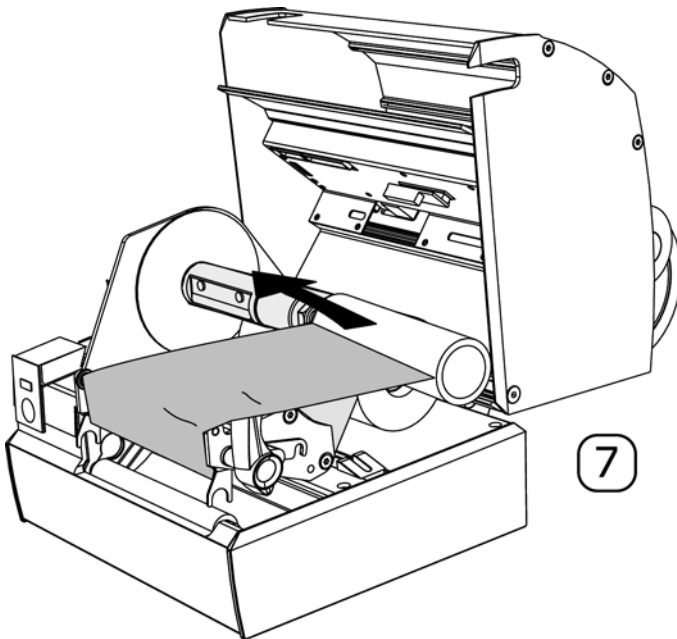
5. **Note:** The ink ribbon must not pass under the MPS (Media Positioning Sensor).

6. Move the empty roll, which will collect the used ink ribbon, up and around the print head.

7. Slide the roll onto the take up spool.



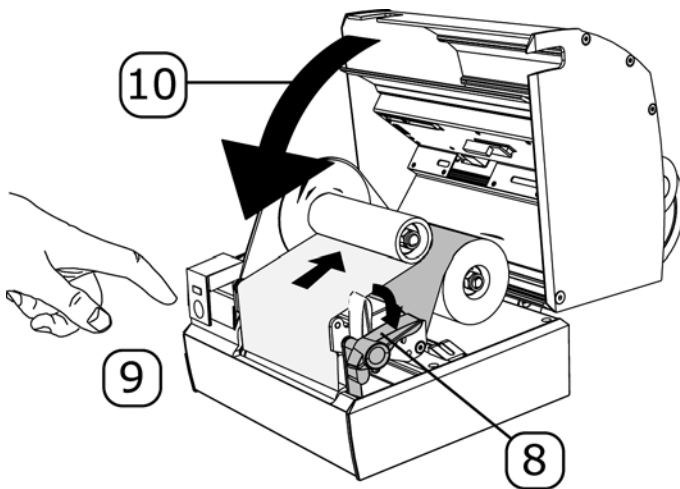
6



7

5. Getting Started

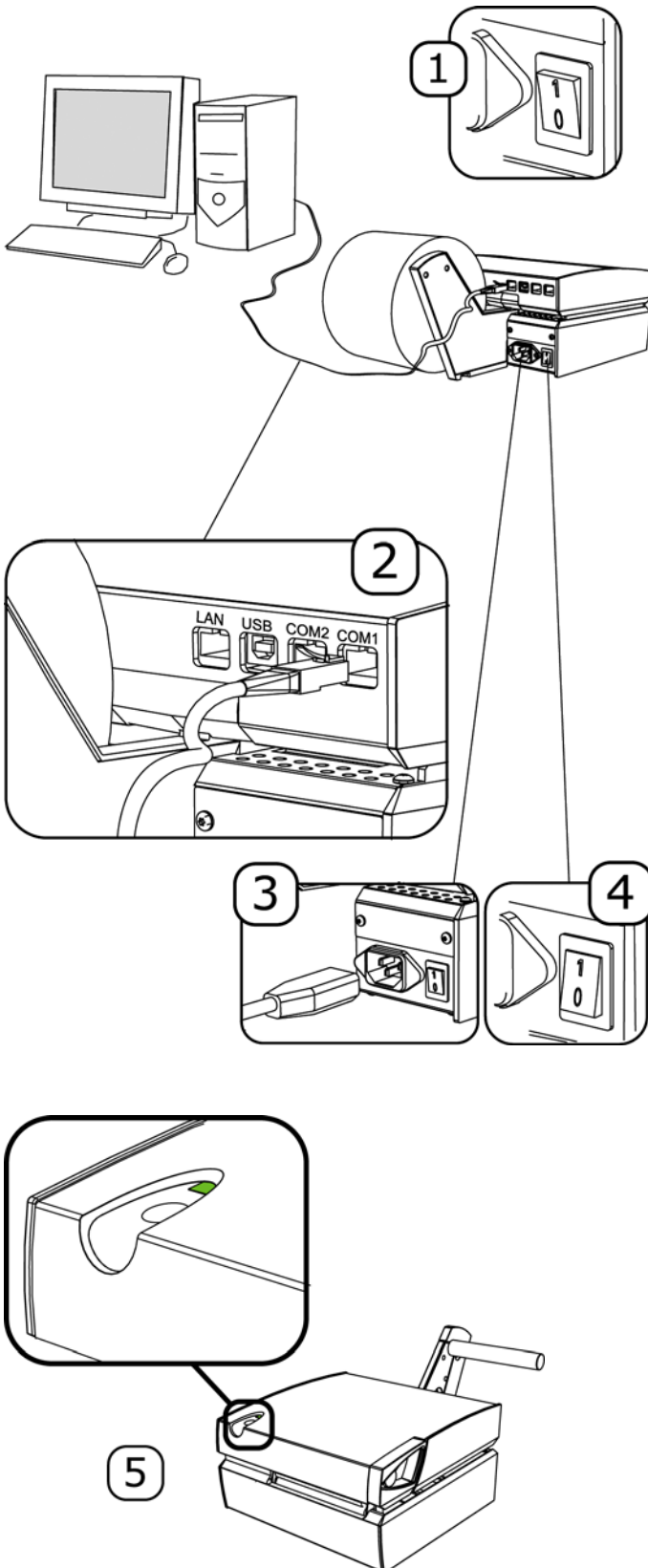
5.5 Inserting Ink Ribbon – MP Nova4 & 6 TT



8. Fold the handle.
9. Press the print button. The ink ribbon will automatically wind around the rewind spool, thus tensioning the ink ribbon.
10. Close the cover.

5. Getting Started

5.6 Connecting



Note: This process works for all the MP Nova printers.

1. Make sure the printer is switched off (the power switch is set to '0').
2. Connect the communication cable from the PC to the printer. The connection cable enclosed is designed for communication port COM 1 and COM 2.

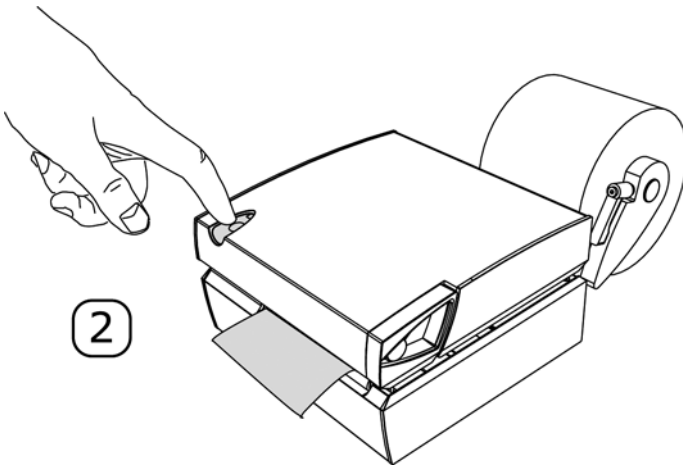


Note: Check that the cable is connected to the correct communication port (COM1, COM2, USB or LAN).

3. Connect the printer to the mains supply.
4. Switch on the printer.
5. Wait until the lamp has turned green.

5. Getting Started

5.7 Test Print & Sensor Auto Adjustment



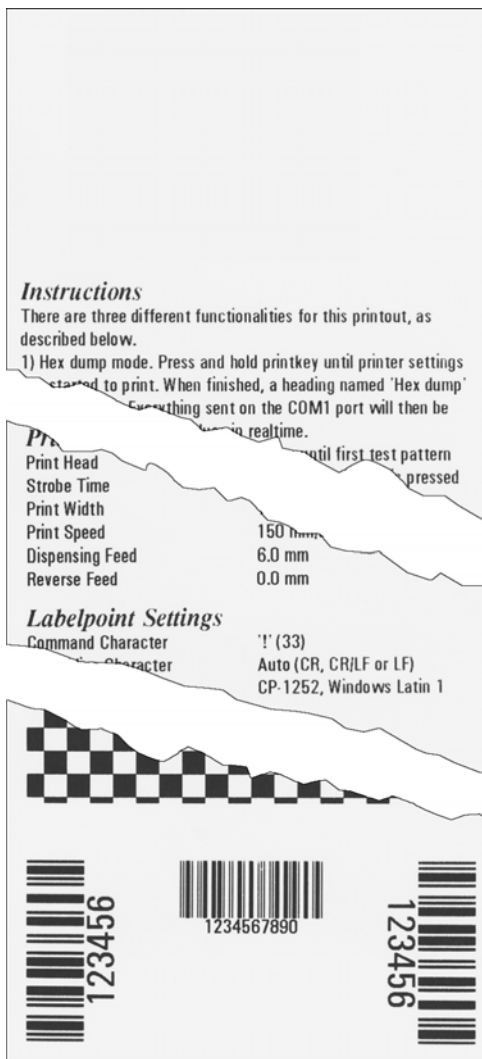
To be sure the printer is working, and to adjust the media positioning sensor, MPS, to the media, make a test printout:

1. Switch off the printer.
2. Press the print button. Switch on the printer and keep pressing the print button until the whole printout is printed and then for another 7 seconds. This will start the sensor auto adjustment. Release the print button when auto adjustment starts.
3. Restart the printer to exit test print mode. The new settings are saved automatically.

Note: If the patterns at the bottom of the test printout are missing, you released the print button too soon. Repeat the process.

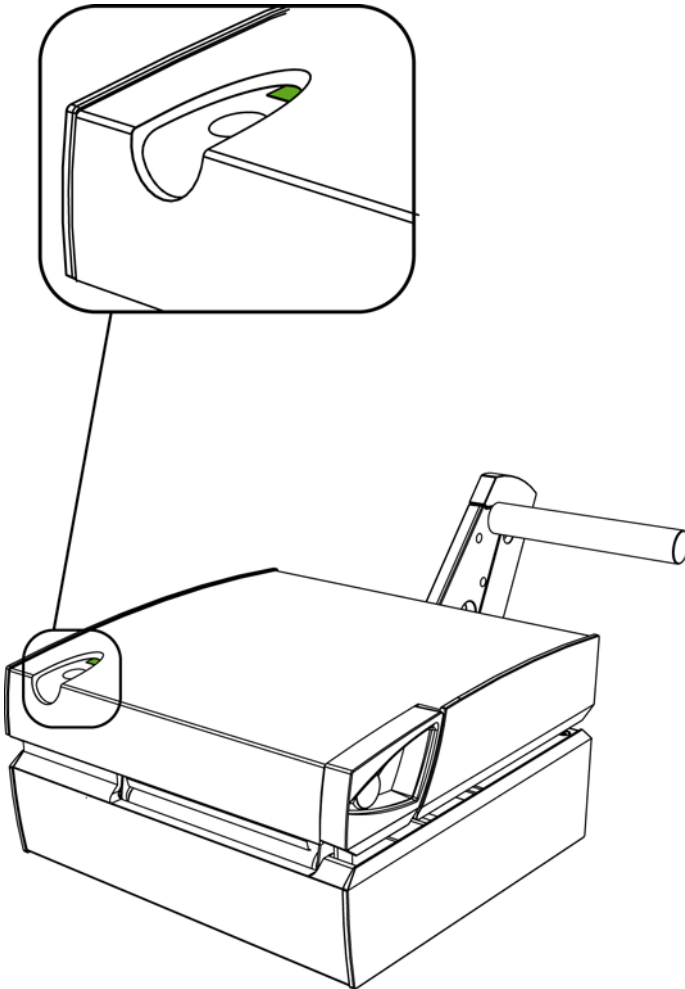
4. If the text and the patterns look nice, the printout is ok.
5. To skip the test print, turn off the printer and wait 15 seconds before switching it on again.

In case of any trouble, go to Troubleshooting, chapter 8, for further information.



6. Operation

6.2 Interpreting the Status Lamp - LED



■ Red

End of media roll, end of ink ribbon or the handle is not folded down.

Note: The handle has to be folded all the way down.

□ ■ □ Red (flashing)

System temperature too high, printer has entered cool down state

■ Yellow

Printer is starting up or is in test print mode.

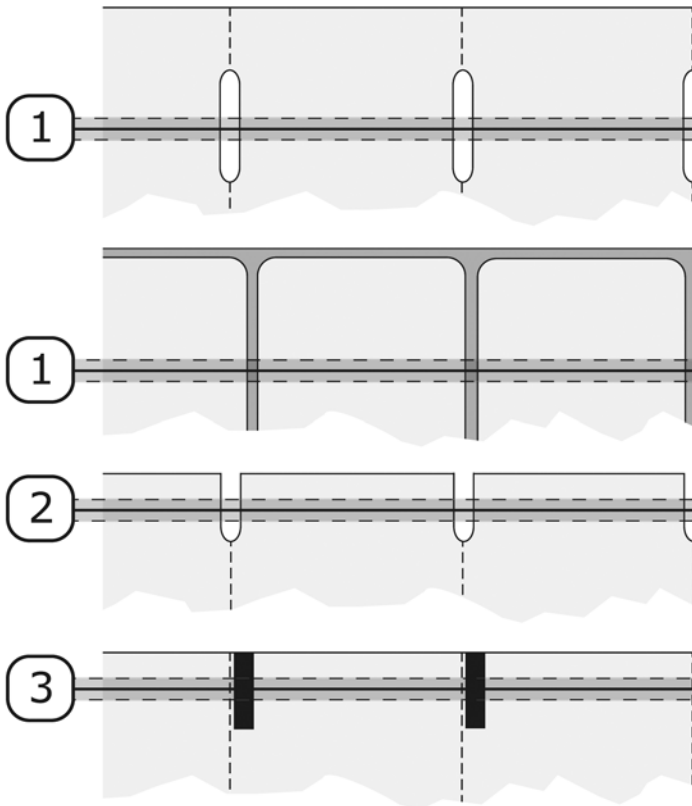
Note: Restart the printer to exit test print mode.

■ Green

Ready to print

6. Operation

6.3 Media Positioning Sensor Settings



Sensor mode	Approximate sensor reading point, from edge of media.
1. Outer (default)	16 mm
2. Inner	5 mm
3. Black mark	5 mm

The MP Nova printers are equipped with media positioning sensors (MPS). The MPS detects the media and can be set to three different modes depending on how and where gaps and marks are positioned on the media:

1. Outer sensor mode – detects label gaps about 16 mm from the edge of the media.
Note: This is the default setting.
2. Inner sensor mode – detects label gaps about 5 mm from the edge of the media.

3. Black mark sensor – detects black marks on the reverse side of the media, about 5 mm from the edge of the media.

4. To change the settings, see the Printer settings menu on the Getting started CD.

Note: Changes in the printer settings should be made by qualified personnel.

For more information about ticket, tag and label specifications, see the Media specification sheet.

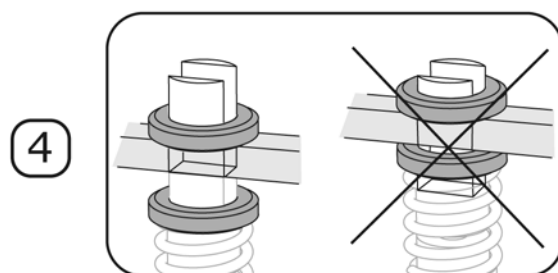
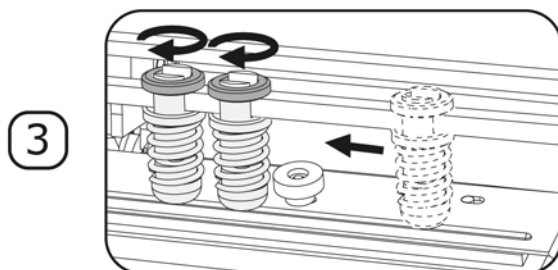
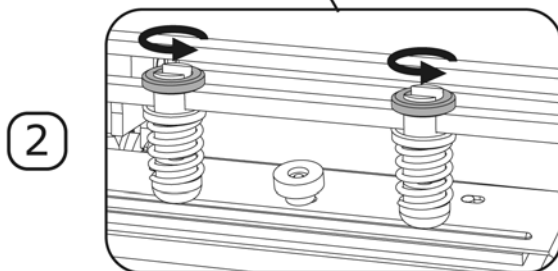
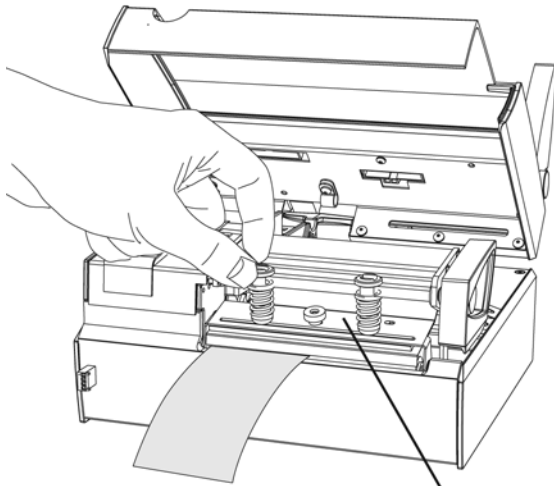


6. Operation

6.4 Adjusting the Print Head



Adjusting Print Head Position



Note:

These adjustments are only necessary when changing to media with different thickness or width. The pictures shown describe an **MP Nova4 DT**. The process works the same for **all MP Nova printers**.

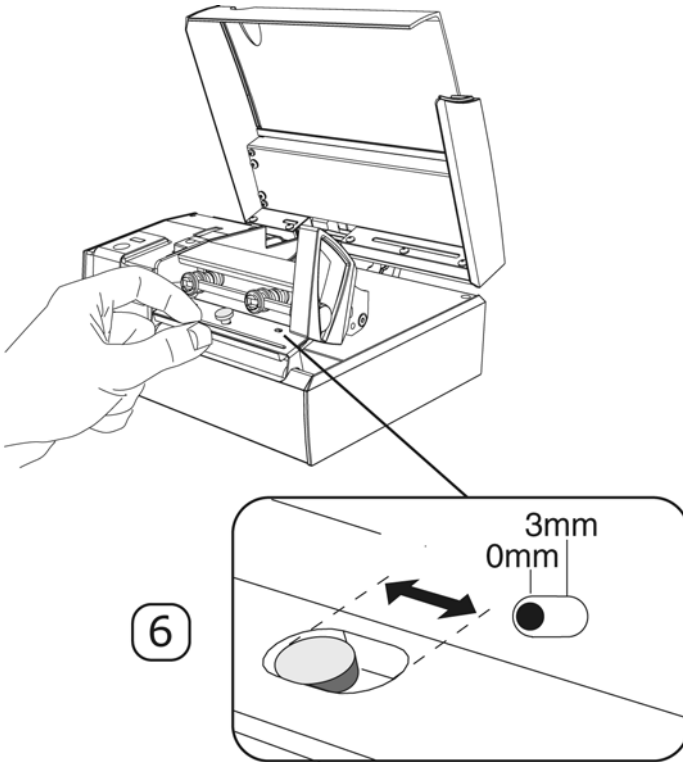
Changing the position of the adjustment screws can be necessary if the labels are very narrow

1. Check that the printer is turned off. Open the cover and fold the handle.
2. Loosen the upper nut of the adjustment screw you want to move by turning it counter-clockwise.
3. Slide the adjustment screw into a new position and tighten the upper nut. Pull the handle if sliding the adjustment screw past the finger nut.
4. **Note:** When tightening the upper nut. Make sure it is pressing the sliding rail against the bottom of the notch and not against the lower nut.
5. The adjustment screws should make the print head press evenly onto the media. Make test prints to find the correct positions.

6. Operation

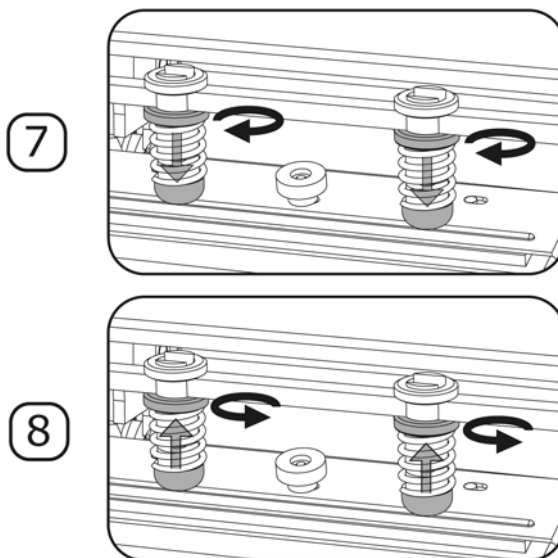


6.4 Adjusting the Print Head



6. **Note: MP Nova4 DT only.** On the MP Nova4 DT the position of the print head itself can be changed. As default there is a 3 mm non-printable area on the left side. To be able to print all the way to the edge of the label the margin has to be set to 0 mm. Pull the handle. Loosen the finger nut and slide the print head into position. Tighten the finger nut.

Adjusting Print Head Pressure

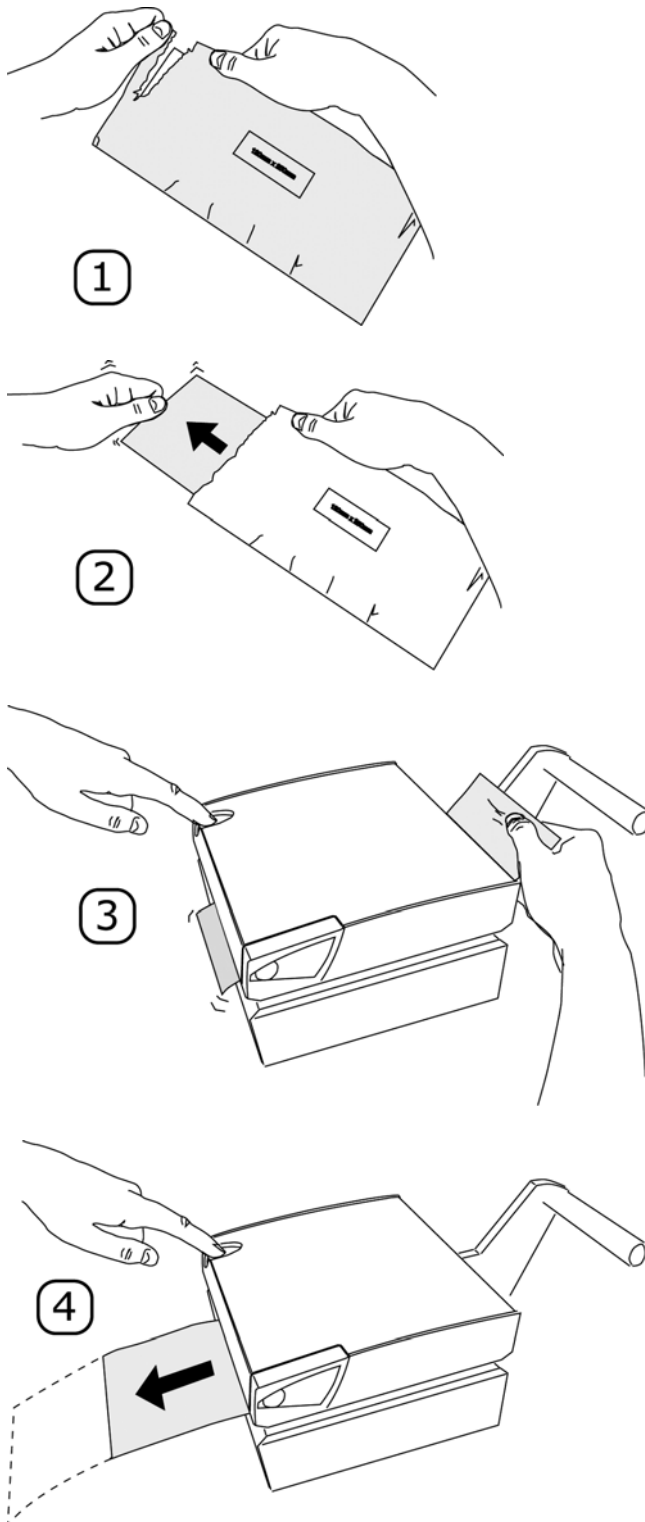


7. To increase the pressure on the print head, turn the lower nuts downwards (clockwise). This will tighten the spring.
8. To decrease the pressure on the print head, turn the lower nuts upwards (counter-clockwise).

Note: Too much pressure might damage the print head or make it wear out faster. The pressure should be as light as possible while maintaining high quality printing. Make test prints to find correct pressure.

7. Maintenance

Cleaning the Print Head and Roller



Only use cleaning cloths from Imaje. These are specially designed for cleaning Imaje thermal printers. See chapter 10.2 for correct type.

Note:

Frequent cleaning prevents print head and roller damage, and is especially important in demanding environments.

- Do not use liquids or aerosols when cleaning this printer.
- Never use sharp or pointed tools when cleaning or replacing the print head.
- Don't use any sharp object to remove labels from the print roller.

Remove all media before starting:

1. Tear the bag.
2. Pull out the cleaning cloth.
3. Pull the handle and feed the cloth into the printer in the same way as inserting the media (described in chapter 5.3). Fold the handle and press the printkey.
4. Keep the printkey pressed and let the cloth pass through the printer. (This cleans the *print head*.)

Note: If the roller is clogged with labels it can easily be removed for cleaning (see 9.1).

8. Troubleshooting



To Begin With

When troubleshooting the Nova printer, it is necessary to narrow down the various possible causes of faults: does the printer, the media or the application software cause the fault? A simple way of beginning your troubleshooting is to carry out a test print, which provides valuable information about the printer, for example if:

- The printer can feed the media
- The printer can print
- It shows which program version, typeface, etc. is installed.
- It shows communication parameters and settings
- It shows the quality of printouts.

Test Print

The printer has two different test modes for test printouts. We recommend you to use continuous paper (minimum width 100 mm) for the test printouts.

Preparations

Before you request a test printout, check that:

- The printer is loaded with paper (preferably continuous paper)
- The printer has been turned off for at least 15 seconds.

Interpretation of the Test Labels

The values shown in the test printout are default values set at delivery. It may be necessary to alter some values before final installation. The procedures for changing values are found in the Labelpoint manual.

8. Troubleshooting



Instructions
There are three different functionalities for this printout, as described below.

- 1) Hex dump mode. Press and hold printkey until printer settings has started to print. When finished, a heading named 'Hex dump' will be printed. Everything sent on the COM1 port will then be printed as hexadecimal values in realtime.
- 2) Test pattern. Press and hold printkey until first test pattern has started to print. Then, for each time the printkey is pressed a copy of that test pattern will be printed.
- 3) Auto adjust sensor. Press and hold printkey until auto adjust starts. This will occur 7 seconds after which the test pattern has been printed once. The new settings will be saved automatically.

NOTE: This section is printed using the printer's default speed and strobe. The settings displayed below are, however, the current printer configuration.

General

Date (ddmm/yyyy)	27/06/2003
Time (24h)	10:38:52
Printer Program Version	4.74.07
Printer Part Number	745130.01
Printer Serial Number	0038435
CPU Board Program Version	4.00.15
CPU Board Type	5.00
CPU Board Serial Number	023008

Print Settings

Print Head	Rohm KF 41B (203 dpi)
Strobe Time	350 µs
Print Width	104 mm
Print Speed	150 mm/s
Dispensing Feed	6.0 mm
Reverse Feed	0.0 mm

Labelpoint Settings

Command Character	'T' (33)
End-of-line Character	Auto (CR, CR/LF or LF)
Character Set	CP-1252, Windows Latin 1

COM1 Settings

Port Settings	9600, none, 8, 1, 'b'
Port Mode	Printer

COM2 Settings

Port Settings	9600, none, 8, 1, 'b'
Port Mode	Printer

Network Settings

IP Address	DHCP
IP Mask	DHCP
Gateway	DHCP
Host Name	MP0059e0
Domain Name	image.com
MAC Address	00 90 9B 00 59 E0

Installed Fonts

Font number: 94021	Univers Medium
Font number: 94023	Univers Bold
Font number: 94029	Univers Condensed Medium
Font number: 94030	Univers Condensed Bold
Font number: 92500	CG Times
Font number: 92501	CG Times Italic
Font number: 92504	CG Times Bold
Font number: 92505	CG Times Bold Italic
Font number: 93779	Letter Gothic Bold
Font number: 90749	Letter Gothic Bold

NOTE: The following test pattern is printed using the current printer settings (as listed above) but without historic compensation.

Test Method 1

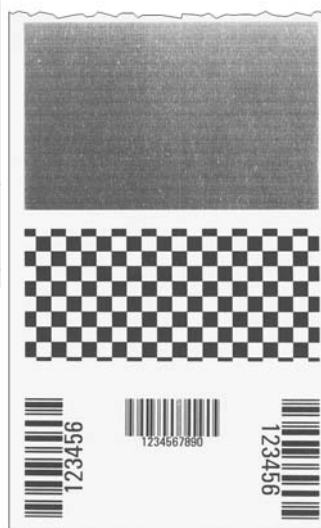
A printout using test method 1 shows the printer's parameters and settings, for example: date, time, program version, communication settings and which typefaces are available.

1. Switch off the printer.
2. Press the print button, but do not release it.
3. Switch on the printer without releasing the print button.
4. Keep the print button depressed until the printer starts printing the test pattern.
5. Then, release the print button.

Test Pattern

The method 1 test print produces a pattern with three different fields. These fields provide information about:

- Whether all the dots on the print head are functioning correctly. If one or more dots are missing, a distinct white line appears in the test pattern.
- Whether the roller is perfectly cylindrical and is in the correct position.
- Whether the print head is completely parallel with the roller. The test pattern is lighter in those areas where the roller is not perfectly cylindrical or where the print head is not completely parallel with the roller.



8. Troubleshooting



Instructions
There are three different functionalities for this printout, as described below.

- 1) Hex dump mode. Press and hold printkey until printer settings has started to print. When finished, a heading named 'Hex dump' will be printed. Everything sent on the COM1 port will then be printed as hexadecimal values in realtime.
- 2) Test pattern. Press and hold printkey until first test pattern has started to print. Then, for each time the printkey is pressed a copy of that test pattern will be printed.
- 3) Auto adjust sensor. Press and hold printkey until auto adjust starts. This will occur 7 seconds after which the test pattern has been printed once. The new settings will be saved automatically.

NOTE: This section is printed using the printer's default speed and strobe. The settings displayed below are, however, the current printer configuration.

General

Date (dd/mm/yyyy)	27/06/2003
Time (24h)	10:38:52
Printer Program Version	4.74.07
Printer Part Number	745130.01
Printer Serial Number	0038435
CPD Board Program Version	4.00.15

Installed fonts

Font number: 94021	Univers Medium
Font number: 94023	Univers Bold
Font number: 94029	Univers Condensed Medium
Font number: 94030	Univers Condensed Bold
Font number: 92500	CG Times
Font number: 92501	CG Times Italic
Font number: 92504	CG Times Bold
Font number: 92505	CG Times Bold Italic
Font number: 93779	Letter Gothic Bold
Font number: 90249	Conrad

Hex dump

```
21 2f 20 76 65 72 73 69 6f 6e 20 31 0d 0a 21 59 (!/ version 1..!  
33 35 20 31 30 0d 0a 21 43 0d 0a 21 56 33 31 39 (35 10..!C..!V3!  
34 20 30 0d 0a 21 2f 20 76 61 72 20 31 20 22 22 (4 0..! / var 1 "  
20 22 56 31 22 20 22 22 0d 0a 21 2f 20 6c 61 62 ( "V1" ""..! / la  
65 6c 20 22 4c 61 62 65 6c 31 22 20 22 22 22 (e) "Label1" ""  
22 20 22 48 65 45 6c 22 20 22 22 20 36 20 53 20 (" HeE1" "" 6 S  
32 33 30 30 20 31 31 30 30 20 33 30 20 30 0d 0a (2300 1100 30 0.  
21 43 0d 0a 21 59 32 34 20 36 30 0d 0a 21 59 31 (!C..!Y24 60..!Y  
30 30 20 30 0d 0a 21 59 33 35 20 31 30 0d 0a 21 (00 0..!Y35 10..  
46 20 53 20 53 20 32 31 30 31 20 38 39 39 20  
20 33 33 20 31 36 20 39 34  
72
```

Test Method 2

Note: This method is only for advanced troubleshooting by service technicians.

This shows all information sent to the printer in hex-code and the function is used to determine possible communication faults, since it is possible to see exactly what data the printer receives.

1. Switch off the printer.
2. Press the print button, but do not release it.
3. Switch on the printer without releasing the print button.
4. Release the print button when the printer starts printing.

The printer starts by printing information as in test method 1. It then stops and will continue printing once the data is sent to the printer. By checking the received data, you can determine whether character received agree with the Label point-commands and the transferred ASCII-characters.

Differences between the received signals and the transferred characters may be due to incorrect parameters (e.g. Baud rate) or the presence of electrical inference during the transfer. Check the communication cable, the length of the cable and whether or not the cable is close to power cables.

Cancelling Test Methods

To cancel the test methods, turn the printer off and wait 15 seconds before switching it on again.

8. Troubleshooting

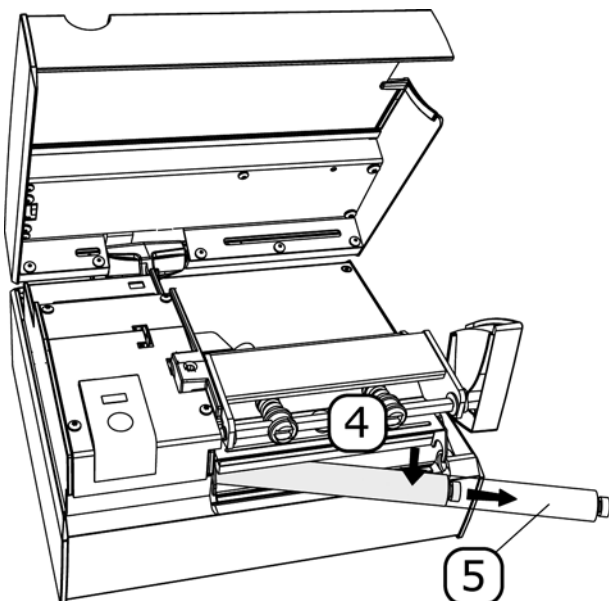
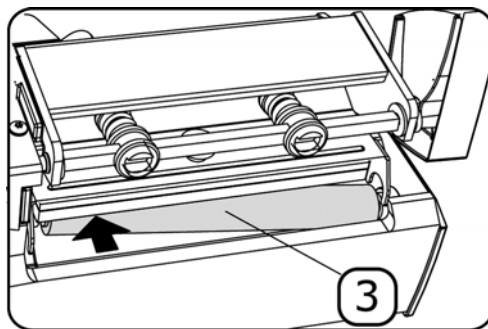
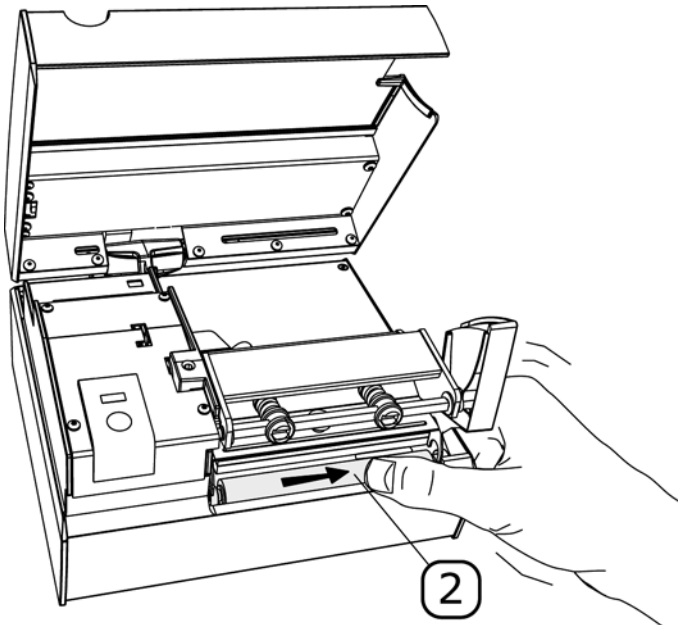


Troubleshooting Schedule

Status	Error	Measure
No printout	⇒ The print head is not in position (status lamp is red)	⇒ Check the level, fold down the print head (DT, TT)
	⇒ Incorrect media	⇒ Check the media, replace media (chapter 5.3)
	⇒ Incorrect or no data	⇒ Check all cables
	⇒ TT- instead of DT- media	⇒ Replace media (5.3 or 5.4)
	⇒ Ink ribbon is inserted with inked side facing upwards	⇒ Load the Ink ribbon correctly (inked side facing downwards) (chapter 5.5)
Status lamp is red	⇒ End of media roll, end of ink ribbon or the handle is not folded down	⇒ Check the media, the ink ribbon and that the handle is folded
Status lamp is flashing red	⇒ System temperature too high, printer has entered cool down state	⇒ Wait
Smudged printout	⇒ Damaged roller	⇒ Replace roller (chapter 9.1)
Black or white lines	⇒ Damaged print head	⇒ Replace print head (9.2)
Faint printout	⇒ Dirty print head	⇒ Clean print head (chapter 7)
	⇒ Incorrect parameter settings	⇒ See 'Printer settings' on the Getting Started CD
	⇒ Incorrect media	⇒ Replace media (5.3 or 5.4)
	⇒ Incorrect head pressure	⇒ Adjust Print Head (6.4)
Uneven white lines	⇒ Ink ribbon is creased	⇒ Have the printer serviced to adjust the Ink ribbon mechanism
	⇒ Incorrect Ink ribbon	⇒ Replace with correct type of Ink ribbon (chapter 5.5)
Printout too dark	⇒ Incorrect parameter settings	⇒ See 'Printer settings' on the Getting Started CD

9. Changeable Parts

9.1 Replacing the Roller



Note:

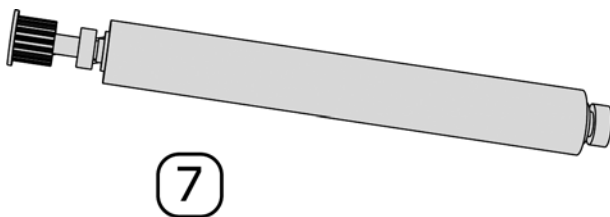
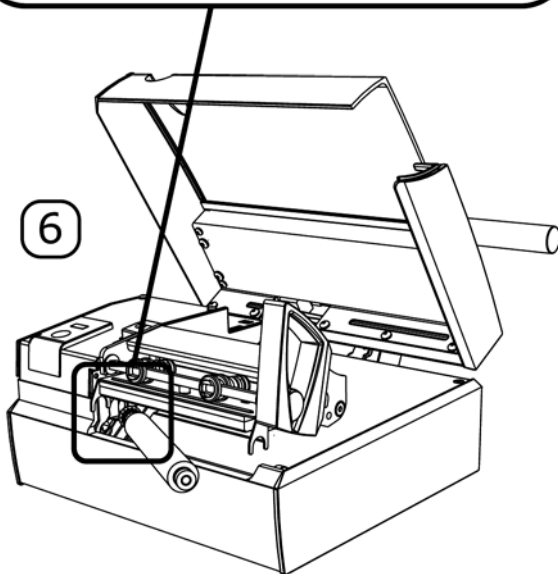
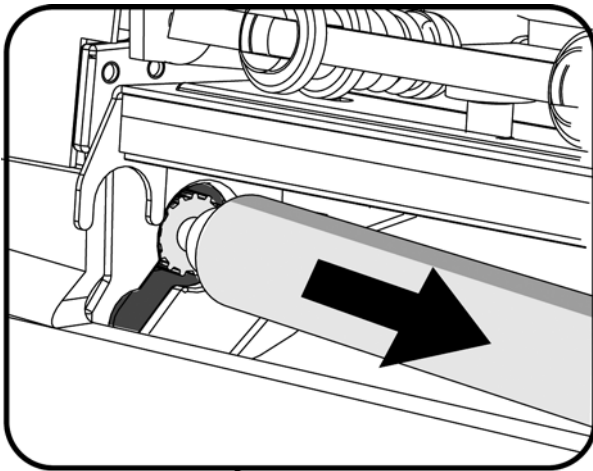
The pictures shown describe an **MP Nova4 DT**. The process works just the same for **all MP Nova printers**.

1. Check that the printer is turned off and open the cover (chapter 4.3 DT or 4.5 TT).
2. Pull the roller and the roller bearing support to the right (use the rubber surface when pulling right).
3. Lift the left-hand end of the roller towards the interior of the printer.
4. Lift out the right-hand end of the roller.
5. Remove the entire roller from the printer.

9. Changeable Parts



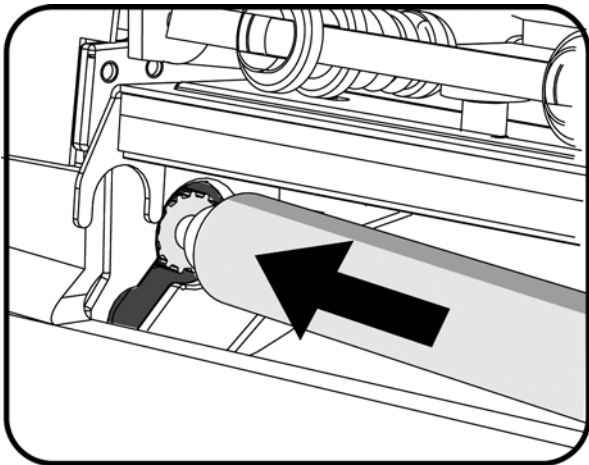
9.1 Replacing the Roller



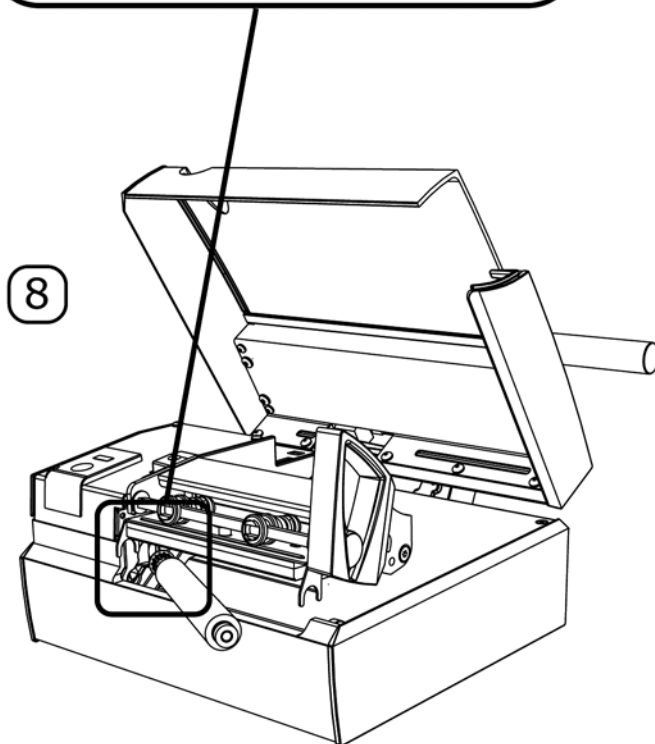
6. Pay carefully attention to the drive belt when removing the left-hand end of the roller from the printer.
7. Unpack the new roller.

9. Changeable Parts

9.1 Replacing the Roller



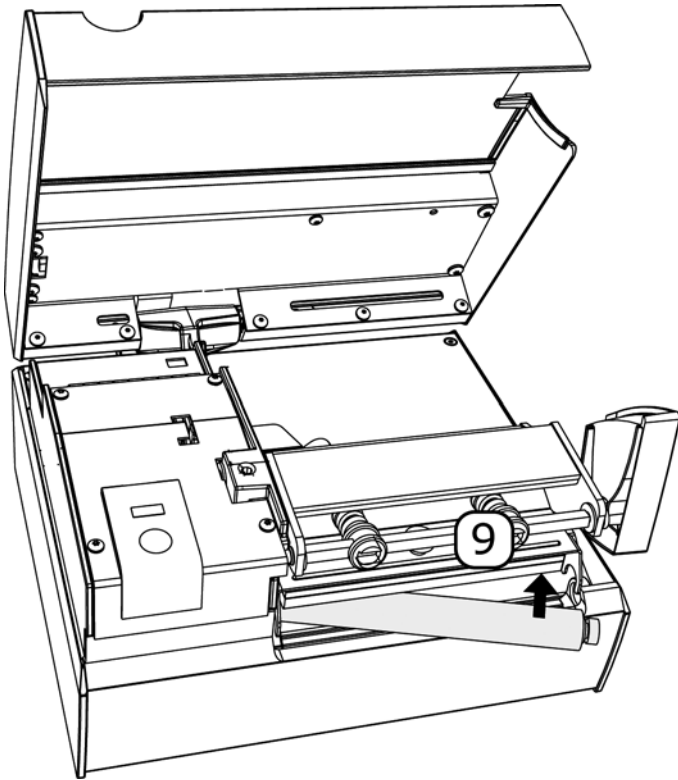
8. Insert the left-hand end of the roller (the end with the cog wheel). Check that it fits inside the drive belt.



9. Changeable Parts

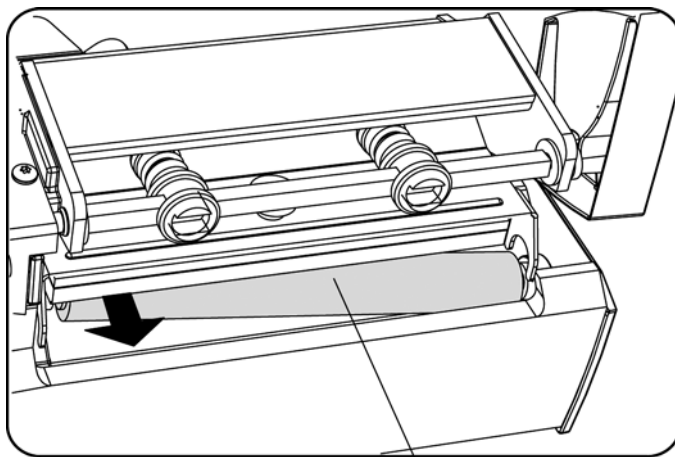


9.1 Replacing the Roller



9. Insert the right-hand end of the roller into position.

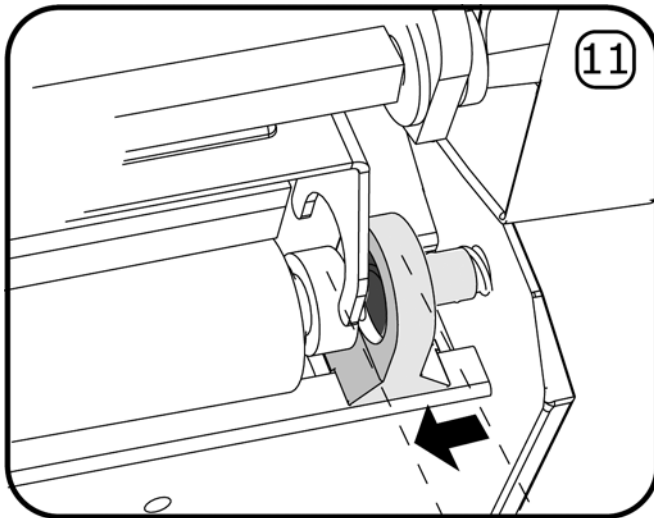
10. Push the left-hand end of the roller downwards into the notch until the roller is parallel with the edge of the printer.



10

9. Changeable Parts

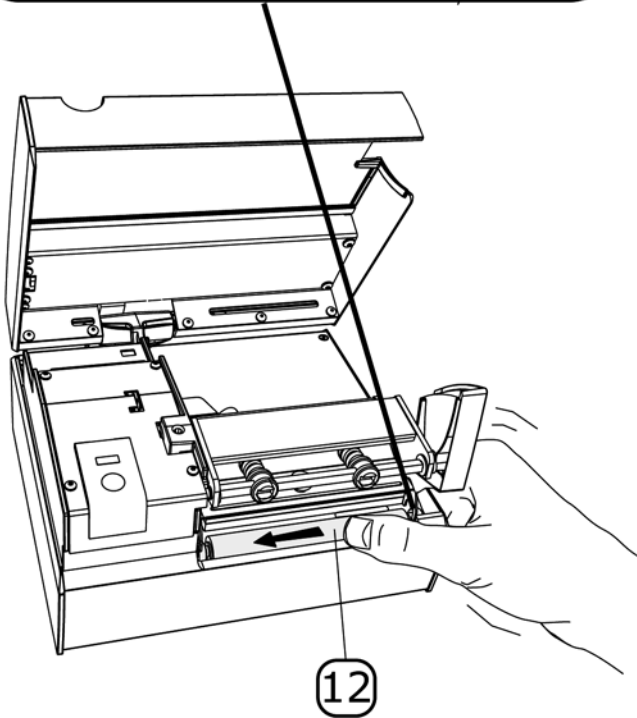
9.1 Replacing the Roller



11 and 12 Push the roller slightly to the left so that the left-hand end slots into the groove.

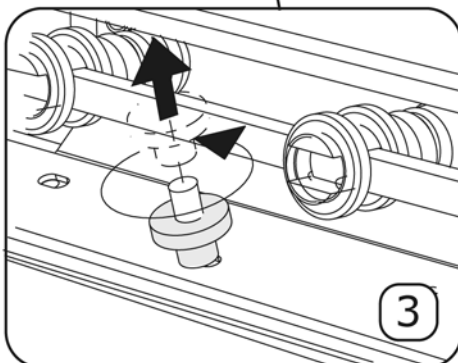
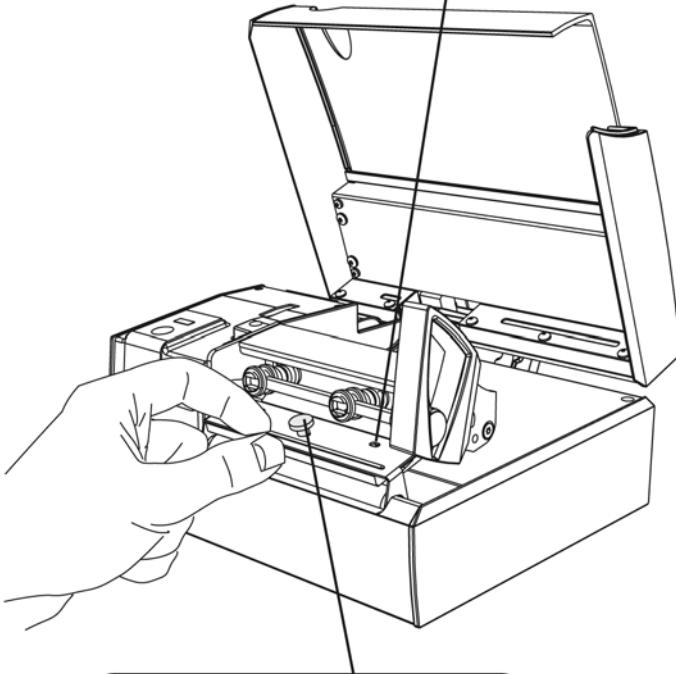
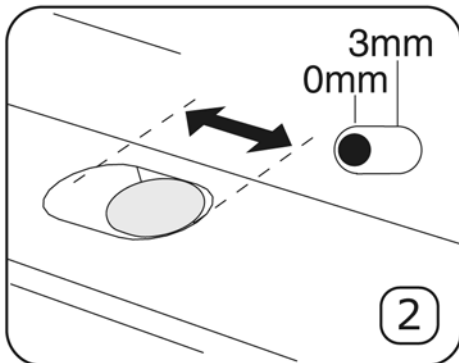
13. Close the cover (chapter 4.3 DT or 4.5 TT).

14. Switch on the printer.



9. Changeable Parts

9.2 Replacing the Print Head



Note:

The pictures shown describe an **MP Nova4 DT**. The process works just the same for **all MP Nova printers**.

1. Make sure the printer is turned off and open the cover.
2. Check and remember the current lateral position of the print head. 3 mm is the default position.

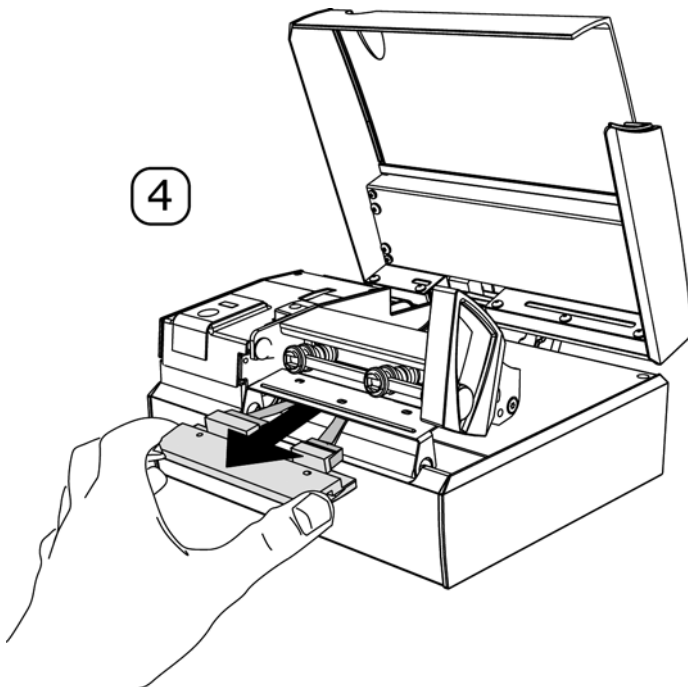
Note: Only adjustable on MP Nova 4 DT.

3. Carefully push the print head downwards until the finger nut becomes visible. Unscrew the finger nut.

Note: Take care not to loose the finger nut.

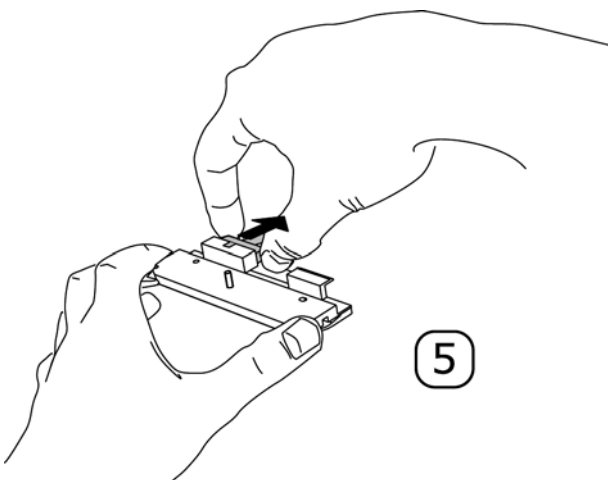
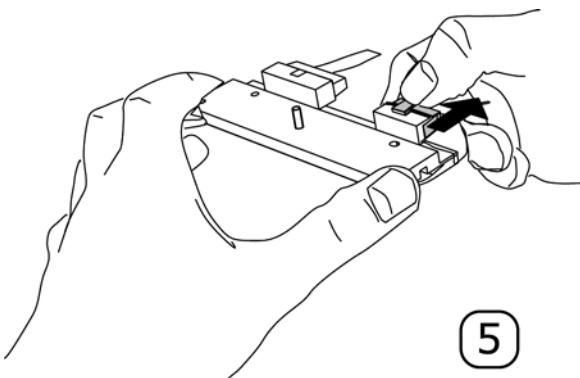
9. Changeable Parts

9.2 Replacing the Print Head



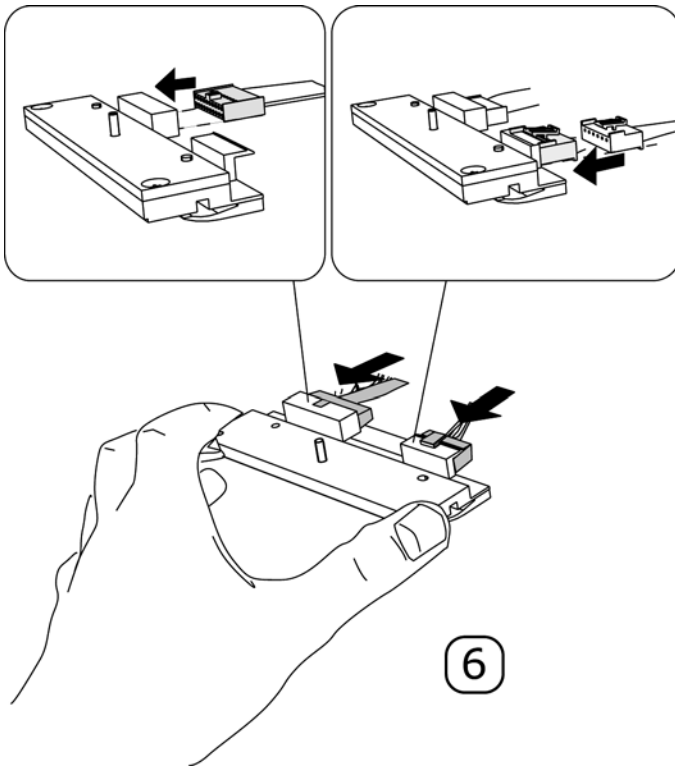
4. Carefully remove the print head.
5. Carefully remove the cables from the back of the print head.

Note: There is a “button” on top of the right cable. Push the “button” before removing the cable.



9. Changeable Parts

9.2 Replacing the Print Head

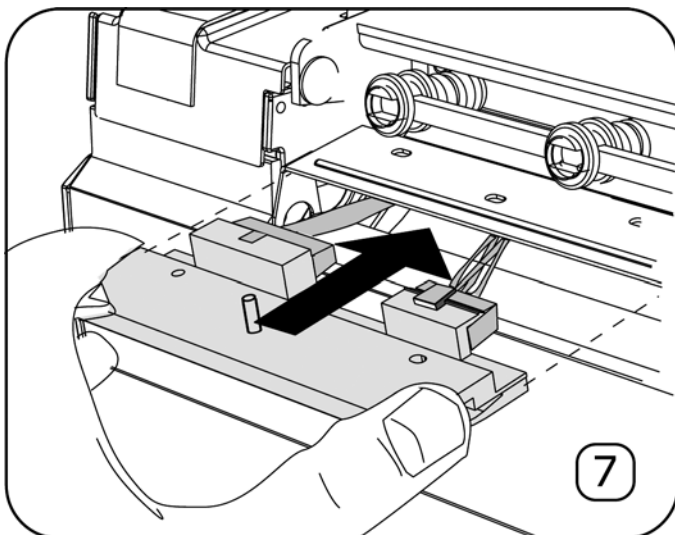


6. Unpack the new print head and attach the cables to the new print head.



Remember to handle the print head with care!

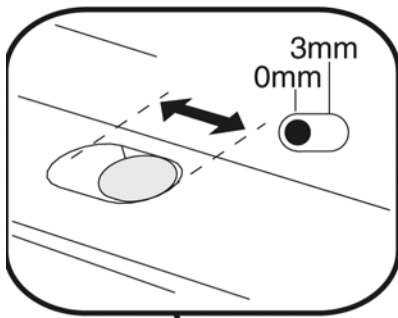
7. Carefully insert the print head into position.



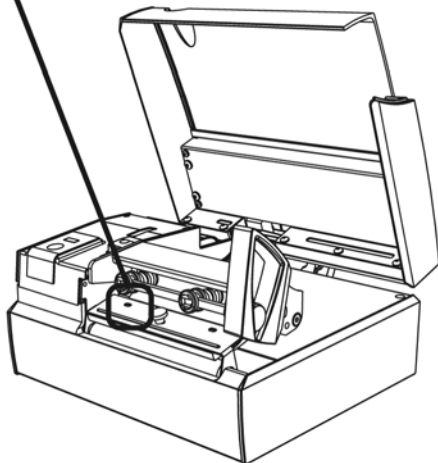
9. Changeable Parts



9.2 Replacing the Print Head



8



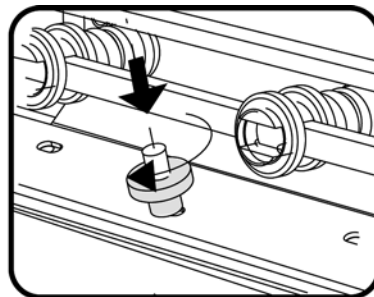
8. Check that the lateral position has not changed. 3 mm is the default position.

Note: Only adjustable on MP Nova 4 DT.

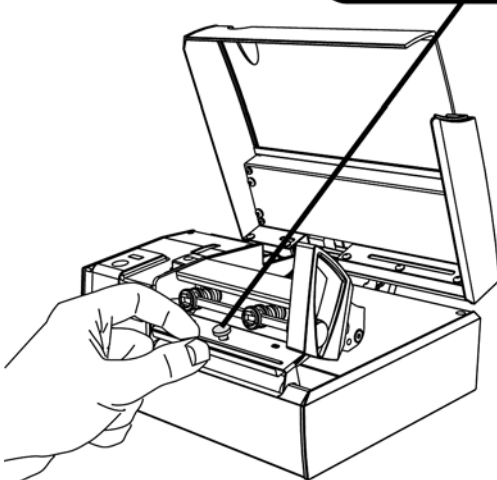
9. Hold the print head in place and tighten the finger nut.

10. Close the cover (chapter 4.3 DT or 4,5 TT).

11. Switch on the printer.



9



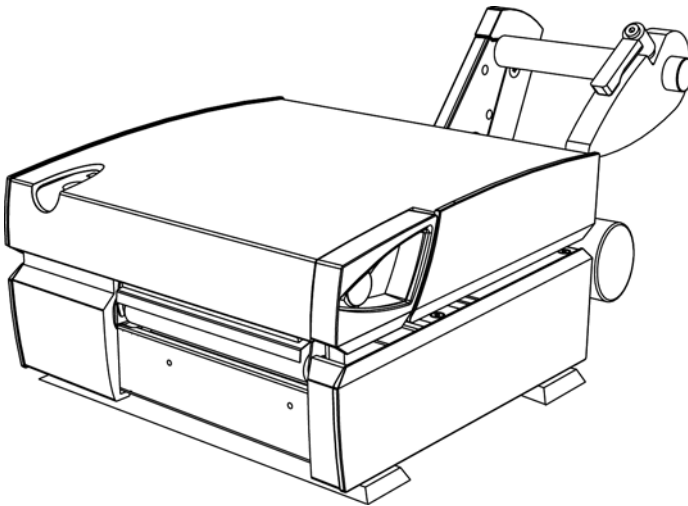
10. Printer Options and Spare Parts



10.1 Printer Options

Peel-Off Kit

MP Nova4 & 6 DT, MP Nova4 & 6 TT

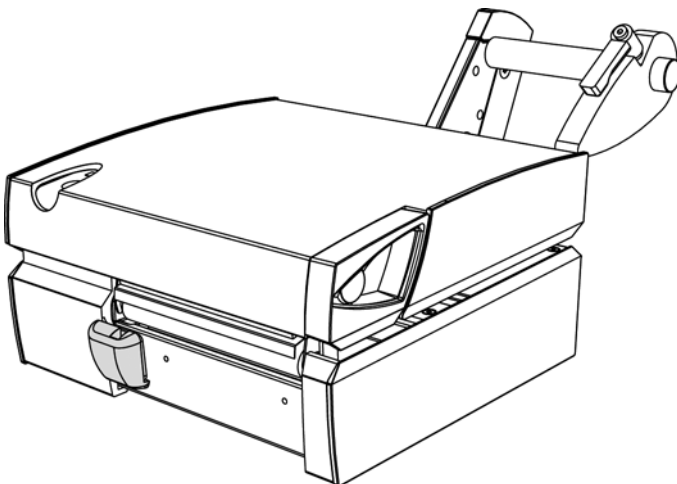


**Item number: 533541 Nova4
533542 Nova6**

The peel-off device separates the labels from the backing paper, which is rolled up behind the printer.

LTS - Label Taken Sensor

MP Nova4 & 6 & 8 DT, MP Nova4 & 6 TT



Item number: 533625-01

The Label Taken Sensor (LTS) is often used in association with the Peel-Off Kit. Printing is controlled by a photocell. A new label is only printed once the previous label has been removed from the sensor.

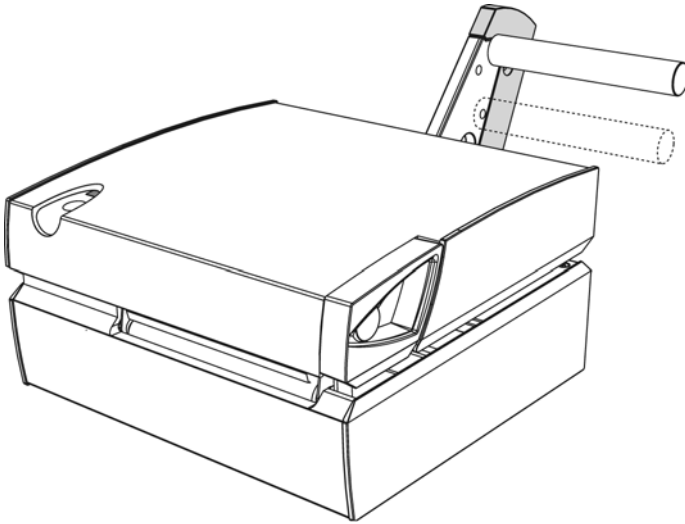
10. Printer Options and Spare Parts

10.1 Printer Options



215 mm Kit

MP Nova4 & 6 DT, MP Nova4 & 6 TT



Item number: 533615

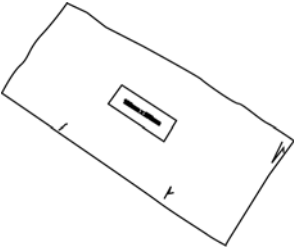
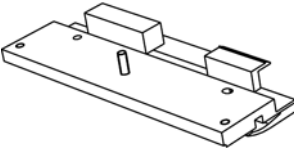
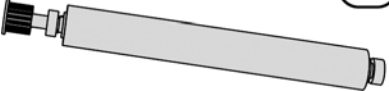
The 215 mm Kit makes it possible to use media rolls with diameters up to 215 mm.

10. Printer Options and Spare Parts



10.2 Spare Parts

Consumables

	Part number	Description
 1	501933	1. 10 x Cleaning cloths (4")
	501934	1. 50 x Cleaning cloths (4")
	501935	1. 10 x Cleaning cloths (6")
	501936	1. 50 x Cleaning cloths (6")
	501937	1. 10 x Cleaning cloths (8")
	501938	1. 50 x Cleaning cloths (8")
 2	533529	2. Print head – 200 dpi – MP Nova4 DT
	533667	2. Print head – 300 dpi – MP Nova4 DT
	533529	2. Print head – 200 dpi – MP Nova4 TT
	533667	2. Print head – 300 dpi – MP Nova4 TT
	533640	2. Print head – 200 dpi – MP Nova6 DT
	533640	2. Print head – 200 dpi – MP Nova6 TT
	531675	2. Print head – 200 dpi – MP Nova8 DT
 3	533530	3. Print roll – MP Nova4
	533636	3. Print roll – MP Nova6
	533607	3. Print roll – MP Nova8
	533616	MPS - Media Positioning Sensor
	532089	Media guide – Lockable

Cables

502542	Cable – Serial - (RJ45)
000554	Power cable - Europe
001464	Power cable - UK
001463	Power cable – USA & Canada
502543	USB cable

Optional

533625-01	LTS Kit (Label Taken Sensor)
533541	Peel-Off Kit – Nova4
533542	Peel-Off Kit – Nova6
533615	215mm Kit

11. Consumables



Media General

Self-adhesive labels are backed with silicon-coated backing paper, from which the label is removed. There are different types of adhesive:

- Tickets are printed on non-adhesive paper, which means there is no need for backing paper.
- Both labels and tickets are available as rolls or as fan-folded continuous paper tracks. Fan-folded labels and tickets are supplied in boxes, in which labels are stored before passing through the printer.
- Perforations are used to divide labels and tickets. This makes them easier to tear after printing.
- In order to start and stop the media during the print process, the printer is equipped with a detector that senses any gaps or black marks.

For more detailed information about media and consumables, we recommend you read Datamax's 'CONSUMABLES' document (currently only available in English).

MP Nova4 DT, Nova6 DT & Nova8 DT

The MP Nova DT printers use direct thermal media, such as labels, paper and tickets.

Direct thermal media is made of special paper that reacts to heat and printouts are often black. Different paper qualities are available.

MP Nova4 TT, Nova6 TT

The MP Nova TT uses a special ink ribbon, which transfers ink to media (receiver) when subjected to heat. Labels printed using the thermal transfer method shows a greater resistance to heat and UV-light.

12. Technical Specifications

MP Nova4 DT & TT



Dimensions (H x W x L)	DT: 150 x 232 x 360 mm (6" x 9 ¹ / ₈ " x 14 ¹ / ₈ ") TT: 210 x 250 x 360 mm (8 ¹ / ₄ " x 9 ¹ / ₂ " x 14 ¹ / ₈ ")
Weight	DT: 5.8 kg (12 lbs), TT: 7.2 kg (15 lbs)
Power pack	100/240V AC 50-60 Hz, 325 VA
Printer technology	Direct thermal and thermal transfer
Printing width	104 mm (4 ¹ / ₈ ")
Printing speed	DT: 80 – 250 mm/second, TT: 80 – 250 mm/second
Printing resolution	200 dpi / 300 dpi
Media specifications	Width: 40 mm – 115 mm (1 ¹ / ₂ " – 4 ¹ / ₂ ") Length: 10 mm (³ / ₈ ") – unlimited Thickness: 58 µm – 180 µm
Media types	Roll or fan-folded paper External diameter of roll: max 215 mm (8 ¹ / ₂ ") Inner core of roll: min 37 mm (1 ¹ / ₂ ") in diameter
Ink ribbon, TT	Max width of roll: 110 mm (4 ¹ / ₃ ") Inner core diameter of roll: 25 mm (1") Max length: 300 m (328 yards)
Connections	2 x RS232 ports (up to 115 kbps) USB-port Ethernet port (TCP/IP [LPD, R Telnet])
Typefaces	10 scalable typefaces 13 scalable, emulated typefaces Supports true type typefaces
Barcodes	Most common barcodes including two-dimensional. Examples: EAN128, Interleaved 2 of 5, Code 39 and PDF417
Graphics	Supports several file types
Settings program	Internal program using web browser, Telnet or hyperterminal
Counters	10 internal counters
Memory	2 Mb standard RAM
Time and date	Internal clock, real-time
Print head diagnostic	PHD (Print Head Diagnostic)

12. Technical Specifications



MP Nova6 DT & TT

Dimensions (H x W x L)	DT: 150 x 292 x 360 mm (6" x 11½" x 14 ⅛") TT: 210 x 310 x 360 mm (8⅓" x 11⅞" x 14 ⅛")
Weight	DT: 6.8 kg (15 lbs) TT: 8,2 kg (16,5 lbs)
Power pack	100/240V AC 50-60 Hz, 325 VA
Printer technology	Direct thermal and thermal transfer
Printing width	168 mm (6⅝")
Printing speed	DT: 80 – 200 mm/second, TT: 80 – 200 mm/second
Printing resolution	200 dpi
Media specifications	Width: 40 mm – 175 mm (1½" – 6⅞") Length: 10 mm (⅜") – unlimited Thickness: 58 µm – 180 µm
Media types	Roll or fan-folded paper External diameter of roll: max 215 mm (8½") Inner core of roll: min 37 mm (1½") in diameter
Ink ribbon, TT	Max width of roll: 174 mm (6⅞") Inner core diameter of roll: 25 mm (1") Max length: 300 m (328 yards)
Connections	2 x RS232 ports (up to 115 kbps) USB-port Ethernet port (TCP/IP [LPD, R Telnet])
Typefaces	10 scalable typefaces 13 scalable, emulated typefaces Supports true type typefaces
Barcodes	Most common barcodes including two-dimensional. Examples: EAN128, Interleaved 2 of 5, Code 39 and PDF417
Graphics	Supports several file types
Settings program	Internal program using web browser, Telnet or hyperterminal
Counters	10 internal counters
Memory	2 Mb standard RAM
Time and date	Internal clock, real-time
Print head diagnostic	PHD (Print Head Diagnostic)

12. Technical Specifications

MP Nova8 DT



Dimensions (H x W x L)	DT: 150 x 345 x 360 mm (6" x 13½" x 14⅛")
Weight	DT: 7.0 kg (15,5 lbs)
Power pack	100/240V AC 50-60 Hz, 325 VA
Printer technology	Direct thermal
Printing width	216 mm (8½")
Printing speed	Up to 150 mm/second
Printing resolution	200 dpi
Media specifications	Width: 150 mm – 230 mm (5⅞" – 9") Length: 10 mm (⅜") – unlimited Thickness: 58 µm – 180 µm
Media types	Fan-folded paper
Connections	2 x RS232 ports (up to 115 kBps) USB-port Ethernet port (TCP/IP [LPD, R Telnet])
Typefaces	10 scalable typefaces 13 scalable, emulated typefaces Supports true type typefaces
Barcodes	Most common barcodes including two-dimensional. Examples: EAN128, Interleaved 2 of 5, Code 39 and PDF417
Graphics	Supports several file types
Settings program	Internal program using web browser, Telnet or hyperterminal
Counters	10 internal counters
Memory	2 Mb standard RAM
Time and date	Internal clock, real-time
Print head diagnostic	PHD (Print Head Diagnostic)