Kornit Avalanche

PERIODIC PREVENTIVE MAINTENANCE GUIDE

FOR OPERATORS

Kornit Digital
bonding matters

Kornit Avalanche & Avalanche DC Pro Series

Periodic Preventive Maintenance Guide

Procedures to be performed by a Kornit operator

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⌧ WEEE Notice

♻ 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.
14.11.2012	Ovadia Shalom	Original	1.0
04.02.2013	Ovadia Shalom	Various updates	1.1
18.07.2013	Ovadia Shalom	Various updates	1.2
19.08.2013	Ovadia Shalom	Various updates	1.3 (beta)
17.10.2013	Ovadia Shalom	Various updates	1.4
23.02.2015	Ovadia Shalom	Various updates	1.5
25.03.2015	Ovadia Shalom	Various updates	1.6

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About This Guide

This Preventive Maintenance Guide describes the procedures for performing periodic maintenance to Kornit Avalanche / Avalanche DC Pro printers. It is intended for Kornit operators.

Periodic maintenance must be carried out daily, weekly, monthly (on Avalanche DC Pro only) and quarterly. 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 Avalanche / Avalanche DC Pro printer. Procedures described in this guide may require slight modification when performing maintenance procedures on other printers from the Avalanche series.
- The yearly preventive maintenance should be performed by a qualified technician and is described in document 62-PMNT-0006, "Yearly Preventive Maintenance Guide Avalanche 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
Remove the cover screws A **Remove the cover screws**	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.
Encoder scale	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 Avalanche / Avalanche DC Pro 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 Avalanche / Avalanche DC Pro.
- 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 pallets, 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 pallets before mounting them on the X1 and X2 carriages (risk of back strain injury).
- Ensure that nobody is near the hood while closing it.
- Ensure that the printing pallets covers are 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 procedures for the Avalanche / Avalanche DC Pro 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.

- **During the Day/Shift**, page 16: Perform this procedure during each shift in a working day.

- **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, 16, 17
50-WIPG-0200	Wiping fluid	as required	10, 16, 17
62-PMNT-0007	Periodic Preventive Maintenance Guide for Avalanche series (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
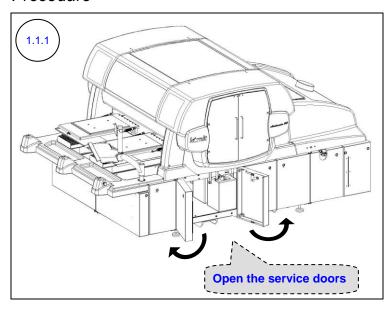
Tools and Supplies

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 trays are in the capping position.
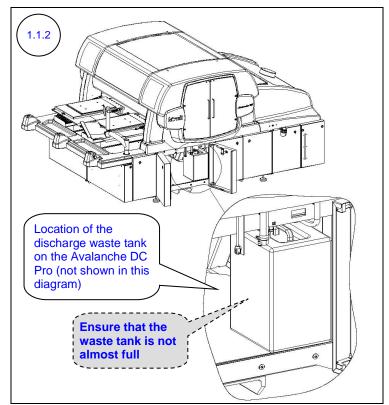
Procedure

Open the second and third service doors on the right side of the printer.

1.1.2

Location of the discharge waste tank on the Avalanche DC Pro (not shown in this diagram)

Ensure that the waste tank is not almost full
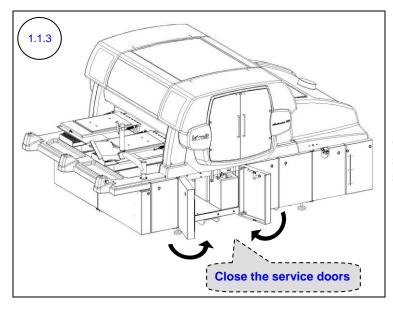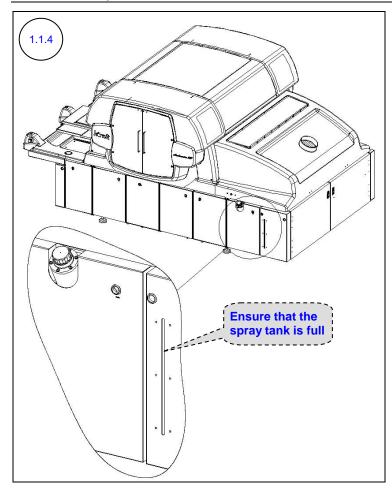
Examine the waste tank.

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

1.1.3

Close the service doors

Close the second and third service doors on the right side of the printer.

1.1.4

Ensure that the spray tank is full
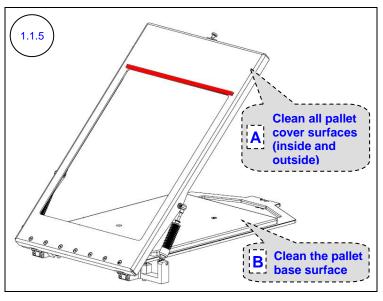
Check that the spray tank is full.

If not, fill it.

1.1.5

A **Clean all pallet cover surfaces (inside and outside)**

B **Clean the pallet base surface**

Using clean rags and IPA:

A. Clean all pallet cover surfaces (inside and outside).

B. Clean the pallet base surface.

1.1.6

A **Clean both bellows**

B **Clean all the surfaces around the pallets**

Ensure that the maintenance trays are in the capping position.
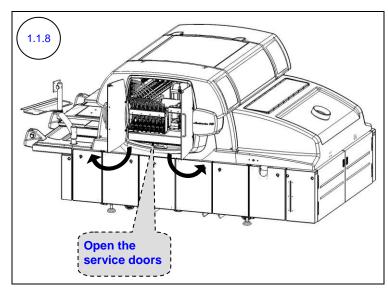
Using clean and moist rags, clean all color drops, spray drops, dust, lint and fibers from:

A. Both bellows

B. All the surfaces around the pallets

1.1.7 Follow the instructions that are relevant for the procedure you are performing:

- **Beginning a Day:**
  Switch on the printer's main power and start the Kornit Application.
  From the application Main window, perform **Full Turn On**.
  When the **Clean ink wipers…** message is displayed in the Main window, proceed to step 1.1.8.

- **Beginning a Shift (For 24-hour Shifts):**
  Purge all print heads in order to prevent drying and move the maintenance trays into the lower position.

1.1.8

Open the service doors

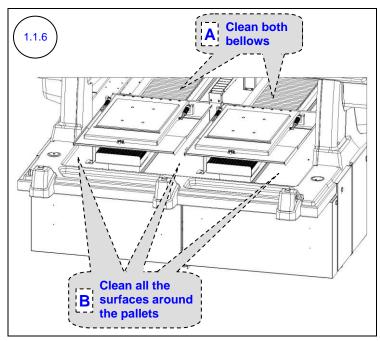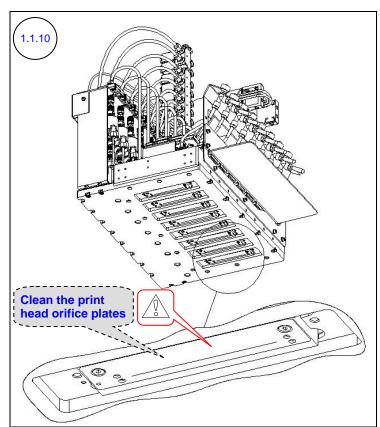Open the upper ink system service doors on the right side of the printer.

1.1.9 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 1.3.2 – 1.3.3 from the '**Ending the Day**' section on page 17.
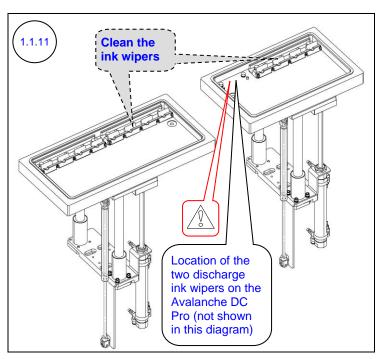
1.1.10

Clean the print head orifice plates

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

(Only the CMYK print heads carriage is displayed in the diagram.)

⚠ **CAUTION!**

On Avalanche DC Pro printers, ensure to use separate new lint-free wipes for cleaning the discharge print head orifice plates.

1.1.11

Clean the ink wipers

Location of the two discharge ink wipers on the Avalanche DC Pro (not shown in this diagram)

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

⚠ **CAUTION!**

On Avalanche DC Pro printers, ensure to use separate new lint-free wipes for cleaning the discharge ink wipers.

1.1.12

Close the upper ink system service doors on the right side of the printer.

Click **OK** in the messages that open during the initialization process.

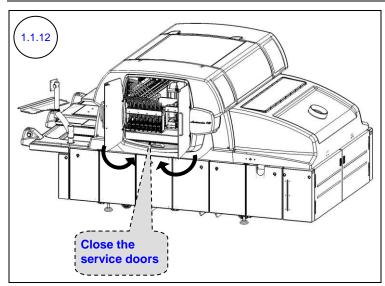**Close the service doors**

1.1.13 Follow the instructions that are relevant for the procedure you are performing (**beginning a day** / **beginning a shift**):

Beginning a Day:

A. On the **Clean ink wipers…** message, click **Continue**.

When the **Full Turn On Finished Successfully** message is displayed in the Main window, continue to the next step.

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

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'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.

Beginning a Shift (For 24-hour Shifts):

A. Perform **Purge and Wipe**.

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

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 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   During the Day/Shift

Tools and Supplies

PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
50-WIPG-0200	Wiping fluid	as required

Preliminary Requirements

- The maintenance trays are in the lower position.

Procedure

(1.2.1) Perform steps 1.1.8 and 1.1.10 – 1.1.12 from the '**Beginning the Day/Shift**' section on page 10.

(1.2.2) A. Print two nozzle tests: one for CMYK ink and one for white and discharge inks.

B. 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 shift's result).

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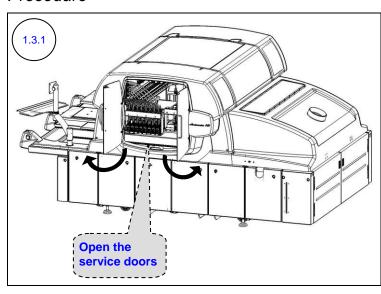
1.3 Ending the Day

Tools and Supplies

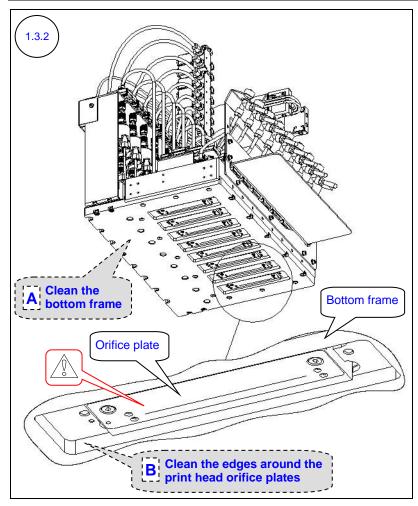| PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
50-WIPG-0200	Wiping fluid	as required
-	Clean rags	as required
-	Water (tap)	as required

Preliminary Requirements

- The maintenance trays are in the lower position.

Procedure

Open the upper ink system service doors on the right side of the printer.

1.3.2

Clean the bottom frame **A**

Orifice plate

Bottom frame

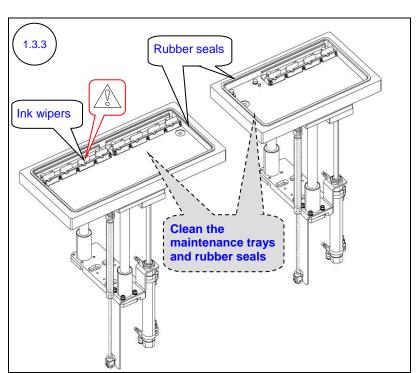**B** Clean the edges around the print head orifice plates

Using wiping fluid and lint-free wipes, perform the following actions on both print heads carriages (only the CMYK print heads carriage is displayed in the diagram):

A. Clean the bottom frame of both print heads carriages.

B. Clean the edges around each print head orifice plate (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.

1.3.3

Rubber seals

Ink wipers

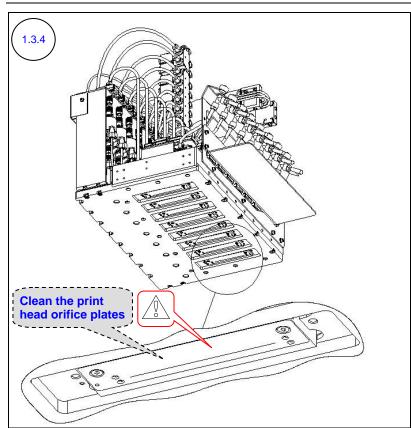Clean the maintenance trays and rubber seals

Using clean rags and water clean both maintenance trays.

Make sure you clean the rubber seals and their surroundings.

⚠ **CAUTION!**

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

1.3.4

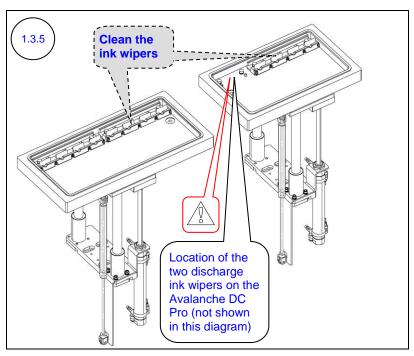**Clean the print head orifice plates**

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

(Only the CMYK print heads carriage is displayed in the diagram.)

⚠️ **CAUTION!**

On Avalanche DC Pro printers, ensure to use separate new lint-free wipes for cleaning the discharge print head orifice plates.

1.3.5

Clean the ink wipers

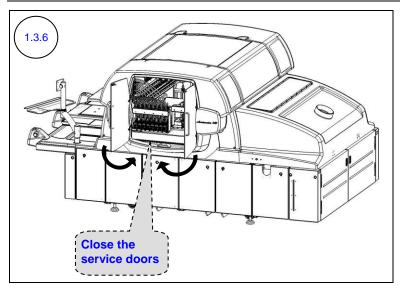Location of the two discharge ink wipers on the Avalanche DC Pro (not shown in this diagram)

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

⚠️ **CAUTION!**

On Avalanche DC Pro printers, ensure to use separate new lint-free wipes for cleaning the discharge ink wipers.

1.3.6

Close the
service doors

Close the upper ink system service doors on the right side of the printer.

Click **OK** in the messages that open during the initialization process.

1.3.7

A. Perform **Purge and Wipe**.

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

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.

1.3.8

A. From the Main window, perform the **Turn Off** procedure.

B. When the **Clean ink wipers…** message is displayed in the Main window, click **Continue**.

C. When the **Turn Off Finished Successfully** message is displayed, close the application.

D. Turn off the computer and switch off the printer's main power.

The printer shuts down.

Section 2 – Weekly Maintenance

This section describes the weekly preventive maintenance procedures for the Avalanche / Avalanche DC Pro 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 X1 and X2 Axes Encoder Scales**, page 22

- **Cleaning the Y1 and Y2 Axes Encoder Scales**, page 25

- **Cleaning the Maintenance Trays**, page 27

- **Performing General Cleaning**, page 30

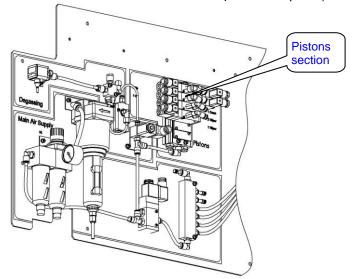**NOTE:**

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 Y1 and Y2 carriages towards the purge positions (above the maintenance trays).

- Perform a **Purge**.

- Move the maintenance trays into the capping position (using the two upper-left valves on the **Pistons** section of the pneumatic panel).

If you stop in between the tasks and continue on the next day, perform the above actions and then switch off the main power.

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, 22, 25
50-WIPG-0200	Wiping fluid	as required	22
62-PMNT-0007	Periodic Preventive Maintenance Guide for Avalanche series (this document)	1	-
83-LATX-0001	Gloves (latex, without talc)	as required	-
-	Clean rags	as required	22, 27, 30
-	IPA (Isopropyl Alcohol)	as required	22
-	Standard tool box	-	22
-	Water (tap and hot)	as required	22, 25, 27, 30

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 1.1.11)

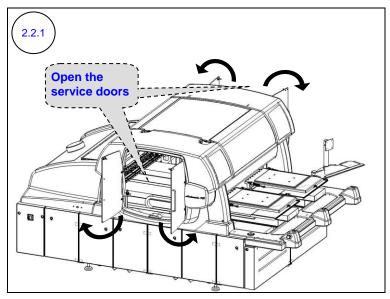# 2.2   Cleaning the X1 and X2 Axes Encoder Scales

Tools and Supplies

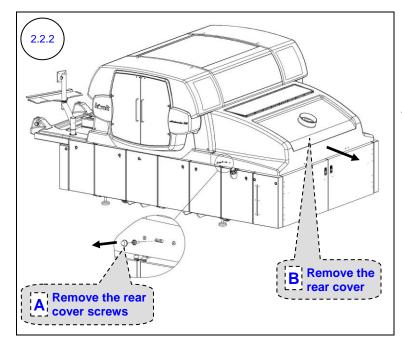| PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
-	Water (tap)	as required
-	Standard tool box	-

Preliminary Requirements

- The main power is on.
- The maintenance trays are in the lower position.
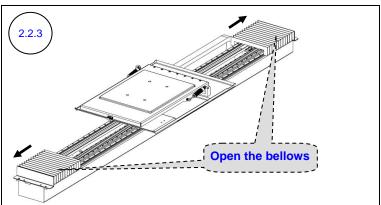- The motors are off.

Procedure

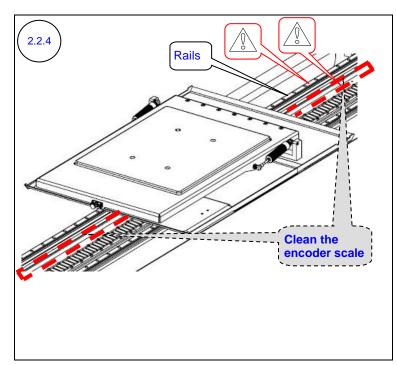Open the upper service doors on both sides of the printer.

A. Remove the two screws (and caps) that attach the rear cover to the printer body (on both sides of the cover).

   Keep the screws and caps for reuse.

B. Remove the rear cover.

2.2.3

Open the bellows

Open the bellows on both sides of the X1 and X2 carriages.

2.2.4

Rails

Clean the encoder scale

While moving the carriage along the axis, clean the encoder scale on both the X1 and X2 axes using lint-free wipes and water.
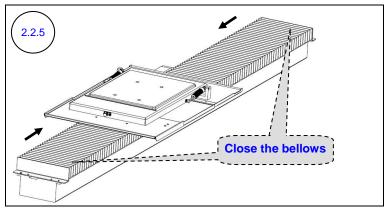
Dry with dry lint-free wipes.

⚠️ **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** touch the rails.

2.2.5

Close the bellows

Close the bellows on both sides of the X1 and X2 carriages.

2.3   Cleaning the Y1 and Y2 Axes Encoder Scales

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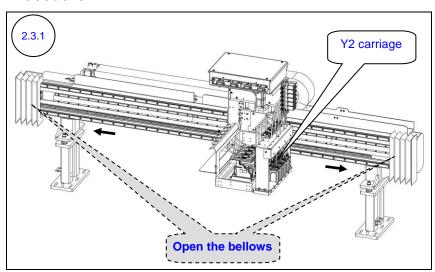
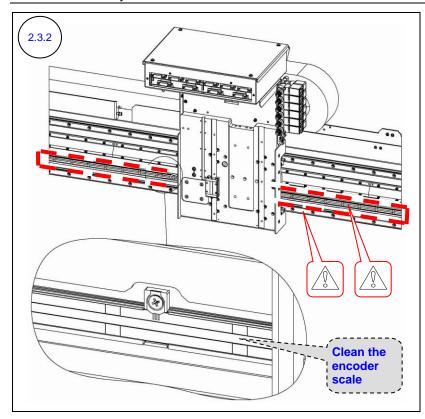| PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
-	Water (tap)	as required

Preliminary Requirements

- The main power is on.

- The maintenance trays are in the lower position.

- The motors are off.

- The upper service doors are open (refer to diagram 2.2.1).

- The hood rear cover is removed (refer to diagram 2.2.2).

Procedure

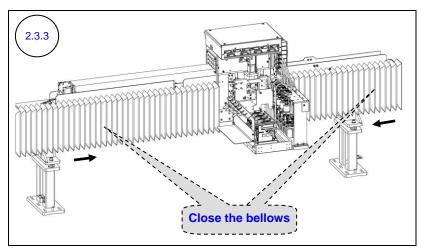Open the bellows on both sides of the Y1 and Y2 carriages.

2.3.2

While moving the Y1 and Y2 carriages along the axes, clean the encoder scales using lint-free wipes and water.

Dry with dry lint-free wipes.

Clean the encoder scale

⚠ **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** touch the rails.

2.3.3

Close the bellows

Close the bellows on both sides of the Y1 and Y2 carriages.

2.4 Cleaning the Maintenance Trays

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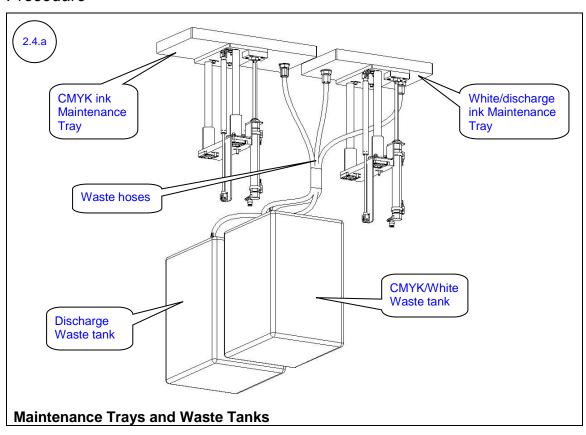
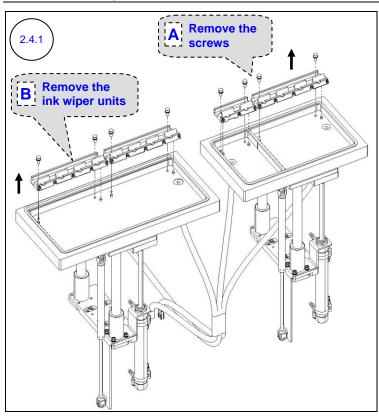| PN	Description	Quantity
-	Clean rags	as required
-	Water (tap and hot)	as required

Preliminary Requirements

- The main power is on.

- The maintenance trays are in the lower position.

- The motors are off.

- The upper service doors are open (refer to diagram 2.2.1).

- The Y1 and Y2 carriages are positioned on the left side of the Y axes (to prevent any contact with the print head orifice plates during the cleaning process).

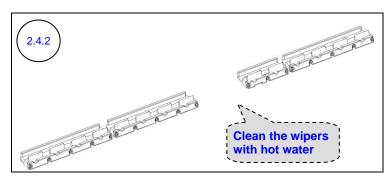- The hood rear cover is removed (refer to diagram 2.2.2).

Procedure

Maintenance Trays and Waste Tanks

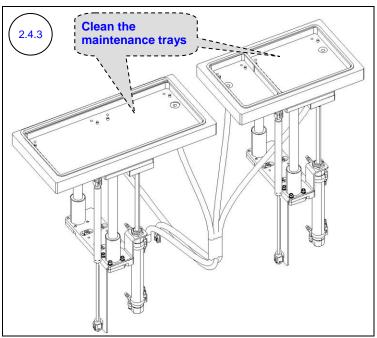2.4.1

A Remove the screws

B Remove the ink wiper units

A. Remove the ink wiper units screws (six on Avalanche printers; eight on Avalanche DC Pro printers).

Keep the screws and washers for reuse.

B. Remove the ink wiper units (three on Avalanche printers; four on Avalanche DC Pro printers).

2.4.2

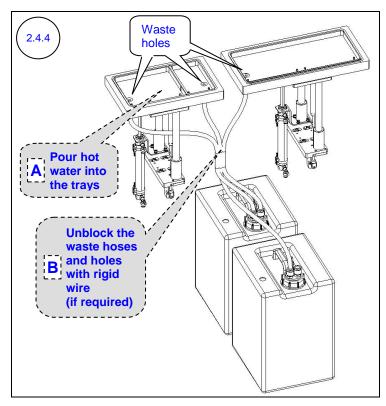Clean the wipers with hot water

Clean the ink wipers with hot water to remove dried ink.
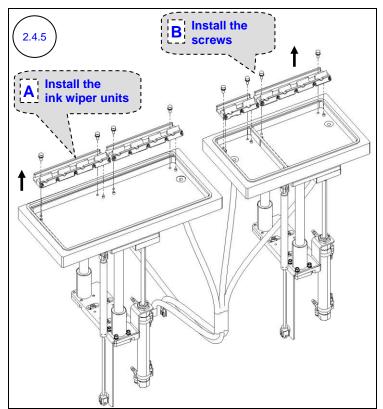
This action should be performed away from the printer.

2.4.3

Clean the maintenance trays

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

2.4.4

Waste holes

Pour hot water into the trays
A

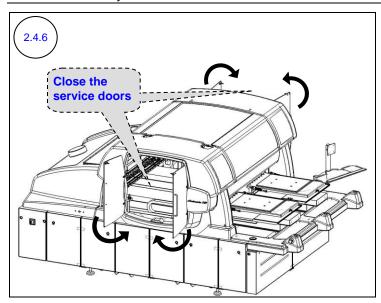**Unblock the waste hoses and holes with rigid wire (if required)**
B

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

B. If the waste hoses are blocked, unblock them by inserting a rigid wire through the waste holes, so that the waste can drain freely.

2.4.5

Install the screws
B

Install the ink wiper units
A

A. Place the ink wiper units in position on the maintenance trays (three on Avalanche printers; four on Avalanche DC Pro printers).

B. Install the screws and washers of the ink wiper units (six on Avalanche printers; eight on Avalanche DC Pro printers).

2.4.6

Close the service doors

Close the upper service doors on both sides of the printer.

Click **OK** in the messages that open during the initialization process.

2.4.7   Perform **Capping and Weeping**.

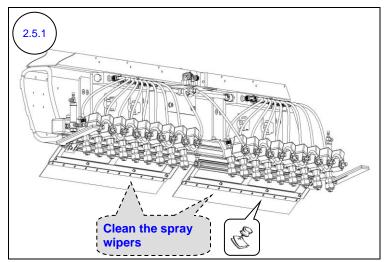## 2.5   Performing General Cleaning

Tools and Supplies

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

Preliminary Requirements

- The main power is on.
- The maintenance trays are in the capping position.
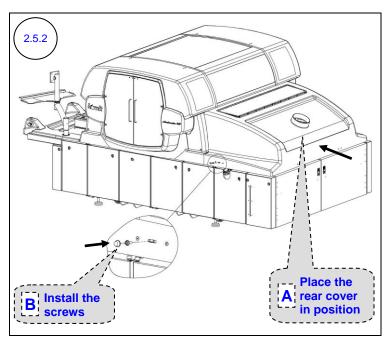- The hood rear cover is removed (refer to diagram 2.2.2).

Procedure

2.5.1

Using clean rags and water clean both spray wipers.

Clean the spray wipers

✍ **NOTE:**

Ensure **not** to fold the spray wipers during cleaning.

2.5.2

A. Place the rear cover in position on the printer.

B. Install the two screws (and caps) that attach the rear cover to the printer body (on both sides of the cover).

B Install the screws

A Place the rear cover in position

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

Section 3 – Quarterly Maintenance

This section describes the quarterly preventive maintenance procedures for the Avalanche /Avalanche DC Pro printers.

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

The procedure comprises the following tasks:

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 Y1 and Y2 carriages towards the purge positions (above the maintenance trays).

- Perform a **Purge**.

- Move the maintenance trays into the capping position (when performing tasks 3.1 – 3.5, use the two upper-left valves on the **Pistons** section of the pneumatic panel, to move the maintenance trays up; refer to the diagram on the first note of Section 2).

If you stop in between the tasks and continue on the next day, perform the above actions and then switch off the main power.

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	34, 35, 37, 38, 40
50-WIPG-0200	Wiping fluid	as required	34
62-PMNT-0007	Periodic Preventive Maintenance Guide for Avalanche series (this document)	1	-
83-GRES-0070	THK grease	as required	35, 38
83-LATX-0001	Gloves (latex, without talc)	as required	-
-	Clean rags	as required	34, 45, 46, 53
-	Compressed air source	as required	34, 53
-	IPA (Isopropyl Alcohol)	as required	34
-	Standard tool box	-	35, 37, 41
-	Water (tap and hot)	as required	34, 37, 40
-	Writeable CD (blank)	as required	52

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 1.1.11)

3.1.2   Perform the following Weekly Maintenance procedures:

A. **Cleaning the Maintenance Trays**, page 27

B. **Performing General Cleaning**, page 30
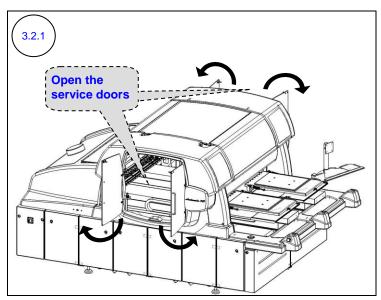
3.2 Greasing the X1 and X2 Axes Rails

Tools and Supplies

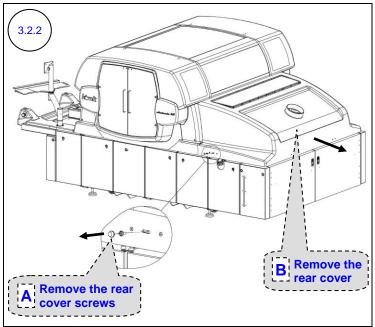| PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
83-GRES-0070	THK grease	as required
-	Standard tool box	-

Preliminary Requirements

- The main power is on.
- The maintenance trays are in the capping position.
- The motors are off.

Procedure

Open the upper service doors on both sides of the printer.

3.2.2

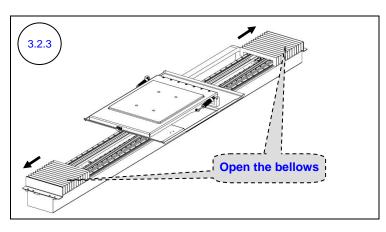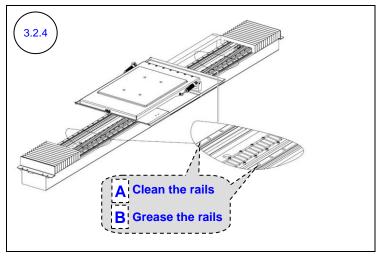**A** Remove the rear cover screws

B Remove the rear cover

A. Remove the two screws (and caps) that attach the rear cover to the printer body (on both sides of the cover).

Keep the screws and caps for reuse.

B. Remove the rear cover.

3.2.3

Open the bellows

Open the bellows on both sides of the X1 and X2 carriages.

3.2.4

A Clean the rails

B Grease the rails

For both X axes, perform the following actions while moving the carriage along the axis:

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

B. Apply a thin layer of grease on the rails.

3.3   Cleaning the X1 and X2 Axes Encoder Scales
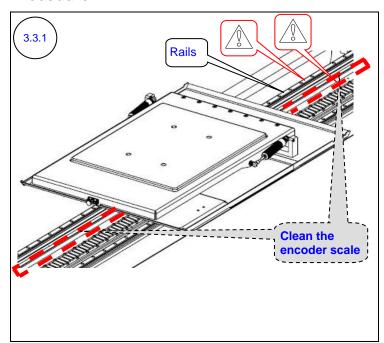
Tools and Supplies

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

Preliminary Requirements

- The main power is on.

- The maintenance trays are in the capping position.

- The motors are off.

- The upper service doors are open (refer to diagram 3.2.1).

- The hood rear cover is removed (refer to diagram 3.2.2).

- The bellows are open on both sides of the X1 and X2 carriages (refer to diagram 3.2.3).

Procedure

While moving the carriage along the axis, clean the encoder scale on both the X1 and X2 axes using lint-free wipes and water.
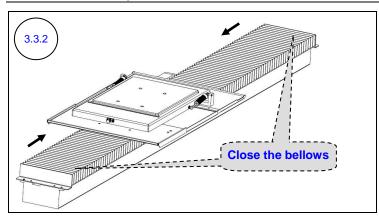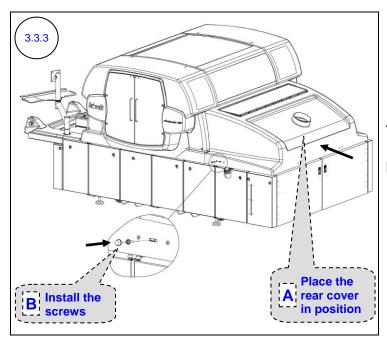
Dry with dry lint-free wipes.

⚠ **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** touch the rails.

3.3.2

Close the bellows

Close the bellows on both sides of the X1 and X2 carriages.

3.3.3

B Install the screws

A Place the rear cover in position

A. Place the rear cover in position on the printer.

B. Install the two screws (and caps) that attach the rear cover to the printer body (on both sides of the cover).

3.4 Greasing the Y1 and Y2 Axes Rails

Tools and Supplies

PN	Description	Quantity
01-WIPR-0909	Lint-free wipes	as required
83-GRES-0070	THK grease	as required

Preliminary Requirements

- The main power is on.
- The motors are off.
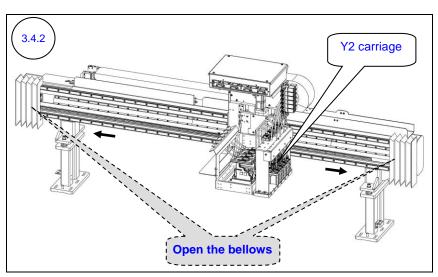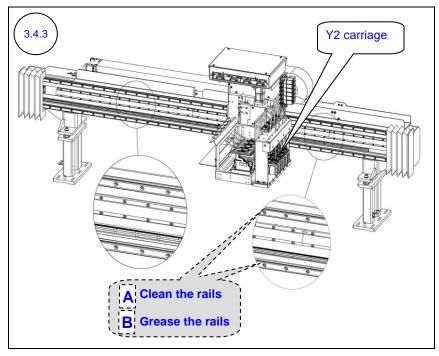- The upper service doors are open (refer to diagram 3.2.1).

Procedure

(3.4.1) Perform the following steps:

A. Perform a **Purge**.

B. Move the maintenance trays into the lower position (using the two upper-right valves on the **Pistons** section of the pneumatic panel; refer to the diagram on the first note of Section 2).

Perform the following steps (3.4.2 – 3.4.3) on both the Y1 and Y2 axes (although the diagrams in these steps display only the Y2 axis).

Open the bellows on both sides of the Y1 and Y2 carriages.

Perform the following actions while moving the Y1 and Y2 carriages along the axes:

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

B. Apply a thin layer of grease on the rails.

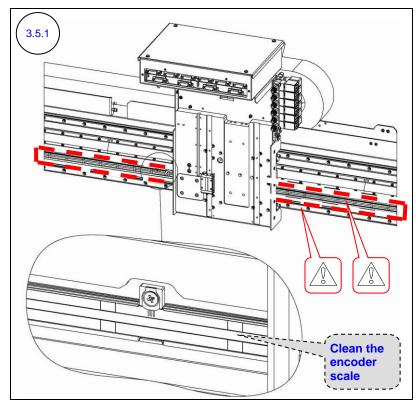## 3.5 Cleaning the Y1 and Y2 Axes Encoder Scales

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 trays are in the lower position.

- The motors are off.

- The upper service doors are open (refer to diagram 3.2.1).

- The bellows are open on both sides of the Y1 and Y2 carriages (refer to diagram 3.4.2).

Procedure

Perform the following steps (3.5.1 – 3.5.2) on both the Y1 and Y2 axes (although the diagrams in these steps display only the Y2 axis).

Clean the encoder scale

While moving the Y1 and Y2 carriages along the axes, clean the encoder scales using lint-free wipes and water.
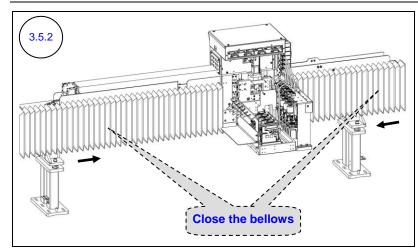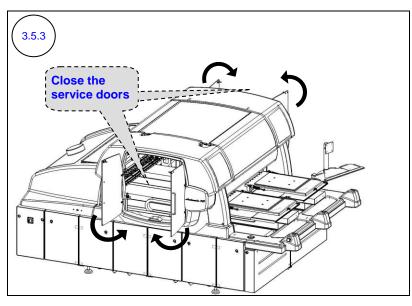
Dry with dry lint-free wipes.

⚠ **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** touch the rails.

3.5.2

Close the bellows

Close the bellows on both sides of the Y1 and Y2 carriages.

3.5.3

Close the service doors

Close the upper service doors on both sides of the printer.

Click **OK** in the messages that open during the initialization process.

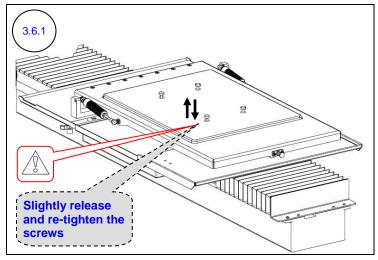## 3.6 Tightening the Printing Pallet Screws

Tools and Supplies

PN	Description	Quantity
-	Standard tool box	-

Preliminary Requirements

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

Procedure

3.6.1

Slightly release and re-tighten the screws

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

⚠️ **CAUTION!**

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

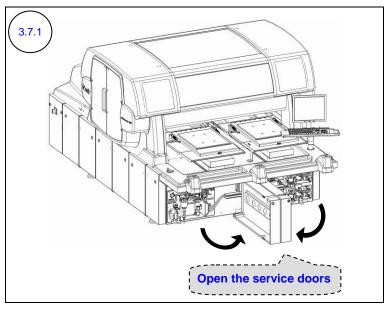# 3.7 Inspecting the Vacuum and Pressure Values

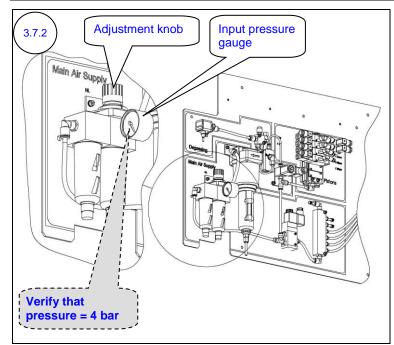*Tools and Supplies:* None

Preliminary Requirements

- The main power is on.

- The maintenance trays are in the capping position.

- The printer is connected to air pressure source.
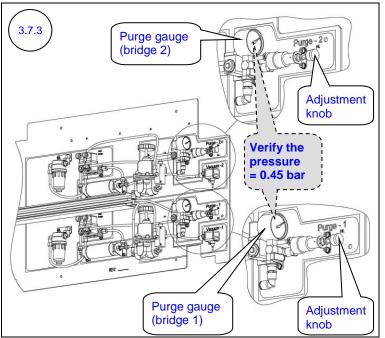
- The vacuum system is on.

Procedure

3.7.1

Open the service doors

Open both service doors on the front side of the printer.

3.7.2

Adjustment knob

Input pressure gauge

Verify that pressure = 4 bar

Verify that the value of the input pressure, as shown on the input pressure gauge, is 4 bar.

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

3.7.3

Purge gauge (bridge 2)

Adjustment knob

Verify the pressure = 0.45 bar

Purge gauge (bridge 1)

Adjustment knob
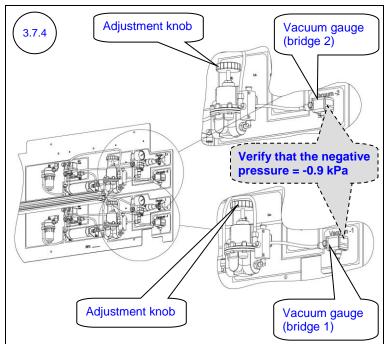
Verify that the pressure value in both purge gauges is 0.45 bar.
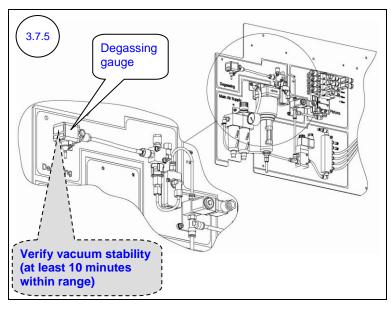
If an adjustment is required, contact a qualified Kornit technician.

3.7.4

Adjustment knob

Vacuum gauge (bridge 2)

Verify that the negative pressure = -0.9 kPa

Adjustment knob

Vacuum gauge (bridge 1)

Verify that the value of the negative pressure, as shown on both vacuum gauges, is -0.9 kPa.

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

3.7.5

Degassing gauge

Verify vacuum stability (at least 10 minutes within range)

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 to check for a leak in the degassing system and repair it.
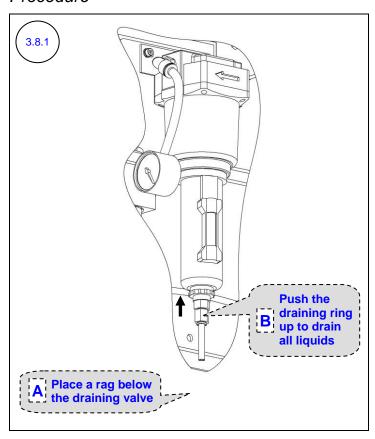
3.8 Draining the Oil Filter

Tools and Supplies

PN	Description	Quantity
-	Clean rags	as required

Preliminary Requirements

- The main power is on.

- The maintenance trays are in the capping position.

- The printer is connected to air pressure source.

- The service doors on the front side of the printer are open (refer to diagram 3.7.1).

Procedure

A. Place a rag below the oil filter's draining valve.

B. Push the draining ring up until all liquids are drained from the oil filter.
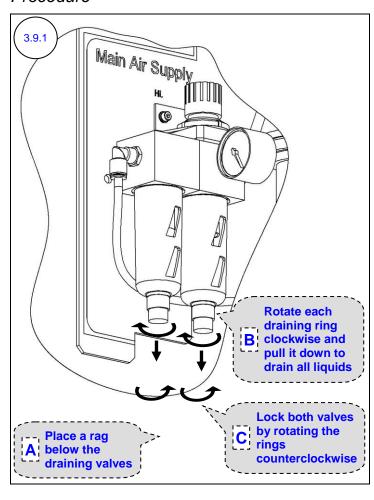
3.9 Draining the Air Filters

Tools and Supplies

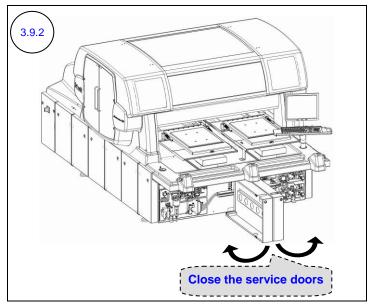| PN	Description	Quantity
-	Clean rags	as required

Preliminary Requirements

- The main power is on.

- The maintenance trays are in the capping position.

- The printer is connected to air pressure source.

- The service doors on the front side of the printer are open (refer to diagram 3.7.1).

Procedure

A. Place a rag below the air filter's draining valves.

B. Rotate each draining ring clockwise and pull it down until all liquids are drained from the air filter.

C. Lock both draining valves by rotating the draining rings counterclockwise.

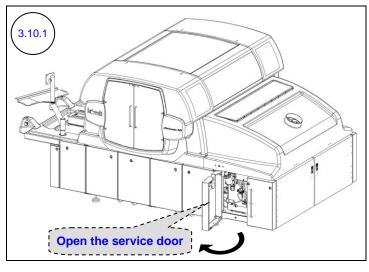Close both service doors on the front side of the printer.

3.10 Inspecting the Spray System Values

Tools and Supplies: None

Preliminary Requirements
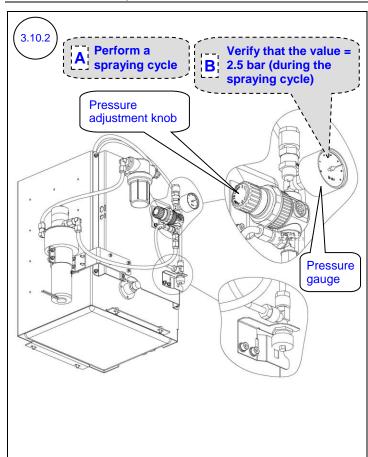
- The main power is on.

- The maintenance trays are in the capping position.

Procedure

Open the sixth service door on the right side of the printer.

3.10.2

A | **Perform a spraying cycle**

B | **Verify that the value = 2.5 bar (during the spraying cycle)**
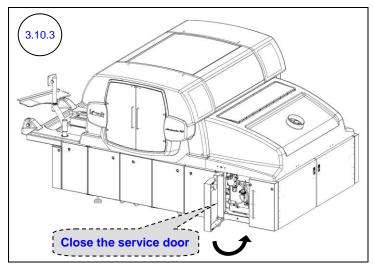
Pressure adjustment knob

Pressure gauge

Perform this step on each printing pallet separately:

A. Perform a spraying cycle:

1. Place used garments on the printing pallet.

2. Perform spraying before printing by clicking the **Spray** button in the Main window. The Spray window opens.

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 gauge, is 2.5 bar.

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

3.10.3

Close the service door

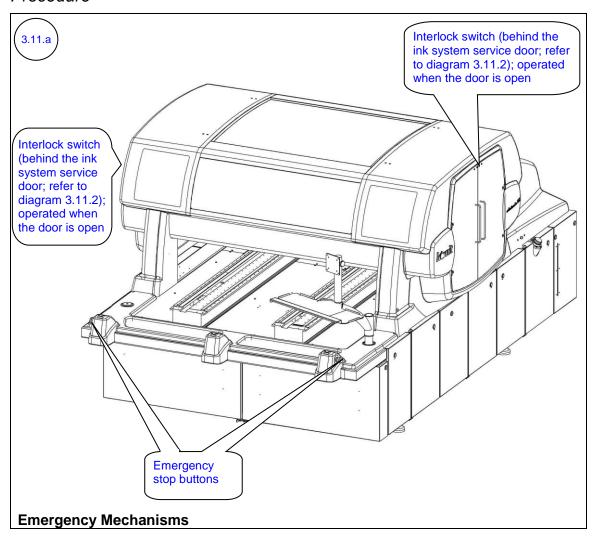Close the sixth service door on the right side of the printer.

3.11 Inspecting the Operation of the Emergency Mechanisms

Tools and Supplies: None

Preliminary Requirements

- The main power is on.

- The maintenance trays are in the capping position.

Procedure

3.11.a

Interlock switch (behind the ink system service door; refer to diagram 3.11.2); operated when the door is open

Interlock switch (behind the ink system service door; refer to diagram 3.11.2); operated when the door is open
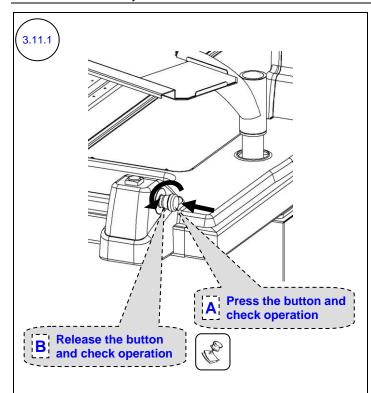
Emergency stop buttons

Emergency Mechanisms

NOTE:

When an emergency stop/interlock switch is triggered, the power to the motors turns off. When the emergency mechanism is released, the Kornit application runs a recovery sequence; at the end of this sequence, the power to the motors turns on again.
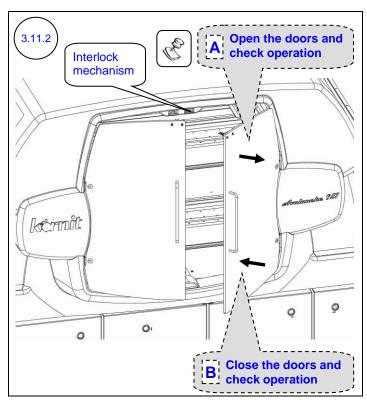
3.11.1

A Press the button and check operation

B Release the button and check operation

Test both emergency stop buttons (perform the following actions for each button separately):

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

B. Release the button by rotating it counterclockwise. Verify that the power to the motors turns on.

NOTE:

When the power to the motors is off, you can manually move the X1, X2, Y1 and Y2 axes.

3.11.2

Interlock mechanism

A Open the doors and check operation

B Close the doors and check operation

Test the interlock mechanism installed on the upper ink system service doors (on both sides of the printer):

A. Open the service doors. Verify that the power to the motors turns off.

B. Close the service doors. Verify that the power to the motors turns on.

NOTE:

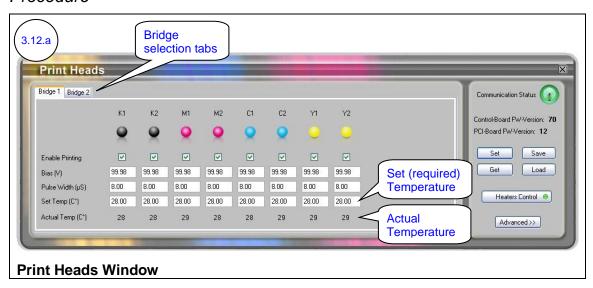When the power to the motors is off, you can manually move the X1, X2, Y1 and Y2 axes.
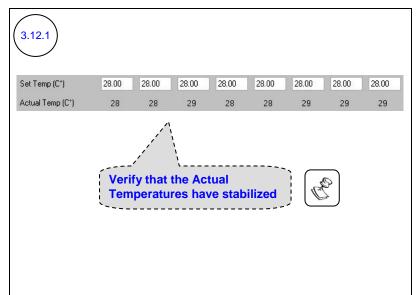
3.12 Inspecting the Print Head Temperatures

Tools and Supplies: None

Preliminary Requirements

- The main power is on.

- The maintenance trays are in the capping position.

Procedure

Print Heads Window

On both bridges
(Bridge 1 and Bridge 2):

Verify that the **Actual Temperatures** stabilize within the range of ±2 degrees of the **Set Temperatures**.

NOTE:

To switch between bridges, click the relevant bridge tab on the top-left corner.

NOTE:

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

3.13 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 trays are in the capping position.

Procedure

3.13.1   Backup the **QuickPProduction** folder on another computer, server or writeable CD.

Save the backup with the printer's number and the date.

3.14 Deleting Unnecessary Files from the Computer

Tools and Supplies: None

Preliminary Requirements

- The main power is on.

- The maintenance trays are in the capping position.

Procedure

3.14.1   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 D:\KornitAvalancheApp\Common\HotFolder\Error excluding the Error.txt file.
  - Delete all files from D:\KornitAvalancheApp\Common\HotFolder\Archive.
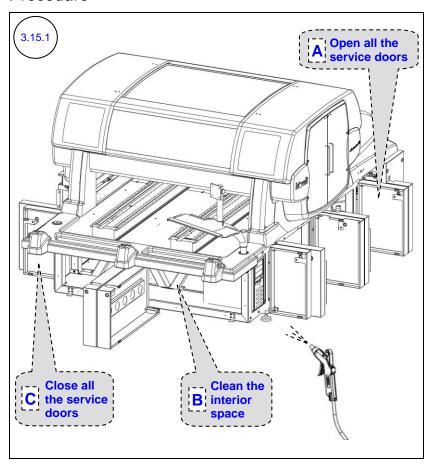
3.15 Cleaning the Printer's Interior Space

Tools and Supplies

PN	Description	Quantity
-	Clean rags	as required
-	Compressed air source	-

Preliminary Requirements

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

Procedure

A. Open the service doors from the right, left and front sides of the printer (14 doors in total).

B. Clean the printer's interior space using clean rags and compressed air.

C. Close the service doors.

⚠ **CAUTION!**

Before using the compressed air, ensure that the air is free of water/oil particles. If required, drain the air and oil filters on the pneumatic panel, as described earlier in this section.