

Inkjet printer ML Tiger-1800B

How to clean and maintenance

This machine is a precision machine with a very fine mechanism. In particular, the nozzle surface of the head that ejects ink may be affected by even a small amount of dust or paper dust, and normal print results may not be obtained.

In order to use the machine in a good condition, we recommend to perform the following daily care.

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1. Important safety instructions

CAUTION



- When cleaning and maintaining the machine, pay close attention to ventilation and be sure to wear the included safety glasses and gloves.



- If ink should come into your eyes, immediately rinse with plenty of clean water for more than 15 minutes and rinse thoroughly to the back of the eyelids. Also, please consult a doctor as soon as possible. If ink adheres to the skin, please rinse thoroughly with a large amount of water and soap or skin detergent.



- The ink, if mixed with water or alcohol, generates aggregates. Be careful not to allow water or alcohol to adhere to the nozzle surface, around the head, cap, and wiper.



- To ensure the stability of ink ejection, this machine must periodically eject (flush) a small amount of ink depending on the type of ink to be filled when it is not used (output) for a long time.
- The type of maintenance cleaning solution varies depending on the ink type. Use the cleaning solution that is compatible with the ink type you use.
- Use a clean stick (SPC-0527) to clean the area around the head / capping station / wiper. If you use a normal cotton swab, lint may remain and cause secondary damage.
- Make sure to clean the ink cap and wiper in the capping station everyday. If left dirty, dirt may adhere to the nozzle surface, or dust or solidified ink may be rubbed on the nozzle, resulting in the ejection failure.
- Make sure to clean the bottom surface of the carriage everyday so that it does not get dirty from ink or dust. If it is left dirty, dirt or solidified ink may smear onto the nozzle due to wiper operation during head cleaning.
- When cleaning the bottom surface of the carriage, be careful so as not to rub the nozzle surfaces.



- Never disassemble this machine. It could cause electrical shock, fire or breakage.



- Make sure that no moisture enters the machine. If the inside is moistened, it could cause electrical shock, fire or breakage.



- Perform the cleaning and maintenance after switching off the power and taking off the power cable. Otherwise, it could cause unexpected accidents.



- Do not use chemicals containing benzene, thinner or abrasives. The cover surface may be degenerated or deformed.



- Do not lubricate inside the machine with lubricating oil. There is a risk of machine failure.
- Keep children away from this machine.

2. Installation environment

Use in an environment with as little dust as possible. Using a fan or blower is also the cause of the surrounding dust.

The accuracy guarantee temperature is +20 to +25 deg C and the allowable temperature is +15 to +30 deg C, the relative humidity is 35 to 65% Rh. Avoid using at a temperature and humidity higher or lower than the indicated ranges.

3. Media storage

Store the media in a dust-proof place with no direct sunlight. Also, avoid storing the media in a hot and humid place.

4. When to clean and maintain

Timing	Item	Page	Wizard
Once every 8 hours	Cleaning around the head	P.7	○
	Cleaning the wiper	P.8	○
Once every 32 hours	Cleaning the squeegee for wash unit	P.10	
Once every 100 hours	Cleaning the capping station	P.9	○
Once every 1 week	Cleaning the wiper holder fixed block	P.11	
Once every 2 weeks	Confirmation of wiper purified water output	P.17	
	Replacement of wiper	P.14	
	Cleaning the Ink droplet plate	P.20	
Once a month ^{*1}	Run supply test	P.23	
Below ^{*2}	Replacement of the ink filter ^{*3}	P.25	

*1. On machines using Sb520 ink, run a supply test **once every two weeks**.

*2. Replace the ink filter at any of the following timings.

When "067 D: 09 (ZZZZZZZ) INK SUPPLY WARN" is displayed on the MPC

When "061B: 09 (ZZZZZZZ) INK SUPPLY" is displayed on the MPC

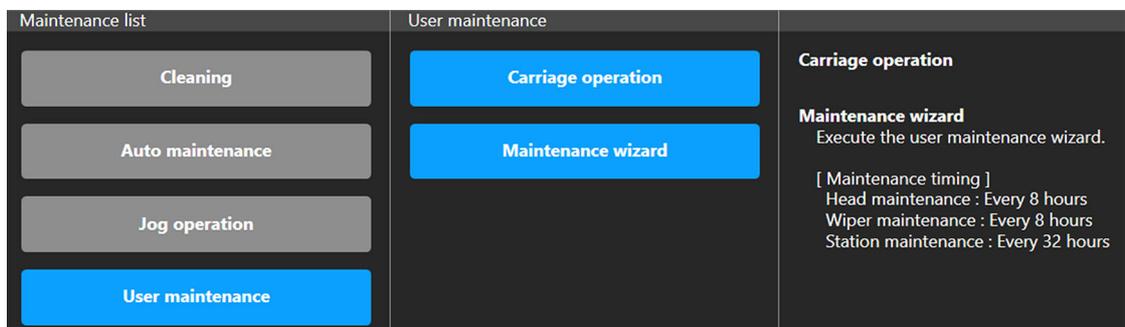
When the result of the supply test is 60 seconds or more

For details, please refer to "4. Replacing the ink filter" below.

*3. This operation (replacement of ink filter) is required **only for machines to which the simple filter replacement kit is applied**.

For maintenance for which a wizard is provided, perform the maintenance according to the instructions of the wizard.

Select [Maintenance wizard] from [MAINTENANCE] menu - [User maintenance].



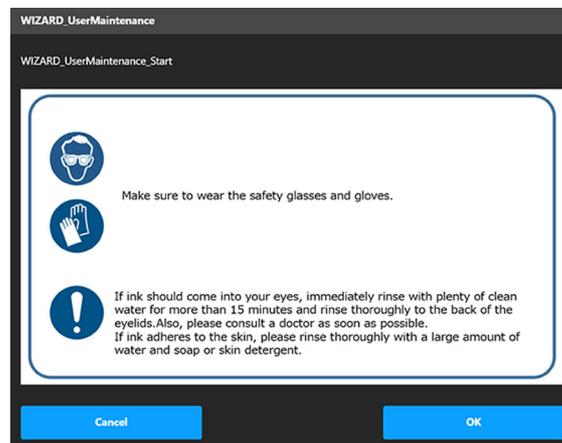
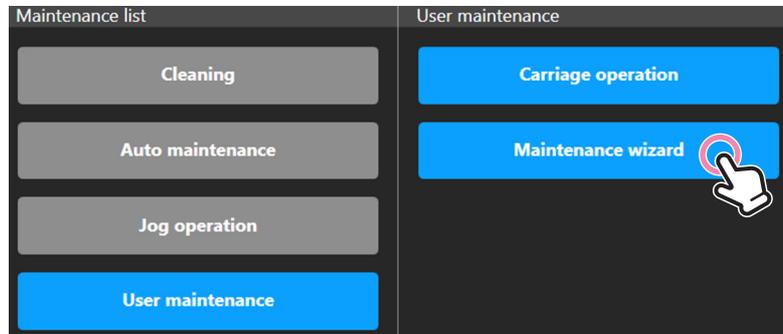
5. Tools required for clean and maintenance

Part name	Part No.	Remarks
Clean stick	SPC-0527	
ML Cleaner001	C-MLC01-Z-BJ-1-DA	For MLRc500
Flushing Liquid 03	C-FL003-Z-BJ-1-SW	For Sb ink (except EU)
	C-FL003-Z-BJ-1-SE	For Sb ink (EU)
Maintenance cloth	SPC-0574	
Gloves		
Soft fabric		
Safety glasses	MP-VG-2010 (GJ-1339-04)	
Wiper rubber	SPA-0309	100 pcs / pack
Supply ink filter replacement kit	SPA-0196	8 pcs / pack
Wiper block maintenance brush	SPA-0885	

6. User maintenance

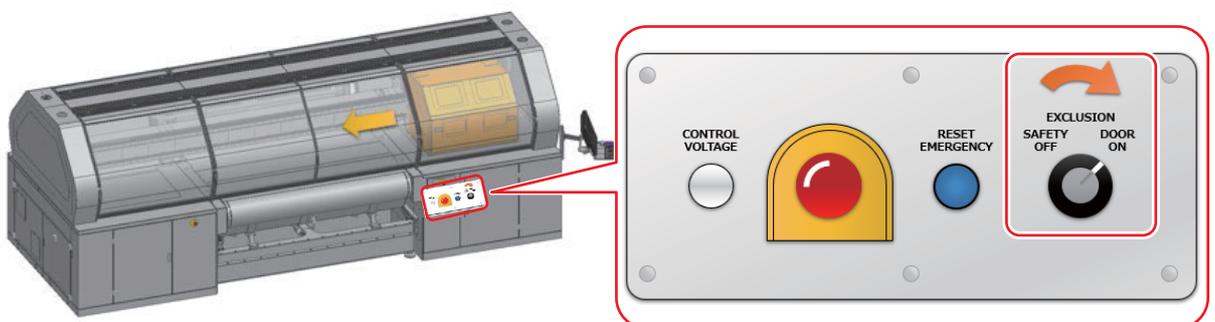
The carriage movement function is in user maintenance.
Follow the wizard and perform each maintenance.

- 1 Run [Maintenance wizard] from the [User maintenance] menu.



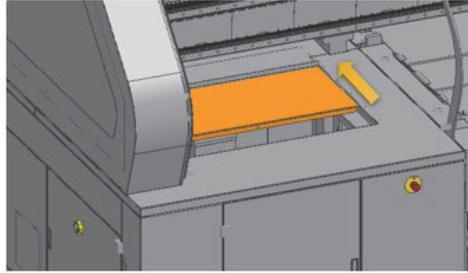
Wizard start screen

- 2 Check the precautions on the wizard start screen and tap [OK] to start the wizard.
- 3 Set the EXCLUSION key to "DOOR ON".



- 4 Tap [OK] on the carriage movement confirmation screen to move the carriage.

5 After the carriage stops in the maintenance area, open the maintenance shutter.



- For safety, open the maintenance shutter after the carriage stops.

6 Perform maintenance according to each maintenance guide.



- In the wizard, a guide to maintenance performed by the user is displayed in the following order.
 - (1) Head maintenance (👉 P.7)
 - (2) Wiper maintenance (👉 P.8)
 - (3) Station Maintenance (👉 P.9)
- Skip any maintenance that you do not need to perform.
- See P.7 to P.9 for detailed procedures for each maintenance.

7 When maintenance is complete, close the maintenance shutter, set the EXCLUSION key to “SAFETY OFF”, and follow the wizard.

- After completing the wizard, an error occurs.

8 Tap the [CLEAR ALARM] button.

- The error is released.

7. Cleaning around the head (once every 8 hours)



- The area around the head is the place where dirt is most likely to accumulate in the machine and may affect the operation and printing results of the machine. Moreover, the head itself uses a very fine mechanism, so care must be taken when cleaning it.
- Use a maintenance cleaning solution that is compatible with the ink used.
- Run the [Maintenance wizard] to clean.  "User maintenance" (P.5)

1 Transfer the cleaning solution to the disposable cup.



- Do not return any cleaning solution left in the disposable cup to the cleaning solution bottle.

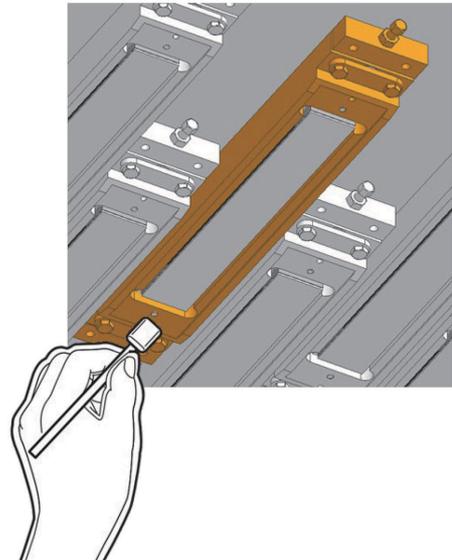
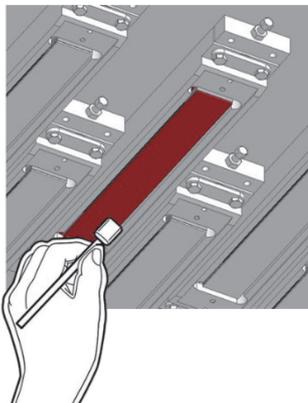


2 Put a cleaning solution in a clean stick or maintenance cloth, and wipe off dirt accumulated on the side of the head and the bottom of the slider.

- Gel-like ink and dust may adhere around the head. Please wipe it off carefully.



- Never rub the nozzle part.



8. Wiper cleaning (once every 8 hours)

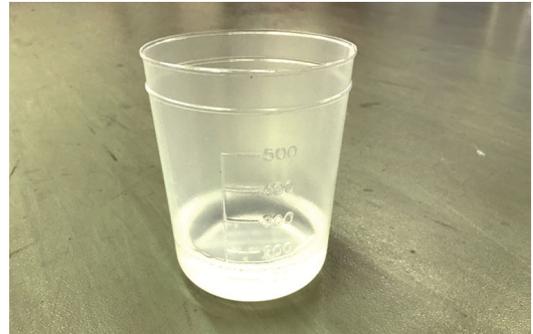


- On the wiper, the ink, dust and paper powder are liable to accumulate. Check the condition of the wiper and clean it if it is dirty.
- Use a maintenance cleaning solution that is compatible with the ink used.
- Run the [Maintenance wizard] to clean. 🖨️ "User maintenance" (P.5)

1 Transfer the cleaning solution to the disposable cup.



- Do not return any cleaning solution left in the disposable cup to the cleaning solution bottle.

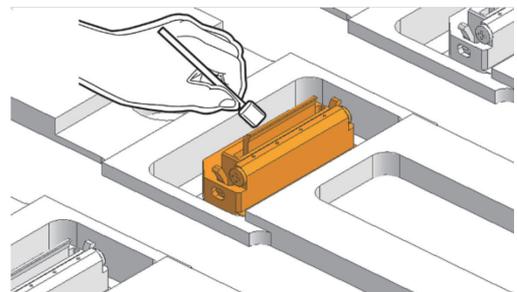


2 Soak a clean stick with maintenance cleaning solution and wipe off ink adhering to the wiper and bracket.

- Wipe off so that cleaning solution does not remain.



- Replace the wiper if:
 - (1) The wiper is deformed.
 - (2) Fixed ink cannot be wiped off.



9. Cleaning the capping station (once every 100 hours)



- The area around the cap is also a place where dust and ink tend to accumulate. We recommend using the maintenance cleaning solution suitable for the ink you are using, and cleaning it frequently to prevent contamination.
- Run the [Maintenance wizard] to clean.  "User maintenance" (P.5)

1 Transfer the cleaning solution to the disposable cup.

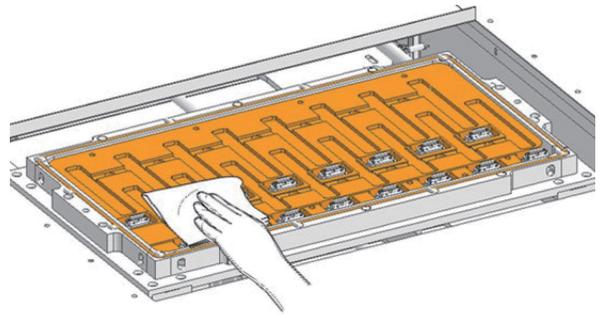


- Do not return any cleaning solution left in the disposable cup to the cleaning solution bottle.

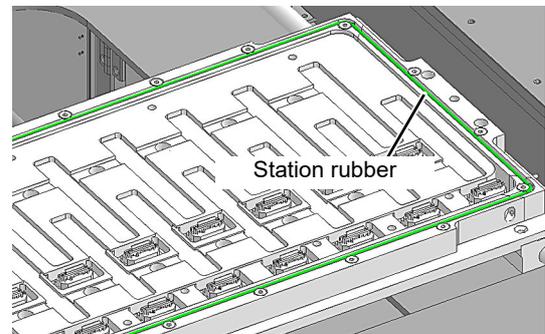


2 Soak a clean stick or maintenance cloth with a cleaning solution and wipe off any dirt.

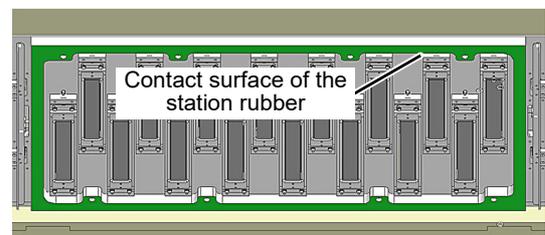
- Wipe off the gel ink so that the ink can flow.



3 Soak maintenance cleaning solution fully in a cleaning cloth and wipe off the ink on the surface of the station rubber.



4 Soak maintenance cleaning solution fully in a cleaning cloth and wipe off the ink on the contact surface of the station rubber on the bottom of the carriage.

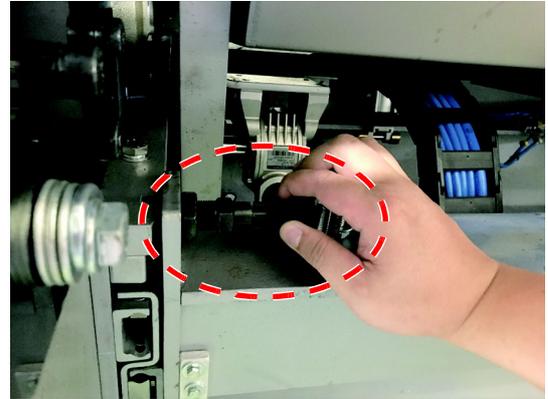


10. Cleaning unit squeegee cleaning (once every 32 hours)



- This is a location where dust and ink tend to accumulate. We recommend using the maintenance cleaning solution suitable for the ink you are using, and cleaning it frequently to prevent contamination.

1 Pull out the belt cleaning unit.



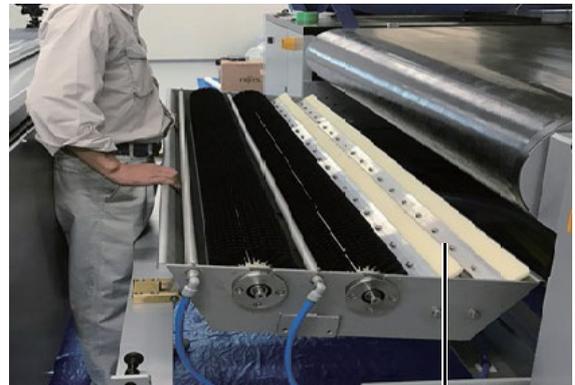
2 Transfer the cleaning solution to the disposable cup.



- Do not return any cleaning solution left in the disposable cup to the cleaning solution bottle.



3 Dip a cleaning cloth in the maintenance solution, and wipe off any dirty sections.



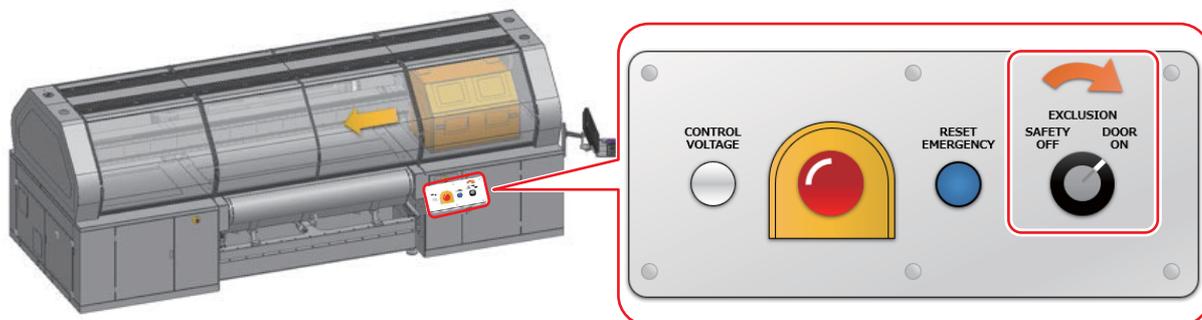
Squeegee

11. Cleaning the wiper holder fixing block (once a week)

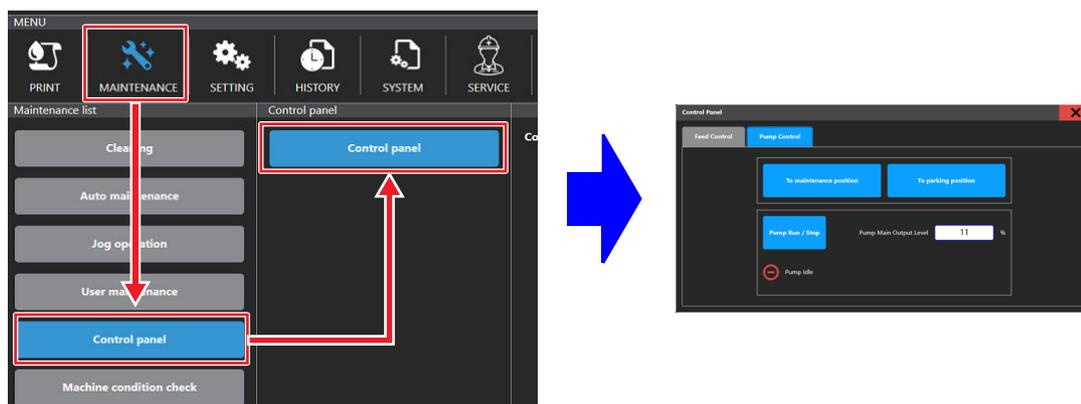


- This is a location where dust and ink tend to accumulate. We recommend using the maintenance cleaning solution suitable for the ink you are using, and cleaning it frequently to prevent contamination.

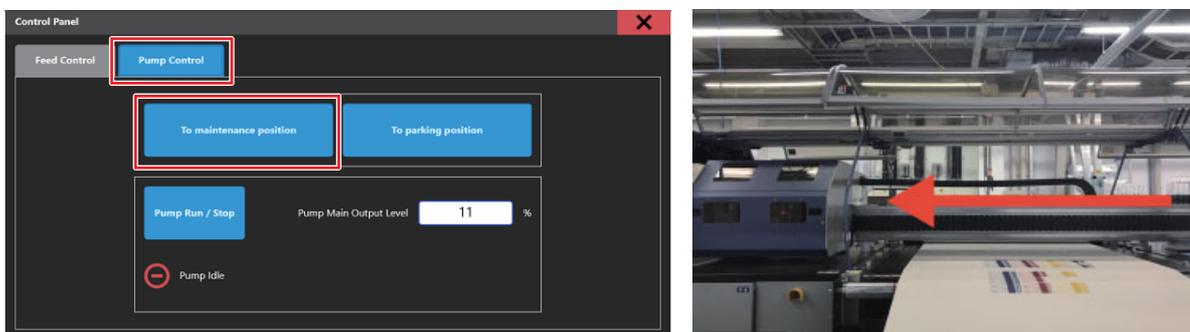
1 Set the EXCLUSION key to "SAFETY DOOR ON".



2 Execute [Control panel] - [Control panel] from the [MAINTENANCE] menu.



3 Execute [Pump Control] – [To Maintenance Position] to move the carriage to the maintenance area.



4 Transfer the cleaning solution to the disposable cup.



- Do not return any cleaning solution left in the disposable cup to the cleaning solution bottle.

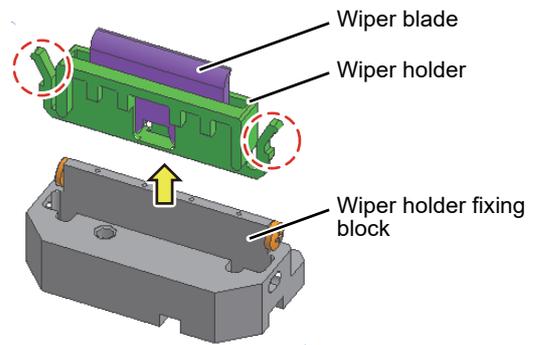


5 Remove the wiper holder from the wiper holder fixing block.

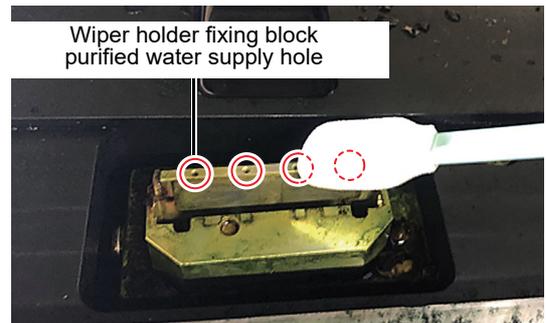
- Lift up the red circle (x2) on the wiper holder while tilting them inward.



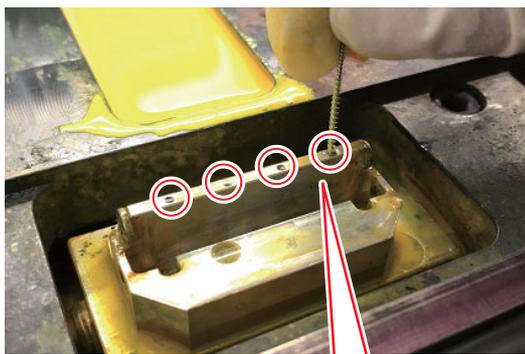
- Pay attention to an ink leak during the operation.



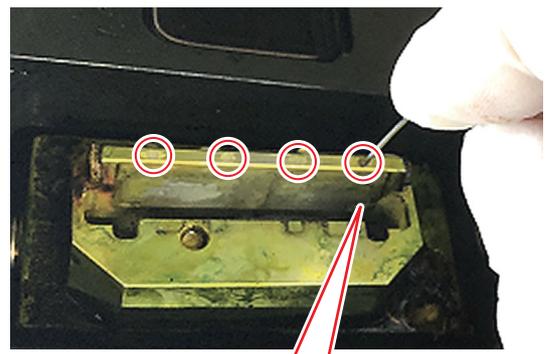
6 Soak a clean stick or waste cloth with maintenance cleaning liquid and wipe off the ink near the purified water supply hole of the wiper holder fixing block.



7 Insert a wiper block maintenance brush or clip etc. into the purified water supply hole of the wiper holder fixing block (φ1.0mm) to eliminate the ink clogging.



Wiper block maintenance brush



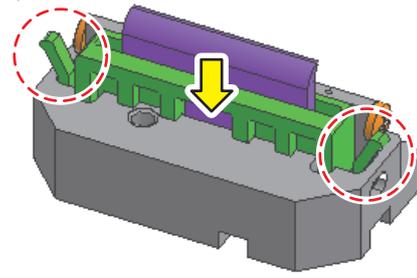
Clip

8 Set the wiper holder on the wiper holder fixing block.

- Push in until the red circle of the wiper holder catches on the wiper holder fixing block.



- Check that the wiper holder does not come off when pulled.

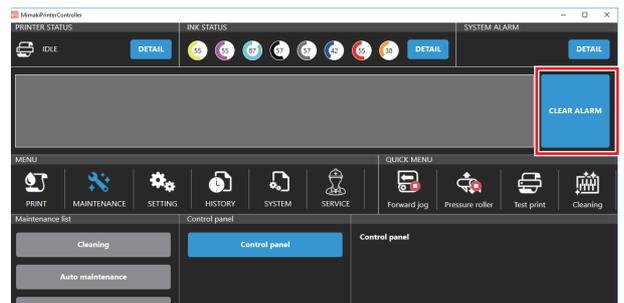


9 Execute [To parking position] to move the carriage to the station.



10 Return the EXCLUSION key to the "SAFETY DOOR OFF".

11 Execute [Clear Alarm] to clear the alarm.

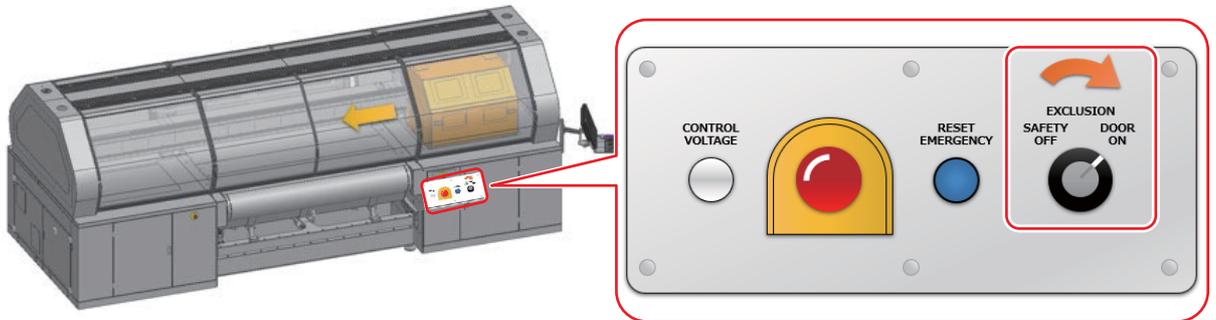


12. Replacing the wiper blade (once every 2 weeks)

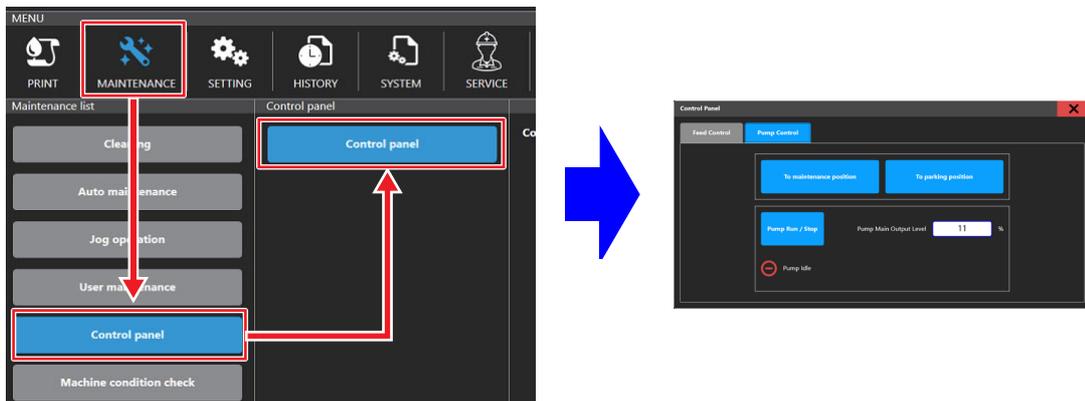


- This is a location where dust and ink tend to accumulate. We recommend using the maintenance cleaning solution suitable for the ink you are using, and cleaning it frequently to prevent contamination.

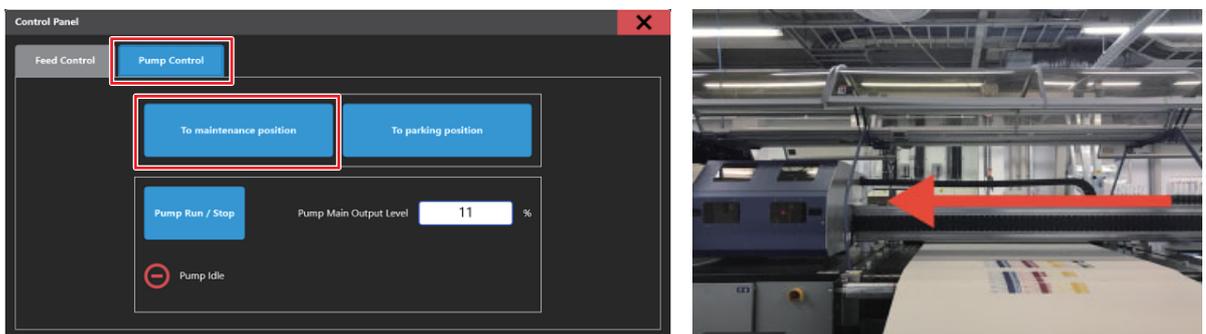
1 Set the EXCLUSION key to "SAFETY DOOR ON".



2 Execute [Control panel] - [Control panel] from the [MAINTENANCE] menu.

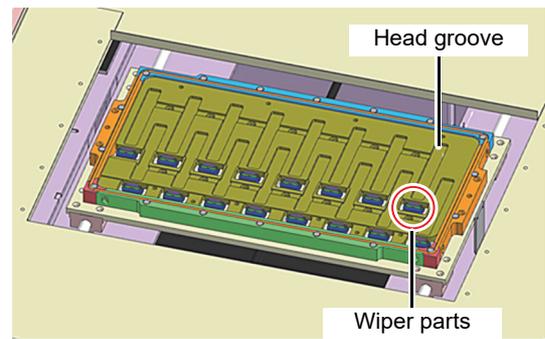


3 Execute [Pump Control] – [To Maintenance Position] to move the carriage to the maintenance area.



4 Clean the station.

- Remove all ink from the station head groove and wiper parts.
(Wiper cleaning (🔧 P.8), Cleaning the capping station (🔧 P.9))

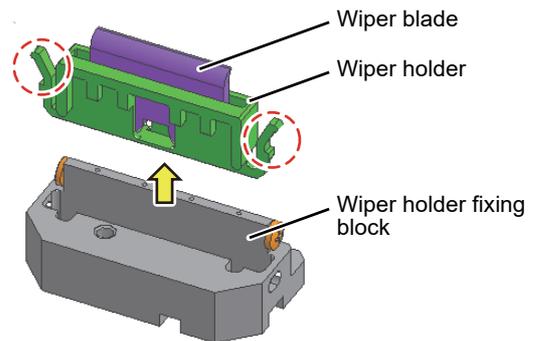


5 Lift up the red circle (x2) on the wiper holder while tilting them inward.

6 Remove the wiper holder from the wiper holder fixing block.



- Pay attention to an ink leak during the operation.



7 Remove the wiper blade from the wiper holder.

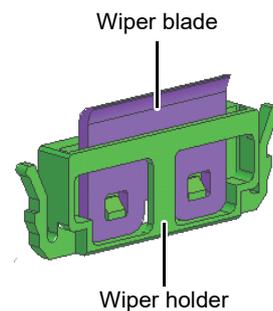


- The wiper holder will not be replaced.

8 Replace with a new wiper blade.



- Make sure that the wiper is oriented correctly.

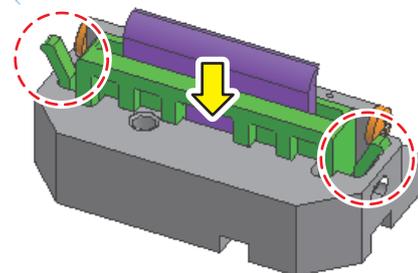


9 Set the wiper holder on the wiper holder fixing block.

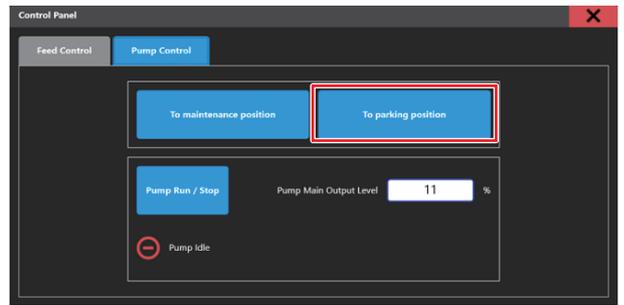
- Push in until the red circle of the wiper holder catches on the wiper holder fixing block.



- Check that the wiper holder does not come off when pulled.

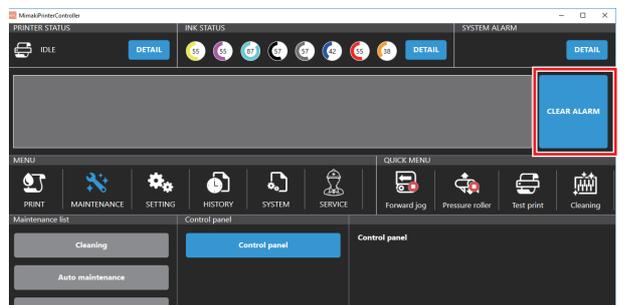


10 Execute [To parking position] to move the carriage to the station.



11 Return the EXCLUSION key to the "SAFETY DOOR OFF".

12 Execute [Clear Alarm] to clear the alarm.

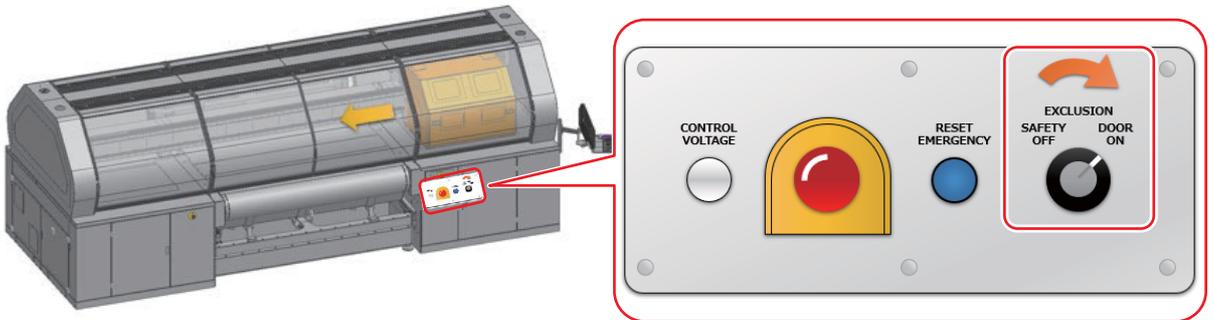


13. Check of wiper purified water output (once every 2 weeks)



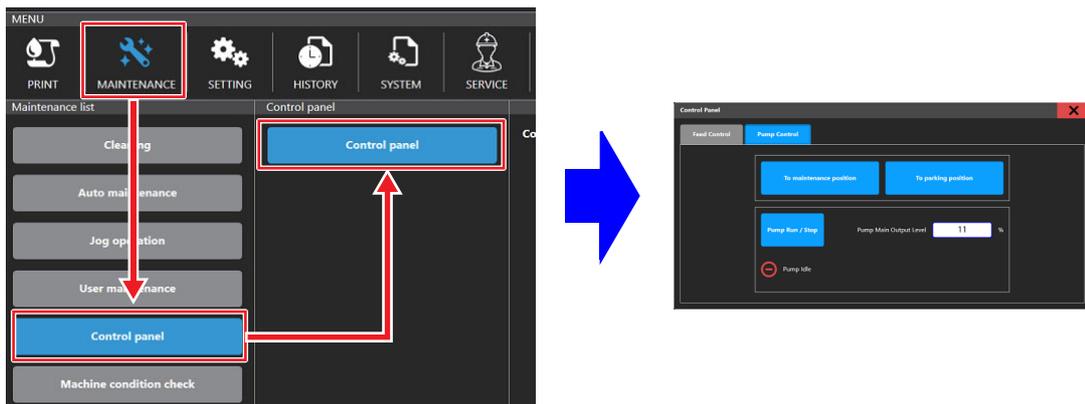
- If wiper purified water output is inappropriate the cleaning may be not able to normal and may occur miss printing.
- Before this maintenance, please clean the wiper holder fixing block.

1 Set the EXCLUSION key to "SAFETY DOOR ON".

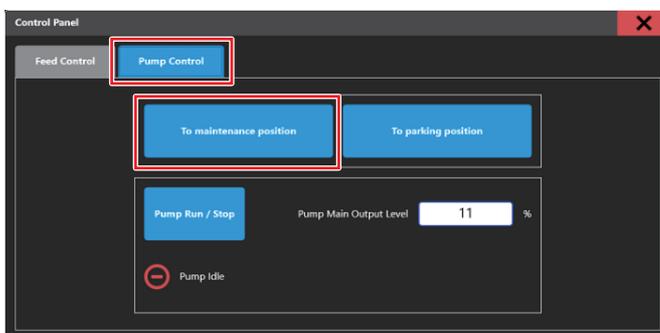


2 Execute [Soft Cleaning].

3 Execute [Control panel] > [Control panel] from [MAINTENANCE] menu.

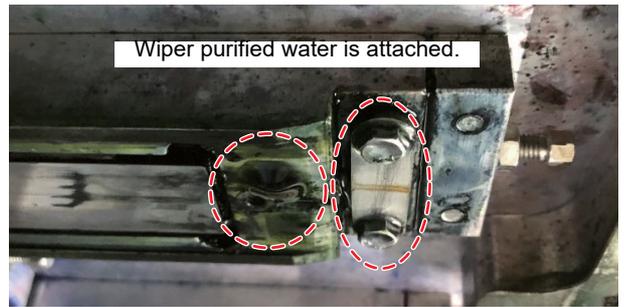


4 Execute [Pump Control] > [To Maintenance position] and move the carriage to the maintenance area.



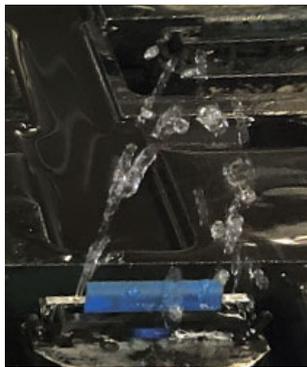
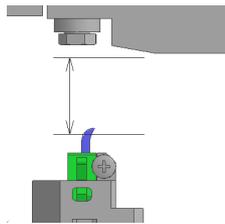
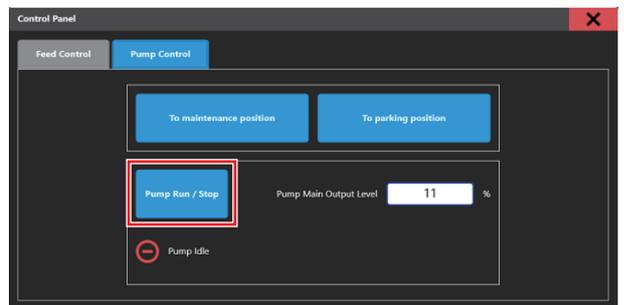
5 Visually check that there is no wiper purified water around the print heads.

- If wiper purified water adheres to the area around the print head, it is necessary to adjust the pump output of the wiper purified water because the purified water pump output is too strong.
- If wiper purified water adheres to the area around the print head, it may degrade the print head.
- If printing with wiper purified water adhering to the area around the print head, it may contaminate the media with purified water.



6 Press [Pump Run/Stop] to move the purified water pump and check the pump output is appropriate.

- The standard output is the amount of purified water that covers the hooked part of the wiper tip and does not hit the nozzle surface or the back of the carriage.



Pump output too strong



Pump output in proper

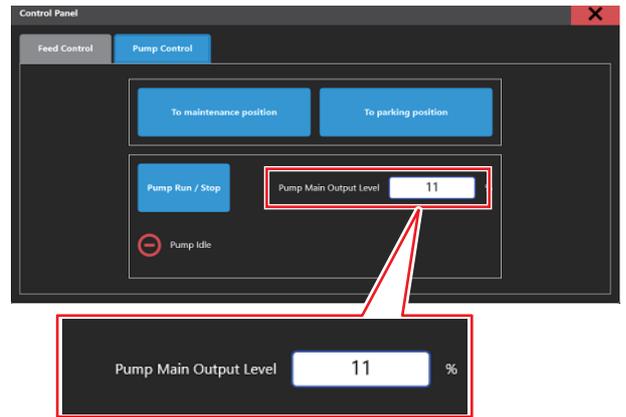


Pump output too weak

- If the output of the purified water pump is too weak, the wiper may be washed insufficiently.
- If cleaning is performed under insufficient wiper cleaning conditions, discharge failure may occur.
- Before this maintenance, please clean the wiper holder fixing block.

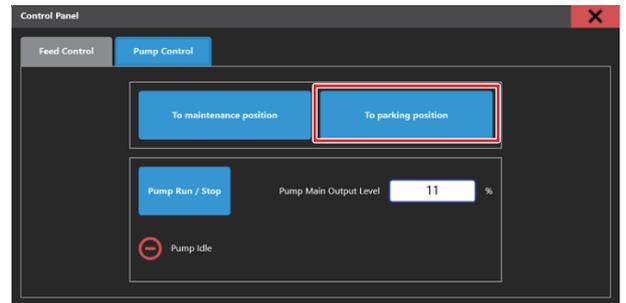
7 If the pump output is too strong or too weak, adjust the pump output.

- If you want to increase the pump output, increase the value. If you want to decrease the pump output, decrease the value.
- Settable range: 0 to 100%



If you want to change the output during operation of the purified water pump, adjust this value.

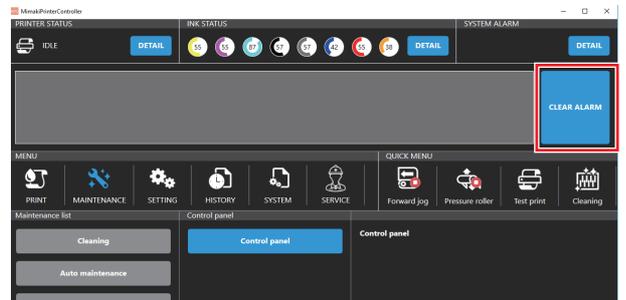
8 Execute [To parking position] to move the carriage to the station.



9 Repeat steps 2-7 until the purified water pump output is adequate.

10 Returns [EXCLUSION] key to the "SAFETY DOOR OFF" state.

11 Execute [Clear Alarm] to clear the alarm.

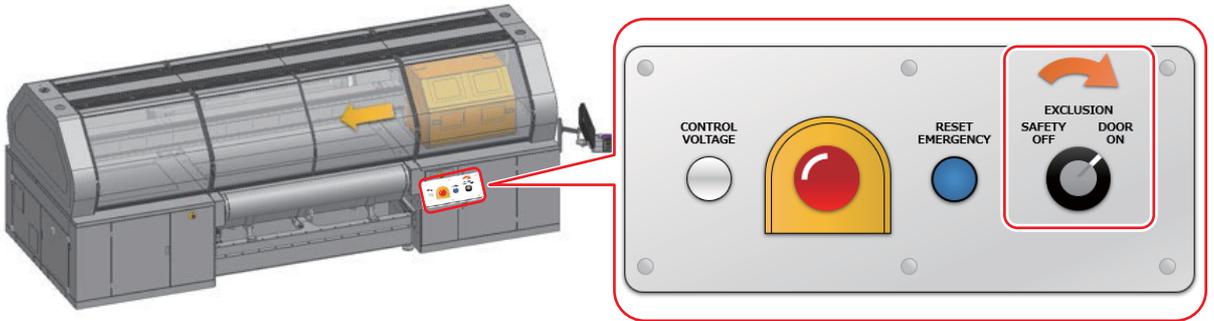


14. Cleaning the Ink droplet plate (once every 2 weeks)

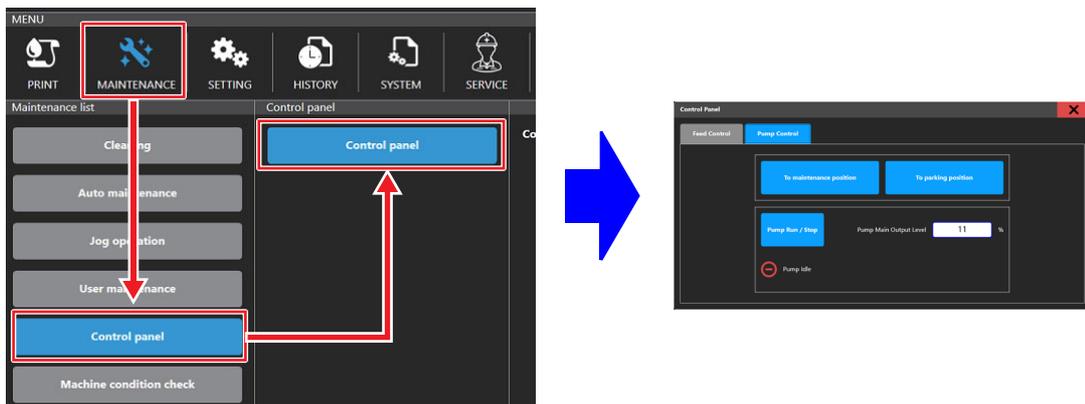


- If you do not perform regular maintenance, the ink accumulated on the Ink droplet plate may adhere to the head nozzle surface, leading to trouble.

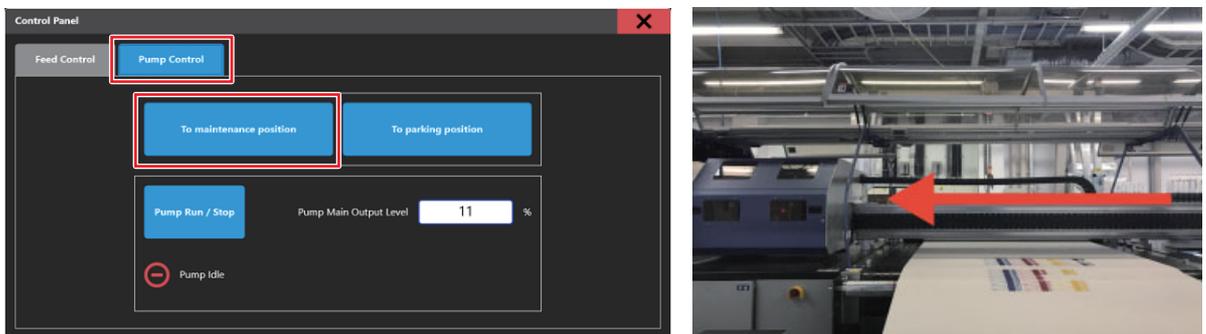
1 Set the EXCLUSION key to "SAFETY DOOR ON".



2 Execute [Control panel] - [Control panel] from the [MAINTENANCE] menu.



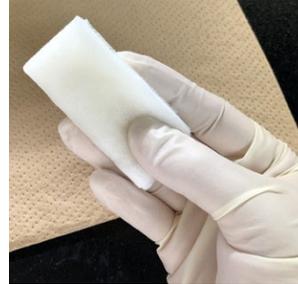
3 Execute [Pump Control] – [To Maintenance Position] to move the carriage to the maintenance area.



4 Transfer the cleaning liquid to a disposable cup and soak the cleaning liquid in the maintenance cloth.



- Do not return any cleaning solution left in the disposable cup to the cleaning solution bottle.



5 Wipe off the ink on the surface of the Ink droplet plate with a maintenance cloth soaked in cleaning liquid.



- Wipe off the dry and thickened ink carefully so that it does not remain on the surface of the Ink droplet plate.

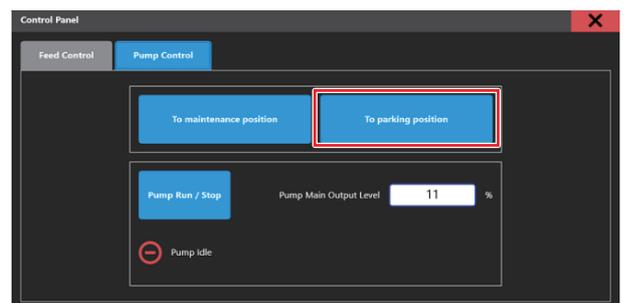


Before maintenance



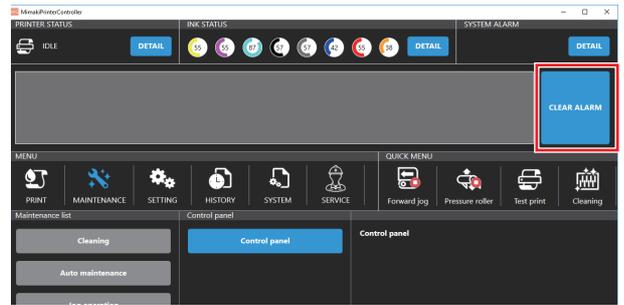
After maintenance

6 Execute [To parking position] to move the carriage to the station.



7 Return the EXCLUSION key to the "SAFETY DOOR OFF".

8 Execute [Clear Alarm] to clear the alarm.

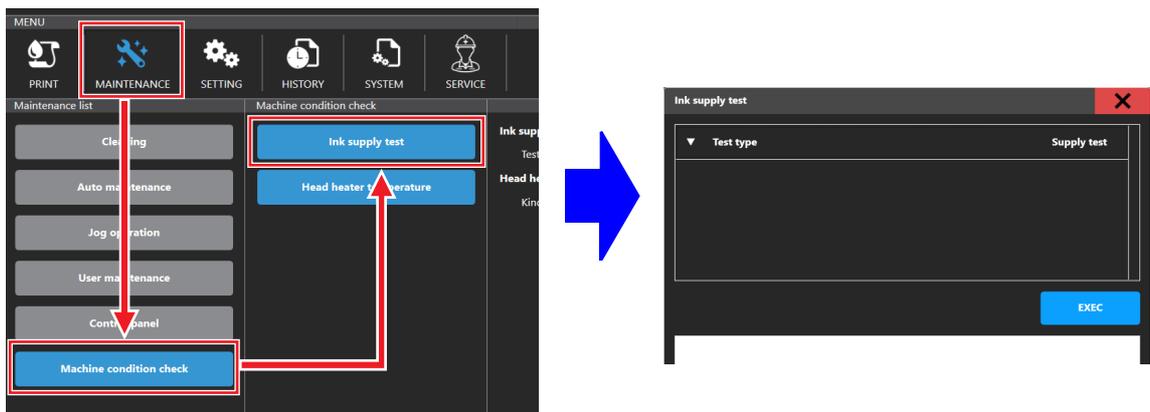


15. Supply test (once every a month)



- If the ink filter is clogged, normal maintenance may be impossible, and the head may be damaged. Perform this operation periodically to check the clogging of the ink filter.
- By replacing the ink filter when the ink supply capacity is low, you can prevent troubles caused by clogging of the filter.
- On machines using Sb520 ink, **perform a supply test once every two weeks.**
- This function consumes the same ink as soft cleaning to protect the nozzle surface. (Approx. 2.4 cc per route)

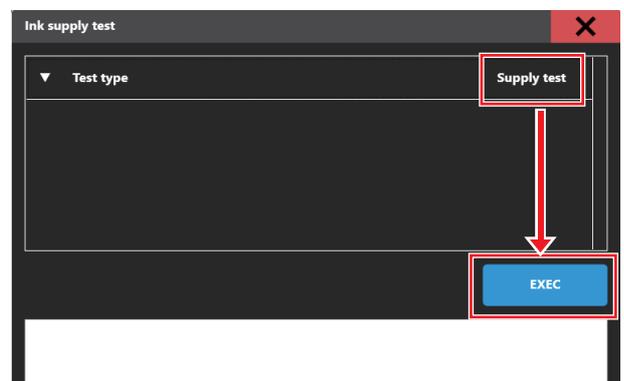
1 From [MAINTENANCE] menu, execute [Machine condition check] > [Ink supply test].



2 Confirm that "Supply test" is selected on the test type and execute [EXEC].



- The test takes about 3 to 5 minutes.



3 Execute the test and verify the results.

The screenshot shows the 'Ink supply test' window. The 'Test type' is set to 'Supply test'. An 'EXEC' button is visible. The test results are as follows:

Route number	Test Results
9:1	14.0sec -
9:2	14.9sec -
9:3	14.5sec -
9:4	13.6sec -
9:5	14.4sec -
9:6	14.1sec -
9:7	13.7sec -
9:8	15.9sec -



- If the test result is 60 seconds or more, replace the ink filter or contact our technical support according to the table below.

Result	Machine to which the filter simple replacement kit is applied	Machines to which the filter simple replacement kit is not applied
20 seconds or less	Normal (new condition) No special work is required.	Normal (new condition) No special work is required.
20-60 seconds	Normal No special work is required.	Normal No special work is required.
60 seconds or more	Replace the ink filter according to the procedure described in this document.	Please contact our technical support.

16. Replacement of the ink filter

Timing of the ink filter replacement

If the following message is displayed on the MPC, or if the supply test result is 60 seconds or longer, replace the ink filter of the corresponding route.

Message	Condition	Note
067D:09(ZZZZZZZZ)INK SUPPLY WARN	The amount of ink supplied began to decline.	Printing and maintenance operations are possible, but it is recommended to replace the ink filter as a preventive any problems.
061B:09(ZZZZZZZZ)NK SUPPLY	Ink cannot be supplied to the sub tank.	Printing is not possible, and normal maintenance operations cannot be performed by auto cleaning, etc. The minimum maintenance operation works, but if left in this state, it may lead to irreparable nozzle clogging, so be sure to replace the ink filter.

ZZZZZZZZ indicates the route number. (For route 3: ____ 3__, For route 6: __ 6 ____)

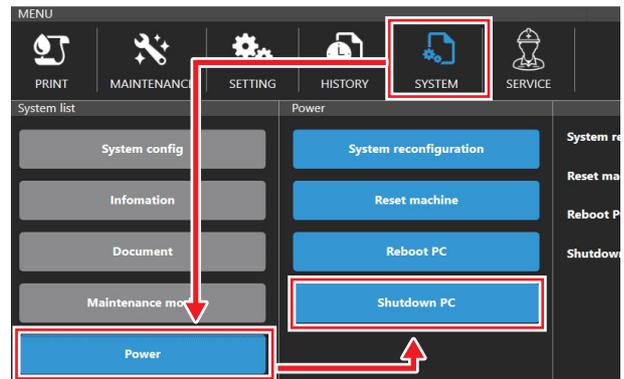


- The operator can replace the ink filter **only on the machine to which the simple filter replacement kit is applied.**
- If the above message does not disappear even after replacing the ink filter, please contact our technical support.

1 Shut down the PC.



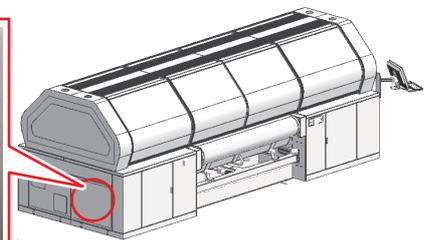
- Before shutting down the PC, check the route number to replace the filter. (Take a picture, etc.)



2 Turn off the main power of the machine.



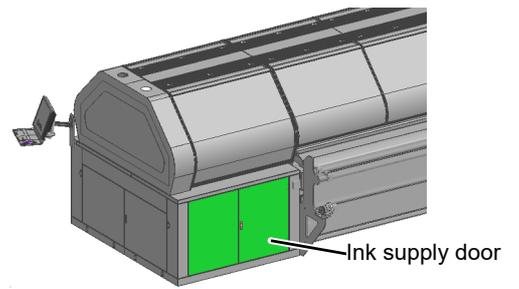
Main power switc



3 Open the ink supply door on the right back of the machine.

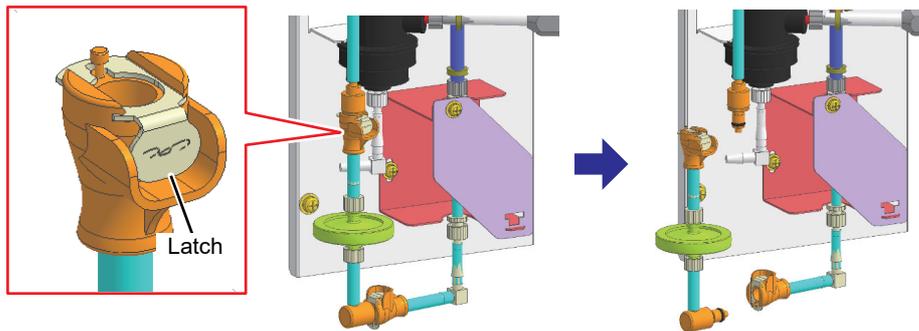
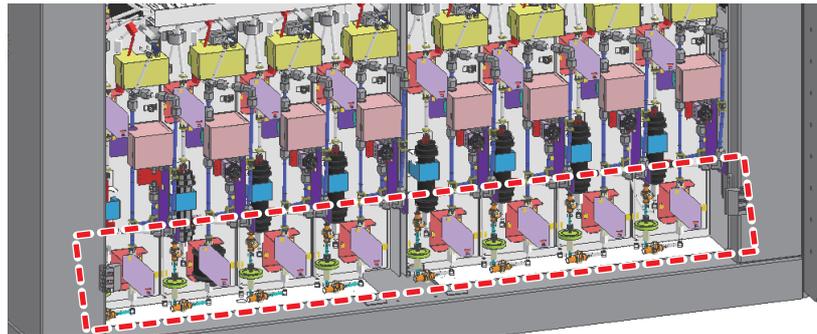


- If the door is locked, use the key attached to the machine.
- If you do not have the key, please contact the service.



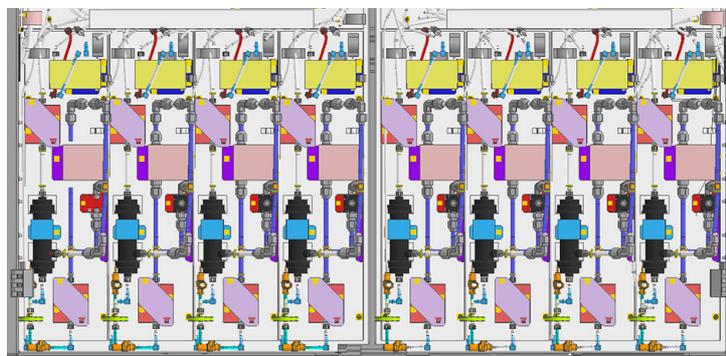
4 Remove the two CPC fittings before and after the ink filter on the route where the error occurred in the supply unit.

- The CPC fitting can be separated by pressing the latch with your finger.



- When removing the CPC fitting, cure the area around the ink filter with a waste cloth to prevent ink from dripping.
- Do not touch other fittings as ink may leak.

Route number and ink color

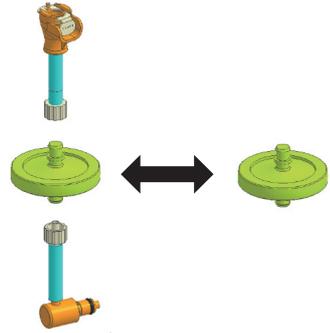


Route number	1	2	3	4	5	6	7	8
Sb520 4C	Y	M	B	K	K	B	M	Y
Sb510 4C	Y	M	B	K	-	-	-	-
Rc500 8C	Y	M	C	K	Lk	B	R	Or

5 Replace the ink filter with a new one.

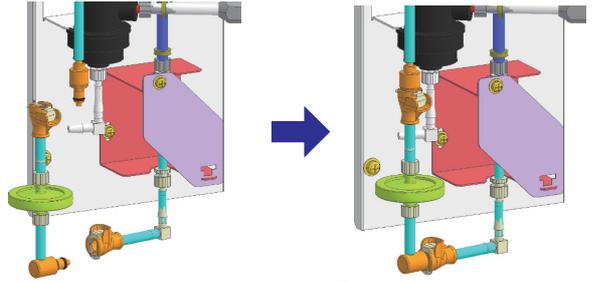


- Be careful as ink may drip from the ink filter or ink tube.

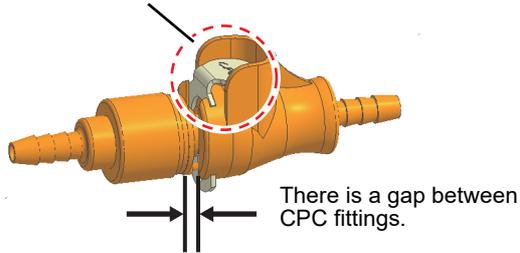


6 Reconnect CPC fittings.

- Push the CPC fittings together until you hear a "click".

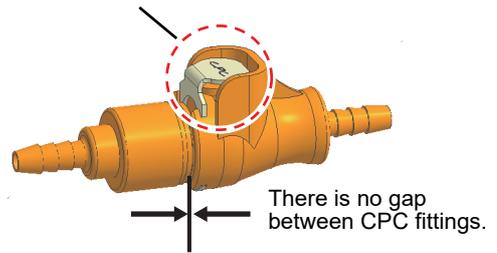


The latch remains pushed



CPC fitting is not connected

The latch is up

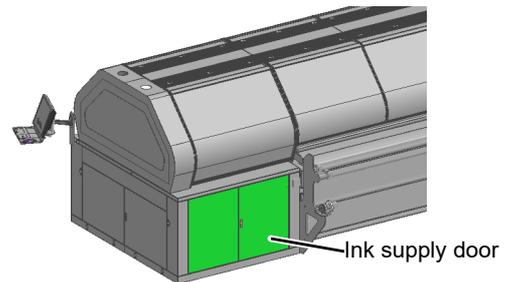


CPC fitting is connected

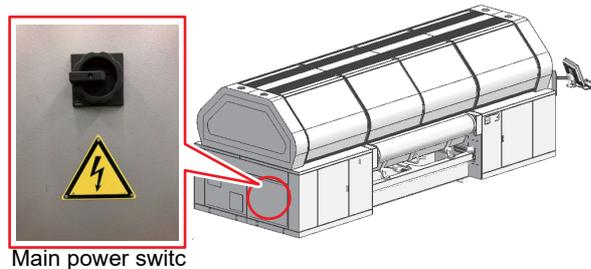


- Be sure to connect the CPC fitting securely as it may cause ink supply failure or damage to parts.

7 Close the ink supply door on the right back of the machine.

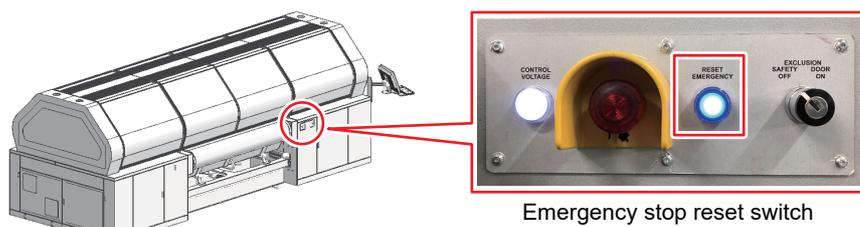


8 Turn on the main power on the left side of the machine.



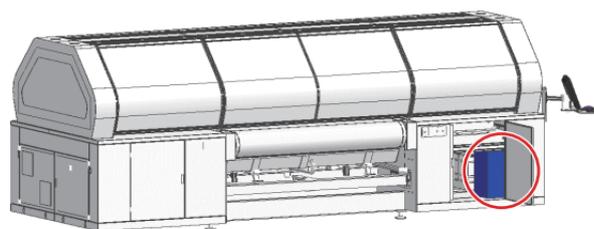
9 Press the emergency stop reset switch on the right front of the machine.

- Press the emergency stop reset switch to turn off the blue light.

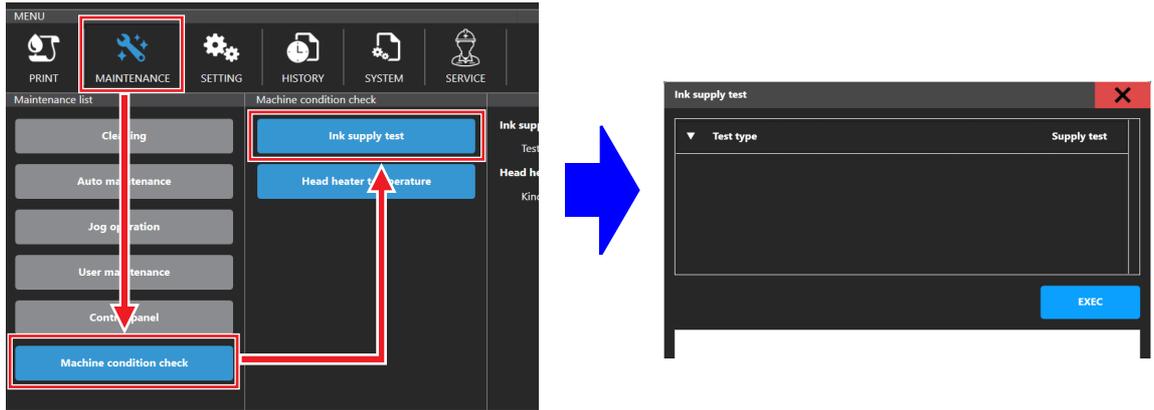


10 Turn on the PC.

- MPC starts up automatically when you turn on the power of the PC.



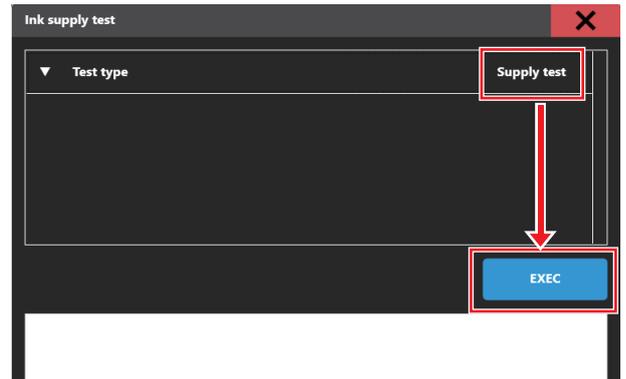
11 From [MAINTENANCE] menu, execute [Machine condition check] > [Ink supply test].



12 Confirm that "Supply test" is selected on the test type and execute [EXEC].

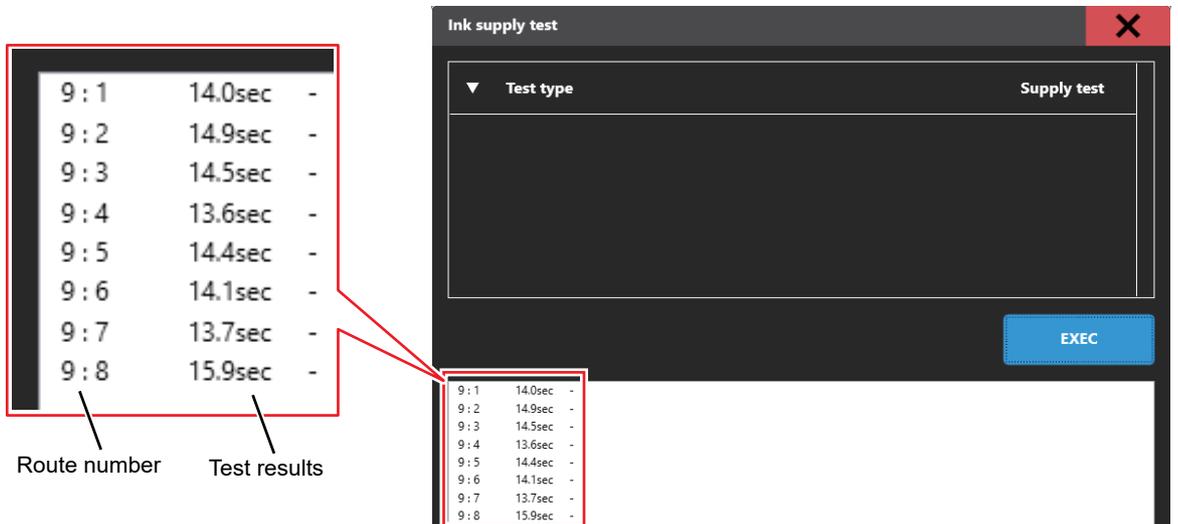


- This test takes about 3 to 5 minutes.



13 Execute the test and verify the results.

- Confirm that the test result of the route where the filter was replaced is 20 seconds or less, and the work is completed.



- If the test result immediately after replacing the filter is 20 seconds or longer, please contact our technical support.
There is no problem that the test result of the route **without filter exchange** is 20 seconds or more.

MEMO



You can also download the latest manual from our website.

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Tiger Products Install Pack 2.04