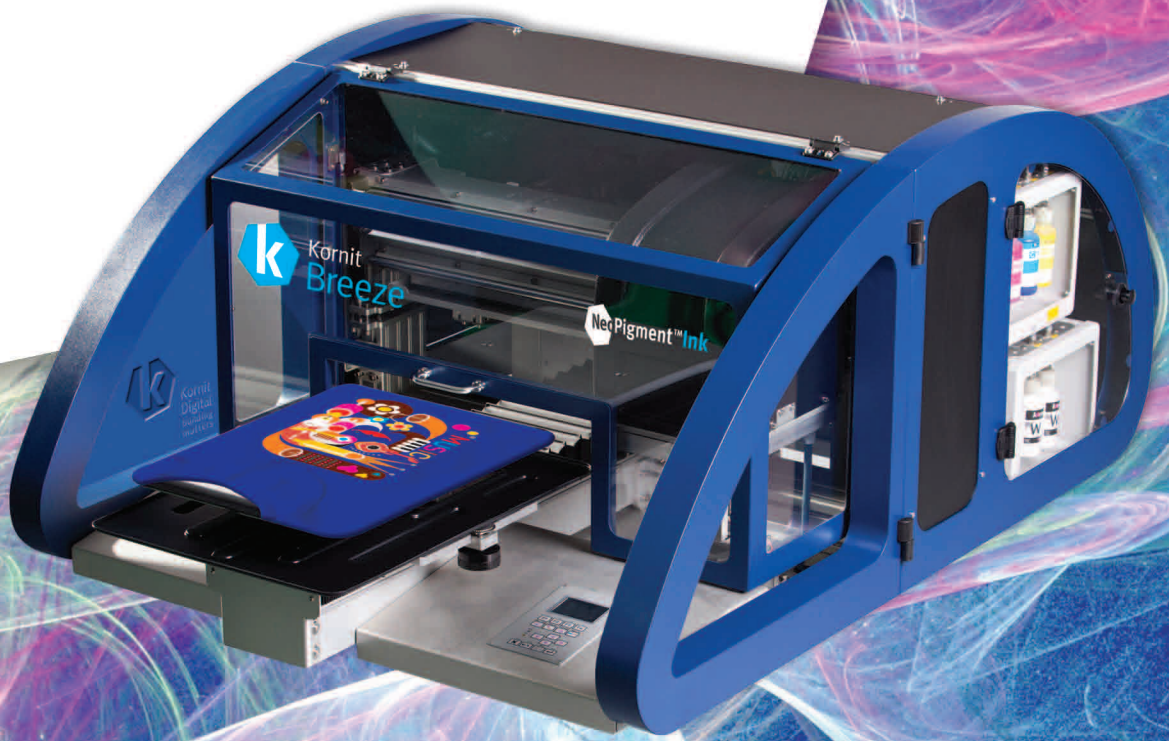
Kornit Breeze

PREVENTIVE MAINTENANCE GUIDE

FOR OPERATORS



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Kornit Breeze

Preventive Maintenance Guide

Procedures to be performed by a Kornit operator

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Disposal of Waste Electrical and Electronic Equipment and/or Battery by users in private households in the European Union.

This symbol on the product or on the packaging indicates that when last user wishes to discard a product, it must be sent to appropriate facilities for recovery and recycling. For more information about recycling of this equipment and/or battery, please contact the equipment supplier.

The recycling of materials will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and environment.

Environmental Policy

Service personnel should dispose of replaced printer parts and waste liquids according to the laws and regulations of the local authority and recycled, where applicable.

For more detailed information regarding these recommended procedures, refer to your regional Kornit support office or distributor.

Revision History

Date	Modified By	Comments	Revision No.
04.04.2012	Ovadia Shalom	Original	1.0
16.04.2012	Ovadia Shalom	Various callouts improved, oil and spray filter descriptions/ diagrams updated	1.1
24.01.2013	Ovadia Shalom	Various changes	1.2
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About This Guide

This Preventive Maintenance Guide describes the procedures for performing maintenance to Kornit Breeze series printers. It is intended for Kornit operators.

Preventive maintenance must be carried out daily, weekly, quarterly and yearly. This guide is divided into four sections, each referring to a specific maintenance period.

NOTE:

- The printer is under constant development and Kornit Digital reserves the right to change or modify its product specifications at any time without prior notice.
- This guide refers to the latest version of the Breeze printer. Procedures described in this guide may require slight modification when performing maintenance procedures on other printers from the Breeze series.

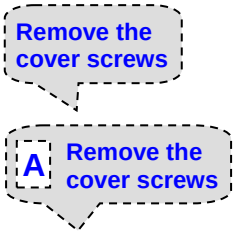
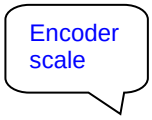
How to Use this Guide

The procedures included in this guide should be performed in the order that they are written.

Each procedure contains a list of the tools and supplies required for that procedure (if any). Kornit recommends that you prepare these items before starting the procedure. A summary of the tools and supplies required for performing each of the various maintenance procedures is provided at the beginning of each section.

For each procedure, a list of preliminary requirements is specified (if they exist). These requirements must be fulfilled before starting the maintenance procedure.

For most procedure steps, both written and graphical instructions are provided. A graphic instruction may contain two types of callouts:

Example callout	Description
	Shaded callouts with a dotted border indicate actions to be performed. In some callouts the actions are labeled with letters (A, B, C, etc.), which indicate the order in which the actions should be performed.
	Un-shaded callouts with a solid border specify the name of a component in the diagram.

Kornit recommends that you use both the graphical and the textual instructions when performing maintenance procedures. (Note that the textual instructions often contain additional information that is not depicted in the graphical instructions.)

Safety Instructions

This section provides important safety instructions that must be followed when operating the Kornit Breeze printer. Operators are expected to be familiar with **all** instructions contained in this section.

WARNING!

- Only trained and authorized personnel are allowed to perform service and repair work on the Kornit Breeze.
- Operators must not wear loose-fitting clothing.
- No smoking, pilot lights, or open flames are allowed anywhere near the printer.
- In the event of a fire, use CO_2, foam, dry powder, or vaporizing liquids.
- Immediately remove any oil, grease or water around the printer to prevent slipping.
- Do not put your hands into the printer or touch moving parts (such as printing pallet, print heads assembly, wiper assembly, maintenance tray, hood and service doors) during operation.
- Tools and loose parts must be removed from the printer before operation.
- Be aware of the weight of the printing pallet before mounting it on the cross-scan axis carriage (risk of back strain injury).
- Ensure that nobody is near the hood while closing it.
- Ensure that the printing pallet cover is securely closed when you press the start buttons to send to print.
- Only qualified electricians are allowed to work on electrical devices.
- Before any electrical work is done, the master electrical switch must be set to the Off position.
- Do not service electrical components while the printer is in standby or printing modes.
- Only authorized personnel are allowed to handle inks and consumables (e.g. wiping, flushing, priming, and fixation fluids).
- The printing ink is not classified as flammable, but is combustible (flash point >100°C [212°F]).
- Do not expose inks to heat or sources of ignition.
- Avoid skin contact with ink, consumables, or waste fluid by wearing protective gloves (risk of skin irritation).
- Protective goggles must be worn if handling ink or waste fluid due to the danger of splashing (risk of serious eye damage).
- Store inks in cool conditions and keep in closed containers.

CAUTION!

Dispose of the following items in accordance with local authority regulations:

- Ink and consumable containers/liquids
- Waste containers/liquids
- Cleaning wipes/rags

Section 1 – Daily Maintenance

This section describes the daily preventive maintenance procedure for the Breeze series printers. It comprises the following tasks:

- **Beginning the Day/Shift**, page 10: Perform this procedure at the beginning of the day, or at the beginning of a shift if you are working in 24-hour shifts.
- **Ending the Day**, page 17: Perform this procedure at the end of the day.

Tools and Supplies - Summary

This list provides a summary of all the tools and supplies required for performing daily maintenance procedures. Prepare these items before starting the maintenance procedure.

PN	Description	Qty	Page in this Guide
01-WIPR-0909	Lint-free wipes	as required	10, 17
50-WIPG-0200	Wiping fluid	as required	10, 17
62-PMNT-0003	Preventive Maintenance Guide for Breeze printers (this document)	1	-
83-LATX-0001	Gloves (latex, without talc)	as required	-
-	Clean rags	as required	10, 17
-	IPA (Isopropyl Alcohol)	as required	10
-	Water (tap)	as required	17

1.1 Beginning the Day/Shift

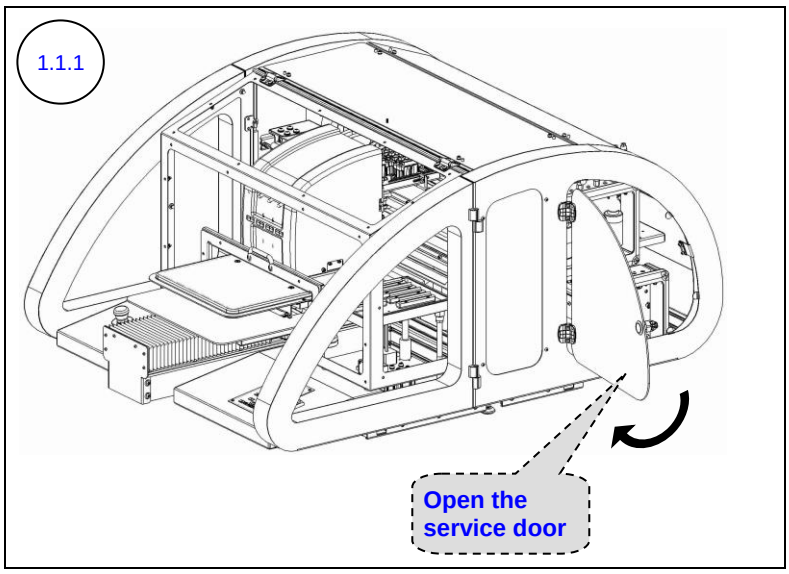
Tools and Supplies

PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
50-WIPG-0200	Wiping fluid	as required
-	Clean rags	as required
-	IPA (Isopropyl Alcohol)	as required

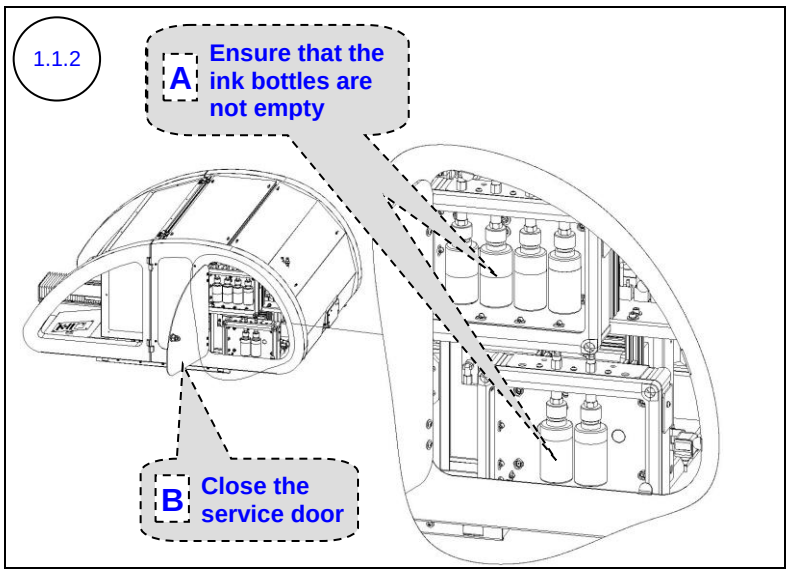
Preliminary Requirements

- The maintenance tray is in the capping position.

Procedure

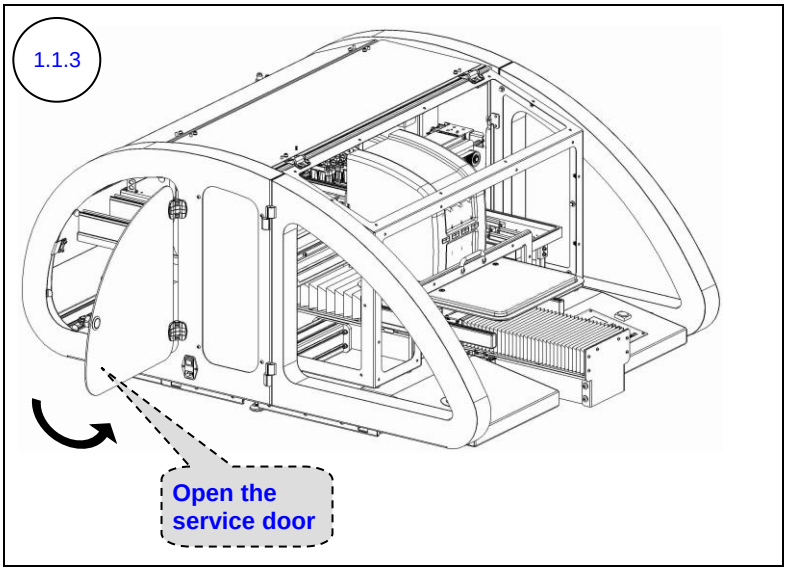


Open the right rear service door.

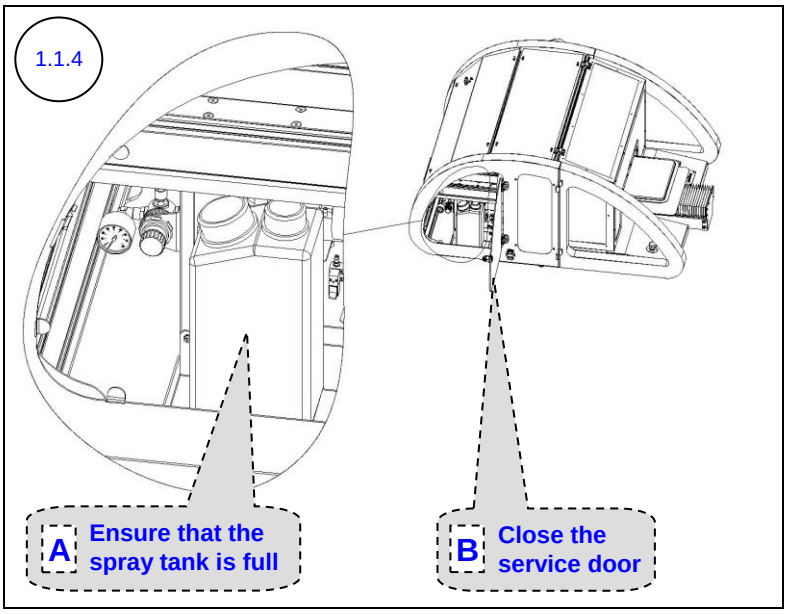


A. Check that the ink bottles are not almost empty. If so, replace them.

B. Close the right rear service door.

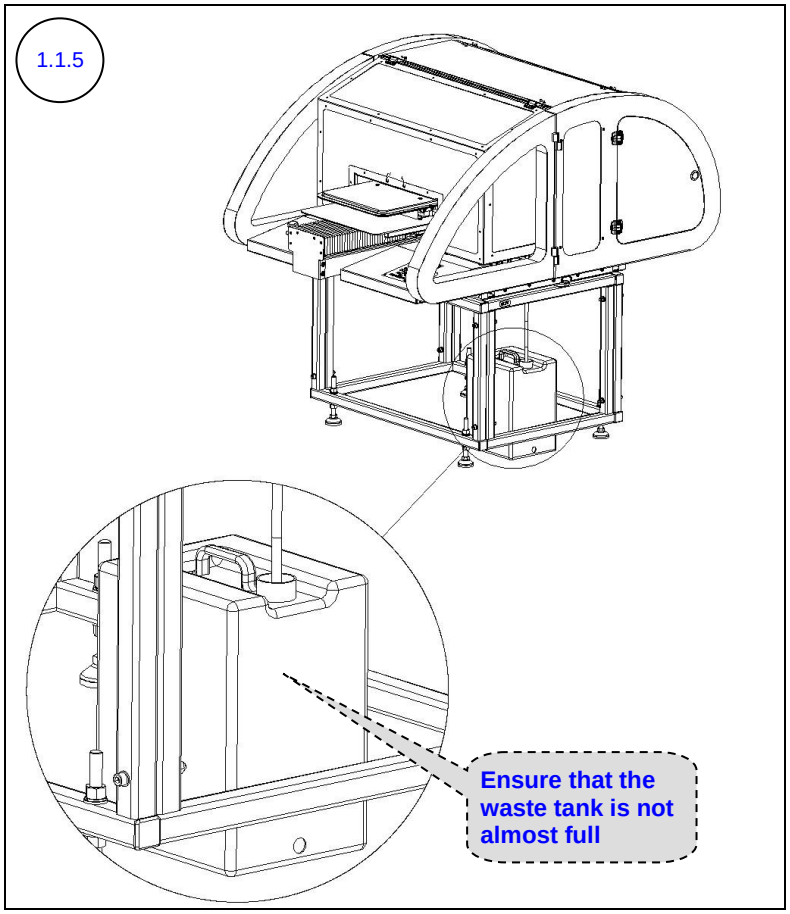


Open the left rear service door.



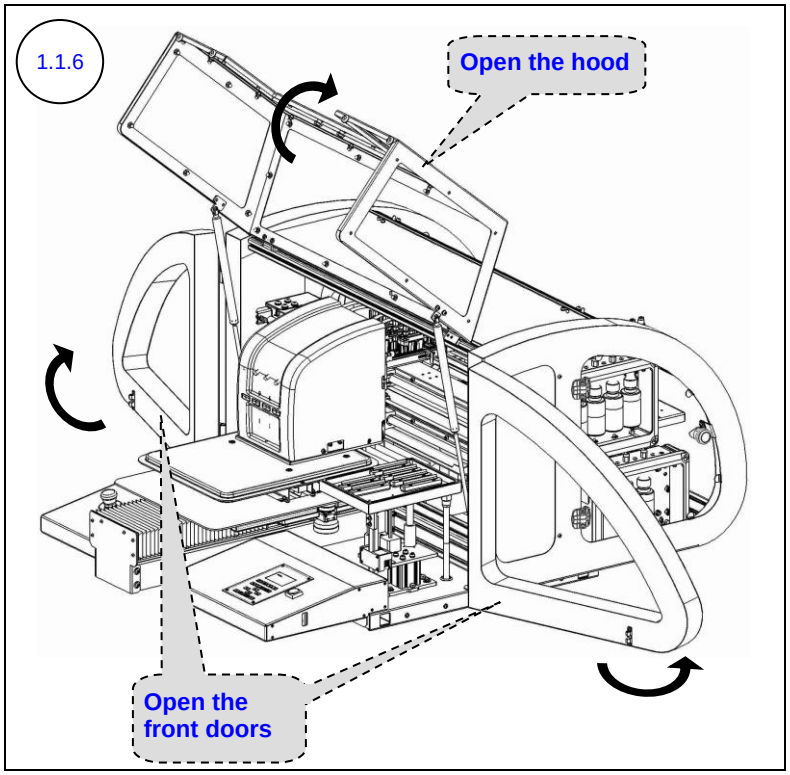
A. Check that the spray tank is full. If not, fill it.

B. Close the left rear service door.

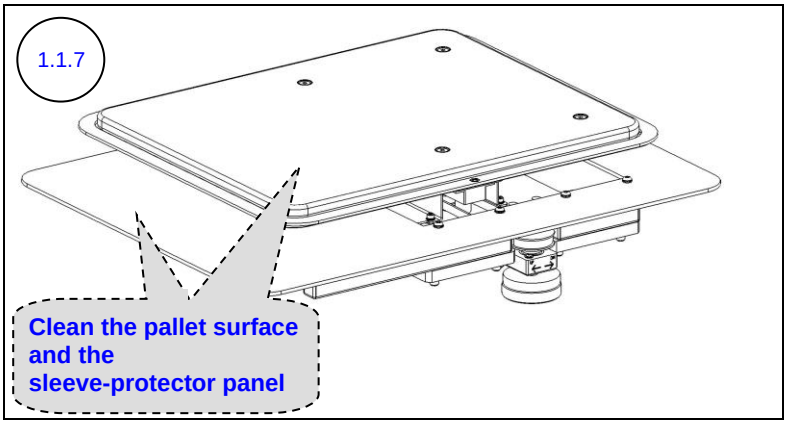


Examine the waste tank.

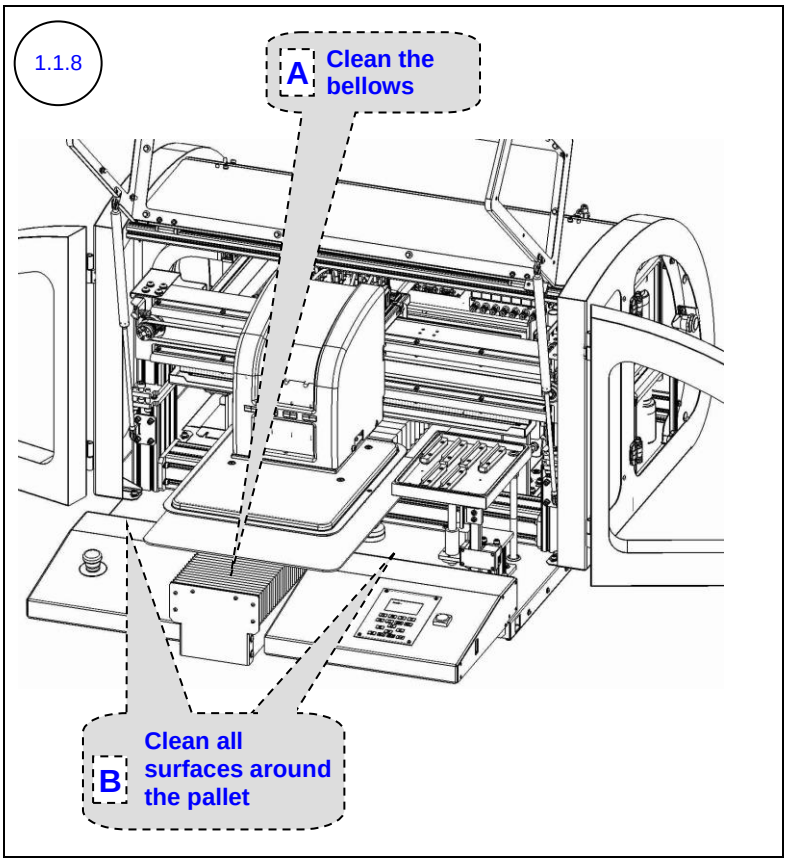
If the waste tank is full or nearly full, empty it according to Kornit's environmental policy (see Environmental Policy on page 2).



Open the hood and the left and right front doors.



Using clean rags and IPA, clean the pallet surface and the sleeve-protector panel.

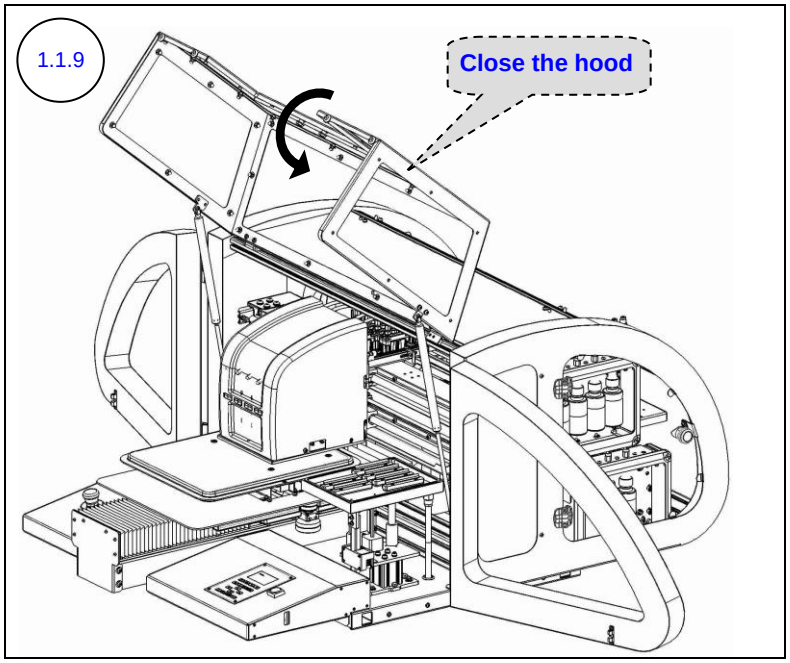


Ensure that the maintenance tray is in the capping position.

Using clean and moist rags, clean all color drops, spray drops, dust, lint and fibers from:

A. The bellows

B. All the surfaces around the pallet

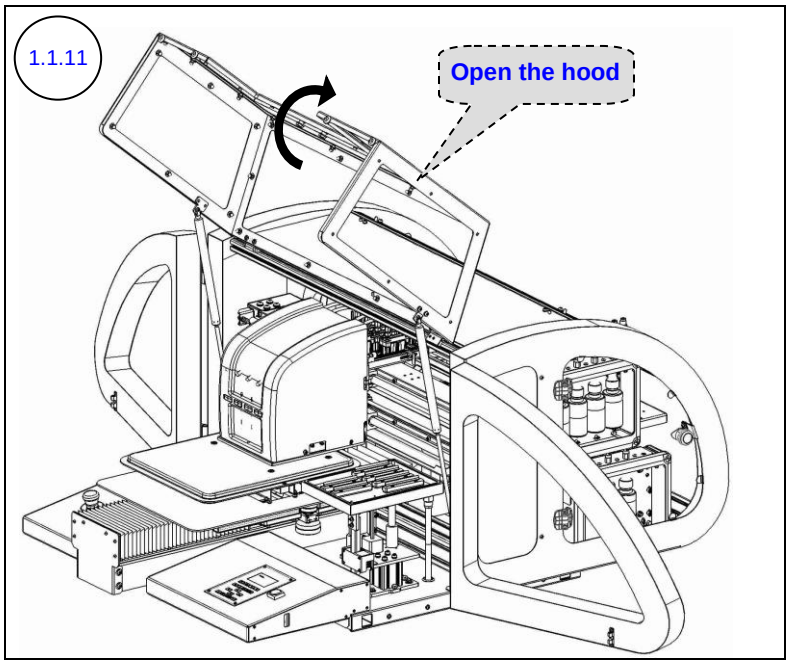


Close the hood.

1.1.10 Switch on the printer's main power.

Watch the maintenance panel LCD to see when **Ready** appears in the status field (indicating that the initialization process is complete).

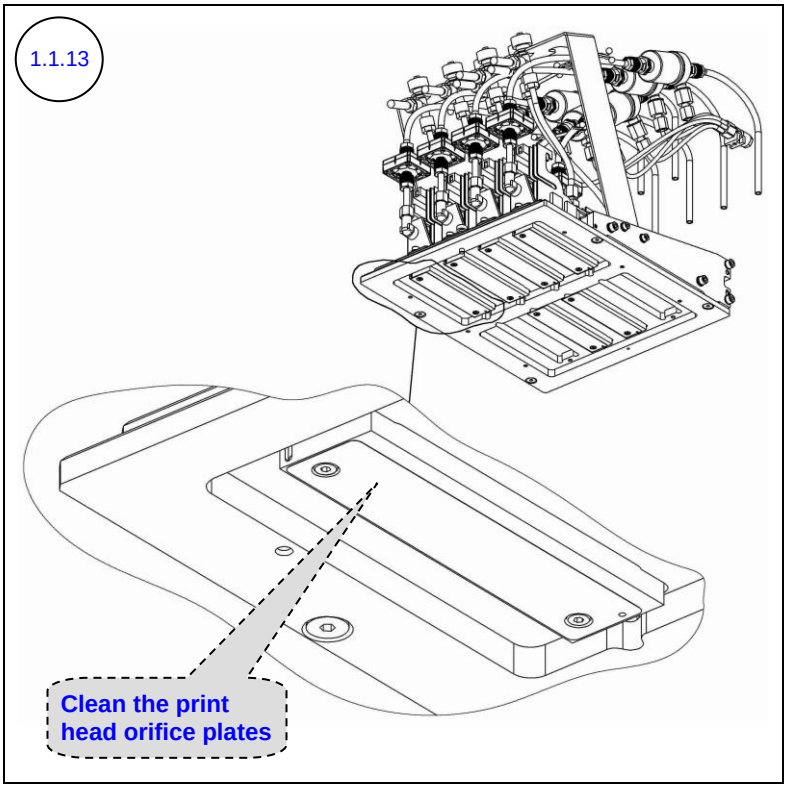
Move the maintenance tray into the lower position.



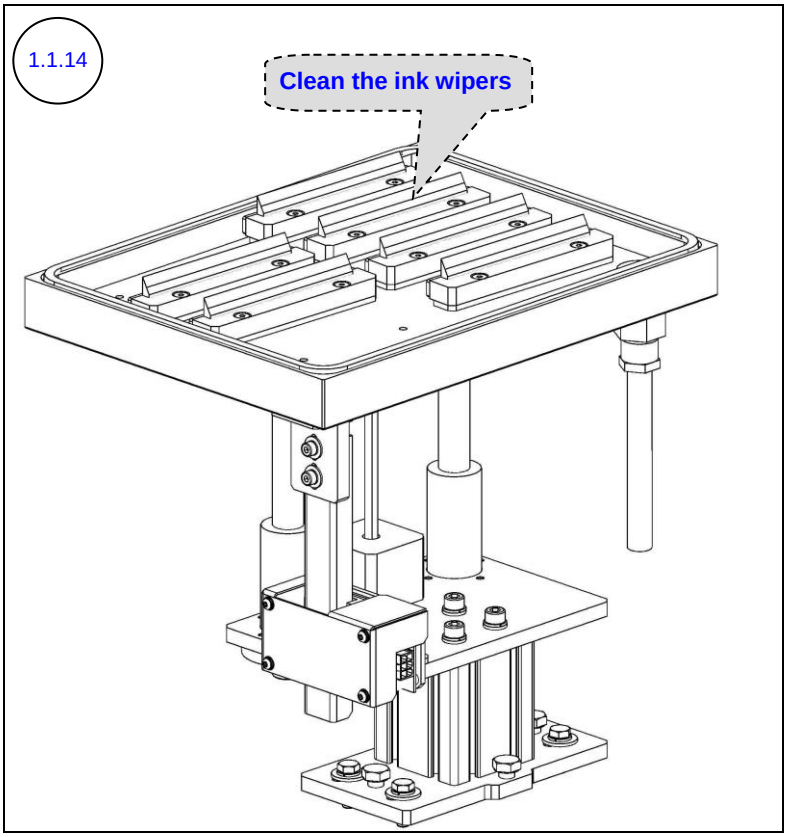
Open the hood.

1.1.12 Verify that full cleaning of the print heads carriage bottom frame and of the maintenance tray was performed at the end of the previous working day.

If not, perform steps 1.2.2 – 1.2.3 from the '**Ending the Day**' section on page 17.

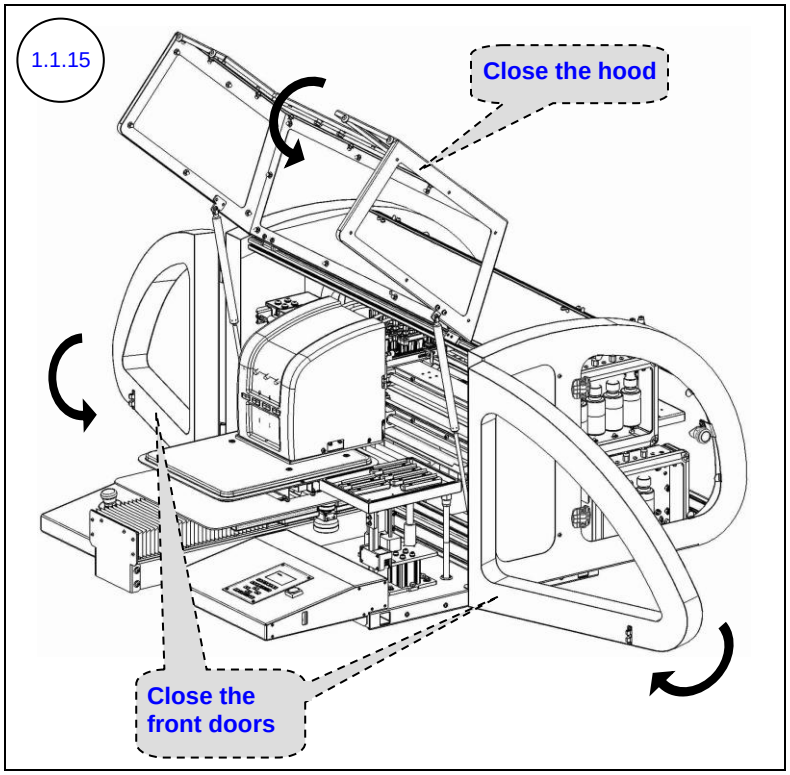


Using wiping fluid and new lint-free wipes, clean the print head orifice plates (bottom of the print heads).



Using wiping fluid and new lint-free wipes, clean the ink wipers.

1.1.15



Close the hood and the left and right front doors.

Watch the maintenance panel LCD to see when **Ready** appears in the status field (indicating that the initialization process is complete).

1.1.16

Perform the following steps:

A. Perform **Purge and Wipe**.

B. Print two nozzle tests: one for CMYK ink and one for white ink.

C. Examine each nozzle test. If the test results indicate that there are missing nozzles, perform a few more purges and clean with wiping fluid and lint-free wipes. Repeat until a satisfactory nozzle test result is achieved (the result should be at least identical to the previous end-of-day/shift's result).

D. Write down the date, time and your name on each nozzle test printout and save it in a binder near the printer.

The printer is now ready for operation.

1.2 Ending the Day

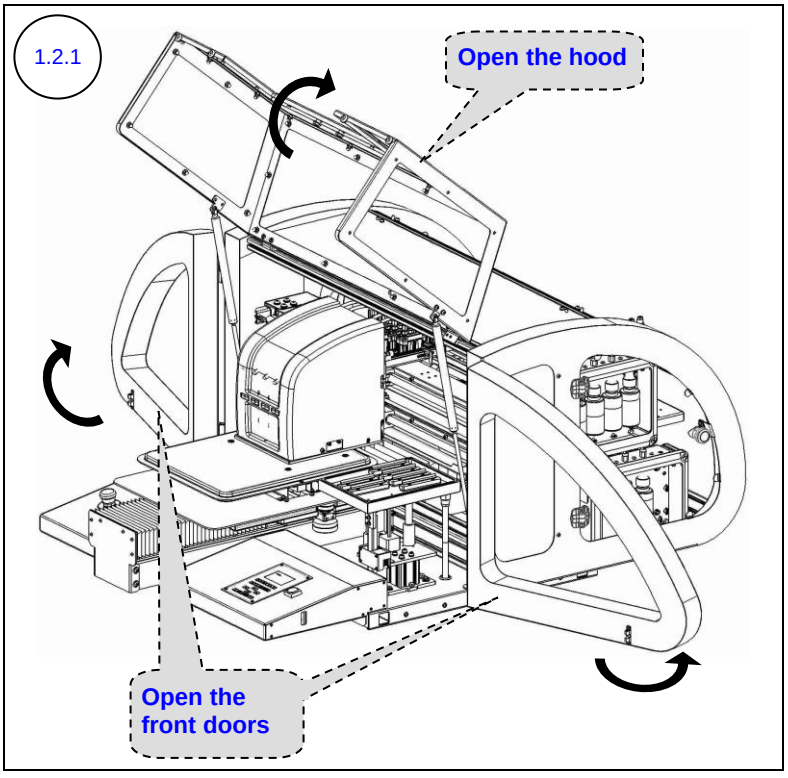
Tools and Supplies:

PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
50-WIPG-0200	Wiping fluid	as required
-	Clean rags	as required
-	Water (tap)	as required

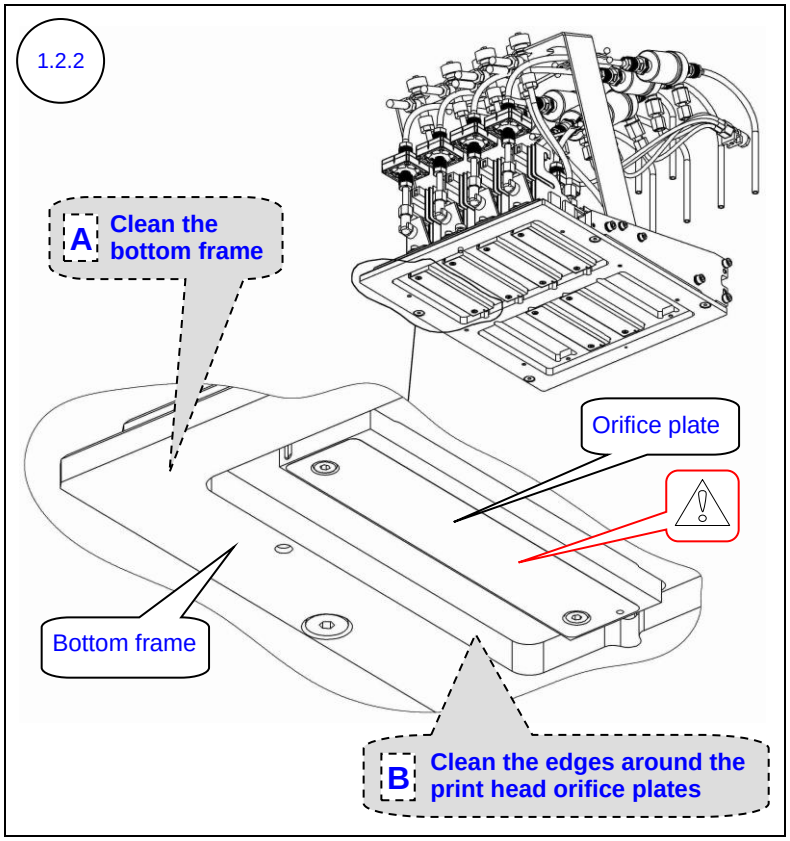
Preliminary Requirements

- The maintenance tray is in the lower position.

Procedure



Open the hood and the left and right front doors.



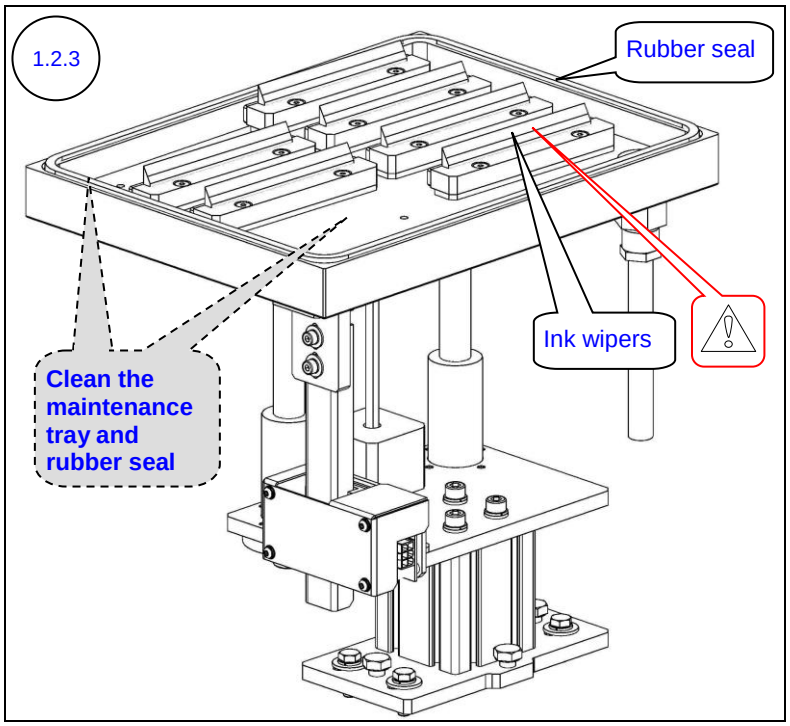
Using wiping fluid and lint-free wipes:

A. Clean the bottom frame of the print heads carriage.

B. Clean the edges around the print head orifice plates (bottom of the print heads), to remove the dried ink.

⚠ CAUTION!

Do **not** touch the print head orifice plates while cleaning the bottom frame or edges.

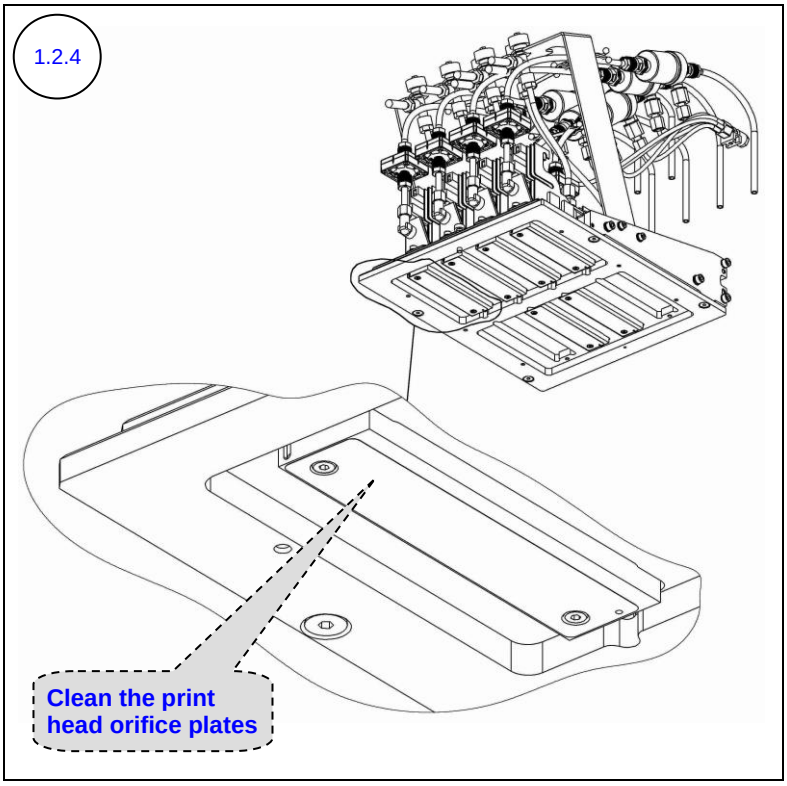


Using clean rags and water clean the maintenance tray.

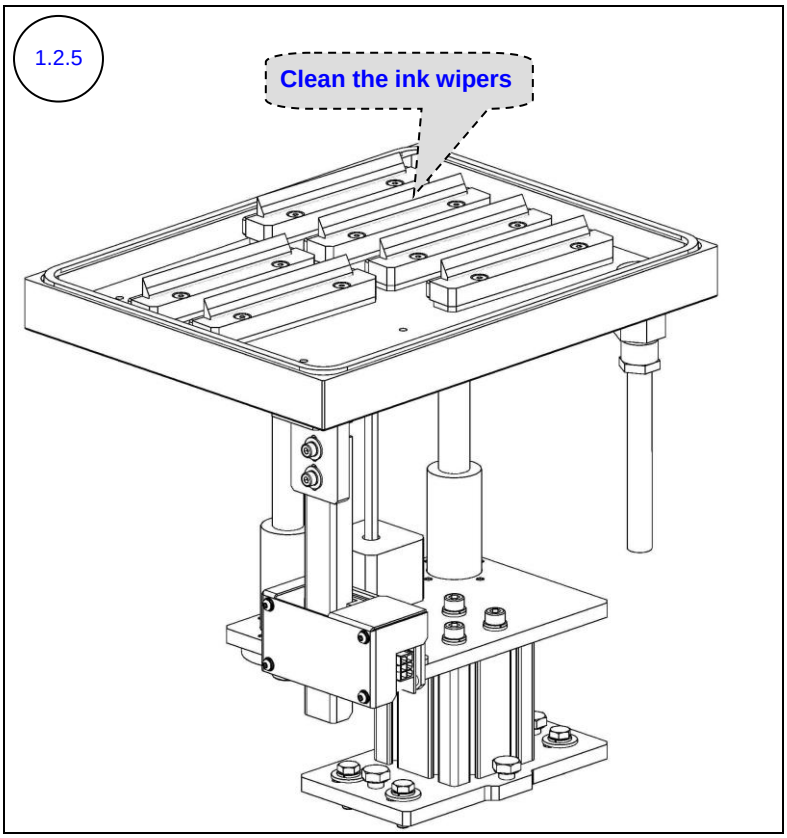
Make sure you clean the rubber seal and its surroundings.

⚠ CAUTION!

Do **not** touch the ink wipers while cleaning the maintenance tray.

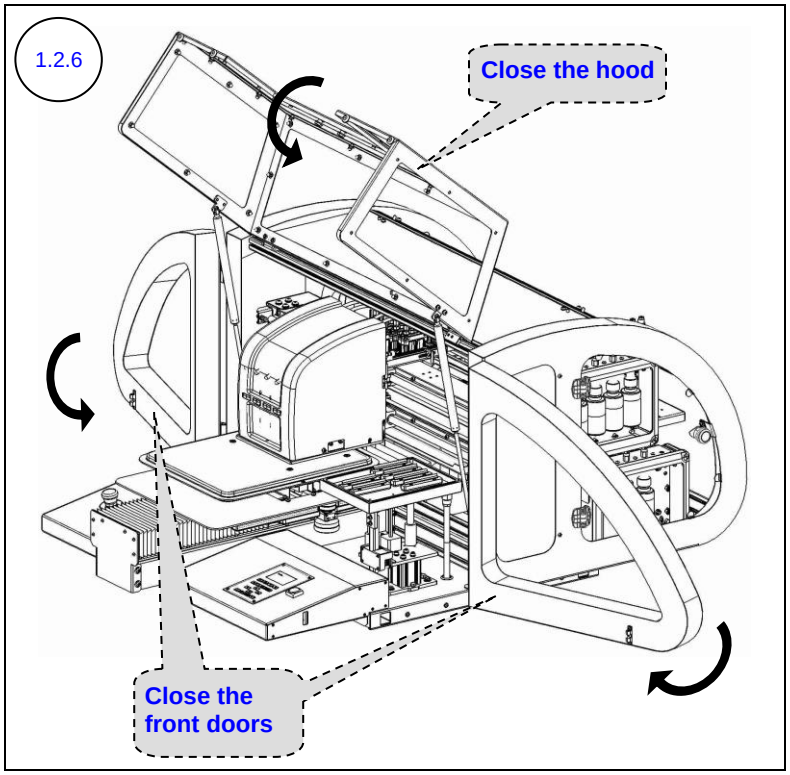


Using wiping fluid and new lint-free wipes, clean the print head orifice plates (bottom of the print heads).



Using wiping fluid and new lint-free wipes, clean the ink wipers.

1.2.6



Close the hood and the left and right front doors.

Watch the maintenance panel LCD to see when **Ready** appears in the status field (indicating that the initialization process is complete).

1.2.7

A. Perform **Purge and Wipe**.

B. Print two nozzle tests: one for CMYK ink and one for white ink.

C. Examine each nozzle test. If the test results indicate that there are missing nozzles, perform a few more purges and clean with wiping fluid and lint-free wipes. Repeat until a satisfactory nozzle test result is achieved (the result should be at least identical to the previous beginning-of-day's result).

D. Write down the date, time and your name on each nozzle test printout and save it in a binder near the printer.

1.2.8

From the maintenance panel LCD, shut down the system:

A. Press **F1**; the following message appears in the LCD: "Do you really want to turn off the printer?"

B. Using the **Move Left** button  , select **Yes**.

C. Press the **Enter** button  to confirm. The system automatically performs cleaning procedures (Purge and Wipe). Once it has finished, the following message is displayed in the LCD: "Safely turn off the printer."

D. Turn off the power to the printer using the main power switch located on the left side of the printer.

The printer shuts down.

Section 2 – Weekly Maintenance

This section describes the weekly preventive maintenance procedure for the Breeze series printers.

This procedure should be performed regularly, once a week.

The procedure comprises the following tasks:

- **Starting the Weekly Maintenance Procedure**, page 22
- **Cleaning the Maintenance Tray**, page 22
- **Cleaning the Scan Axis Encoder Scale**, page 26
- **Performing General Cleaning**, page 28

NOTE:

Kornit highly recommends that you complete this entire section without any significant breaks between the maintenance tasks.

If you must take a break (of up to four hours) between these tasks, perform the following before the break:

- Manually move the printing pallet carriage towards the loading position and the print heads carriage towards the purge position (above the maintenance tray).
- Close the hood; watch the maintenance panel LCD to see when **Ready** appears in the status field (indicating that the initialization process is complete).
- Perform a **Purge**.
- Move the maintenance tray into the capping position.

If you stop in between the tasks and continue on the next day, perform the first two actions and then perform a full turn off.

Tools and Supplies - Summary

This list provides a summary of all the tools and supplies required for performing weekly maintenance procedures. Prepare these items before starting the maintenance procedure.

PN	Description	Qty	Page in this Guide
01-WIPR-0909	Lint-free wipes	as required	22, 26
50-WIPG-0200	Wiping fluid	as required	22
62-PMNT-0003	Preventive Maintenance Guide for Breeze printers (this document)	1	-
83-LATX-0001	Gloves (latex, without talc)	as required	-
-	Clean rags	as required	22, 22, 28
-	IPA (Isopropyl Alcohol)	as required	22
-	Water (tap and hot)	as required	22, 22, 26, 28

2.1 Starting the Weekly Maintenance Procedure

Procedure

2.1.1 Perform the following Daily Maintenance procedures:

A. **Beginning the Day/Shift**, page 10 (excluding step 1.1.14)

2.2 Cleaning the Maintenance Tray

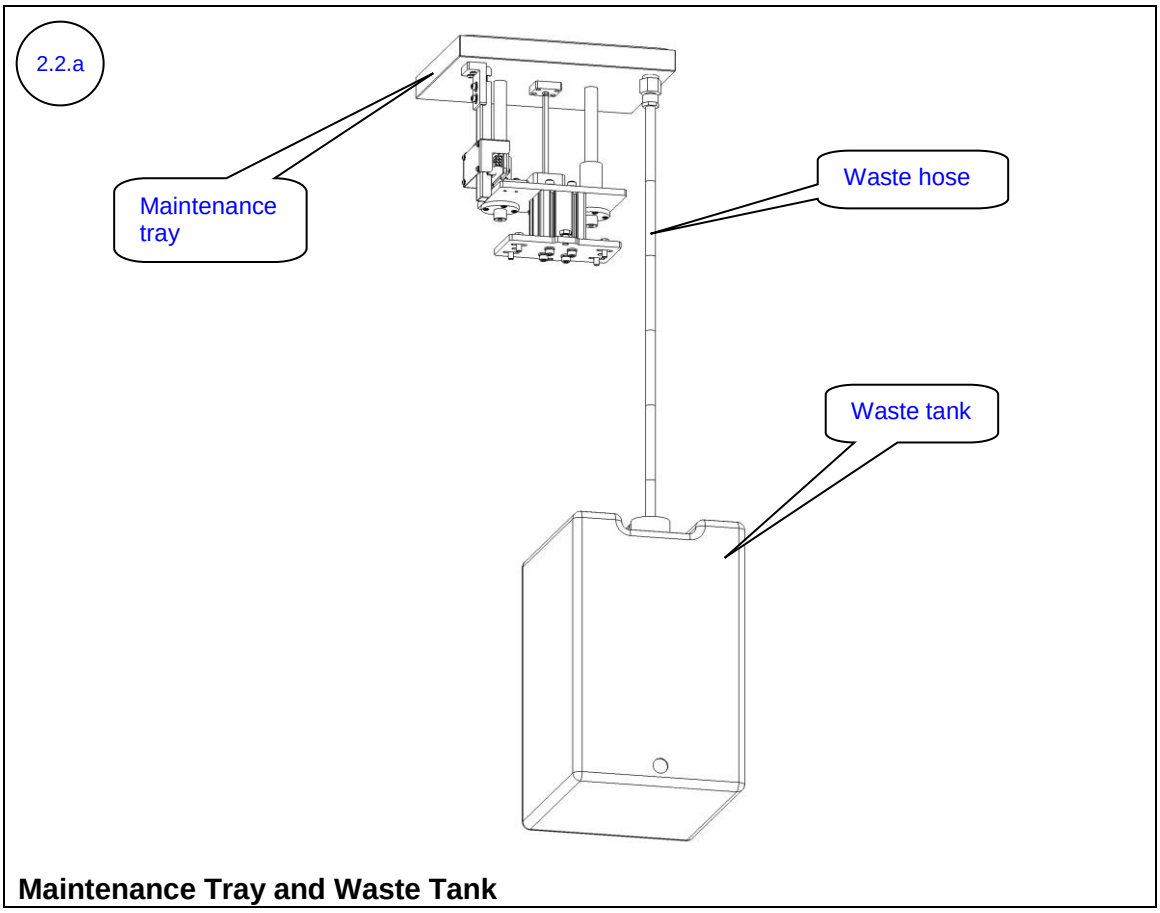
Tools and Supplies

PN	Description	Quantity
-	Clean rags	as required
-	Water (tap and hot)	as required

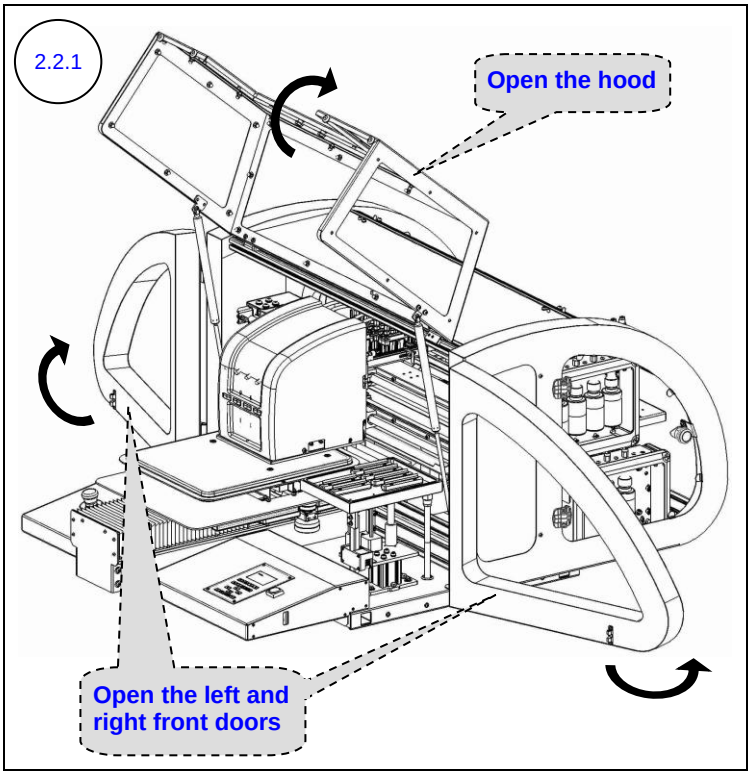
Preliminary Requirements

- The main power is on.
- The maintenance tray is in the lower position.
- The print heads carriage is positioned on the left side of the scan axis (to prevent any contact with the print head orifice plates during the cleaning process).

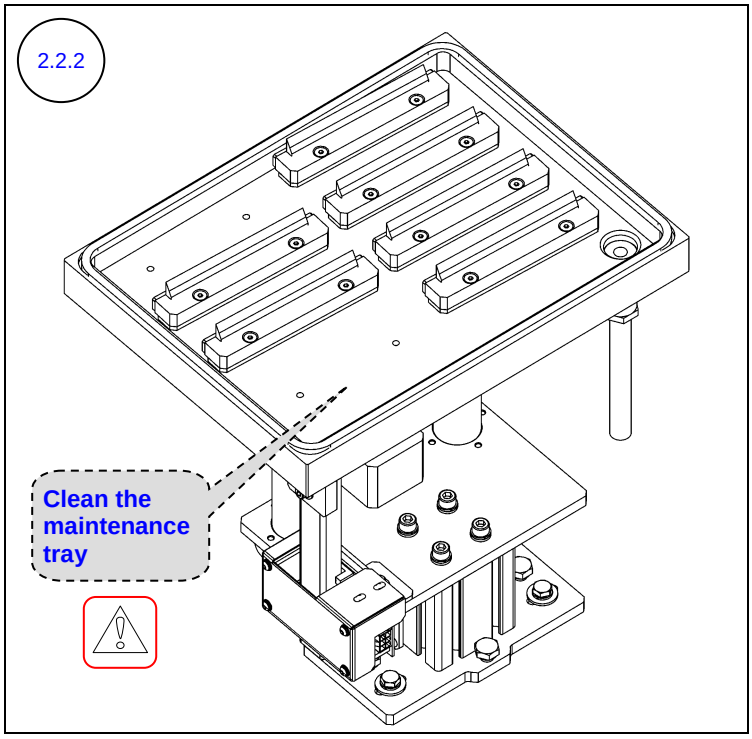
Procedure



Maintenance Tray and Waste Tank



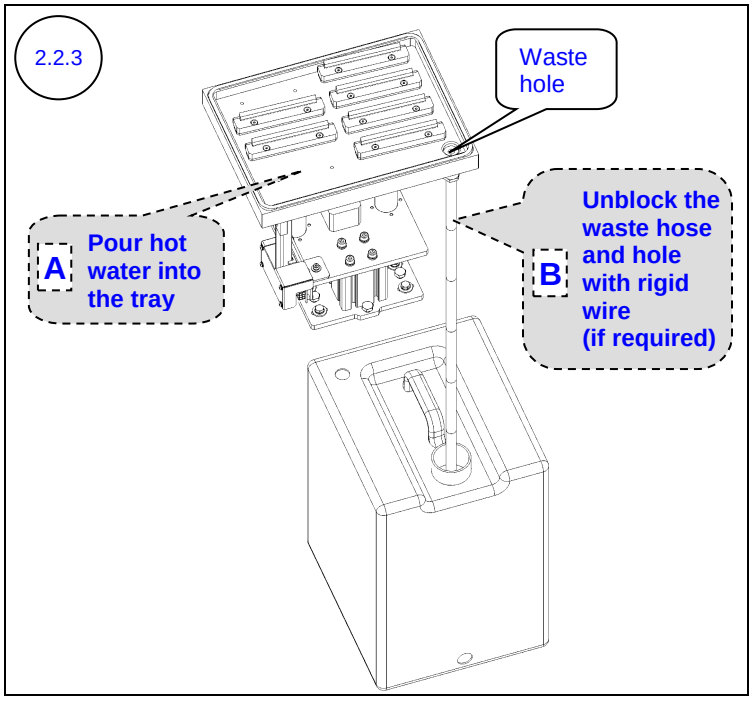
Open the hood and the left and right front doors.



Using clean rags and water clean the ink from the maintenance tray.

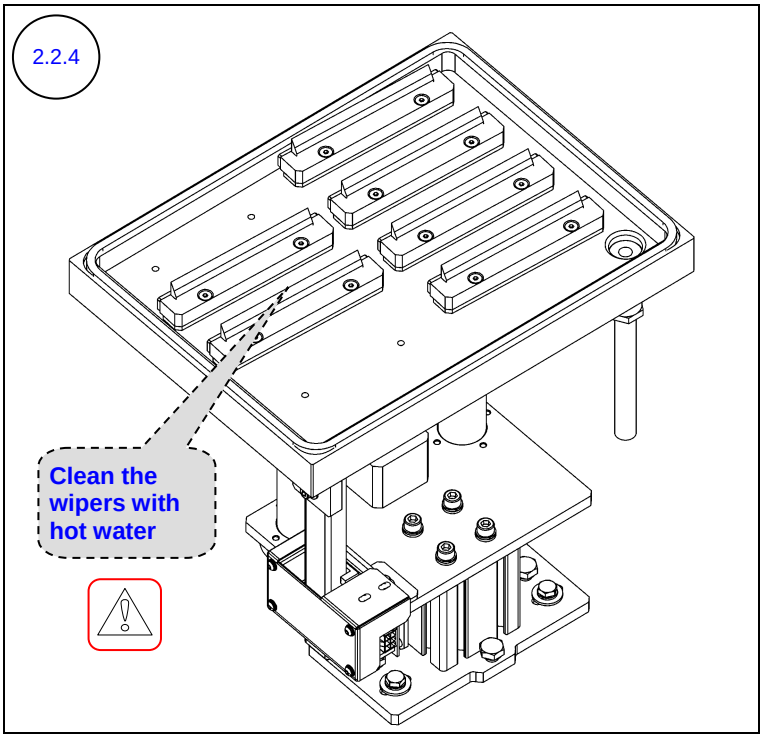
⚠ CAUTION!

Do **not** splash ink drops on the encoder while cleaning the maintenance tray.



A. Slowly pour hot water into the maintenance tray in order to remove all ink particles from the tray and to unblock the waste hose.

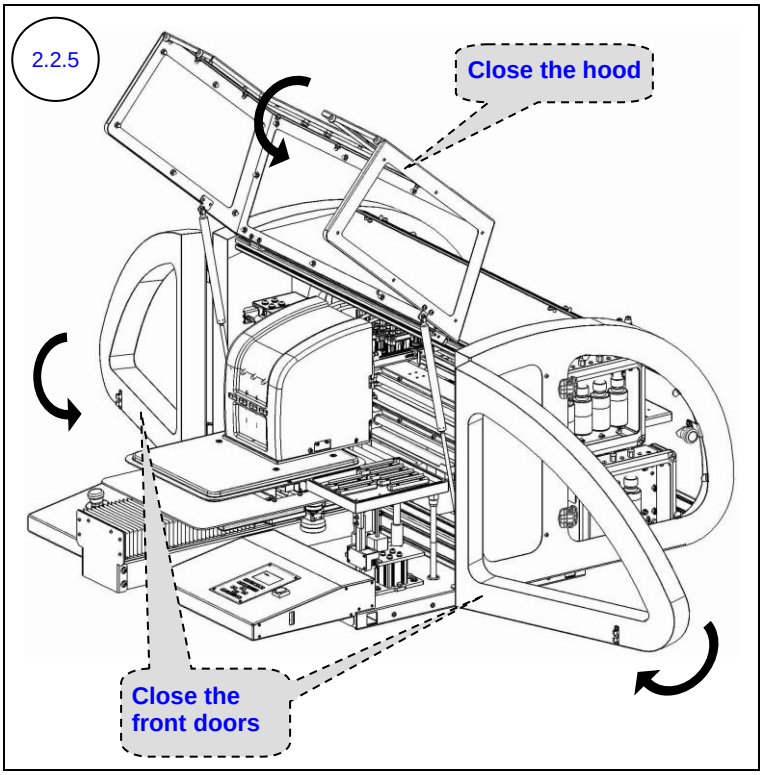
B. If the waste hose is blocked, unblock it by inserting a rigid wire through the waste hole, so that the waste can drain freely.



Clean the ink wipers with lint-free wipes and hot water to remove dried ink.

CAUTION!

Do **not** splash ink drops on the encoder while cleaning the ink wipers.



Close the hood and the left and right front doors.

Watch the maintenance panel LCD to see when **Ready** appears in the status field (indicating that the initialization process is complete).

2.3 Cleaning the Scan Axis Encoder Scale

Tools and Supplies

PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
-	Water (tap)	as required

Preliminary Requirements

- The main power is on.
- The maintenance tray is in the lower position.

Procedure

2.3.1 Run the **General** diagnostic check to verify whether or not the scan axis encoder scale requires cleaning, as follows:

A. On the LCD maintenance panel, press  ; the menu is displayed on the LCD.

B. Press  and browse to the **Diagnose** option.

C. Press  to select the **Diagnose** option.

D. Press  and browse to the **Motion** option.

E. Press  to select the **Motion** option; the **GeneralCheck** menu option is highlighted.

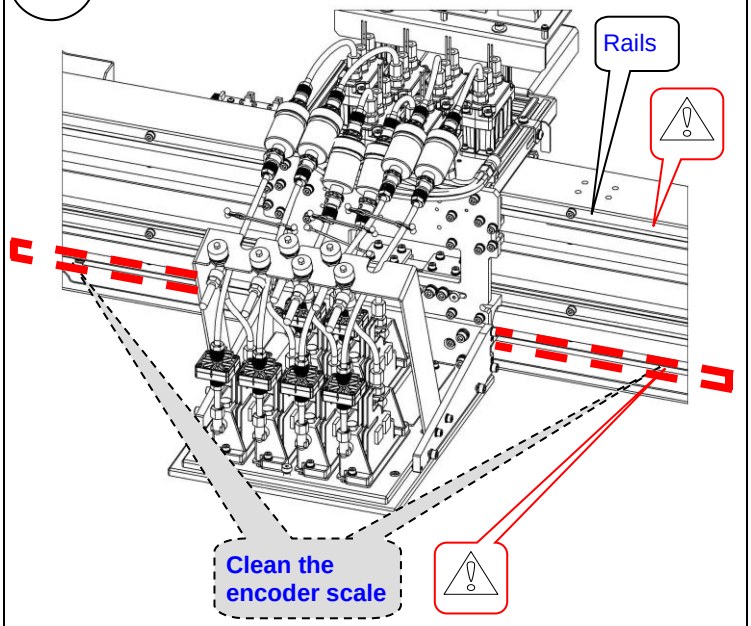
F. Press  to run the **GeneralCheck**.

G. At the end of the General Diagnostic test, turn off the power to the motors by pressing the emergency stop button, wait for a few seconds and then release the emergency stop button to turn on the power again.

H. If the system issues any error message/s during this test, open the hood and the left and right front doors (refer to diagram 2.2.1) and then continue to step 2.3.2 to clean the scan axis encoder scale.

If the system did not issue any error message/s, skip the cleaning of the encoder scale and continue to step 2.3.3.

2.3.2



Perform this step only if the system issued error message/s during the **General** diagnostic check (refer to step 2.3.1).

While moving the print heads carriage along the axis, clean the encoder scale using lint-free wipes and water.

Dry with dry lint-free wipes.

⚠ CAUTION!

When cleaning the encoder scale:

- Make sure that you only wipe it gently, **without** chafing it, to prevent damaging the scale's marks.
- Do **not** push or bend the encoder scale up or down.
- Do **not** touch the rails.

2.3.3

Perform the following steps:

A. Close the hood.

   Watch the maintenance panel LCD to see when **Ready** appears in the status field (indicating that the initialization process is complete).

B. Perform **Purge and Wipe**.

C. Move the maintenance tray into the capping position.

2.4 Performing General Cleaning

Tools and Supplies:

PN	Description	Quantity
-	Clean rags	as required
-	Water (tap)	as required

Preliminary Requirements

- The main power is on.
- The maintenance tray is in the capping position.

Procedure

2.4.1 Clean the spray wiper, as follows:

A. Move the spray wiper into the lower position:

1. From the **Tools** menu, switch to **Technician Mode**.
2. From the **Maintenance** menu, select **Technician**; the Technician window opens. In the **Head Properties** tab, click **Spray Wiper**. The spray wiper moves down (positioned below the scan axis beam).

B. Open the hood and the left and right front doors (refer to diagram 2.2.1).

C. Using clean rags and water clean the spray wiper.

D. Close the hood and the left and right front doors (refer to diagram 2.2.5).

E. Move the spray wiper into the upper position and switch to **Operator Mode**.

NOTE:

Ensure not to fold the spray wiper during cleaning.

2.4.2 Clean the floor under and around the printer to remove all lint.

Section 3 – Quarterly Maintenance

This section describes the quarterly preventive maintenance procedure for the Breeze series printers.

This procedure should be performed regularly, once every quarter (three months).

The procedure comprises the following tasks:

- **Starting the Quarterly Maintenance Procedure**, page 30
- **Oiling the Cross-Scan Axis Rails and Screw**, page 31
- **Oiling the Scan Axis Rails**, page 32
- **Cleaning the Scan Axis Encoder Scale**, page 33
- **Oiling the Maintenance Tray Shafts and Screw**, page 34
- **Tightening the Printing Pallet Screws**, page 35
- **Inspecting the Maintenance Tray Wipers**, page 36
- **Inspecting the Vacuum Values**, page 37
- **Inspecting the Spray System Values**, page 39
- **Inspecting the Print Head Temperatures**, page 40
- **Inspecting the Operation of the Emergency Mechanisms**, page 42
- **Backing Up the Application Folder**, page 44
- **Deleting Unnecessary Files from the Computer**, page 45

NOTE:

Kornit highly recommends that you complete this entire section without any significant breaks between the maintenance tasks.

If you must take a break (of up to four hours) between these tasks, perform the following before the break:

- Manually move the printing pallet carriage towards the loading position and the print heads carriage towards the purge position (above the maintenance tray).
- Close the hood; watch the maintenance panel LCD to see when **Ready** appears in the status field (indicating that the initialization process is complete).
- Perform a **Purge**.
- Move the maintenance tray into the capping position.

If you stop in between the tasks and continue on the next day, perform the first two actions and then perform a full turn off.

Tools and Supplies - Summary

This list provides a summary of all the tools and supplies required for performing quarterly maintenance procedures. Prepare these items before starting the maintenance procedure.

PN	Description	Qty	Page in this Guide
01-WIPR-0909	Lint-free wipes	as required	30, 31, 32, 33, 34
36-WIPR-0058	Ink wiper	0 – 6 (if required)	36
50-WIPG-0200	Wiping fluid	as required	30
62-PMNT-0003	Preventive Maintenance Guide for Breeze printers (this document)	1	-
83-LATX-0001	Gloves (latex, without talc)	as required	-
83-OILL-0002	Machine oil, Delspin HP 68	as required	31, 32, 34
-	Clean rags	as required	30
-	IPA (Isopropyl Alcohol)	as required	30
-	Standard tool box	-	35, 36
-	Water (tap and hot)	as required	30, 33
-	Writable CD (blank)	as required	44

3.1 Starting the Quarterly Maintenance Procedure

Procedure

3.1.1 Perform the following Daily Maintenance procedures:

A. **Beginning the Day/Shift**, page 10 (excluding step 1.1.14)

3.1.2 Perform the following Weekly Maintenance procedures:

A. **Cleaning the Maintenance Tray**, page 22

B. **Performing General Cleaning**, page 28

3.2 Oiling the Cross-Scan Axis Rails and Screw

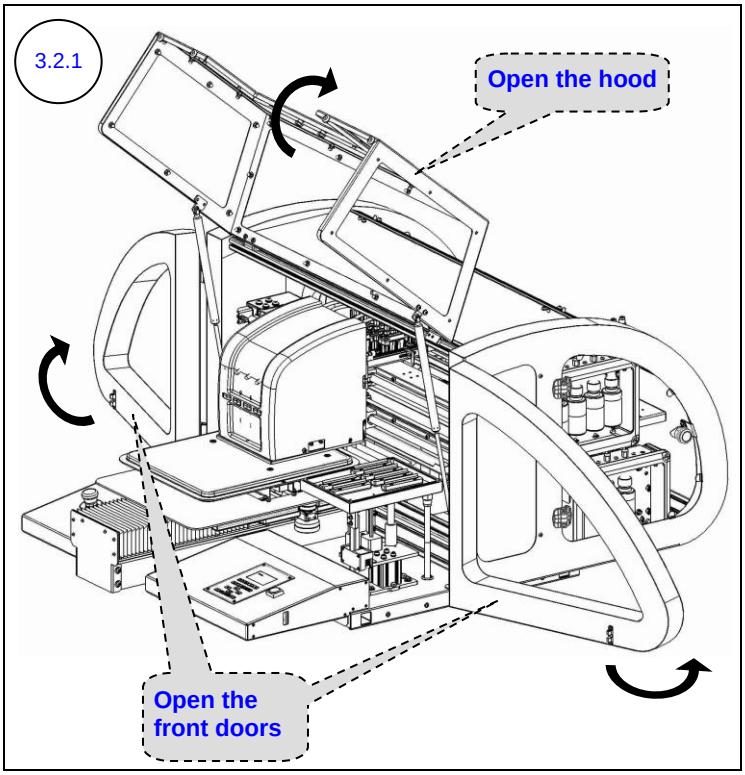
Tools and Supplies

PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
83-OILL-0002	Machine oil, Delspin HP 68	as required

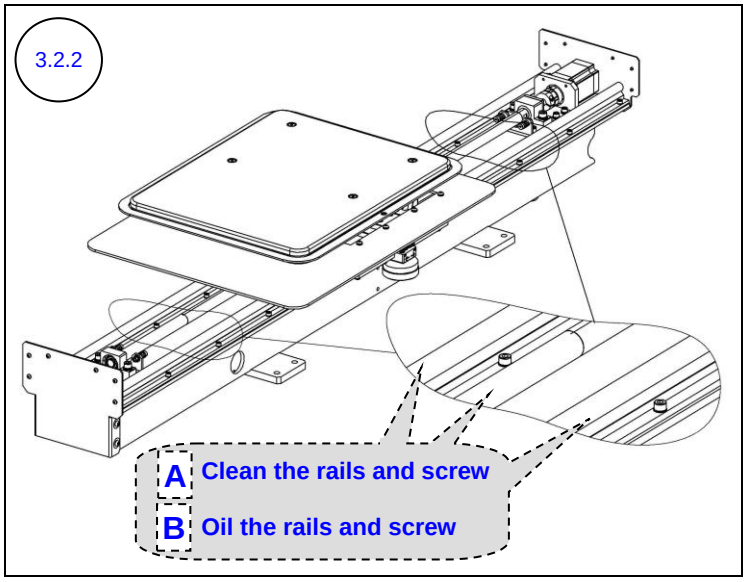
Preliminary Requirements

- The main power is on.
- The Maintenance tray is in the lower position.

Procedure



Open the hood and the left and right front doors.



Perform the following actions while raising the bellows and moving the carriage along the axis:

A. Clean the rails and screw with dry lint-free wipes.

B. Apply a thin layer of oil on the rails and screw, by wiping them with lint-free wipes moistened with oil.

3.3 Oiling the Scan Axis Rails

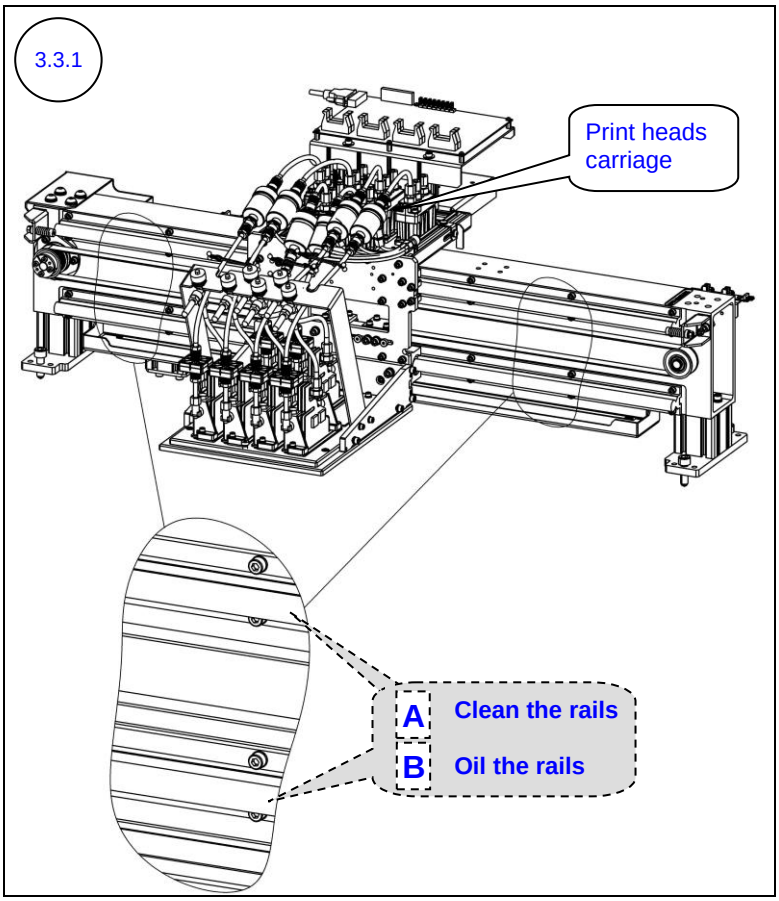
Tools and Supplies

PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
83-OILL-0002	Machine oil, Delspin HP 68	as required

Preliminary Requirements

- The main power is on.
- The maintenance tray is in the lower position.
- The hood and the left and right front doors are open (refer to diagram 3.2.1).

Procedure



Perform the following actions while moving the print heads carriage along the axis:

A. Clean the rails with dry lint-free wipes.

B. Apply a thin layer of oil on the rails, by wiping them with lint-free wipes moistened with oil.

3.4 Cleaning the Scan Axis Encoder Scale

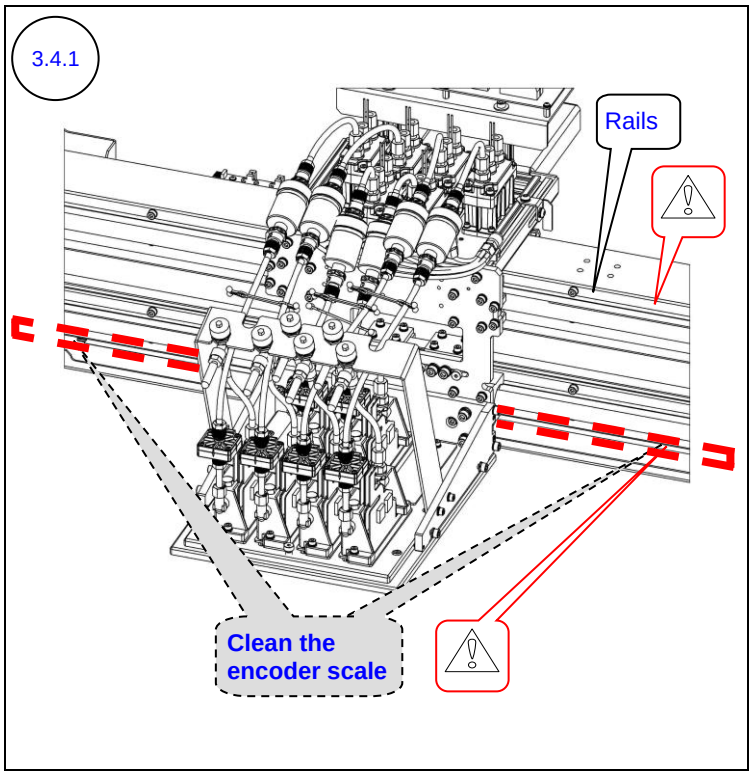
Tools and Supplies

PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
-	Water (tap)	as required

Preliminary Requirements

- The main power is on.
- The maintenance tray is in the lower position.
- The hood and the left and right front doors are open (refer to diagram 3.2.1).

Procedure



While moving the print heads carriage along the axis, clean the encoder scale using lint-free wipes and water.

Dry with dry lint-free wipes.

⚠ CAUTION!

When cleaning the encoder scale:

- Make sure that you only wipe it gently, **without** chafing it, to prevent damaging the scale's marks.
- Do **not** push or bend the encoder scale up or down.
- Do **not** touch the rails.

3.5 Oiling the Maintenance Tray Shafts and Screw

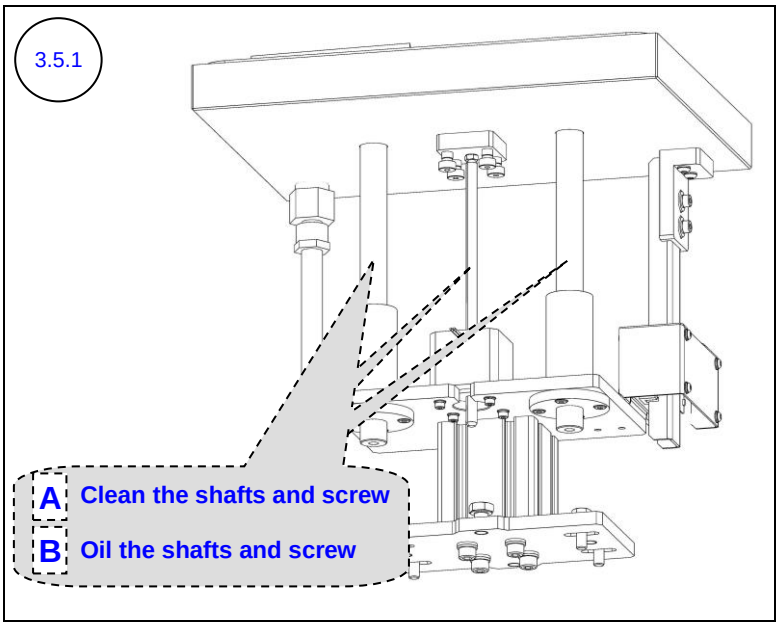
Tools and Supplies

PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
83-OILL-0002	Machine oil, Delspin HP 68	as required

Preliminary Requirements

- The main power is on.
- The maintenance tray is in the capping position.
- The hood and the left and right front doors are open (refer to diagram 3.2.1).

Procedure



A. Clean the shafts and screw with dry lint-free wipes.

B. Apply a thin layer of oil on the shafts and screw, by wiping them with lint-free wipes moistened with oil.

3.6 Tightening the Printing Pallet Screws

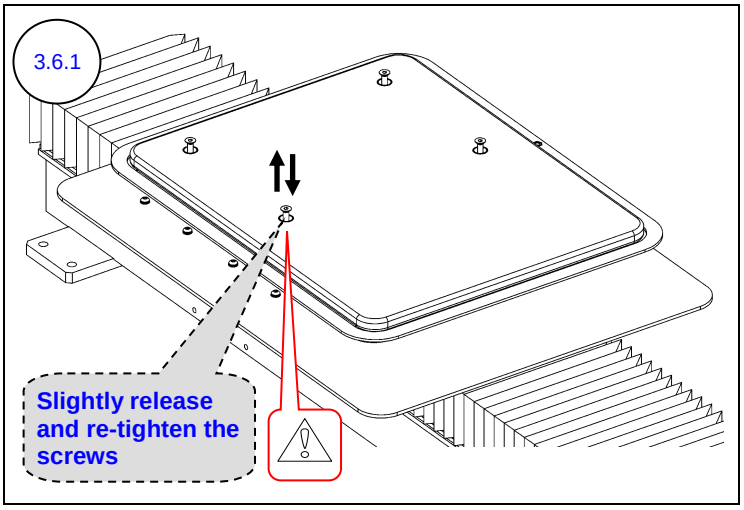
Tools and Supplies

PN	Description	Quantity
-	Standard tool box	-

Preliminary Requirements

- The main power is on.
- The maintenance tray is in the capping position.

Procedure



Slightly release and then re-tighten the four screws of the printing pallet.

⚠ CAUTION!

Do **not** over-tighten the screws, as this may affect the level and height of the printing pallet.

3.7 Inspecting the Maintenance Tray Wipers

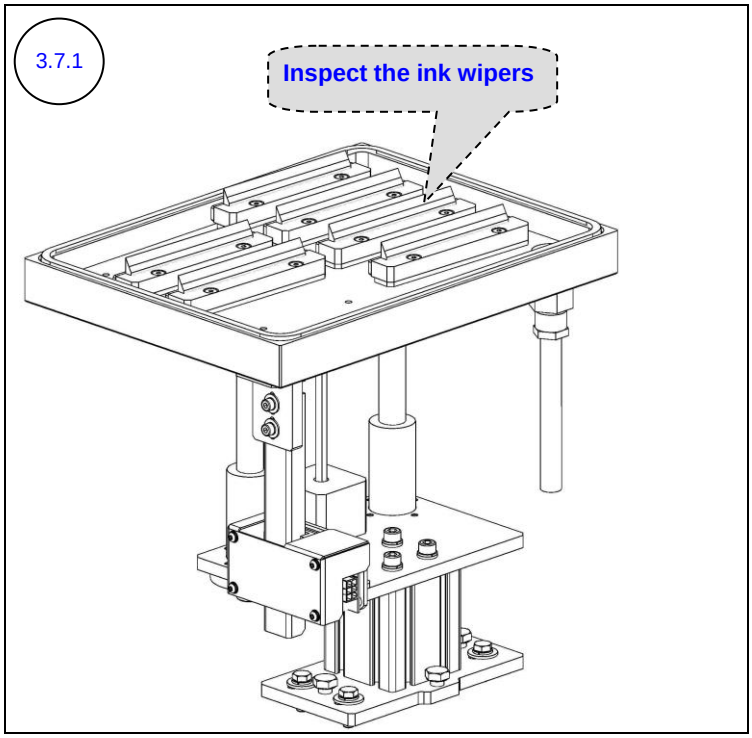
Tools and Supplies

PN	Description	Quantity
36-WIPR-0058	Ink wiper	0 – 6 (if required)
-	Standard toolbox	-

Preliminary Requirements

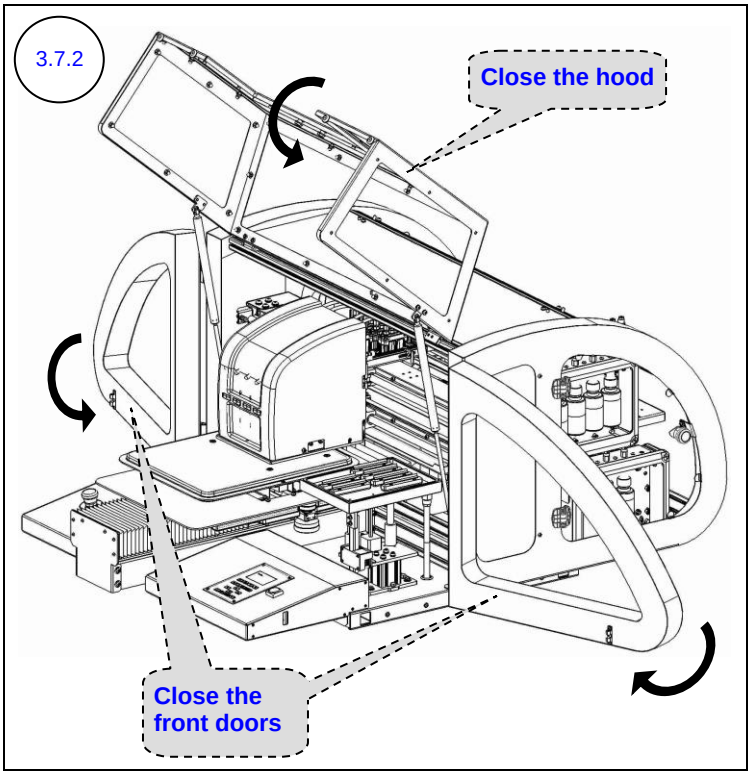
- The main power is on.
- The maintenance tray is in the lower position.
- The hood and the left and right front doors are open (refer to diagram 3.2.1).

Procedure



Examine the maintenance tray's ink wipers (6 units). Verify that the wipers are not damaged.

Where required, replace the wipers according to the replacement instructions in the 'Replacing the Maintenance Tray's Ink Wipers' section on page 61.



Close the hood and the left and right front doors.

Watch the maintenance panel LCD to see when **Ready** appears in the status field (indicating that the initialization process is complete).

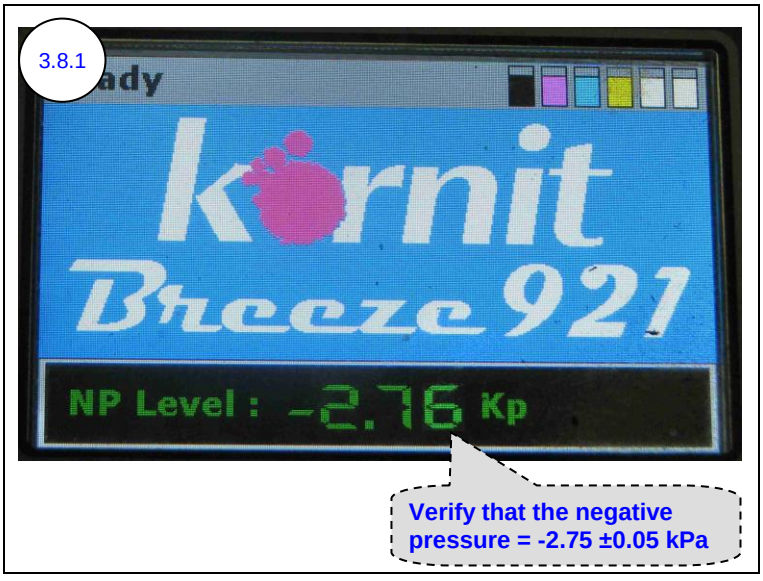
3.8 Inspecting the Vacuum Values

Tools and Supplies: None

Preliminary Requirements

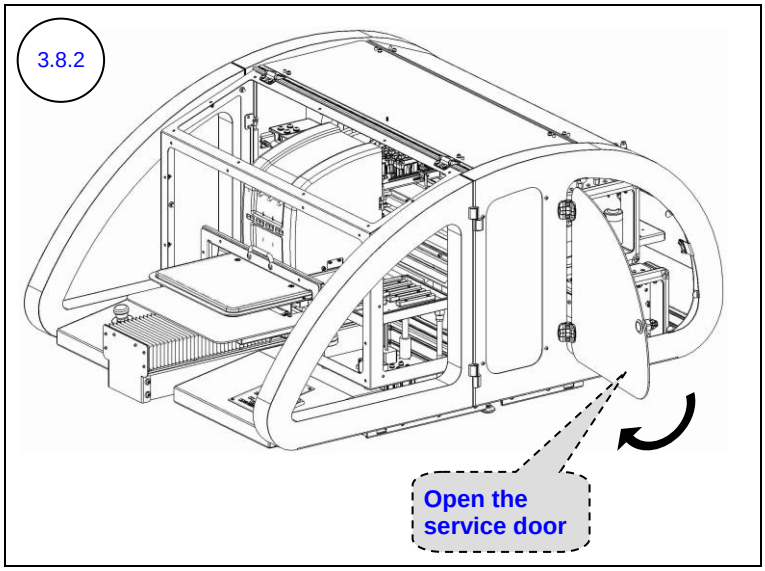
- The main power is on.
- The maintenance tray is in the capping position.
- The vacuum system is on.

Procedure

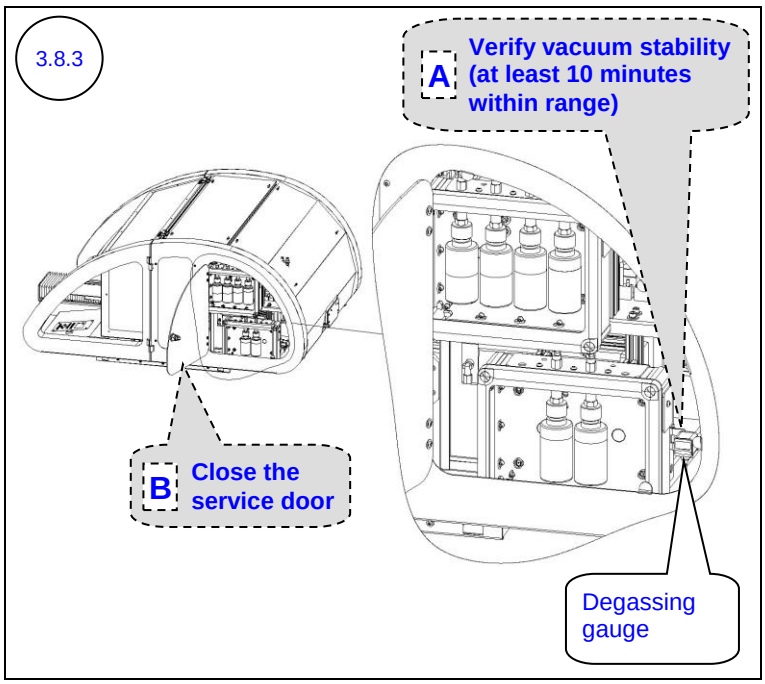


Verify that the value of the negative pressure, as shown on the maintenance panel LCD, is approximately -2.75 ±0.05 kPa.

If an adjustment is required, contact a qualified Kornit technician.



Open the right rear service door.



A. Watch the negative pressure value on the degassing gauge and verify that the degassing vacuum generator operates no more than once in 10 minutes.

   If the value changes within less than 10 minutes, contact a qualified Kornit technician.

B. Close the right rear service door.

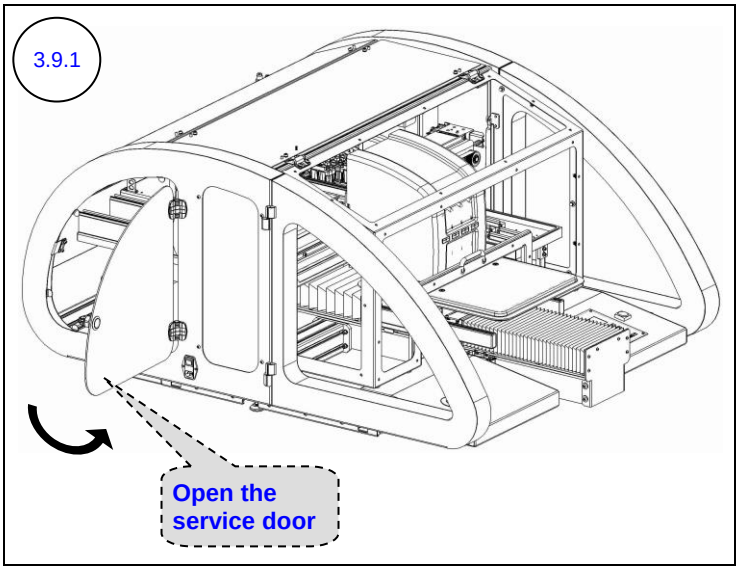
3.9 Inspecting the Spray System Values

Tools and Supplies: None

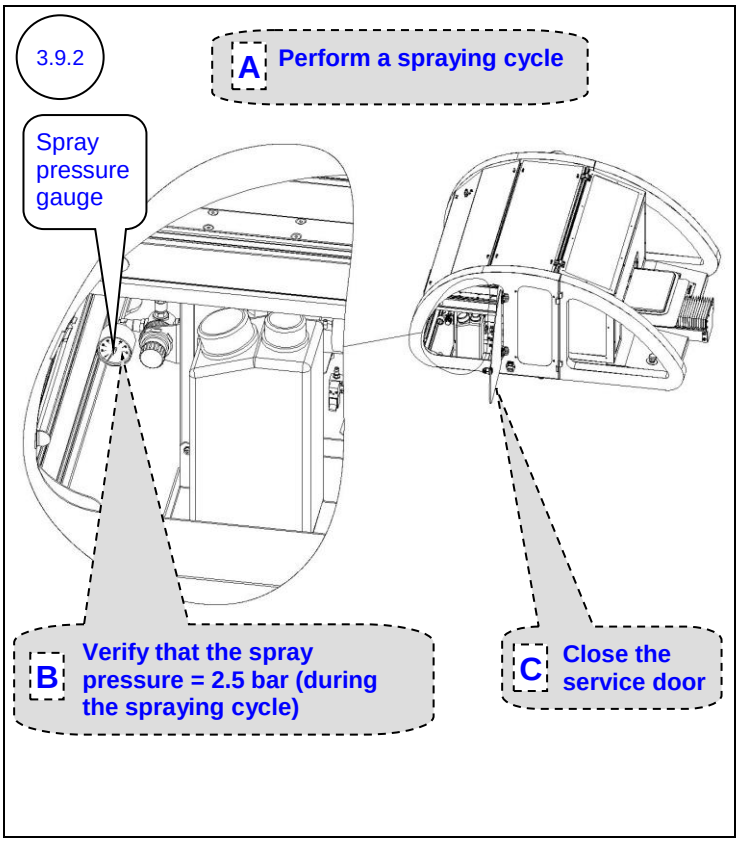
Preliminary Requirements

- The main power is on.
- The maintenance tray is in the capping position.

Procedure



Open the left rear service door.



A. Perform a spraying cycle:
   1. Place a used garment on the printing pallet.
   2. Click the **Spray All** button in the Operator window.
   3. Set the spraying level to 50%.
   4. Click **OK**.

B. During the spraying cycle, verify that the value of the spray pressure, as shown on the spray pressure gauge, is 2.5 bar.

   If an adjustment is required, contact a qualified Kornit technician.

C. Close the left rear service door.

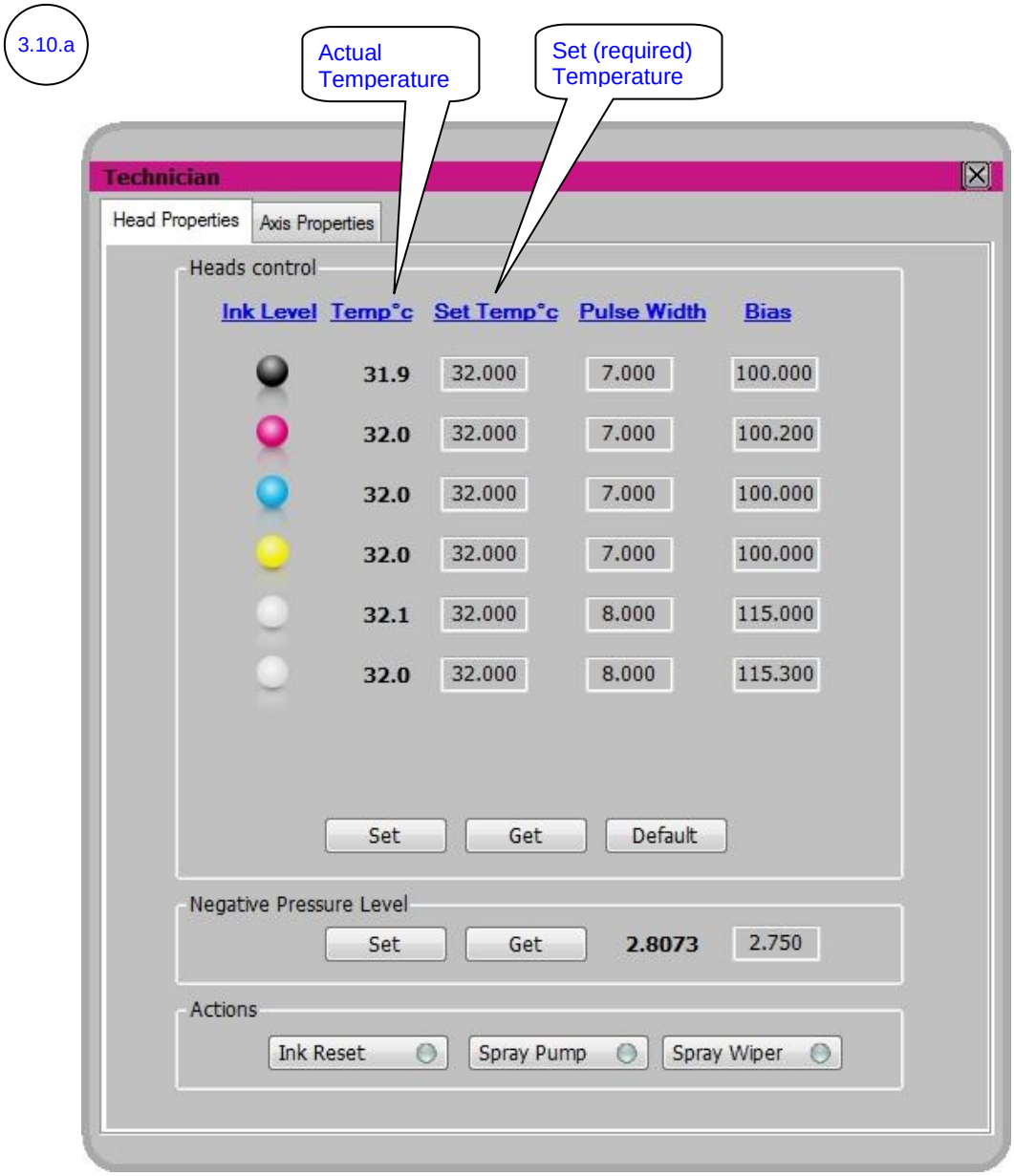
3.10 Inspecting the Print Head Temperatures

Tools and Supplies: None

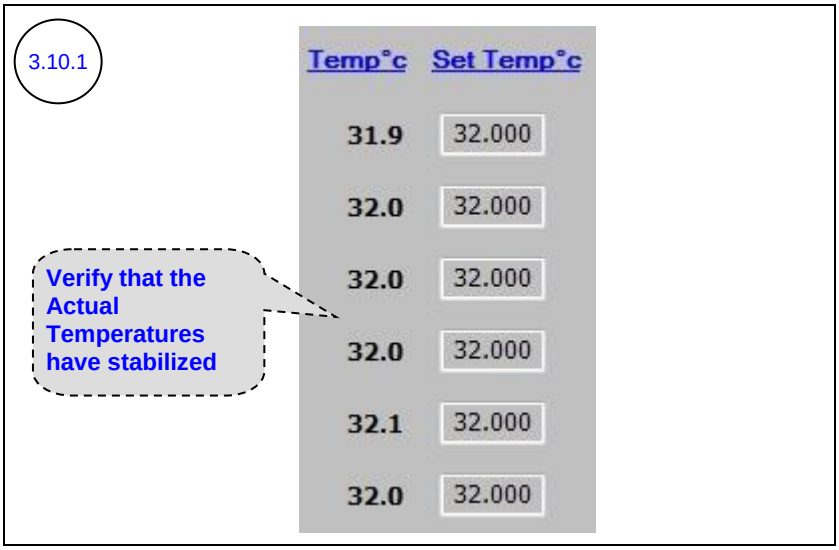
Preliminary Requirements

- The main power is on.
- The maintenance tray is in the capping position.

Procedure



Technician Head Properties Window



In the Technician Head Properties window:

Verify that the **Actual Temperatures** stabilize within the range of ±1 degree of the **Set Temperatures**.

NOTE:

If the temperatures are not identical/similar, contact a qualified Kornit technician to check the possible reason for the malfunction (including: electronic cards, data cables, dongles, heaters and sensors) and repair, as required.

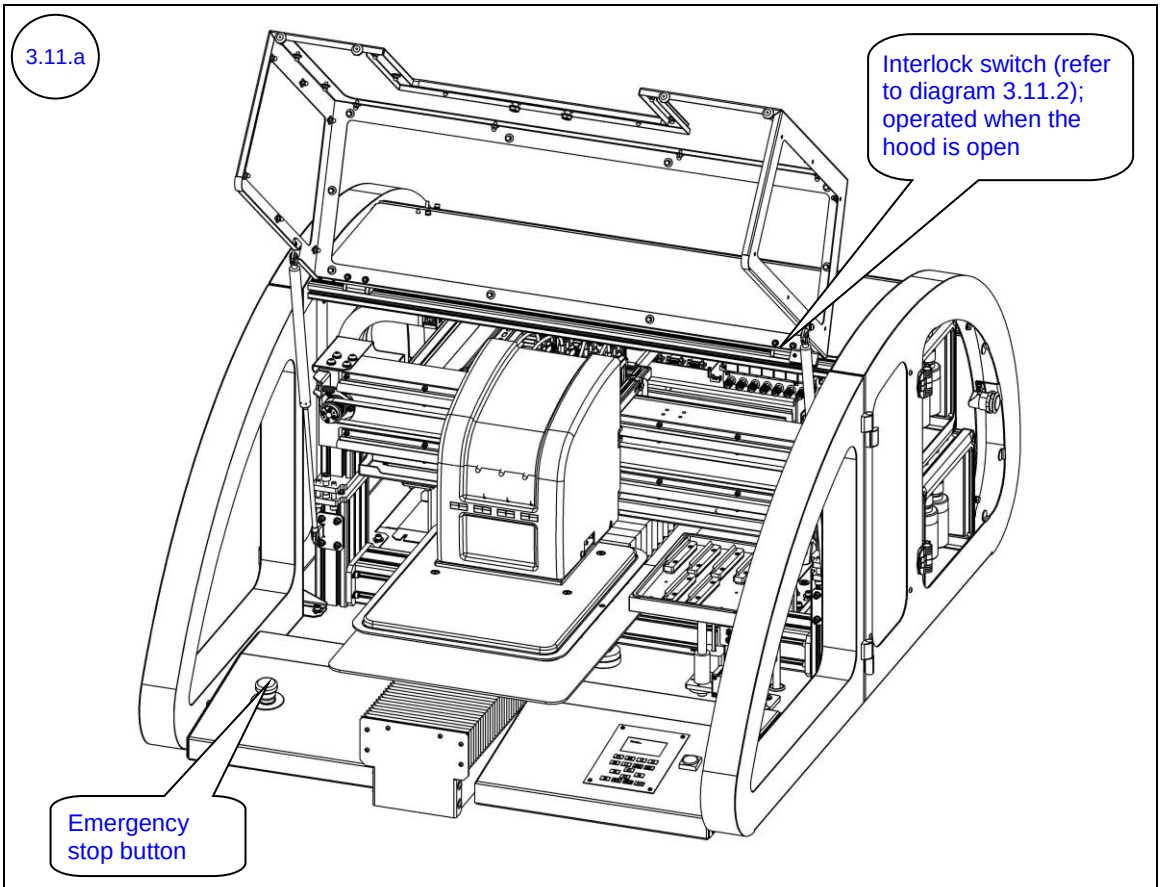
3.11 Inspecting the Operation of the Emergency Mechanisms

Tools and Supplies: None

Preliminary Requirements

- The main power is on.
- The maintenance tray is in the capping position.

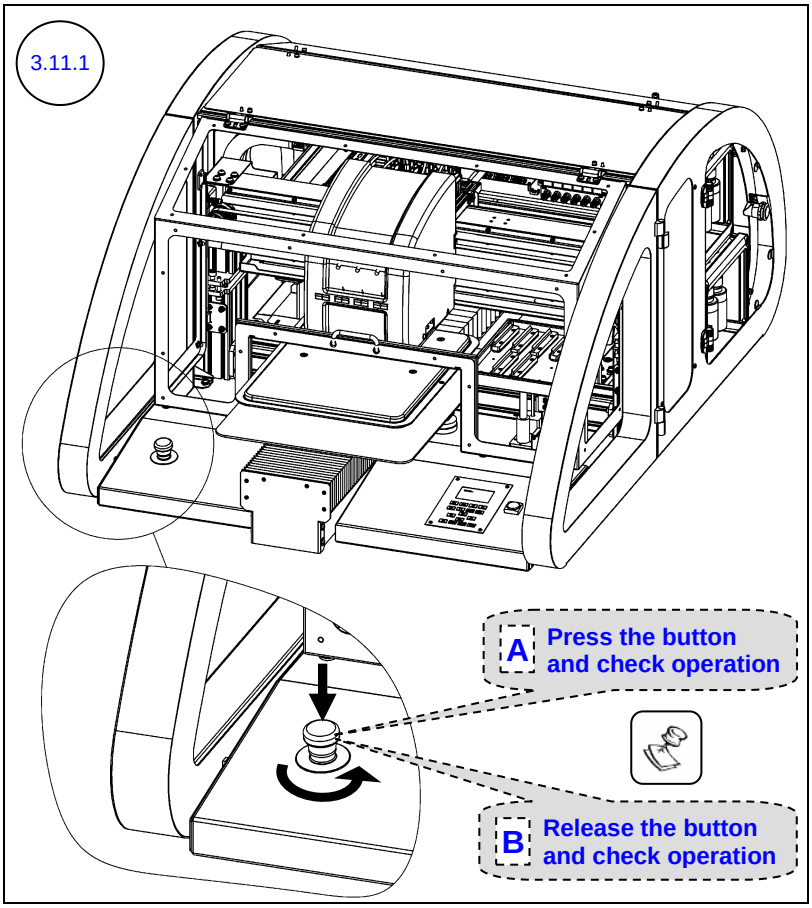
Procedure



Emergency Mechanisms

NOTE:

When an emergency stop/interlock switch is triggered, the power to all the printer systems (except for the power supplies) turns off. When the emergency mechanism is released, the power to the printer systems turns on again, and the printer runs an initialize process.



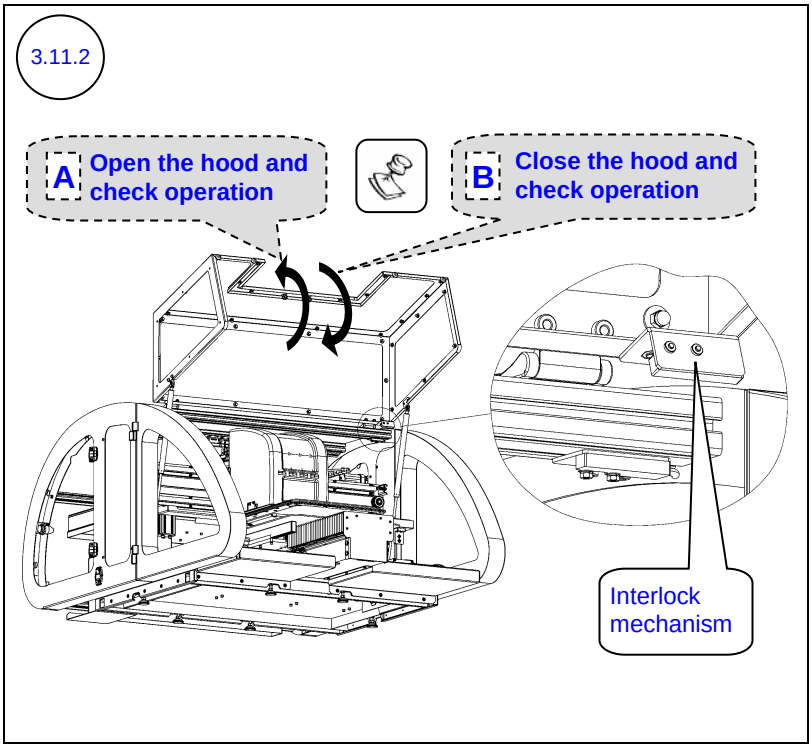
Test the emergency stop button:

A. Press the emergency stop button. Verify that the power to the motors and LCD panel turns off.

B. Release the button by rotating it counterclockwise. Verify that the printer performs the initializing process.

NOTE:

When the power to the motors is off, you can manually move the scan/cross-scan axes.



Test the interlock mechanism installed on the hood:

A. Open the hood. Verify that the power to the motors and LCD panel turns off.

B. Close the hood. Verify that the printer performs the initialization process.

NOTE:

When the power to the motors is off, you can manually move the scan/cross-scan axes.

3.12 Backing Up the Application Folder

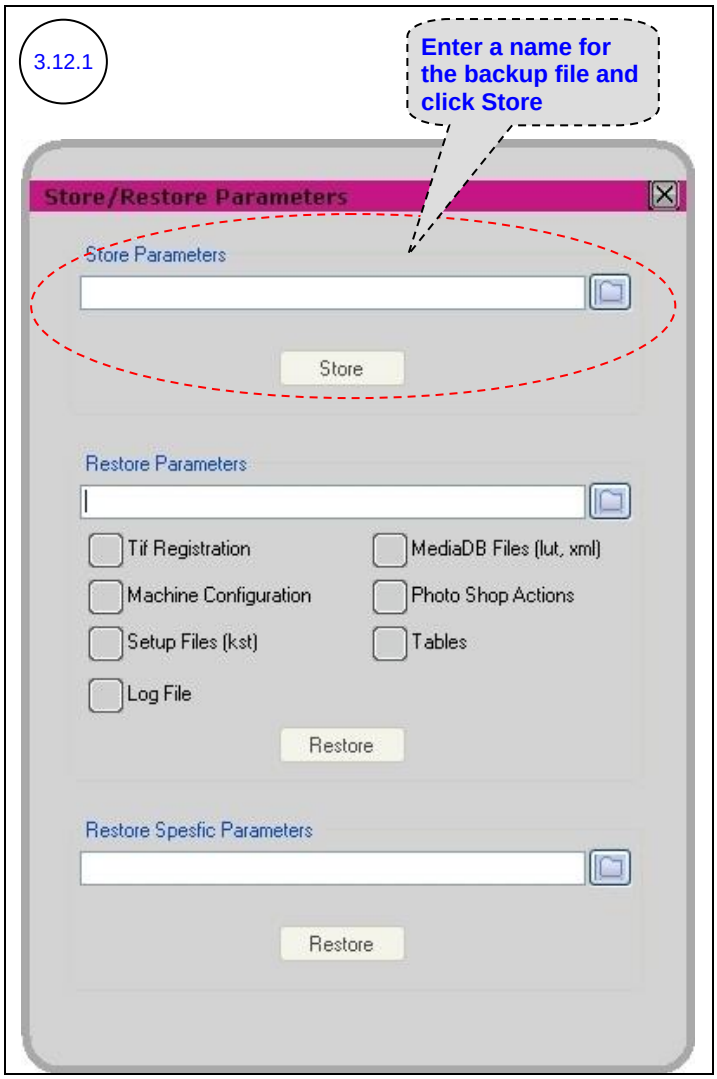
Tools and Supplies

PN	Description	Quantity
-	Writeable CD (blank)	as required

Preliminary Requirements

- The main power is on.
- The maintenance tray is in the capping position.

Procedure



Open the Store/Restore Parameters window.

In the **Store Parameters** pane, enter a name for the backup file (recommended name: backup_ printer number_date) and browse for the folder where to save it.

Click **Store**.

Close the Store/Restore Parameters window.

3.12.2 Save the backup file in another computer, server or writeable CD.

3.13 Deleting Unnecessary Files from the Computer

Tools and Supplies: None

Preliminary Requirements

- The main power is on.
- The maintenance tray is in the capping position.

Procedure

3.13.1 Delete all files that are no longer required from the printer's computer.

NOTE:

- Only delete files for which you have permission to delete.
- For printers that work in Hot Folder mode:
  - Delete all files from (Drive):\Kornit Digital\Breeze921\Common\HotFolderError.
  - Delete all files from (Drive):\Kornit Digital\Breeze921\Common\PhotoshopError

Section 4 – Yearly Maintenance

This section describes the yearly preventive maintenance procedure for the Breeze series printers.

This procedure should be performed regularly, once every year.

The procedure comprises the following tasks:

- **Checking the Printer for Proper Operation**, page 49
- **Starting the Yearly Maintenance Procedure**, page 49
- **Replacing the Main Spray Filter**, page 50
- **Replacing the Sprinkler Filter and Cleaning the Spray Nozzle**, page 53
- **Inspecting the Spraying Operation**, page 57
- **Inspecting the Spray Wiping Operation**, page 58
- **Replacing the Maintenance Tray's Rubber Seal**, page 59
- **Replacing the Maintenance Tray's Ink Wipers**, page 61
- **Replacing the First-level Ink Filters**, page 64
- **Replacing the White Secondary Ink Tanks**, page 68
- **Replacing the Second-level Ink Filters**, page 75
- **Cleaning the Print Heads Carriage**, page 78
- **Performing Printer Calibrations/Adjustments**, page 82
- **Implementing the Latest Upgrades**, page 83

NOTE:

Kornit highly recommends that you complete this entire section without any significant breaks between the maintenance tasks.

If you must take a break (of up to four hours) between these tasks, perform the following before the break:

- Manually move the printing pallet carriage towards the loading position and the print heads carriage towards the purge position (above the maintenance tray).
- Close the hood; watch the maintenance panel LCD to see when **Ready** appears in the status field (indicating that the initialization process is complete).
- Perform a **Purge**.
- Move the maintenance tray into the capping position.

If you stop in between the tasks and continue on the next day, perform the first two actions and then perform a full turn off.

Tools and Supplies - Summary

This list provides a summary of all the tools and supplies required for performing yearly maintenance procedures. The list also specifies which items are included in the Yearly Preventive Maintenance Kit for Breeze 921 (P.N. 23-PMYE-0014).

Prepare these items before starting the maintenance procedure.

PN	Description	Qty in Kit	Page in this Guide
01-WIPR-0909	Lint-free wipes	1 pack	49, 59
03-NOZL-8001	Spray nozzle	1	53
03-PIPE-0022	6mm (0.24inch) hose	0.5 m (1.6 ft.)	50
03-SEAL-0970	Rubber seal	1	59
29-0040	Silicon cap 6 mm (0.24 inch)	6	68
33-FLTR-0014	Spray filter (19 mm [0.75 inch], 105 micron [0.00004 inch], blue color)	1	50
33-FLTR-0280	Ink filter (28 mm; 1.1 inch)	12	64, 75
33-FLTR-6503	Sprinkler filter	1	53
33-INKV-0005	White secondary ink tank	2	68
33-TOOL-0001	Pallet removal key	not included	82
33-WIPR-0025	Spray wiper	not included	58
36-WIPR-0058	Ink wiper	6	61
50-WIPG-0200	Wiping fluid	not included	49
62-PMNT-0003	Preventive Maintenance Guide for Breeze printers (this doc.)	1	-
83-LATX-0001	Gloves (latex, without talc)	1 pack	as required
83-OILL-0002	Machine oil, Delspin HP 68	1 bottle	49
-	"Air-Duster" aerosol can (compressed air)	not included	53, 78
-	Clean rags	not included	49, 61, 75
-	IPA (Isopropyl Alcohol)	not included	49
-	Standard tool box	not included	49, 53, 59, 61, 68, 78, 82
-	Waste container	not included	53
-	Water (tap and hot)	not included	49, 61
-	Writeable CD (blank)	not included	49

4.1 Checking the Printer for Proper Operation

Tools and Supplies: None

Preliminary Requirements

- The main power is on.

Procedure

4.1.1 Perform the following steps:

A. Perform **Purge and Wipe**.

B. Print two nozzle tests: one for CMYK ink and one for white ink.

C. Write down the date, time and your name on each nozzle test printout and save it in a folder near the printer.

NOTE:

Examine the nozzle test. If the test results indicate that there are missing nozzles, perform a few more purges and clean with wiping fluid and lint-free wipes. Repeat until a satisfactory nozzle test result is achieved (the result should be at least identical to the previous shift's result).

4.1.2 Print a few jobs on black and white media. Verify that there are no printing, spraying or wiping problems. If you encounter any problems, solve them first before performing the yearly maintenance procedure.

4.2 Starting the Yearly Maintenance Procedure

Procedure

4.2.1 Perform the following Daily Maintenance procedures:

A. **Beginning the Day/Shift**, page 10 (excluding steps 1.1.14 and 1.1.16)

4.2.2 Perform the following Weekly Maintenance procedures:

A. **Cleaning the Maintenance Tray**, page 22

B. **Performing General Cleaning**, page 28

4.2.3 Perform all the Quarterly Maintenance procedures starting on page 29, excluding the following procedures:

A. **Starting the Quarterly Maintenance Procedure** (page 30).

B. **Inspecting the Maintenance Tray Wipers** (page 36).

4.3 Replacing the Main Spray Filter

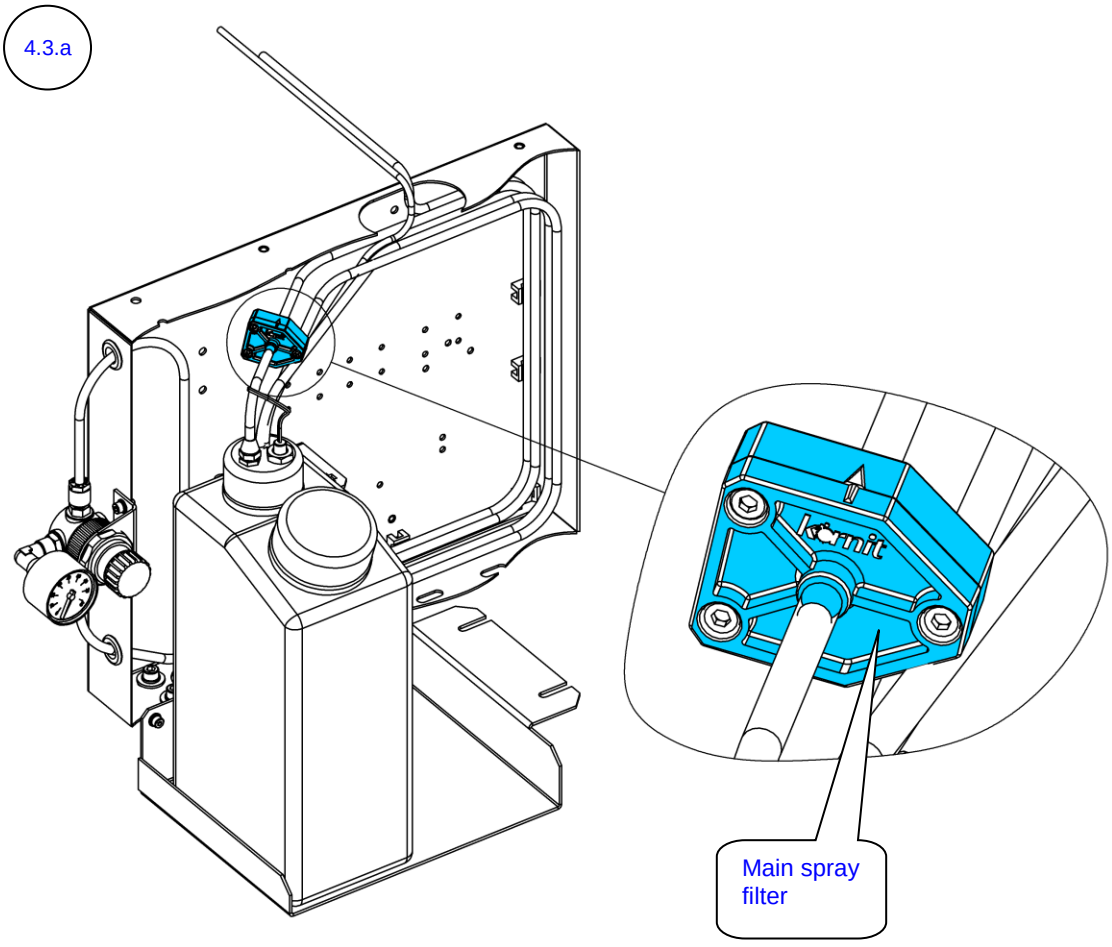
Tools and Supplies

PN	Description	Quantity
03-PIPE-0022	6mm (0.24inch) hose	0.5 m (1.6 ft.)
33-FLTR-0014	Spray filter (19 mm [0.75 inch], 105 micron [0.00004 inch], blue color)	1

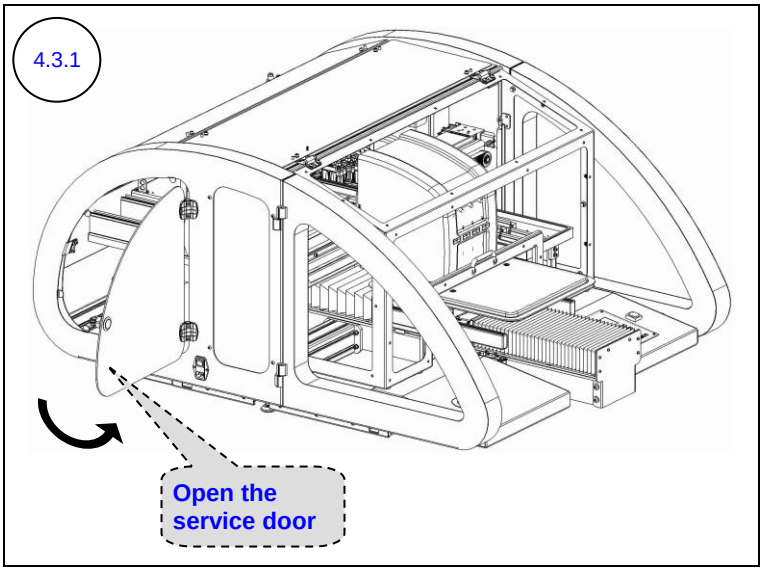
Preliminary Requirements

- The maintenance tray is in the capping position.
- The main power is off.

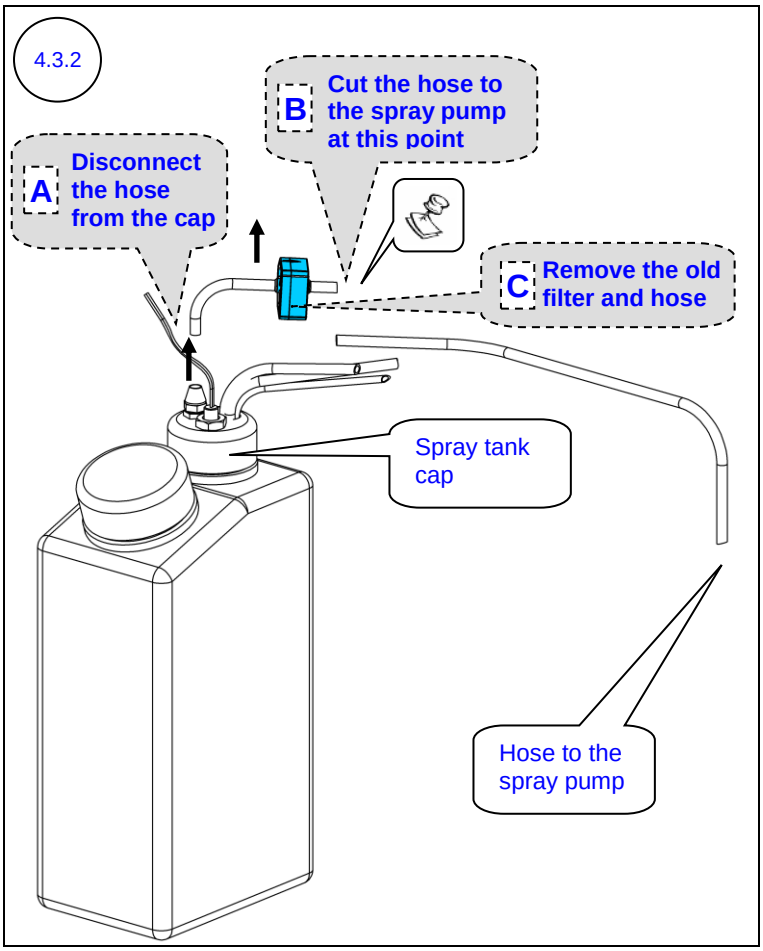
Procedure



Spray System



Open the left rear service door.



Remove the old spray filter, as follows:

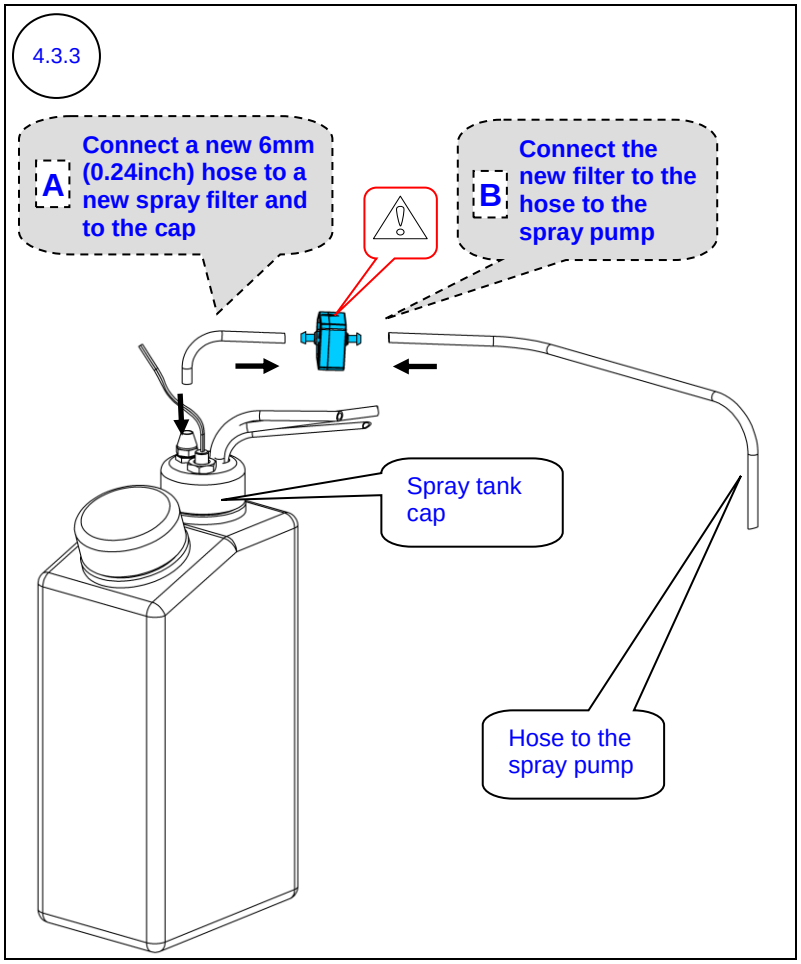
A. Disconnect the hose that connects the old spray filter to the spray tank cap.

B. Cut the hose that connects the old spray filter to the spray pump.

C. Remove the old spray filter and hose.

NOTE:

When cutting the hose, perform a straight cut, as near as possible to the spray filter.



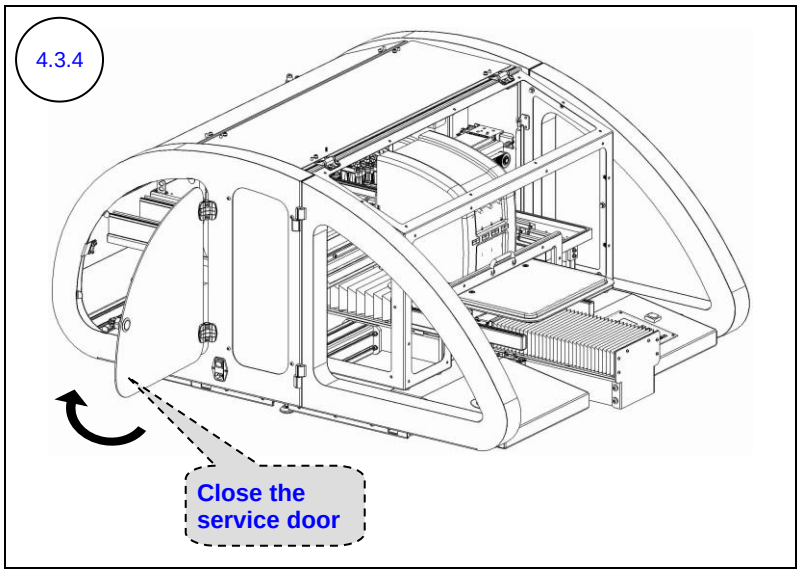
Install a new spray filter, as follows:

A. Connect a new 6mm (0.24inch) hose to a new spray filter and to the spray tank cap (cut the hose in the kit to the required length).

B. Connect the new filter to the hose that connects the filter to the spray pump.

CAUTION!

When installing the new filter, make sure that the arrow-mark on the filter is pointing towards the spray flow direction.



Close the left rear service door.

4.4 Replacing the Sprinkler Filter and Cleaning the Spray Nozzle

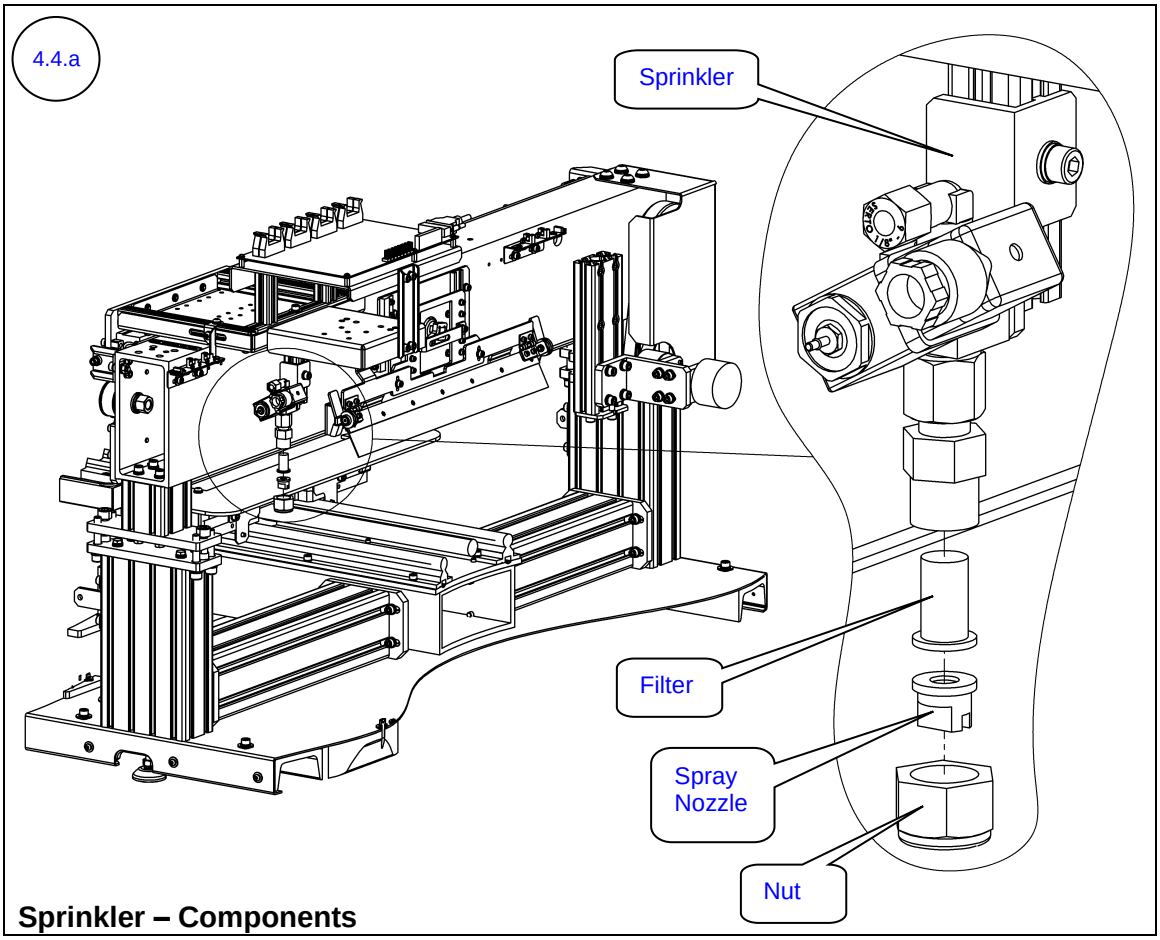
Tools and Supplies

PN	Description	Quantity
03-NOZL-8001	Spray nozzle	0 – 1 (if required)
33-FLTR-6503	Sprinkler filter	1
-	"Air-Duster" aerosol can (compressed air)	-
-	Standard tool box	-
-	Waste container	1

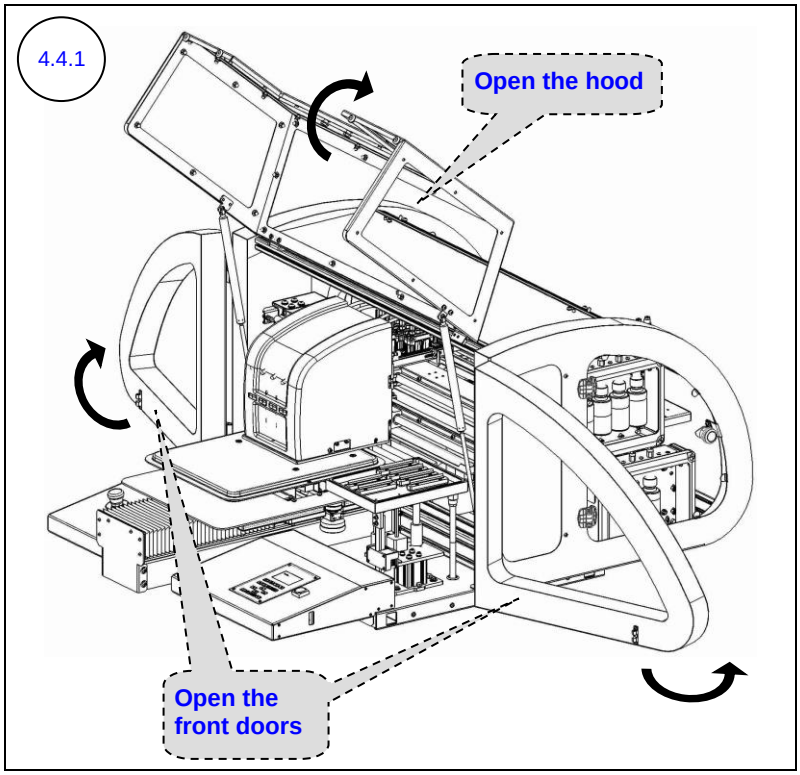
Preliminary Requirements

- The main power is on.
- The maintenance tray is in the capping position.

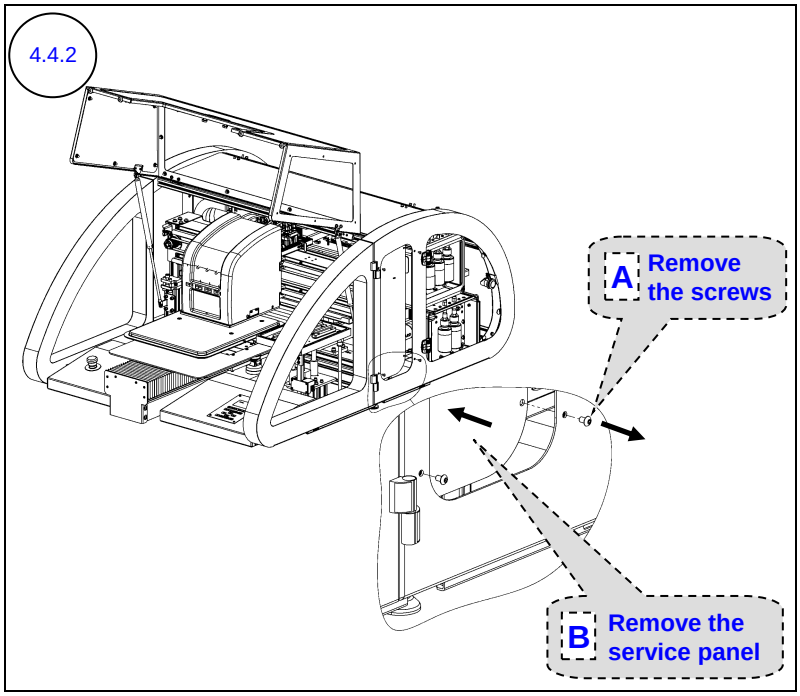
Procedure



Sprinkler – Components

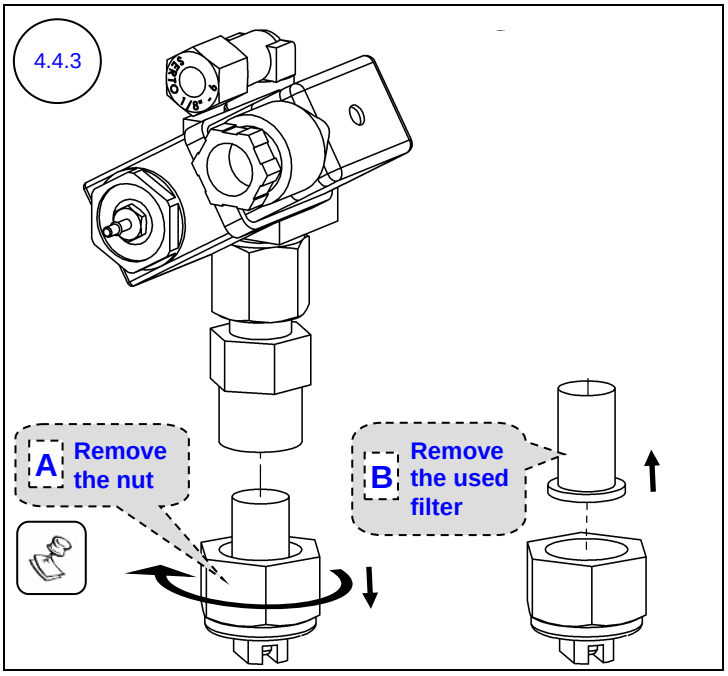


Open the hood and the left and right front doors.



A. Remove the four screws from the right service panel.

B. Remove the right service panel.

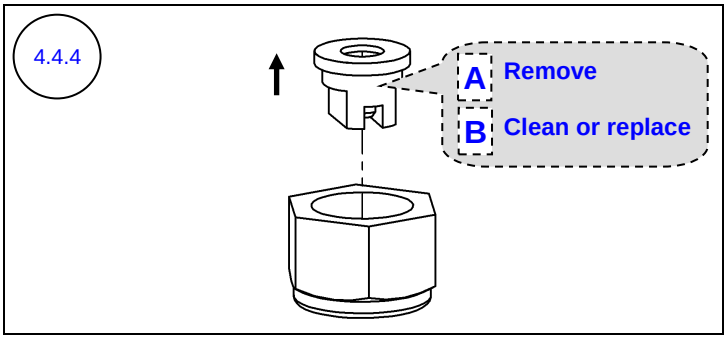


NOTE:

Before you open the nut, place a waste container below the sprinkler, to collect the spray dripping from the system.

A. Rotate the sprinkler's nut clockwise and remove it (together the spray nozzle and filter) from the sprinkler.

B. Remove the used filter from the nut.

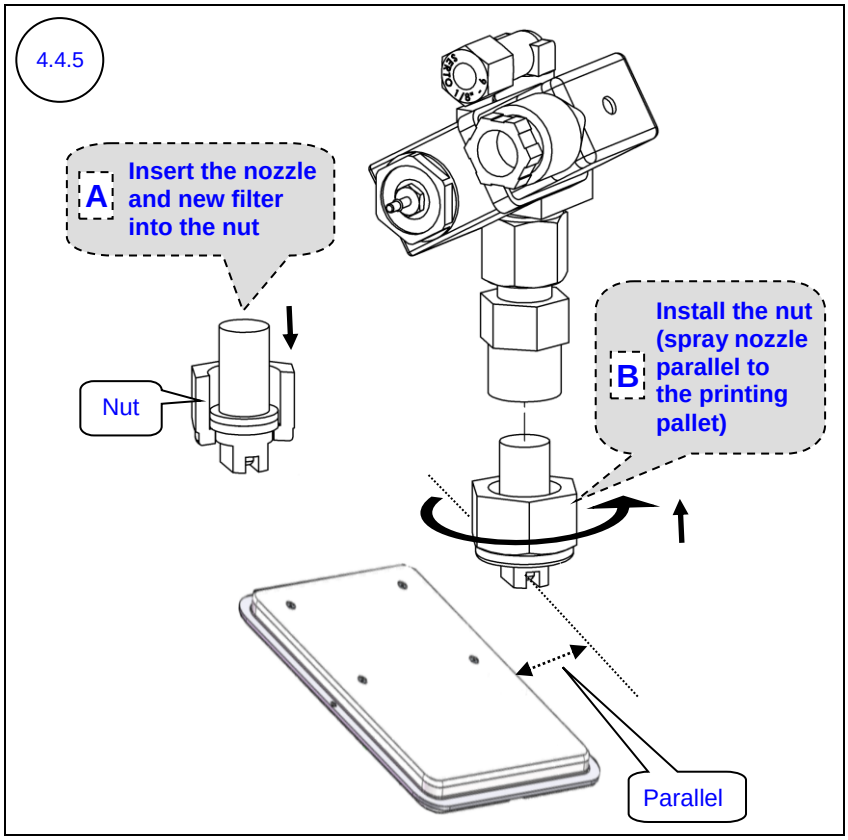


A. Remove the spray nozzle from the nut.

B. Clean the spray nozzle using compressed air.

Replace, if required.

4.4.5



A. Insert the clean (or new) spray nozzle into the nut and insert a new filter on top of the spray nozzle.

B. Install the nut on the sprinkler (including the spray nozzle and filter) by rotating it counterclockwise.

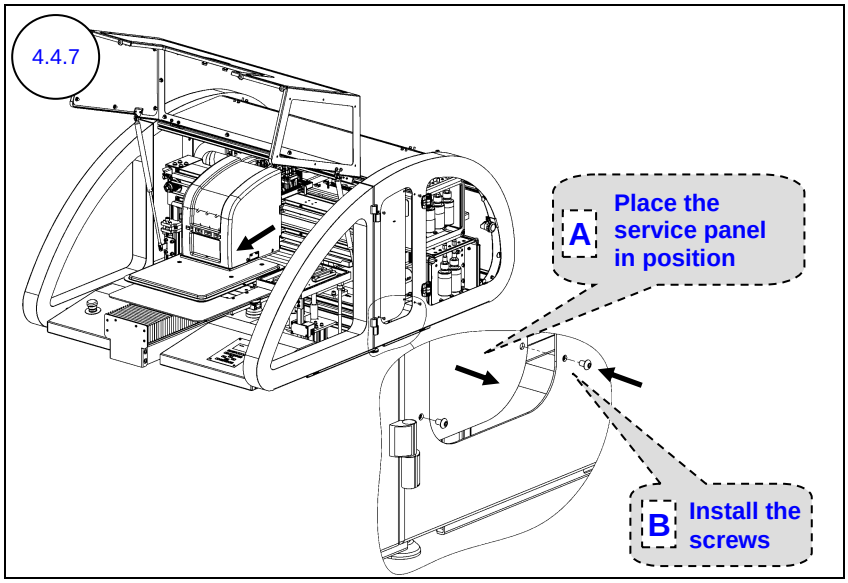
   Ensure that the spray nozzle is positioned parallel to the printing pallet, as shown in the diagram.

4.4.6

Remove any air from the spray system as follows:

1. Place a used garment on the printing pallet.
2. Perform spraying before printing by clicking the **Spray All** button in the Operator window.
3. Set the spraying level to 50% and select to spray over the entire printing pallet area.
4. Click **OK**.

4.4.7



A. Place the right service panel in position.

B. Install the four screws of the right service panel.

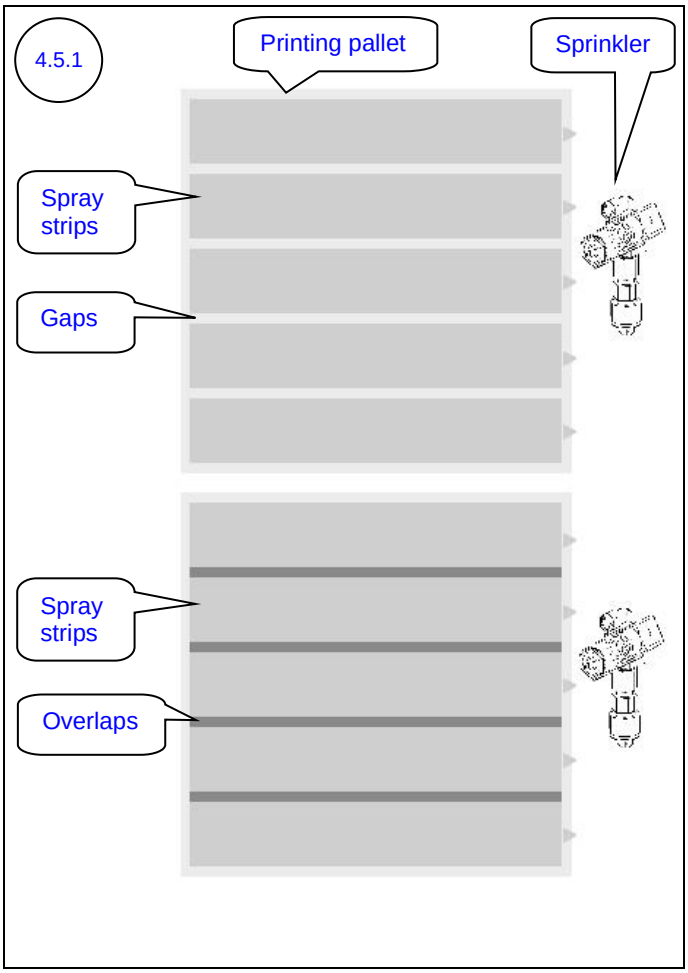
4.5 Inspecting the Spraying Operation

Tools and Supplies: None

Preliminary Requirements

- The main power is on.
- The hood is closed.

Procedure



Check that the sprayed layer is uniform over the entire printing pallet area:

A. Place a gray/light-green color shirt on the printing pallet.

B. Perform spraying before printing by clicking the **Spray All** button in the Operator window.

   The Spray All window opens. Set the spray amount to 6% and click **OK**.

C. Repeat steps A – B twice with the following spray amounts: 20%, 50%.

D. Check that there are no gaps or overlaps over 10mm (0.4 inch) between the spray strips (refer to diagram 4.5.1). If the spray is not uniform, check the spray nozzle, the sprinkler position and the spray pressure. Adjust as required.

4.5.2

Verify that the spray covers the entire image, as follows:

A. Place a gray/light-green color shirt on the printing pallet.

B. Perform spraying before printing by clicking the **Spray All** button in the Operator window.

   The Spray All window opens. Set the spray amount to 30% and click **OK**.

C. Verify that the spray covers the entire surface of the printing pallet. If this is not the case, contact a qualified Kornit technician for more information on how to adjust the spraying area.

4.6 Inspecting the Spray Wiping Operation

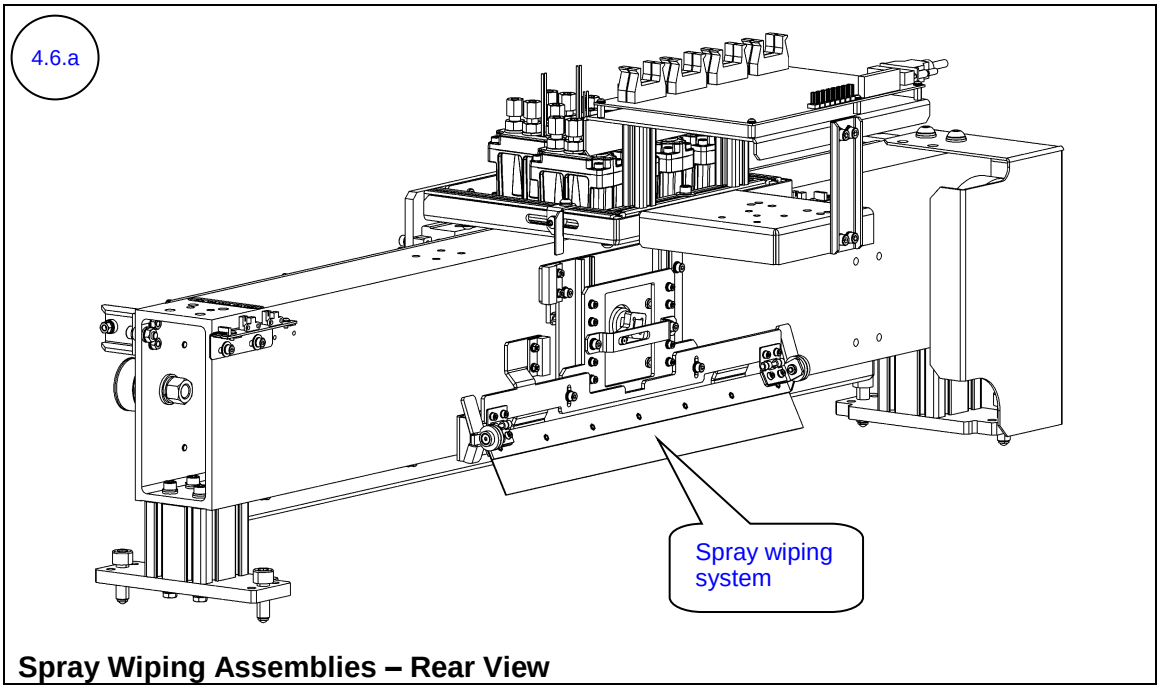
Tools and Supplies

PN	Description	Quantity
33-WIPR-0025	Spray Wiper	0 – 1 (if required)

Preliminary Requirements

- The main power is on.
- The hood is closed.

Procedure



Spray Wiping Assemblies – Rear View

4.6.1 Place a used garment on the printing pallet.

Perform **Spray All** and **Wipe** from the Operator window. Verify that the spray wiping operation is uniform throughout the wiping area.

If the wiping is inconsistent, contact a qualified Kornit technician for more information on how to repair the wiping operation and/or to replace spray wiper.

4.6.2 Place a used garment on the printing pallet.

Perform **Spray All** and then **Wipe**, and verify that the wiping process starts 5 to 10 cm (2 to 4 inch) before the image and ends 5 to 10 cm (2 to 4 inch) after the image.

If this is not the case, contact a qualified Kornit technician for more information on how to adjust the start and/or end points of the spray wiping operation.

4.7 Replacing the Maintenance Tray's Rubber Seal

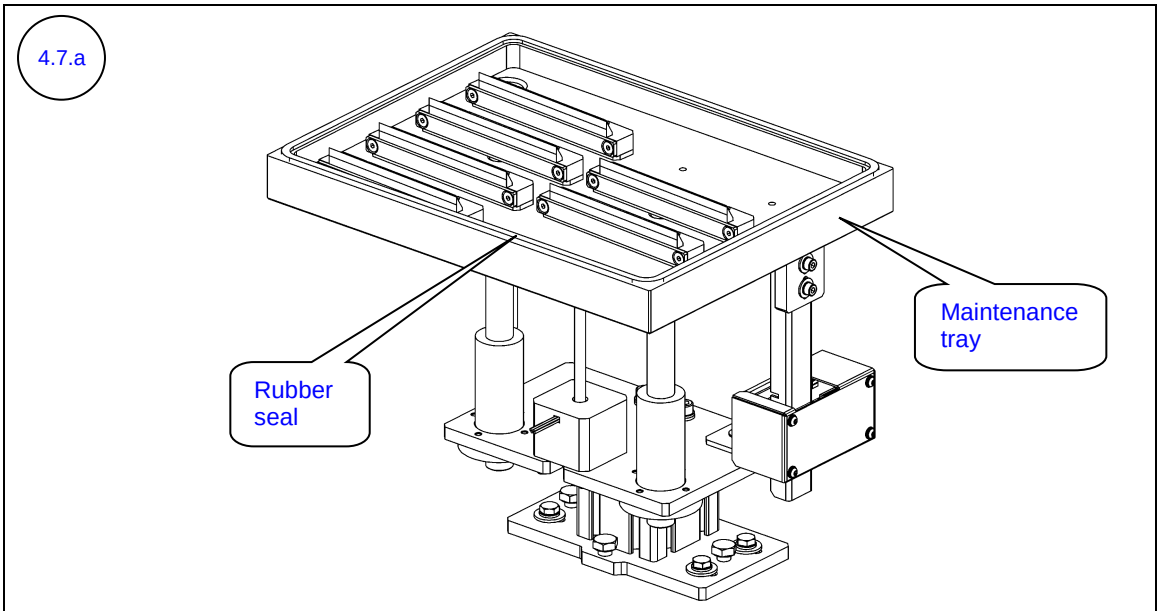
Tools and Supplies

PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
03-SEAL-0970	Rubber seal	1
-	Standard tool box	-

Preliminary Requirements

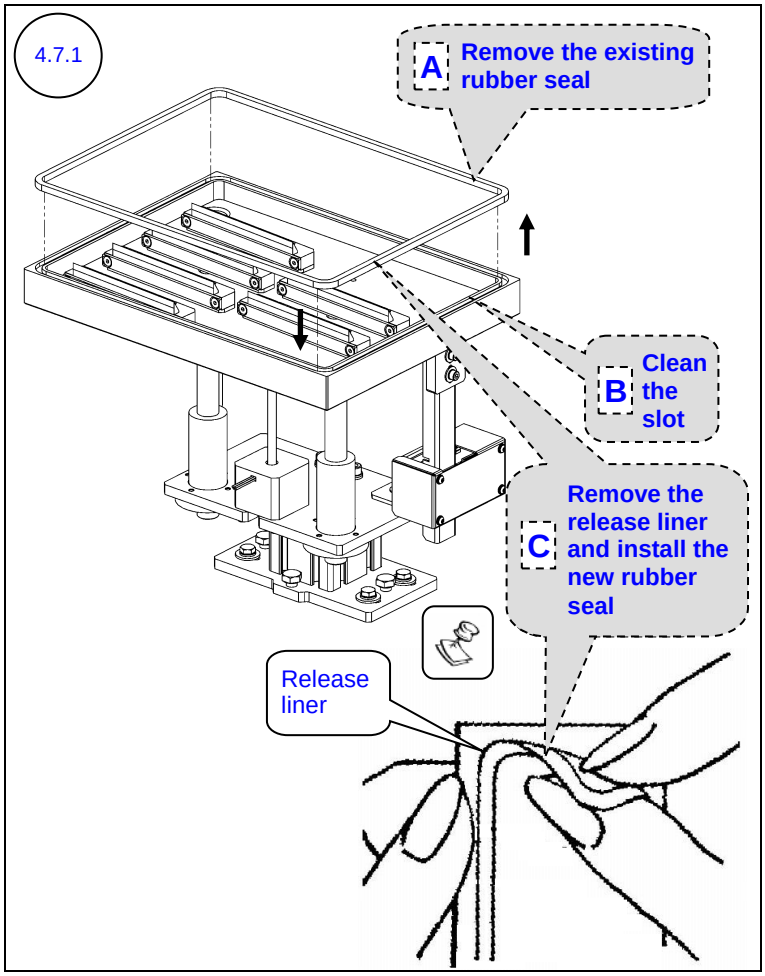
- The main power is on.
- The maintenance tray is in the lower position.
- The hood and the left and right front doors are open (refer to diagram 4.4.1).
- The print heads carriage is positioned on the left side of the scan axis (to prevent any contact with the print head orifice plates during the replacement process).

Procedure



Maintenance Tray

4.7.1



A. Remove the existing rubber seal from the maintenance tray.

B. Using a screwdriver wrapped with a lint-free wipe, clean the rubber seal slot in the maintenance tray; ensure that all the glue residues are fully removed.

C. Remove the release liner from the underside of a new rubber seal and install it in position on the maintenance tray (refer to the notes below before performing this step).

NOTES:

The following notes refer to the installation of the new rubber seal:

- The new rubber seal should be fully inserted into its slot in the maintenance tray, without leaving any gaps or wrinkles.
- Do not to stretch the new rubber seal while inserting it into the slot.
- It is recommended to start with removing approximately 1cm (0.4inch) of the release liner from one corner of the rubber seal, and continue removing the release liner slowly while attaching the rubber seal into the slot.

4.7.2

Perform capping.

Verify that the rubber seal completely seals the print heads orifice plate from all sides.

If this is not the case, contact a qualified Kornit technician for more information on how to achieve proper sealing.

4.8 Replacing the Maintenance Tray's Ink Wipers

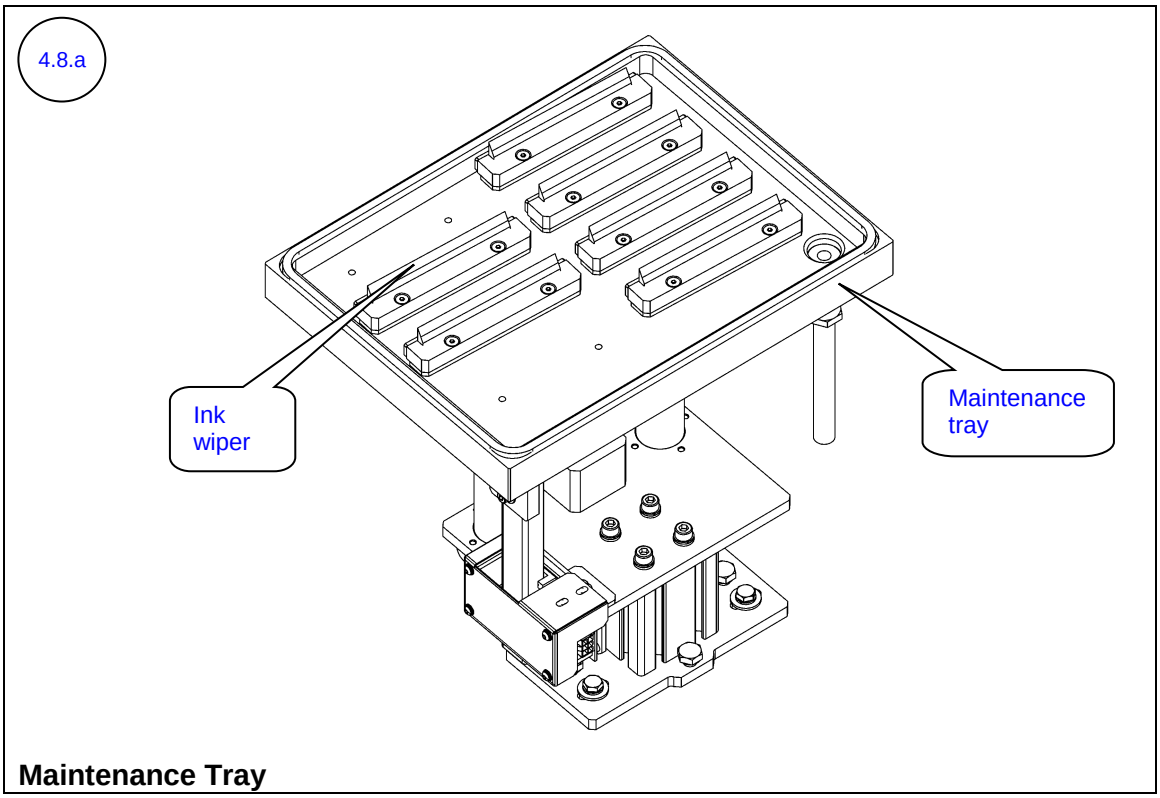
Tools and Supplies

PN	Description	Quantity
36-WIPR-0058	Ink wiper	6
-	Clean rags	as required
-	Standard tool box	-
-	Water (hot)	as required

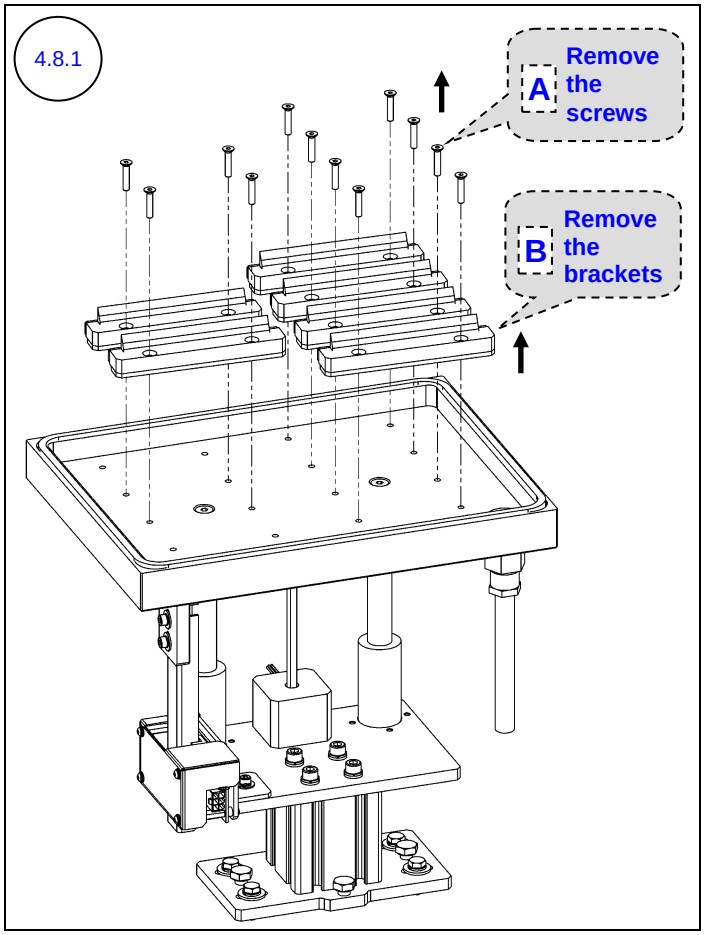
Preliminary Requirements

- The main power is on.
- The maintenance tray is in the lower position.
- The hood and the left and right front doors are open (refer to diagram 4.4.1).
- The print heads carriage is positioned on the left side of the scan axis (to prevent any contact with the print head orifice plates during the replacement process).

Procedure

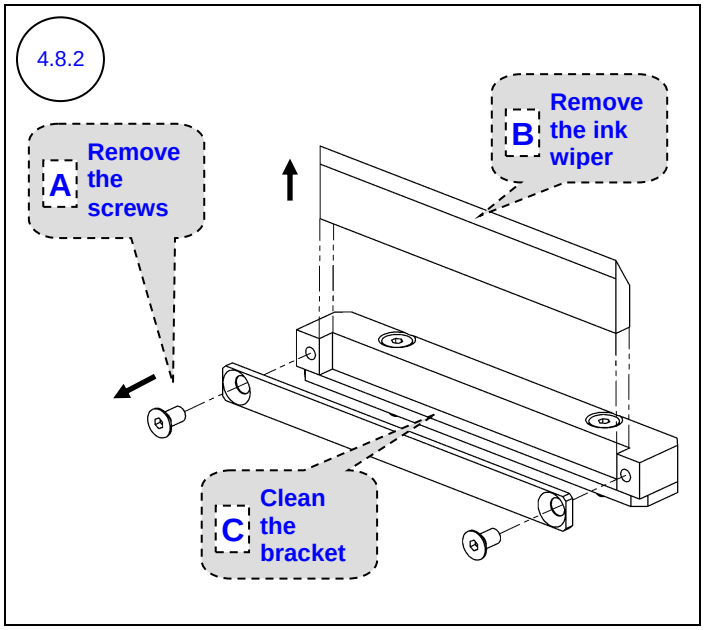


Maintenance Tray



A. Remove the 12 screws from the top of the ink wipers' brackets.
   Keep the screws for reuse.

B. Remove the six ink wipers' brackets.

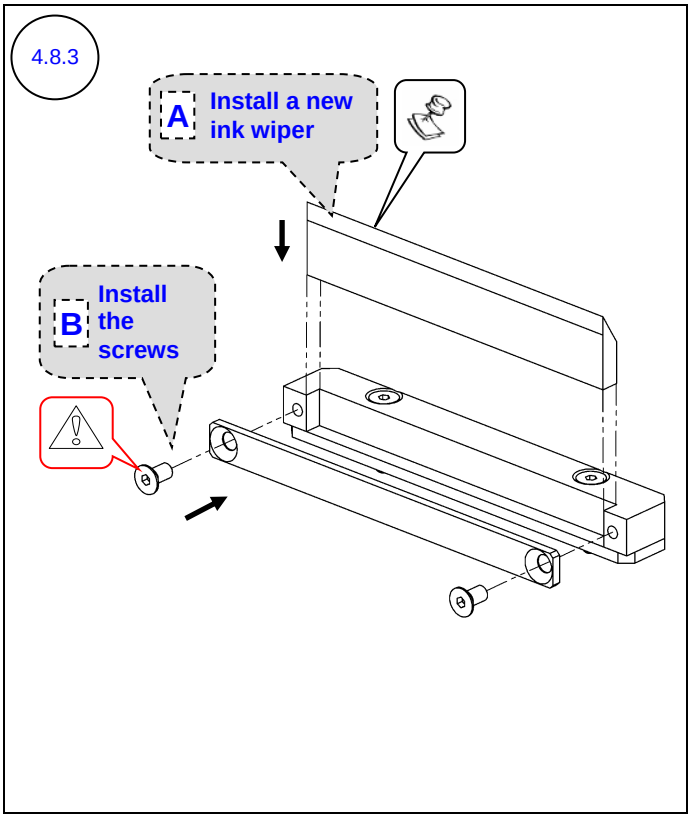


For each ink wiper's bracket:

A. Remove two screws from the side of the bracket.
   Keep the screws for reuse.

B. Remove the ink wiper.

C. Using clean rags and hot water, clean dried ink from the bracket.



For each ink wiper's bracket:

A. Insert a new ink wiper into position on the bracket (ensure that the wiper is inserted right to the bottom of the bracket).

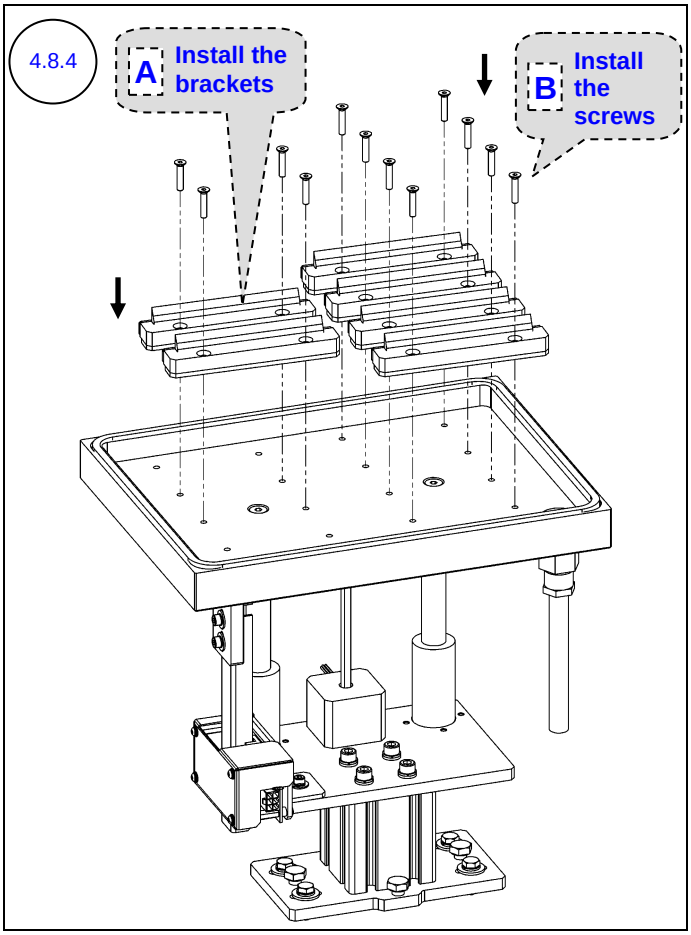
B. Install the two screws to the side of the bracket.

NOTE:

Ensure that the ink wiper's blade direction is as shown in the diagram.

CAUTION!

Do **not** overtighten the screws as this may bend the wiper and harm the print head.



A. Place the six ink wipers' brackets in position.

B. Install and tighten the 12 screws connecting the ink wipers' brackets to the maintenance tray.
After installation, use the straight-edge of a ruler to verify that the height of all the wipers is identical.

4.8.5 Perform **Purge and Wipe**.

Check the following to verify that the wiping process works properly: the pressure exerted on the print heads and the cleanness of the print heads after wiping.

If required, contact a qualified Kornit technician for more information on how to achieve satisfactory wiping results.

4.9 Replacing the First-level Ink Filters

Tools and Supplies

PN	Description	Quantity
33-FLTR-0280	Ink filter (28 mm; 1.1 inch)	6

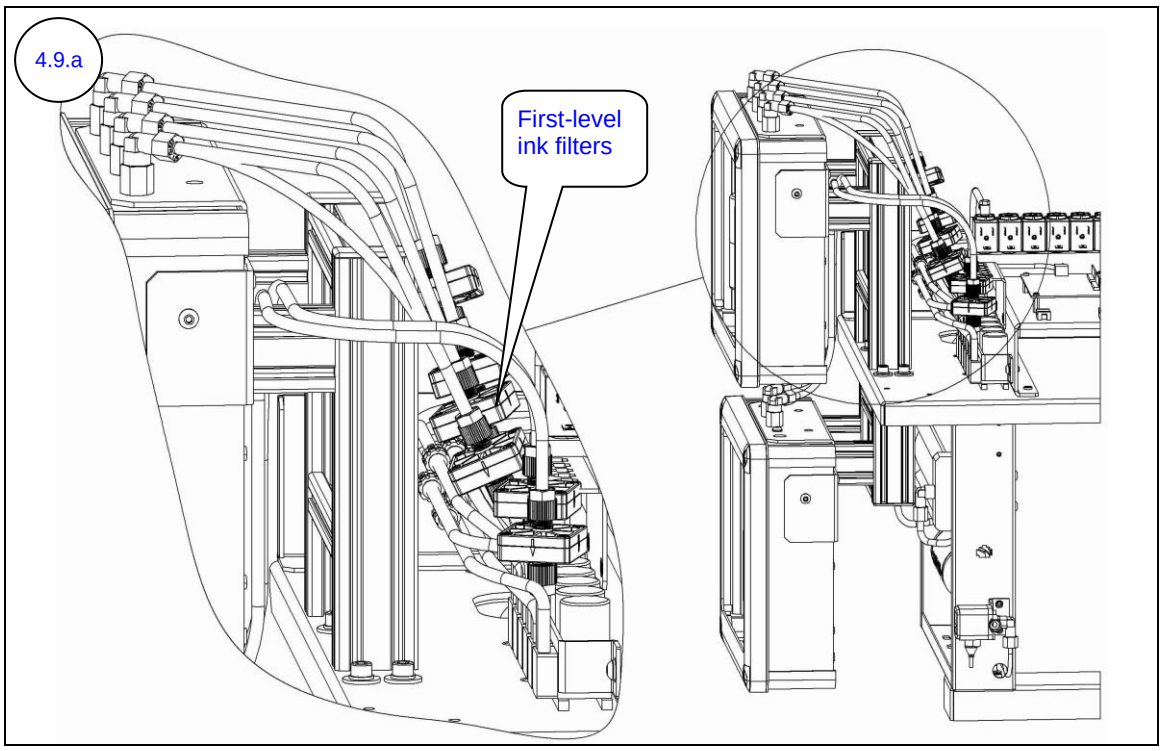
Preliminary Requirements

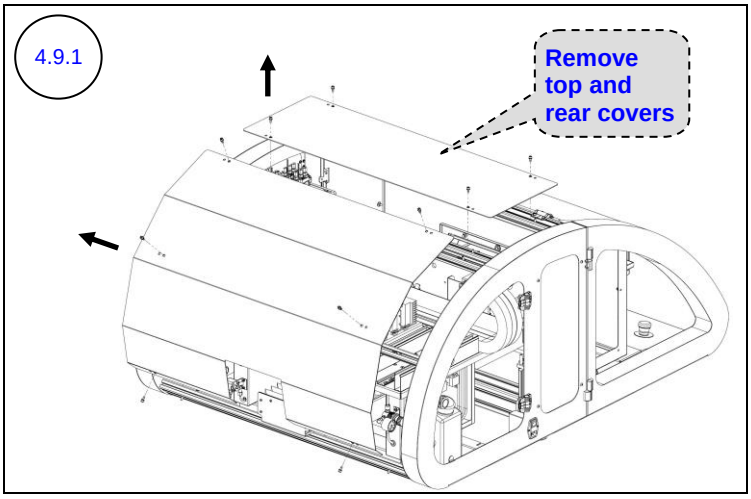
- The maintenance tray is in the capping position.
- The main power is off.
- The hood and the left and right front doors are open (refer to diagram 4.4.1).

NOTE:

Do not move the print heads carriage during the procedure.

Procedure



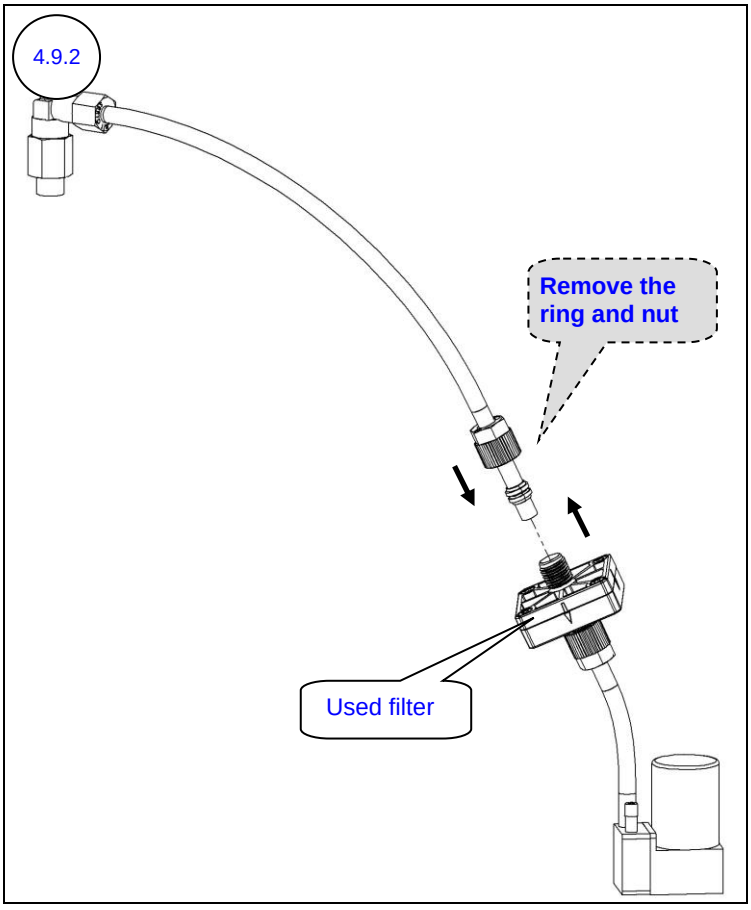


Disconnect 10 screws and remove the printer's top and rear covers.

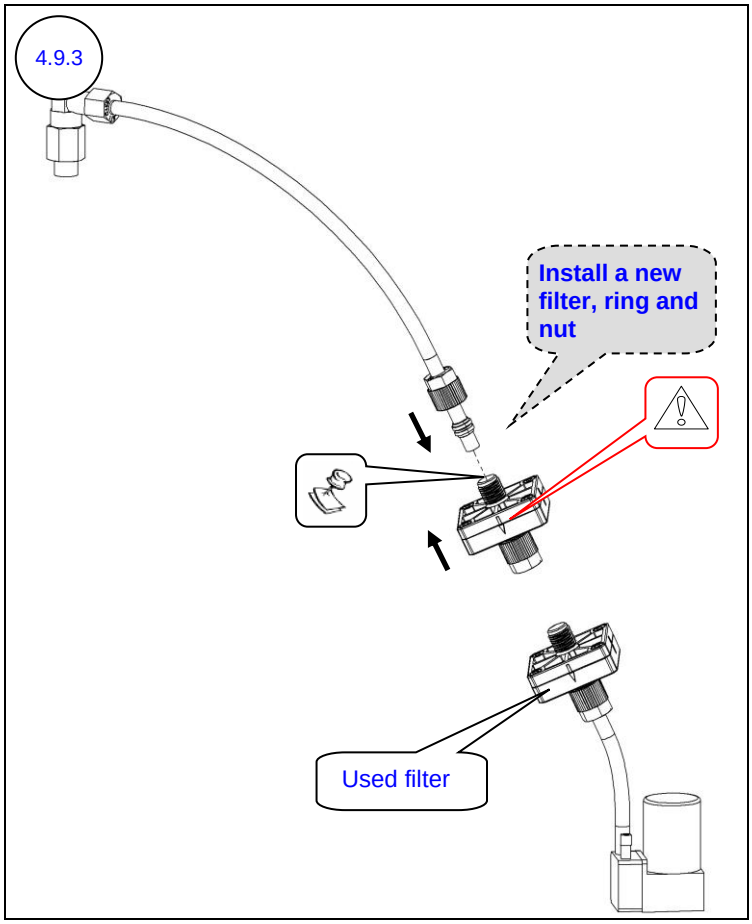
CAUTION!

When replacing the first-level ink filter:

- Replace each filter separately (steps 4.9.2 – 4.9.5).
- Perform the replacement procedure as quickly as possible, so that the hoses will not be exposed to air for a long period.



Disconnect the nut from top side of the used filter, and remove the compression ring and nut from the hose.



Install a new first-level ink filter, including the attached compression ring and nut, on the top hose.

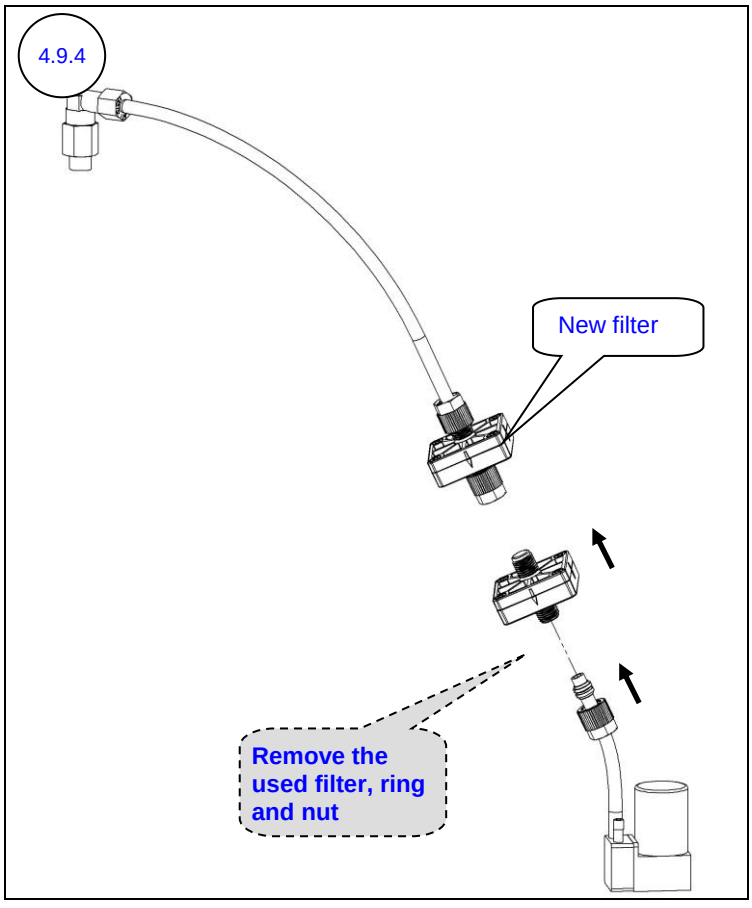
⚠ CAUTION!

When installing the new filter, make sure that the arrow-mark on the filter is pointing towards the ink flow direction.

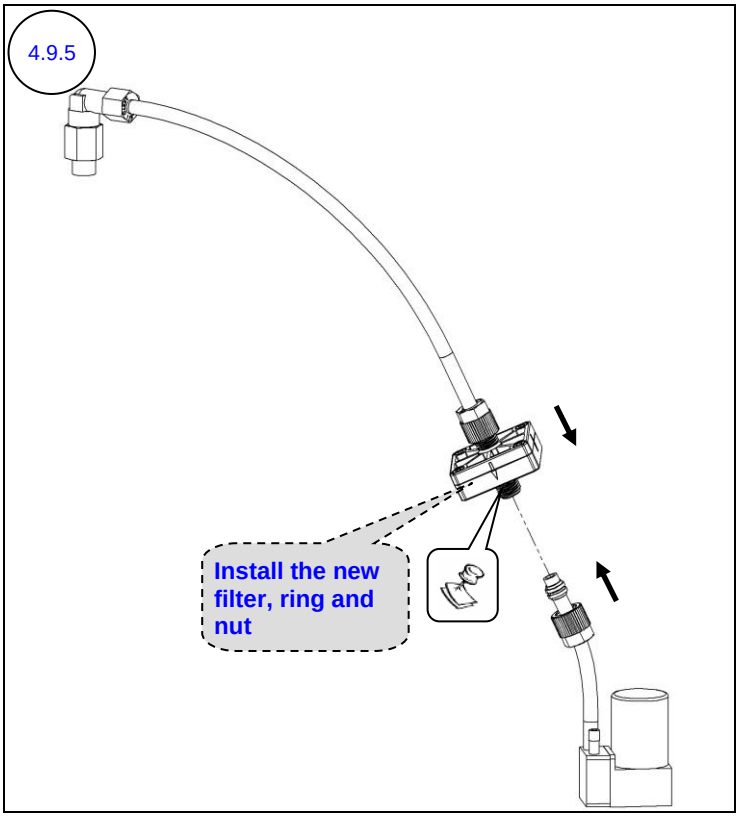
NOTE:

The new filter is sealed with plugs on both sides (not illustrated in the diagram).

When installing the new filter, remove first only the required plug.



Disconnect the nut from bottom side of the used filter, and remove the used filter, compression ring and nut.



Install the new first-level filter, including the attached compression ring and nut, on the bottom hose.

NOTE:

The new filter is sealed with plugs on both sides (not illustrated in the diagram).

Remove the other plug from the new filter only before installing it.

4.9.6 Repeat steps 4.9.2 – 4.9.5 for all the first-level ink filters (each filter separately).

4.10 Replacing the White Secondary Ink Tanks

Tools and Supplies

PN	Description	Quantity
29-0040	Silicon cap 6 mm (0.24 inch)	6
33-INKV-0005	White secondary ink tank	2
-	Standard tool box	-

Preliminary Requirements

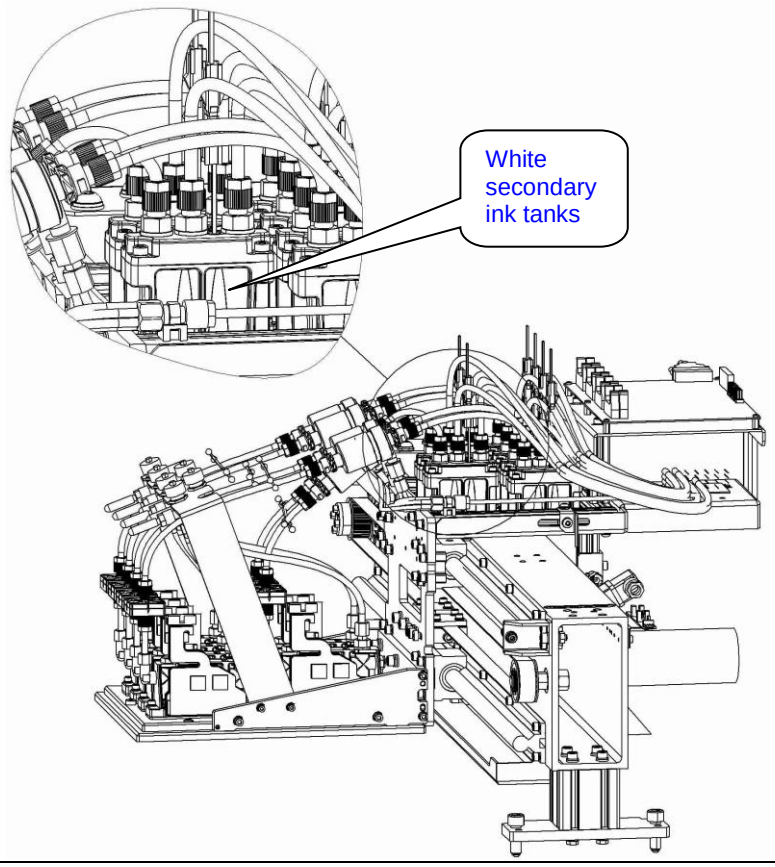
- The maintenance tray is in the capping position.
- The main power is off.
- The hood and the left and right front doors are open (refer to diagram 4.4.1).
- The top and rear covers are open (refer to diagram 4.9.1).

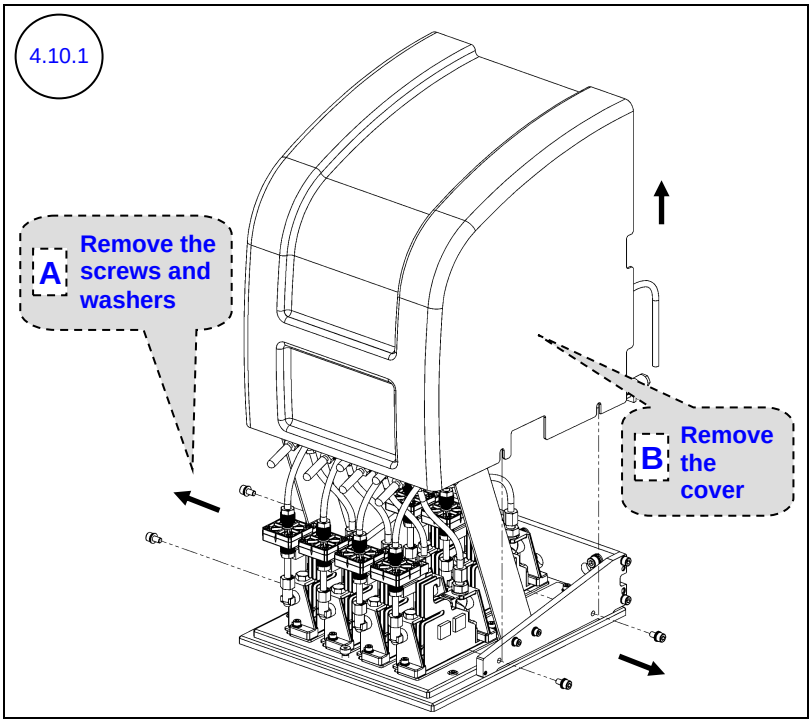
NOTE:

Do not move the print heads carriage during the procedure.

Procedure

4.10.a

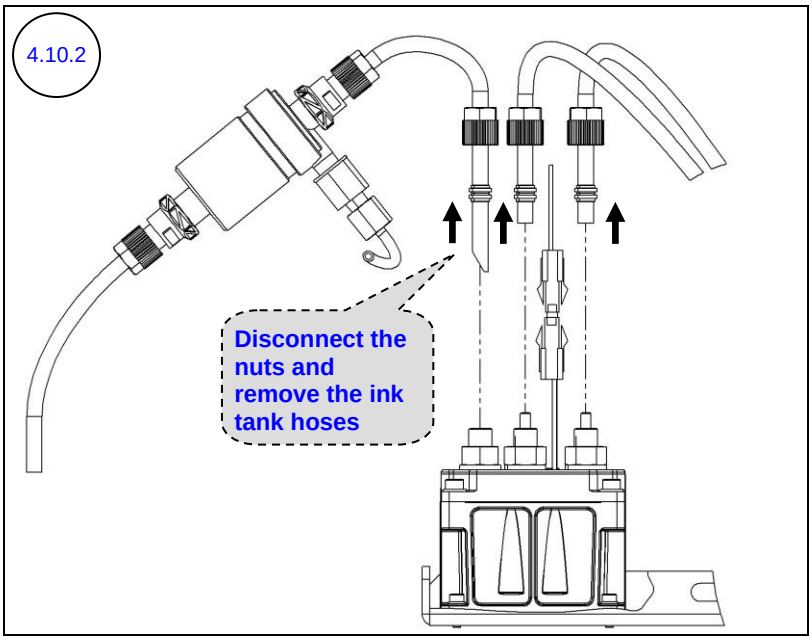




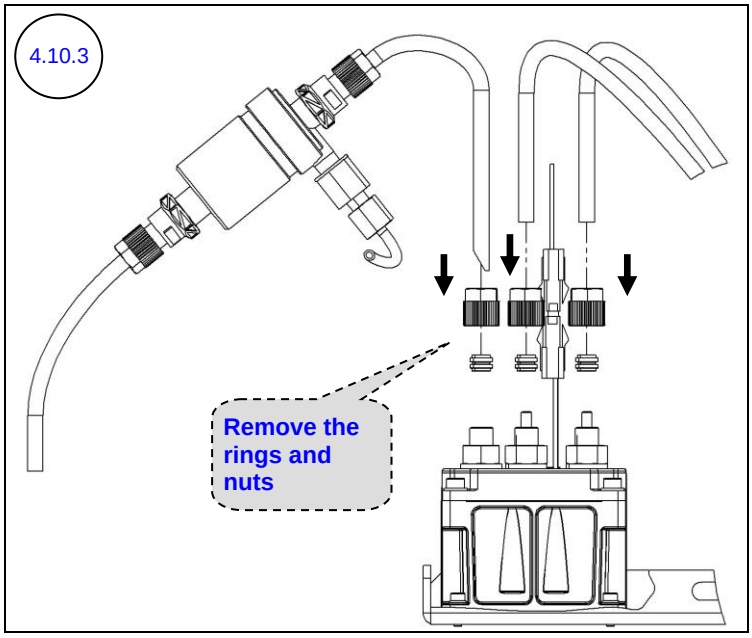
A. Remove the four screws and washers from the print heads carriage cover.
Keep the screws and washers for reuse.

B. Remove the print heads carriage cover.

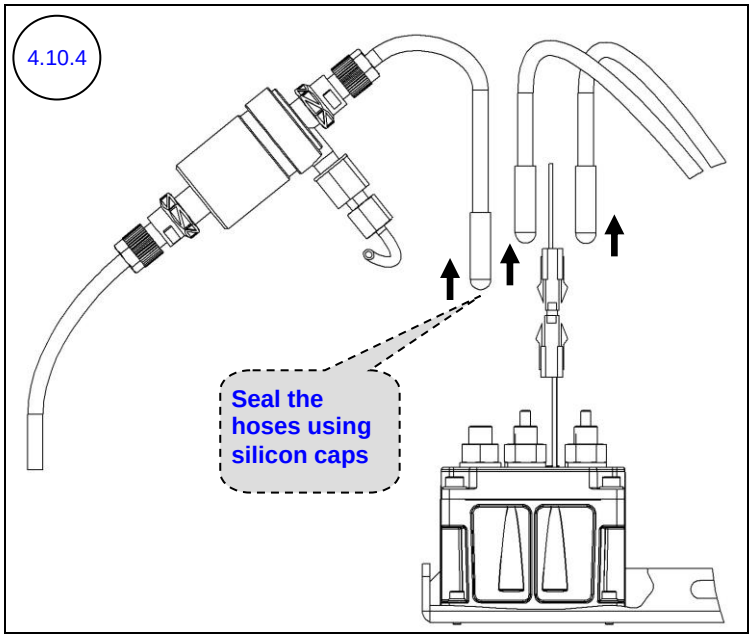
Perform the following steps (4.10.2 – 4.10.14) on each of the white secondary ink tanks.



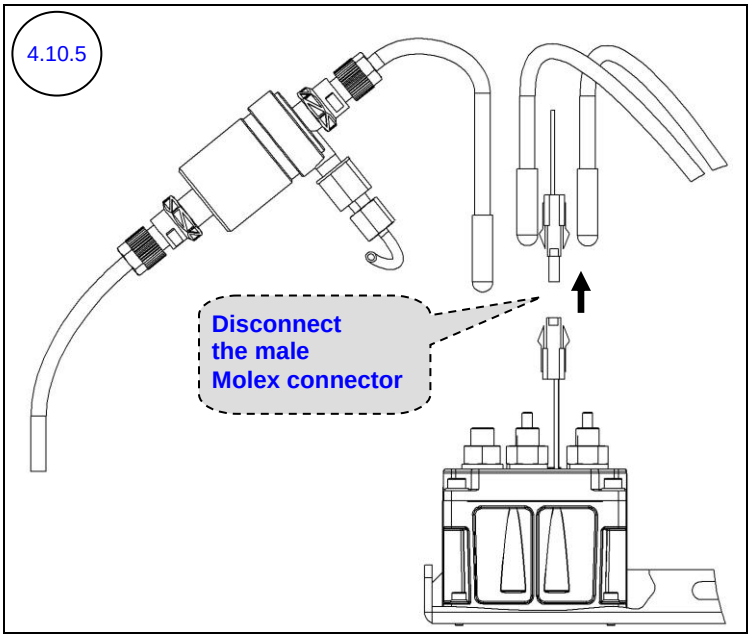
Disconnect the nuts of the ink tank hoses and remove the hoses from the ink tank.



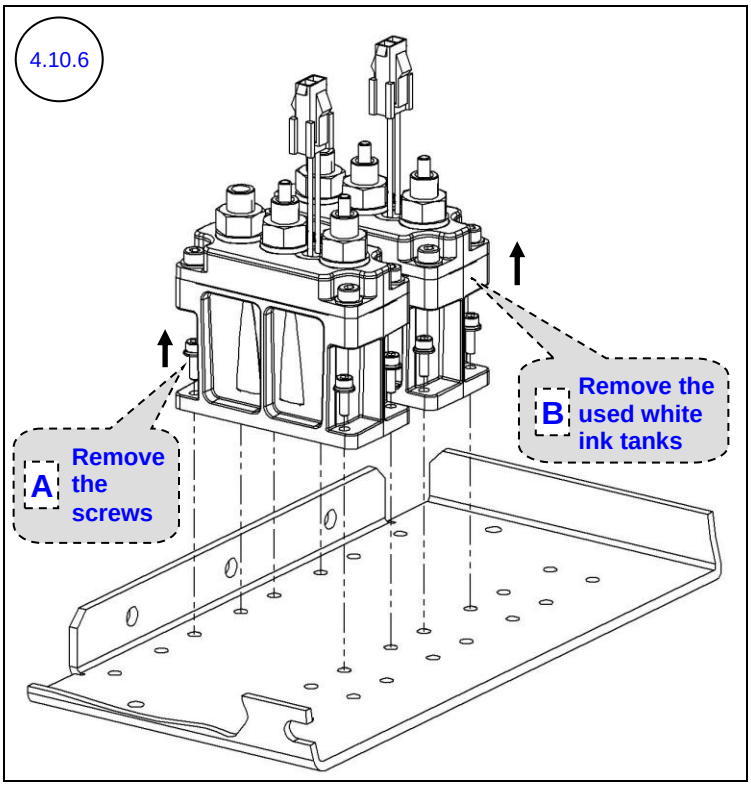
Remove the compression rings and nuts from the hoses (six nuts and six rings in total).



Seal the hoses using silicon caps (six caps in total).



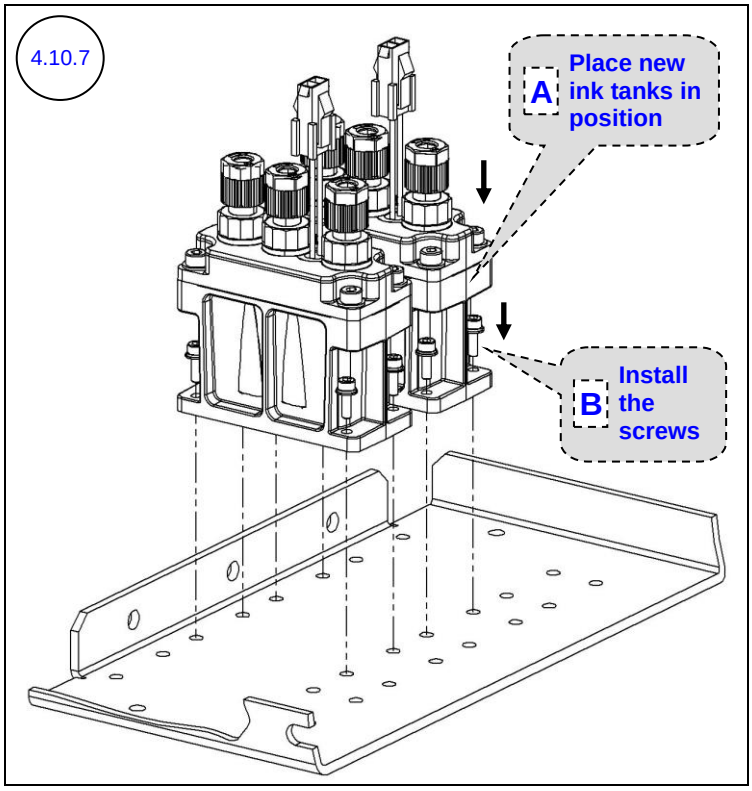
Disconnect the male Molex connector.



A. Disconnect and remove four screws and washers from each white secondary ink tank, as indicated in the diagram.

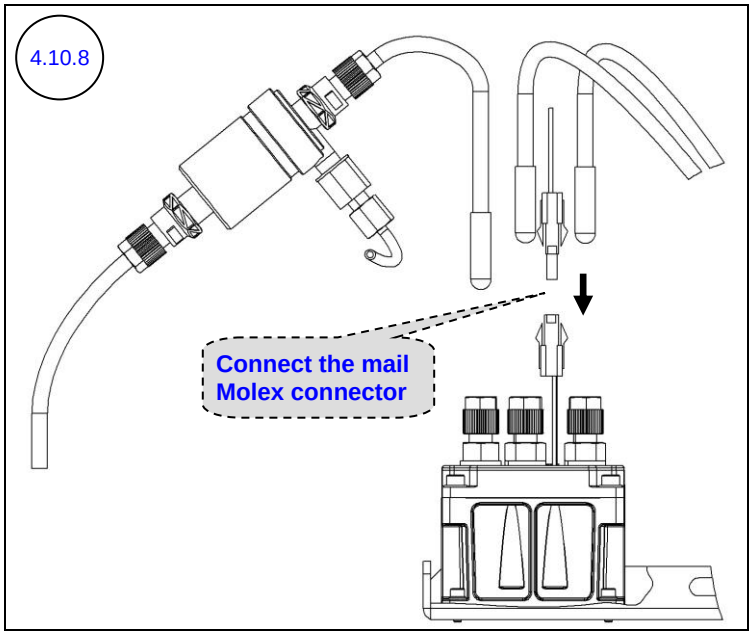
   Keep the screws and washers for reuse.

B. Remove the two used white secondary ink tanks.



A. Place two new ink tanks in position.

B. Install and tighten four screws and washers.



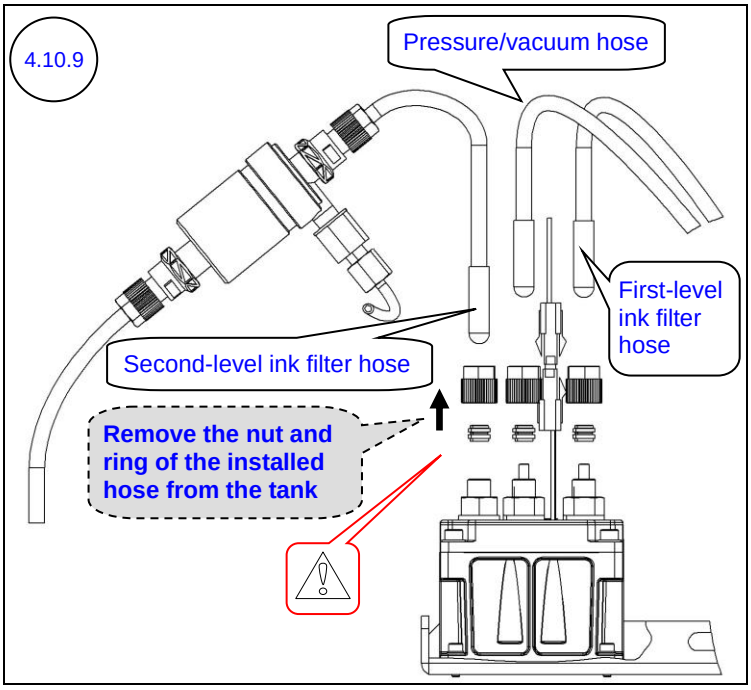
Connect the male Molex connector.

CAUTION!

Perform the following steps (4.10.9 – 4.10.12) as follows:

- Install the hoses of each white secondary ink tank separately, starting with the inner ink tank.
- Install each hose (steps 4.10.9 – 4.10.12) separately, starting with the first-level ink filter hose (the right hose in the diagrams), then with the pressure/vacuum hose (the middle hose in the diagrams), and ending with the second-level ink filter hose (the left hose in the diagrams).

After you remove the silicon cap from a hose, connect the hose immediately to the appropriate position on the ink tank, as shown in step 4.10.12.

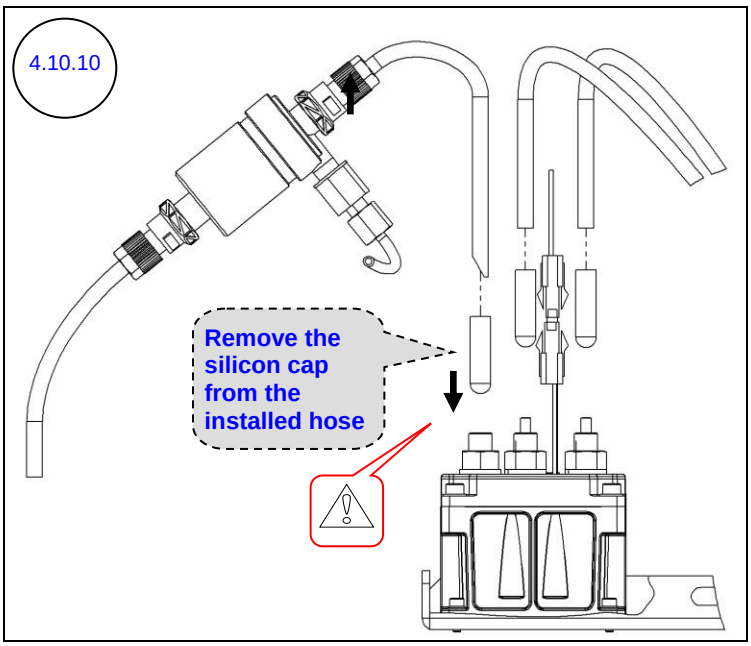


Perform the following steps (4.10.9 – 4.10.12) to install the first-level ink filter hose (the right hose in the diagrams) of the inner ink tank.

Disconnect and remove the nut and compression ring from the new secondary ink tank.

CAUTION!

Remove only the nut of the installed hose (refer to the above caution).

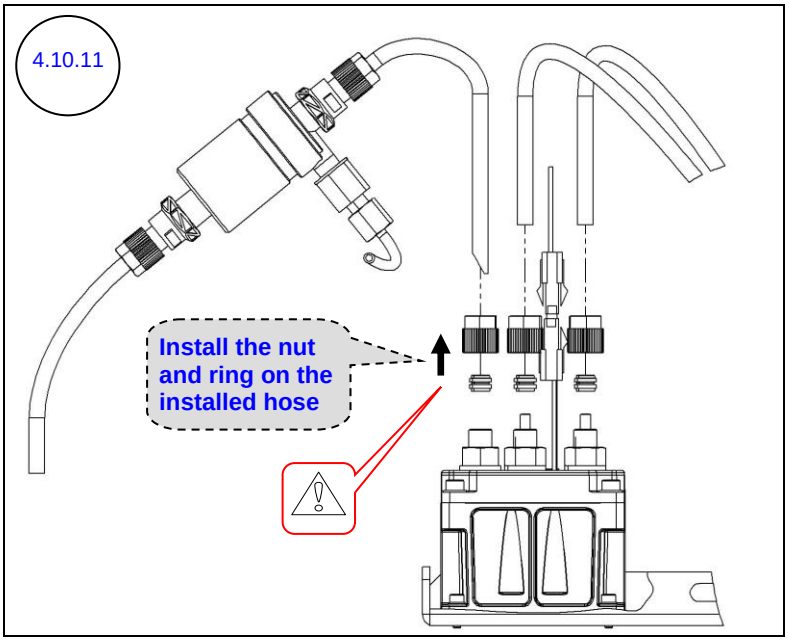


Remove the silicon cap from the installed hose.

CAUTION!

- Remove only the cap of the installed hose (refer to the above caution).
- Do **not** leave the hose open; perform the next steps 4.10.11-4.10.12 immediately.

4.10.11

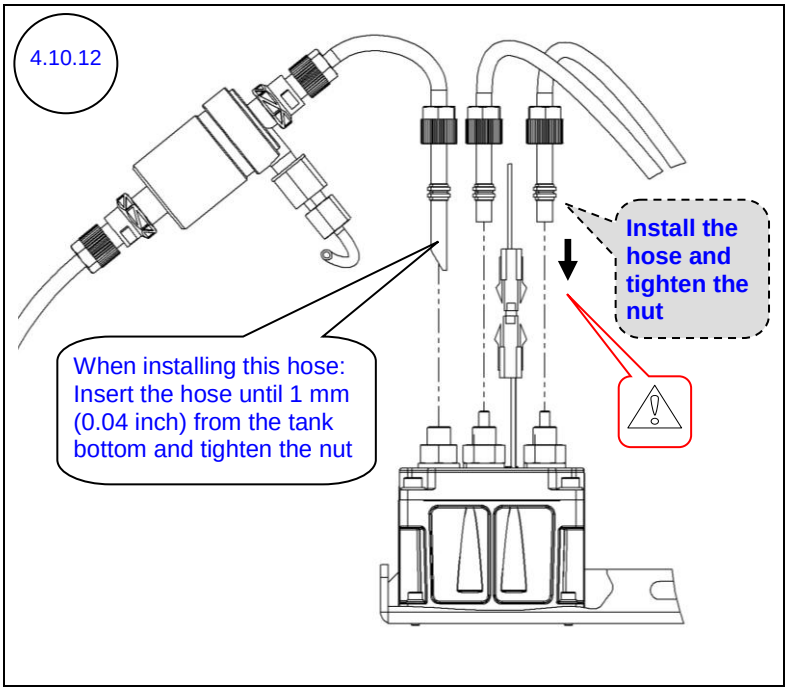


Install the nut and the compression ring on the installed hose.

⚠ CAUTION!

Install only the nut of the installed hose (refer to the above caution).

4.10.12



Install the hose in position on the white secondary ink tank and tighten the nut.

When installing the second-level ink filter hose: insert the hose until the end of the hose touches the bottom of the ink tank; pull it out 1 mm (0.04 inch), and tighten the nut.

⚠ CAUTION!

Install each hose separately (refer to the above caution).

4.10.13 Repeat steps 4.10.9 – 4.10.12 to install the pressure/vacuum hose (the middle hose in the diagrams) of the inner white secondary ink tank.

4.10.14 Repeat steps 4.10.9 – 4.10.12 to install the second-level ink filter hose (the left hose in the diagrams) of the inner white secondary ink tank.

4.10.15 Repeat steps 4.10.9 – 4.10.14 for the other (outer) white secondary ink tank (while installing each hose separately).

4.11 Replacing the Second-level Ink Filters

Tools and Supplies

PN	Description	Quantity
33-FLTR-0280	Ink filter (28 mm; 1.1 inch)	6
-	Clean rags	as required

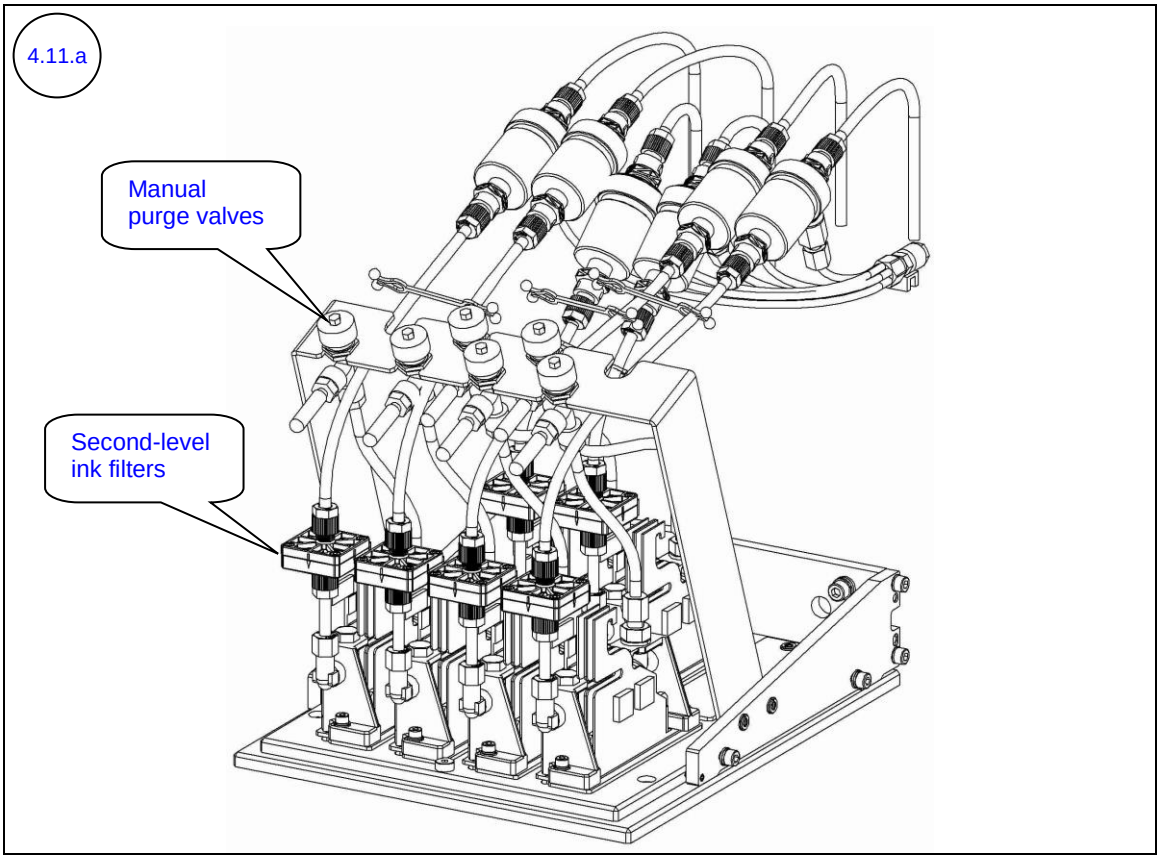
Preliminary Requirements

- The maintenance tray is in the capping position.
- The main power is off.
- The hood and the left and right front doors are open (refer to diagram 4.4.1).
- The top and rear covers are open (refer to diagram 4.9.1).
- The print heads carriage cover is removed (refer to diagram 4.10.1).

NOTE:

Do not move the print heads carriage during the procedure.

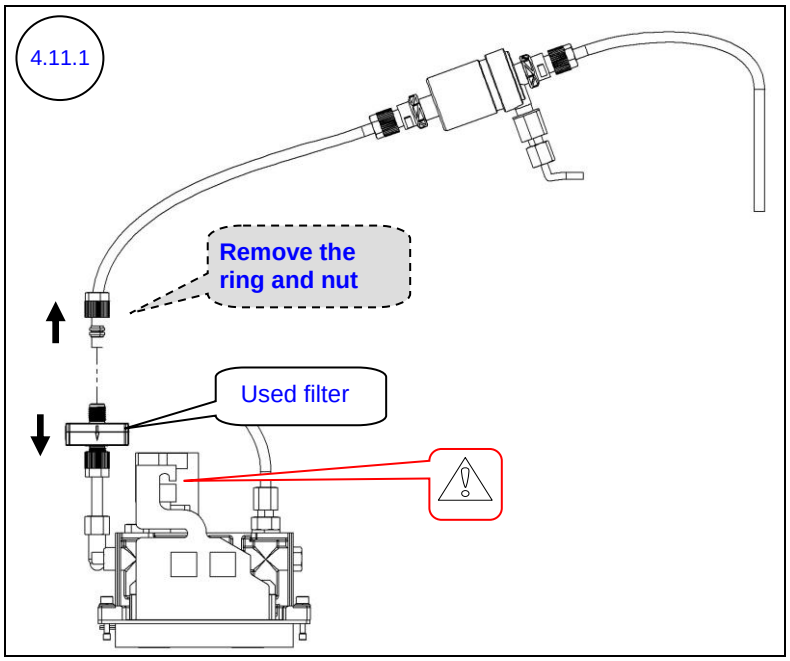
Procedure



CAUTION!

When replacing the second-level ink filter:

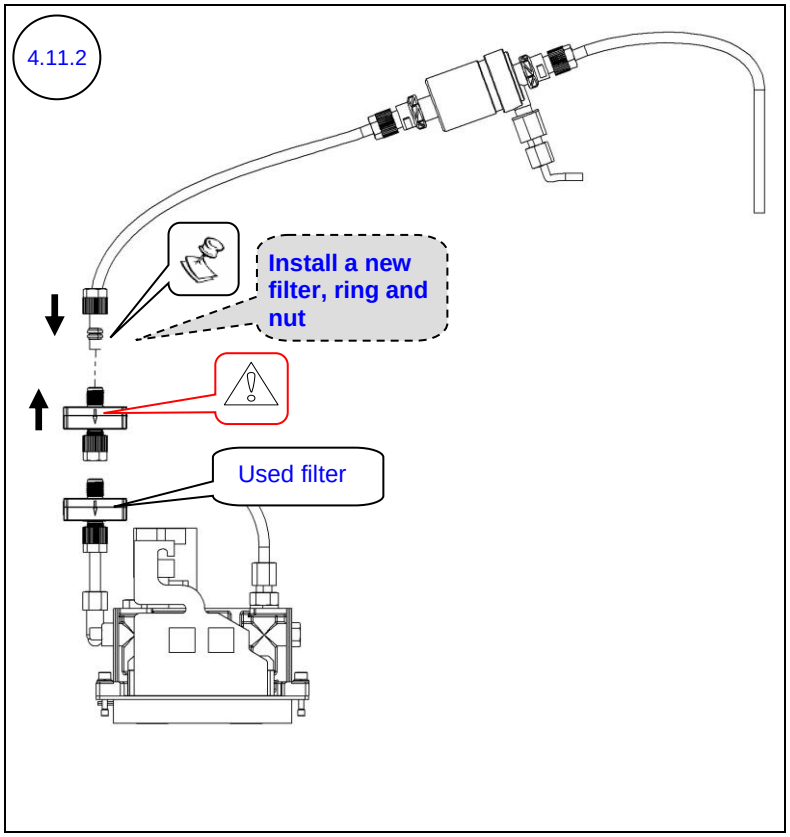
- Replace each filter separately (steps 4.11.1 – 4.11.4).
- Perform the replacement procedure as quickly as possible, so that the hoses will not be exposed to air for a long period.



CAUTION!

Before you disconnect the hose, place a clean rag above the print head (to prevent the ink dripping from the system from damaging the print head).

Disconnect the nut from the top side of the used filter, and remove the compression ring and nut from the hose.



Install a new second-level ink filter, including the attached compression ring and nut, on the top hose.

CAUTION!

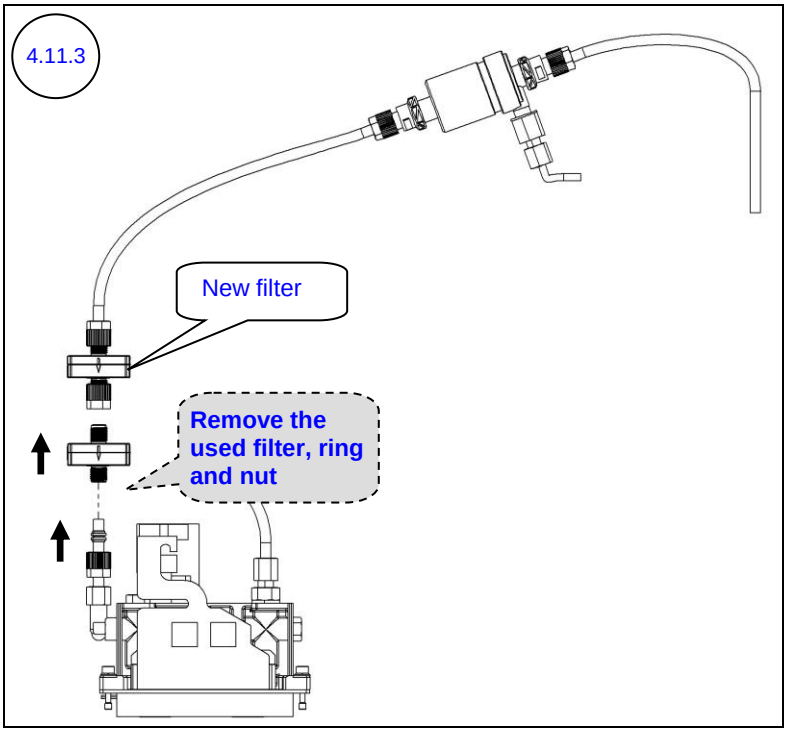
When installing the new filter, make sure that the arrow-mark on the filter is pointing towards the ink flow direction.

NOTE:

The new filter is sealed with plugs on both sides (not illustrated in the diagram).

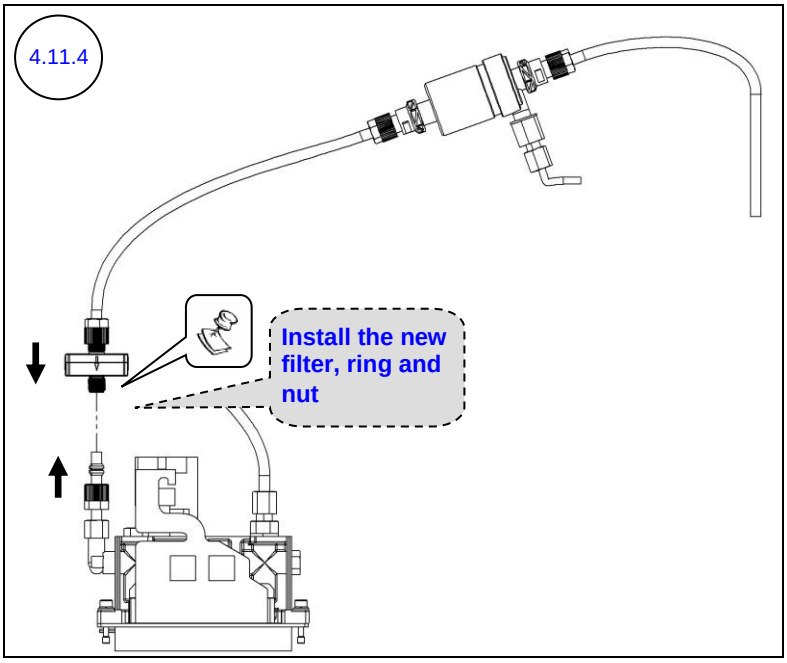
When installing the new filter, remove first only the required plug.

4.11.3



Disconnect the nut from bottom side of the used filter, and remove the used filter, compression ring and nut.

4.11.4



Install the new second-level filter, including the attached compression ring and nut, on the bottom hose.

NOTE:

The new filter is sealed with plugs on both sides (not illustrated in the diagram).

Remove the other plug from the new filter only before installing it.

4.11.5

Repeat steps 4.11.1 – 4.11.4 for all the second-level ink filters (each filter separately).

4.12 Cleaning the Print Heads Carriage

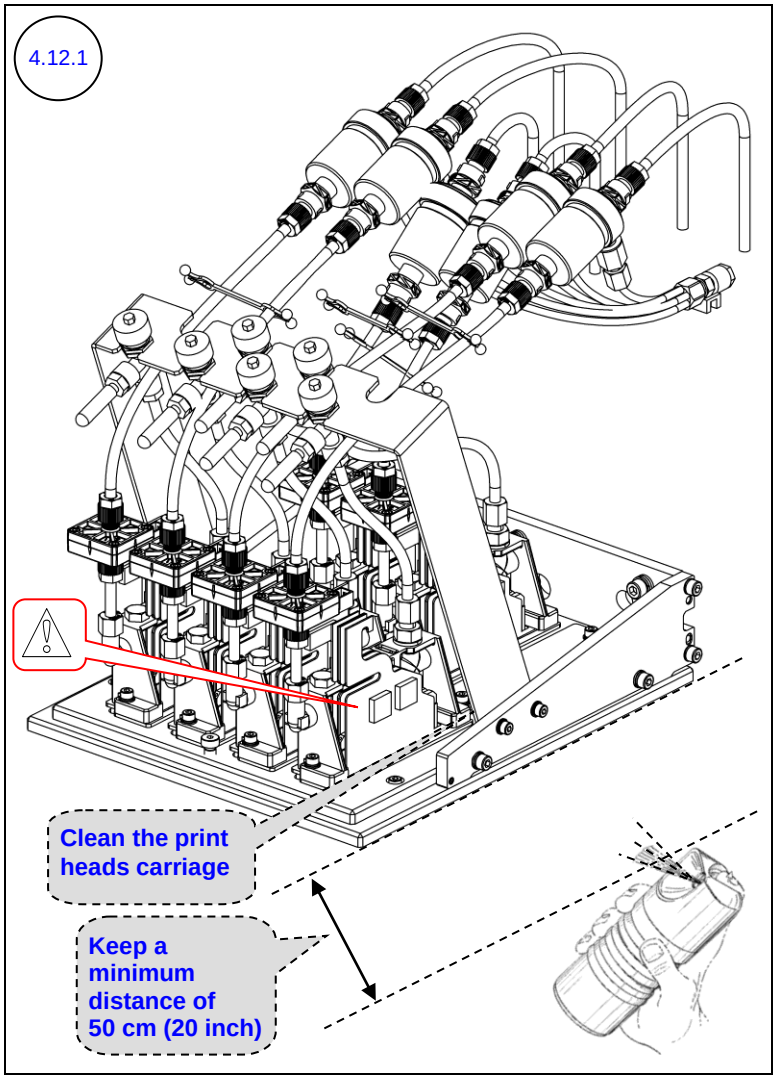
Tools and Supplies

PN	Description	Quantity
-	"Air-Duster" aerosol can (compressed air)	-
-	Standard tool box	-

Preliminary Requirements

- The maintenance tray is in the capping position.
- The main power is off.
- The hood and the left and right front doors are open (refer to diagram 4.4.1).
- The top and rear covers are open (refer to diagram 4.9.1).
- The print heads carriage cover is removed (refer to diagram 4.10.1).

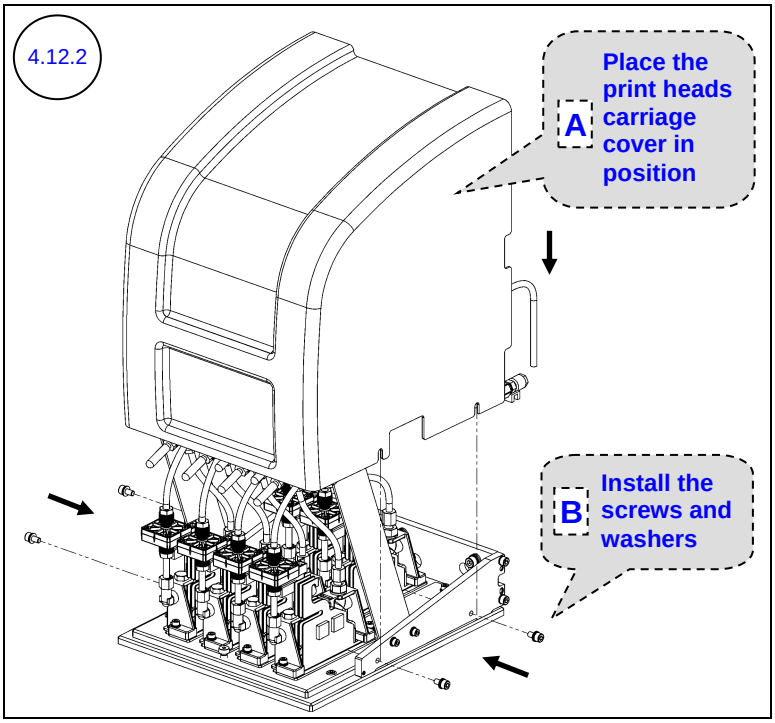
Procedure



Clean the print heads carriage from lint using compressed air, making sure to keep a minimum distance of 50 cm (20 inch) between the aerosol can and the print heads carriage, to prevent damage to inner components (pay special attention to the electronic components area, e.g. print heads).

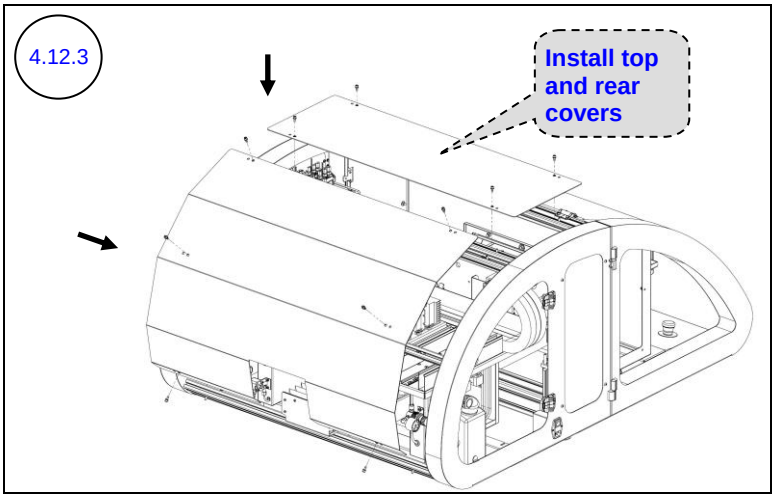
⚠ CATION!

During cleaning, prevent body contact with electronic components.

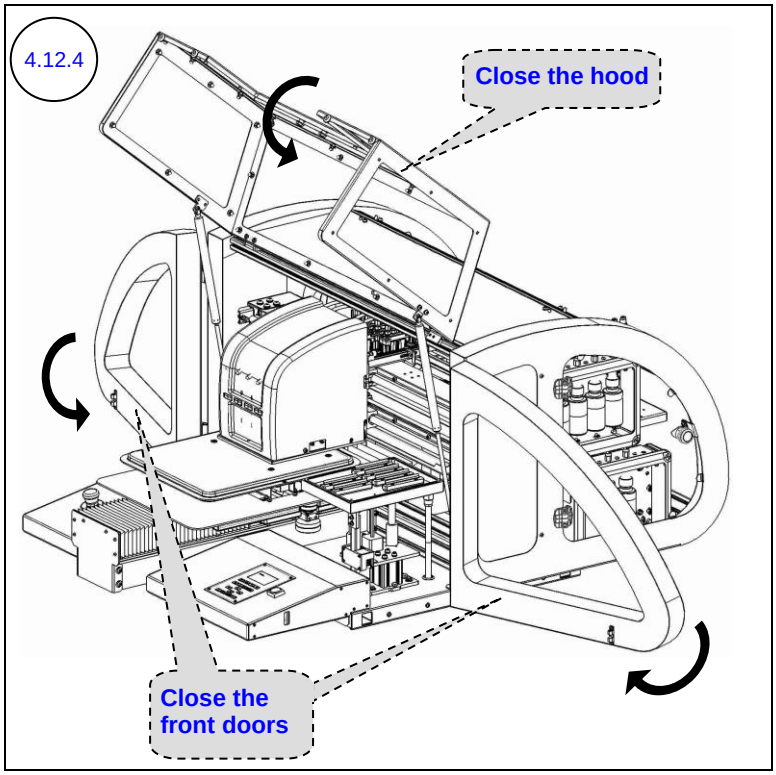


A. Place the cover in position on the print heads carriage.

B. Install the four screws and washers to the print heads carriage cover.



Install the printer's top and rear covers (10 screws in total).



Close the hood and the left and right front doors.

4.12.5

A. Turn on the main power.

B. At the end of the initialization process, fill up the second-level ink tanks manually, as follows (because the new tanks are empty, they were only part-filled with ink during the initialization process):

1. Switch to **Technician Mode** and open the Technician window.
2. Click **Ink Reset**; the ink pumps fill up the empty ink tanks for a few seconds.

⚠ **CAUTION!**

While filling up the ink tanks manually, watch the pressure/vacuum hoses (refer to diagram 4.10.9) and ensure that they do **not** fill up with ink. If this occurs, press one of the emergency stop buttons and clean the ink from the hoses before you proceed.

---

3. Repeat step 2 once or twice more; if any of the ink tanks are still empty (indicated by an exclamation mark displayed on the ink tank's indicator in the Technician window), contact a qualified Kornit technician for more information.
4. Close the Technician window and switch to **Operator Mode**.

4.12.6

A. Remove air from the ink system, as follows:

1. Remove air from the ink system through the manual purge valves (refer to diagram 4.11.a).

⚠ **CAUTION!**

Ensure to open the manual purge valves only while performing a purge. (When purge is not being performed, there is a vacuum in the hoses; if you open the valves, air will enter into the ink system.) Therefore:

- Do **not** open more than one manual purge valve at a time (remove the air from each valve separately).
- Before you open a manual purge valve, open the Operator window, set the purge time to 2 sec, select the requested head to purge, and then click **Purge**.
- Open the manual purge valve only after you clicked **Purge** (a "click" sound is heard from the pneumatic system).
- Close the manual purge valve within less than 2 seconds, i.e. before the end of the purge process (before the second "click" sound is heard from the pneumatic system).

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2. Perform a **Purge** several times (purge through the nozzles).
3. Perform **Spitting** for several minutes.
4. Perform **Purge & Wipe**.
5. Print two nozzle tests: one for CMYK ink and one for white ink.

B. Compare the results of the nozzle tests to the results of the tests performed on the "Checking the Printer for Proper Operation" maintenance task, on page 49.

If the results are not identical: repeat steps A – B for several times until receiving identical results.

4.13 Performing Printer Calibrations/Adjustments

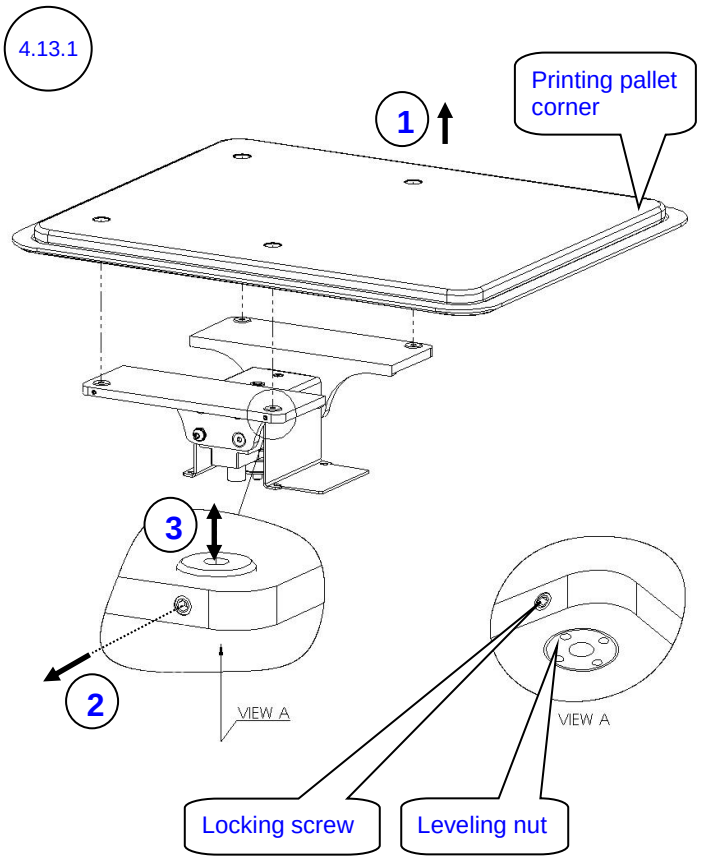
Tools and Supplies

PN	Description	Quantity
33-TOOL-0001	Pallet removal key	1 (if required)
-	Standard tool box	-

Preliminary Requirements

- The main power is on.

Procedure



Note: Perform actions 1 – 3 in this diagram only if required (refer to step C).

Verify that the printing pallet is leveled, as follows:

A. Turn the motors off.

B. While manually moving the four corners of the printing pallet below a selected corner of the print heads carriage plate, verify that the heights between the heads carriage plate corner and each of the printing pallet corners are identical (using feeler gauges).

C. If the printing pallet is not leveled, level it by adjusting the leveling nuts below the pallet (as shown in the diagram):

   1. Using a pallet removal key, remove the printing pallet.
   2. Release the relevant locking screw.
   3. Raise/lower the relevant leveling nut, as required.

D. Turn the motors on.

4.13.2 Adjust the print height to 2 mm (0.08 inch).

4.13.3 Perform print heads registration (using the Print Registration Wizard).

4.13.4 Check the print position; verify that the printout is in the middle of the pallet.

Calibrate, if required.

4.13.5 Print two nozzle tests: one for CMYK ink and one for white ink. Write down the date, time and your name on each nozzle test printout.

Compare the nozzle test results to the test performed at the beginning of this yearly maintenance session.

If the test results indicate that there are missing nozzles, perform a few purges and clean with wiping fluid and clean lint-free wipes. Repeat until a satisfactory nozzle test result is achieved (the result should be at least identical to the result that was achieved at the beginning of this yearly maintenance session).

Print a few garments on black and white media. Verify that there are no printing, spraying or wiping problems.

4.14 Implementing the Latest Upgrades

Tools and Supplies

- As required for each upgrade

Preliminary Requirements

- As required for each upgrade

Procedure

4.14.1 If required, download the latest QuickP Production version from Kornit website and upgrade the current version.

4.14.2 If you have recently ordered any hardware upgrade (FCO), implement it now.

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