Toscana-P1/Toscana-P1N/Piemonte-P1N
Machine Code: J007/J010/J011

Repair Center Manual

May. 26th, 2006
Subject to change

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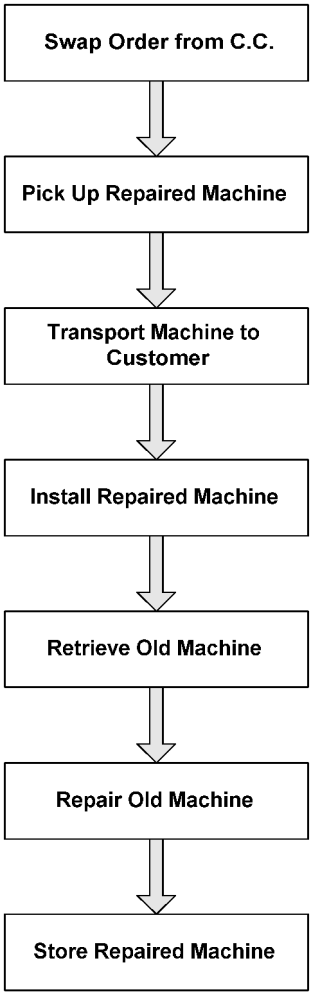
1. Before You Begin

Swap and Repair Flow



Call Center tries to solve problem.
Key: Develop knowledge to solve problem and avoid customer service call.

Prepare machine for transport.
KEY: Machine can be transported with ink cartridges installed.

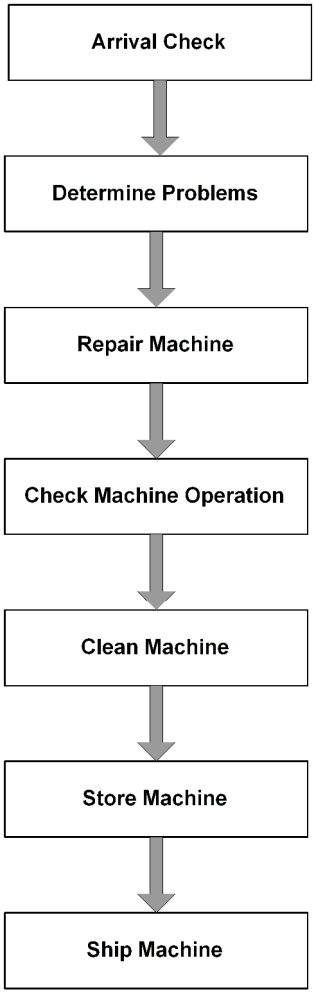
Plug&Play: IP address is only network setting needed.

Use Troubleshooting Guide at Repair Center

Clean and store repaired machine.

J011E107

Repair Center Work Flow



Check the machine to determine whether it is replaceable.

Use the Troubleshooting Guide to determine the cause of the problem.

Repair machine only if the problem can be repaired.

Use the special sheet to do a Machine QA Check.

Clean the machine before storage.

Storage Conditions
Range: 20C to 34C (68F to 93.2F) , rH: 15% to 80%
Recommended: 20C to 27C (68F to 80.6F, rH 15% to 80%

Pack new ink cartriges with machine.

J011E108

Important

- If you are using the RPCS printer driver checks and adjustments can be done on the operation panel or with the printer driver.
- If you are using the PCL printer driver, however, the checks and adjustments can be done on the operation panel only. These checks and adjustments are not provided in the printer driver.
- The QA sheet can be printed with the RPCS printer drive only.

2. Arrival Check

Machine Check After Arrival at the Center

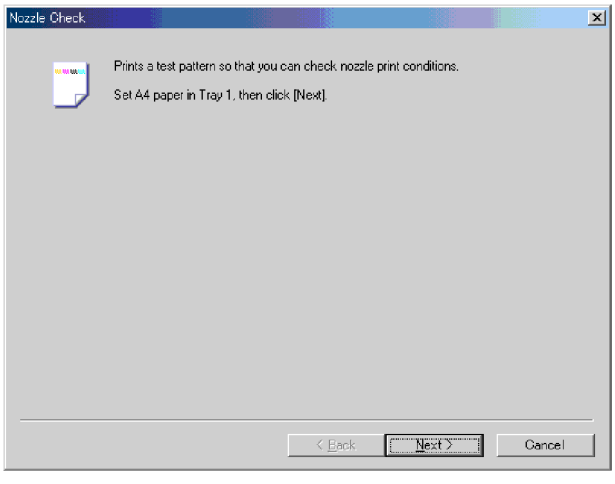
RPCS Printer Driver

Do this procedure as soon as the printer arrives at the service center.

Note

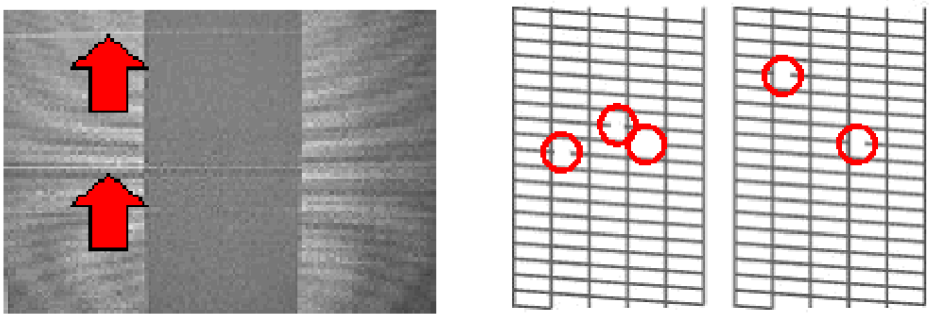
- This procedure can be done with the RPCS printer driver only.

1. **Confirm that paper is loaded in the printer.**
2. **Open the printer driver. For example, click Start> Settings> Printer to open the "Printers" folder, then right-click and open the printer icon to open the driver.**
3. **Click "Maintenance"> "Nozzle Check".**



A01

4. **Press and hold down [Ctrl]+[Shift]+[1] then click the [Next] button.**
5. **Check the printed pattern.**



A02

6. **Determine if the print heads are operating normally:**
   - Any colors missing?
   - Colors uneven?
   - Any lines crooked or broken?
   - Any white spots or streaks?
7. **If you see one or more of these problems as shown in the illustration above, do the print head cleaning procedures. (See "5. Important Procedures", "Print Head Cleaning").**

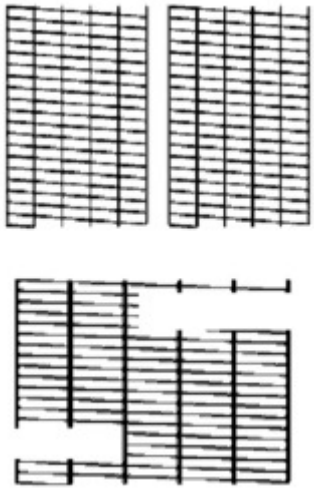
PCL Printer Driver

Do the print and check with the operation panel.

Note

- Use this procedure if the machine is not connected to a PC, or if the connected computer has the PCL printer driver. (The PCL printer driver is not provided with the maintenance functions.)

1. **Push [Menu], select "Maintenance", and push [#Enter].**
2. **Select "Nozzle Check" and press [#Enter]. The Nozzle Check pattern prints.**
3. **Examine the Nozzle Check pattern for broken lines or white patches. The first sample below is normal, the second sample shows white patches.**



1. **Determine if the print heads are operating normally:**
   - Any colors missing?
   - Colors uneven?
   - Any lines crooked or broken?
   - Any white spots or streaks?
2. **If you see one or more of these problems as shown in the illustration above, do the print head cleaning procedures. (See p.50 "Print Head Cleaning and Flushing").**

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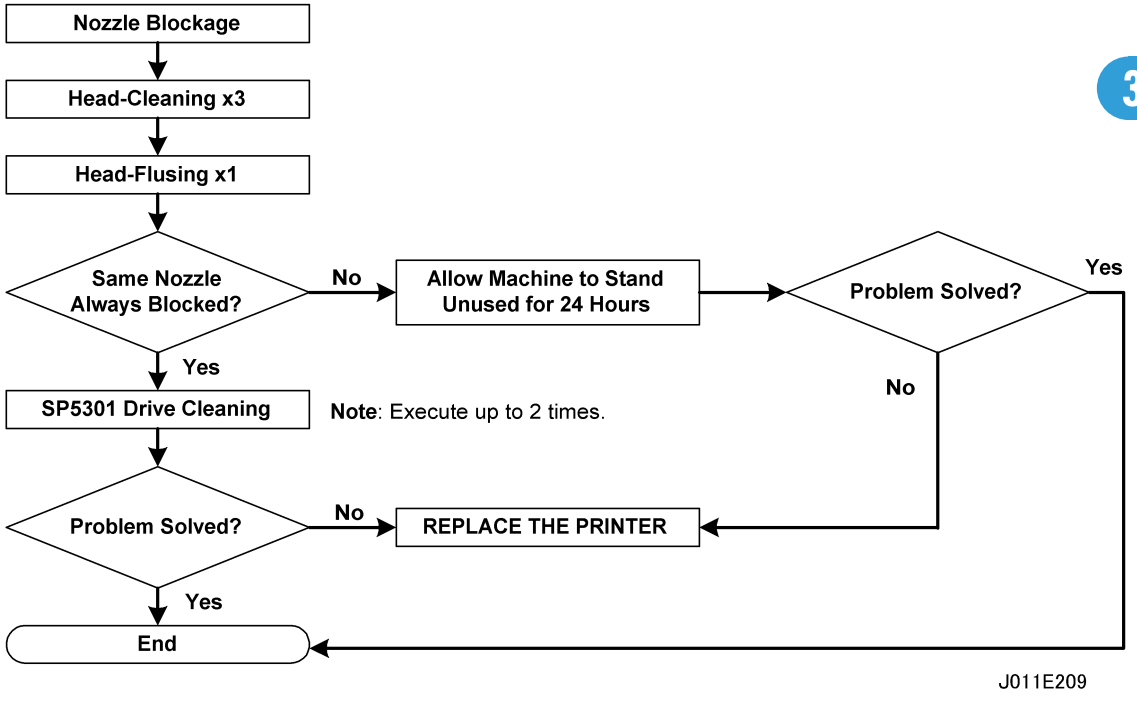
3. Troubleshooting

Before Troubleshooting

Before you begin, make sure that you understand the basic procedures for cleaning the print heads.



For more details about the print head cleaning procedures, see "Print Head Cleaning" in "5. Important Procedures".

SC CODE ERRORS

Refer to the table below to find the error that best describes the problem then go to the appropriate page.

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SC Code Errors

SC950 USB chip ID read error

Description: An illegal number was detected for the USB chip ID at power on.

Probable Cause: USB chip defective

Location: Control board

Procedure:

1. **Cycle printer on/off, check result.**
2. **Replace control board.**

SC951 No definition allocated to USB

Description: An unrecognizable interrupt signal was detected for the USB chip.

Probable Cause: USB chip defective

Location: Control board

Procedure:

1. **Cycle printer on/off, check result.**
2. **Replace control board.**

SC970 Flash ROM erase error

Description: Occurs during data write to an IC card. The data on the Flash ROM failed to erase during a write operation to an IC card for firmware update. This SC is logged (it does not appear on the printer operation panel).

Probable Cause: NVRAM (Flash ROM) defective

Location: Control board

Procedure:

1. **Replace control board.**

SC971 Flash ROM write error

Description: Occurs during data write to an IC card. The data on the Flash ROM failed to write during a write operation to an IC card for firmware update. This SC is logged (it does not appear on the printer operation panel).

Probable Cause: Flash ROM defective

Location: Control board

Procedure:

1. **Cycle printer on/off, check result.**
2. **Replace control board.**

SC972 Flash ROM verify error

Description: Occurs during data write to an IC card. After firmware was written, the data on the IC card in the data on the flash ROM were determined to be incompatible. This SC is logged (it does not appear on the printer operation panel).

Probable Cause: Flash ROM defective

Location: Control board

Procedure:

1. **Cycle printer on/off, check result.**
2. **Replace control board.**

SC973 EEPROM write error

Description: Data write to NVRAM failed.

Probable Cause: NVRAM EEPROM defective

Location: Control board

Procedure:

1. **Cycle printer on/off, check result.**
2. **Replace EEPROM (NVRAM).**
3. **Replace control board.**

SC978 Left ink collection tank

Description: Left ink collection tank is full.

Probable Cause: Ink collection tank sensor detected full condition.

Location: Ink collection tank

Procedure:

1. **Cycle printer on/off, check result.**
2. **Push [Menu], select "List/Test Print" then push [#Enter] to print the System Summary.**
3. **Check the Total Counter reading of the System Summary.**
4. **Replace the left ink collection tank.**

SC984 DRV circuit temperature abnormal

Description: The temperature of the DRV board (driver board) is out of range (-13C to +55C).

Probable Cause: The signal from the temperature sensor on the control board did not change.

Location: Control board

Procedure:

1. **Cycle printer on/off, check result.**
2. **Check fan operation.**
3. **Replace control board.**

SC986 Humidity sensor abnormal

Description: An abnormality was detected in the humidity sensor.

Probable Cause: Defective temperature/humidity sensor.

Location: Control board

Procedure:

1. **Cycle printer on/off, check result.**
2. **Check control board connections.**
3. **Replace control board.**

SC988 Air sensor abnormal

Description: Air sensor was detected abnormal when suction was applied 3 times after the printer was powered on for the first time for ink tank filling or print head refreshing, but no air was detected.

Probable Cause: Defective plunger prevented the air release value from depressing properly.

Location: Air sensor of the affected print head.

Procedure:

1. **Replace the air release lever solenoid.**

SC990 Ink level sensor feeler out of position

Description: One or more of the following occurred:

- The ink level sensor feeler was not detected at initial ink filling or when air was purged from the ink tanks before filling.
- The proper air pressure inside the ink tank could not be achieved.
- The signal from the ink level sensor did not change.

Probable Cause: One or more of the following:

- The cap of the maintenance unit did not rise toward the carriage.
- The maintenance motor was not operating for suctioning ink from the print heads.
- Feelers of the ink level sensor missing or out of position.
- Film encoder dirty.
- Maintenance unit defective.

Location: Print head ink tank, feelers of the ink level sensor, encoder film strip, maintenance unit.

Procedure:

1. **Cycle printer on/off, check result.**
2. **Clean suction cap.**
3. **Replace horizontal encoder film strip.**
4. **Replace maintenance unit.**
5. **Check the position of the feelers attached to the sides of the tanks.**

SC993 High voltage leak

Description: A voltage leak was detected at the HVPS pack.

Probable Cause: The leak detection signal went ON then did not change, ink or condensation accumulated on transport belt.

Location: HVPS pack, control board, transport belt

Procedure:

1. **Cycle printer on/off, check result.**
2. **Raise top cover and check condition of transfer belt surface.**

3. **Push [Menu> select "Maintenance"> "De-Condensation" to feed 3 sheets of blank paper through the paper path to absorb condensation.**
4. **Clean ink from transport belt.**
5. **Replace HVPS pack.**

SC994 Vertical motor error

Description: The vertical motor did not move when it was switched on.

Probable Cause: Vertical motor not rotating, encoder sensor signal did not change, or paper jam.

Location: Vertical motor, encoder sensor, control board, paper path (jam)

Procedure:

1. **Cycle printer on/off, check result.**
2. **Remove paper jam.**
3. **Replace encoder sensor.**
4. **Replace vertical motor.**

SC996 No input from the horizontal encoder sensor

Description: The input from the horizontal encoder sensor could not be detected.

Probable Cause: No input from horizontal encoder sensor, encoder sensor signal did not change, encoder strip is dirty or scratched, horizontal motor not rotating.

Location: Encoder film strip, horizontal motor, control board, encoder sensor

Procedure:

1. **Cycle printer on/off, check result.**
2. **Confirm film encoder not loose.**
3. **Replace horizontal motor.**

SC997 Horizontal encoder abnormal

Description: One of the following:

- The horizontal motor switched on at power on so the horizontal encoder sensor could detect any foreign matter on the horizontal encoder strip but the motor could not switch off.
- When the printer was turned on, or after it left the energy save mode, the horizontal motor could not stop when it was seeking the home position.

Probable Cause: Encoder sensor signal did not change, or encoder strip is dirty or scratched.

Location: Encoder film strip, control board, encoder sensor

Procedure:

1. **Cycle printer on/off, check result.**
2. **Replace encoder sensor.**
3. **Check encoder film position.**
4. **Check carriage FFC (Flat Film Connector).**

SC999 Maintenance stepper motor out of position

Description: Maintenance HP sensor motor failed to detect the motor position even though the motor was rotating.

Probable Cause: Maintenance motor not rotating, maintenance motor HP sensor signal did not change, cap did not separate from carriage.

Location: Maintenance unit, control board

Procedure:

1. **Cycle printer on/off, check result.**
2. **Clean wiper.**
3. **Check HP sensor connector.**
4. **Replace maintenance unit.**

Unrecoverable Jamming

Bypass Tray

Paper feed jam – Bypass tray (Double Feeding)

Description: The registration sensor did not detect the leading edge of the paper fed from the bypass tray.

Probable Cause: Registration sensor signals did not change, dirt, other foreign matter detected on transport belt.

Location: Transport unit, 1st, 2nd registrations sensors

Service Center Procedure:

1. **Confirm that rear paper guide is set correctly.**
2. **Confirm that the paper is not curled.**
3. **Confirm that the type of paper can be used with the printer.**

Replacement Procedure:

1. **Clean transport belt.**
2. **Replace Registration Sensors 1, 2.**
3. **Replace Multi Bypass Tray.**
4. **Replace the printer.**

Paper exit jam – Bypass tray

Description: After the trailing edge sensor detected the trailing edge of the paper fed from the bypass tray, the paper stopped at the 2nd registration sensor.

Probable Cause: 2nd registration sensor signal did not change.

Location: 2nd registration sensor

Service Center Procedure:

1. **Confirm that rear paper guide is set correctly.**
2. **Confirm that the paper is not curled.**
3. **Confirm that the type of paper can be used with the printer.**

Replacement Procedure:

1. **Replace Registration Sensors 1, 2.**
2. **Replace control board.**

Duplex Unit

Duplex jam

Description: The trailing edge sensor failed to detect the trailing edge of the paper after it was fed to the duplex unit for duplex/inverted printing.

Probable Cause: Duplex unit defective

Location: Duplex unit

Service Center Procedure:

1. **Confirm that the duplex unit is installed correctly and that both levers are locked.**
2. **Confirm that the paper type can be used for duplex printing.**
3. **Request delivery of a new duplex unit if the unit is in poor condition.**

Replacement Procedure:

1. **Confirm that duplex unit is set correctly.**
2. **Remove jammed paper, paper scraps, etc.**
3. **Replace duplex unit.**

Duplex transport jam

Description: After the trailing edge sensor detected the trailing edge of the paper fed to the duplex unit for duplex/inverted printing, the paper stopped at the trailing edge sensor.

Probable Cause: The signal of the trailing edge sensor did not change, or the feeler of the trailing edge sensor did not return to its home position properly.

Location: Trailing edge sensor

Service Center Procedure:

1. **Confirm that the duplex unit is installed correctly and that both levers are locked.**
2. **Confirm that the paper type can be used for duplex printing.**

Replacement Procedure:

1. **Replace inverter guide.**
2. **Replace trailing edge sensor.**
3. **Replace control board.**

Duplex (Inside)

Description: After paper was fed for duplex/inverter printing, the trailing edge sensor detected the trailing edge and switched ON but the registration sensors failed to detect the paper.

Probable Cause: Trailing edge sensor signals did not change.

Location: Trailing edge sensor

Service Center Procedure:

1. **Confirm that rear paper guide is set correctly.**

Replacement Procedure:

1. **Replace inverter guide.**
2. **Replace TE sensor.**
3. **Replace control board.**

Initial Jam

Jam at start of print job

Description: Paper jammed at power on, or during printer initialization (trailing edge sensor ON).

Probable Cause: The signal of the trailing edge sensor did not change, or paper feed clutch remained on.

Location: Trailing edge sensor, paper feed clutch

Service Center Procedure:

1. **Confirm that rear paper guide is set correctly.**
2. **Remove paper cassette Tray 1 and confirm that there is no paper in the printer.**
3. **Confirm that the paper is not curled.**
4. **Confirm that the type of paper can be used with the printer.**

Replacement Procedure:

1. **Clean transport belt.**
2. **Replace inverter guide.**
3. **Replace TE sensor.**
4. **Replace Registration Sensors 1, 2.**

Printer Paper Path Jams

Carriage jam

Description: The carriage failed to reach its target position within the prescribed time.

Probable Cause: Horizontal encoder read failure

Location: Encoder film strip, control board

Service Center Procedure:

1. **Confirm that rear paper guide is set correctly.**
2. **Check the paper path.**
3. **Confirm that the paper is not curled.**
4. **Confirm that the type of paper can be used with the printer.**

Replacement Procedure:

1. **Replace encoder sensor.**
2. **Check the maintenance unit.**
3. **Replace maintenance unit.**

Jam between trailing edge sensor and registration sensor

Description: The leading edge of the inverted paper from the duplex unit is not detected at the registration sensors.

Probable Cause: 1st or 2nd registration sensor not operating, or control board malfunction.

Location: 1st, 2nd registrations sensors, control board

Service Center Procedure:

1. **Remove paper cassette Tray 1 and confirm that there is no paper in the printer**
2. **Confirm that the paper is not curled.**
3. **Confirm that the type of paper can be used with the printer.**

Replacement Procedure:

1. **Replace registration sensors 1, 2.**

Tray 1

Paper feed failure – Printer tray (Tray 1)

Description: The registration sensor detected the leading edge of the paper but the trailing edge sensor failed to detect the trailing edge of the paper fed from the printer paper tray.

Probable Cause: The signal of the trailing edge sensor did not change, or the feeler of the trailing edge sensor did not return to its home position properly.

Location: Printer tray (Tray 1), paper feed clutch, control board, trailing edge sensor.

Service Center Procedure:

1. **Check paper how paper is loaded in the tray.**
2. **Remove paper, fan paper to remove static cling, and re-load.**
3. **Reduce or increase the amount of paper loaded.**
4. **Check and reset the position of the end fence.**
5. **Confirm that the paper is not curled.**
6. **Confirm that the type of paper can be used with the printer.**
7. **Confirm that the paper cassette is installed correctly. (Remove the cassette and set it again).**
8. **If another paper cassette is available, use the extra cassette.**
9. **If the cassette is defective, request delivery of another cassette.**

Replacement Procedure:

1. **Replace the paper feed clutch in Tray 1.**
2. **Replace friction pad.**
3. **Replace paper cassette unit.**

Paper transport jam – Printer tray (Tray 1)

Description: After the trailing edge sensor detected the trailing edge of the paper fed from the printer paper tray, the paper stopped at the trailing edge sensor.

Probable Cause: One or more of the following:

- Double feed
- Dirt, other foreign matter detected on transport belt
- The signal of the trailing edge sensor did not change
- The feeler of the trailing edge sensor did not return to its home position properly

Location: Transport unit, or trailing edge sensor

Service Center Procedure:

1. Confirm that rear paper guide is set correctly.
2. Remove paper cassette Tray 1 and confirm that there is no paper in the printer
3. Confirm that the paper is not curled.
4. Confirm that the type of paper can be used with the printer.

Replacement Procedure:

1. Replace inverter guide.
2. Replace trailing edge sensor.
3. Replace control board.

Printer paper tray

Description: After paper was fed from the printer paper tray (Tray 1), the trailing edge sensor detected the trailing edge and switched ON but the registration sensors failed to detect the paper.

Probable Cause: Registration sensor signals did not change.

Location: 1st, 2nd registrations sensors

Service Center Procedure:

1. Confirm that rear paper guide is set correctly.

Replacement Procedure:

1. Replace inverter guide.
2. Replace trailing edge sensor.
3. Replace control board.

Paper transport timing abnormal

Description: The leading edge of the paper was detected at the registration sensor before the trailing edge was detected at the trailing edge sensor (or PFU relay sensor).

Probable Cause: Registration sensor signals did not change.

Location: 1st, 2nd registrations sensors

Service Center Procedure:

1. Confirm that rear paper guide is set correctly.
2. Remove paper cassette Tray 1 and confirm that there is no paper in the printer.
3. Confirm that the paper is not curled.
4. Confirm that the type of paper can be used with the printer.

Replacement Procedure:

1. **Clean transport belt.**
2. **Replace the 1st registration sensor.**

Tray 2

Paper feed failure – PFU (Tray 2)

Description: The PFU relay sensor signaled a paper late error after paper was fed from the PFU.

Probable Cause: The signal of the PFU relay sensor did not change, or the feeler of the PFU relay sensor did not return to its home position properly.

Location: PFU (optional tray), or control board

Service Center Procedure:

1. **Check paper load. (Remove paper, fan paper to remove static cling, re-load**
2. **Reduce or increase the amount of paper loaded.**
3. **Check and reset the position of the end fence.**
4. **Confirm that the paper is not curled.**
5. **Confirm that the type of paper can be used with the printer.**
6. **Confirm that the paper cassette is loaded correctly. (Remove the cassette and set it again).**
7. **If another paper cassette is available use the extra cassette.**

Replacement Procedure:

1. **Replace paper feed clutch in Tray 2.**
2. **Replace paper cassette.**
3. **Replace Tray 2.**

Paper transport jam – PFU (Tray 2)

Description: After the trailing edge sensor detected the trailing edge of the paper fed from the PFU, the paper stopped at the trailing edge sensor.

Probable Cause: One or more of the following:

- Double feed
- Dirt, other foreign matter detected on transport belt
- The signal of the trailing edge sensor did not change
- The feeler of the trailing edge sensor did not return to its home position properly

Location: Transport unit, trailing edge sensor

Service Center Procedure:

1. Confirm that rear paper guide is set correctly.
2. Remove paper cassette Tray 1 and confirm that there is no paper in the printer.
3. Confirm that the paper is not curled.
4. Confirm that the type of paper can be used with the printer.

Replacement Procedure:

1. Clean transport belt.
2. Replace TE sensor.
3. Replace Tray 2.

PFU (Tray 2)

Description: After paper was fed from the PFU (Tray 2), the trailing edge sensor detected the trailing edge and switched ON but the registration sensors failed to detect the paper.

Probable Cause: Sensor signals did not change.

Location: Trailing edge sensor

Service Center Procedure:

1. Confirm that rear paper guide is set correctly.

Replacement Procedure:

1. Replace inverter guide.
2. Replace TE sensor.
3. Replace control board.

Printer Display Errors

Bypass Tray

Bypass tray unit defective

Description: Bypass tray unit is not installed properly.

Probable Cause: The bypass unit detection signal did not change.

Location: Bypass unit, control board

Service Center Procedure:

1. **Reinstall Multi Bypass Tray.**
2. **Replace if another unit is available.**

Replacement Procedure:

1. **Replace bypass unit.**
2. **Replace control board.**
3. **Replace the printer.**

Cover

Top cover open

Description: Top cover is open.

Probable Cause: Signal of the cover open sensor did not change, or top cover sensor leaf spring is bent, broken.

Location: Top cover open sensor, control board

Service Center Procedure:

1. **Check the top cover.**
2. **Check Status Monitor to see if a cover open alert has been triggered.**
3. **Check the duplex unit.**

Replacement Procedure:

1. **Replace front cover sensor (ink cartridge cover).**
2. **Replace the top cover sensor.**
3. **Replace duplex unit.**

Duplex Unit

Duplex cover open

Description: Duplex unit cover is open.

Probable Cause: The signal from the duplex cover sensor did not change.

Location: Duplex unit, duplex cover switch, control board

Service Center Procedure:

1. **Check the duplex unit cover.**
2. **Replace duplex unit if another unit is available.**
3. **Check Status Monitor to see if a cover open alert has been triggered.**
4. **Deliver duplex unit.**

Replacement Procedure:

1. **Replace duplex cover switch.**
2. **Replace duplex unit.**

Duplex unit defective

Description: Duplex unit is not installed properly.

Probable Cause: Duplex unit locks defective, duplex unit defective, or the signal from the duplex unit sensor did not change.

Location: One or more of the following:

- Duplex unit
- Rear interlock switch
- HVPS pack
- Control board

Service Center Procedure:

1. **Reinstall duplex unit.**
2. **Replace duplex unit if another unit is available.**
3. **Deliver duplex unit.**

Replacement Procedure:

1. **Replace duplex unit.**
2. **Interlock switch.**
3. **Replace HVPS.**

4. **Replace control board.**

Ink

Ink cartridge cover open

Description: Ink cartridge cover (right front door) was open.

Probable Cause: Cartridge cover sensor signal did not change, or the tab of the Ink cartridge cover open sensor is bent or broken.

Location: Ink cartridge cover sensor, or control board

Service Center Procedure:

1. **Check the ink cartridge cover (right front door).**
2. **Check Status Monitor to see if a cover open alert has been triggered.**

Replacement Procedure:

1. **Replace ink cartridge cover (right front door).**
2. **Replace operation panel.**
3. **Replace the FFC (Flat Film Connector).**

Ink cartridge not set

Description: Ink cartridge is not inserted properly.

Probable Cause: Printer cannot communicate with ink cartridge, or ink cartridge ID chip defective.

Location: Control board, ink cartridge unit, or ink cartridge

Service Center Procedure:

1. **Confirm that the ink cartridge is set correctly (Remove and reset ink cartridge).**

Replacement Procedure:

1. **Replace ink cartridge**
2. **Replace CCB**
3. **Replace CCB harness**
4. **Replace printer.**

Ink collection tank not set properly

Description: Ink collection tank out of the printer or installed improperly.

Probable Cause: The signal of the ink collection tank sensor did not change.

Location: Ink collection tank, control board

Service Center Procedure:

1. **Remove and reinstall ink collection tank.**
2. **If another tank is available use the extra tank.**
3. **Deliver ink collection tank (requires resetting).**

Replacement Procedure:

1. **Replace ink collection tank.**
2. **Replace control board.**

Ink out

Description: Ink in both the ink cartridge and print head tank have run out.

Probable Cause: The signal from the air sensor of the print head tank did not change, or ink supply pump motor is not operating.

Location: Control board, print head ink tank. ink supply pump motor

Service Center Procedure:

1. **Determine if ink out alert continues even after replacing ink cartridge.**
2. **Confirm that ink out alert is for the appropriate color of the ink cartridge.**
3. **Determine if you can hear any spurious noise from the printer.**
4. **If the color is different, replace ink cartridge.**

Replacement Procedure:

None

Paper

Paper out (Tray 1)

Description: The paper sensor in Tray 1 detected paper out but there is paper in the tray..

Probable Cause: The signal from the Tray 1 paper sensor did not change.

Location: Paper sensor (Tray 1)

Service Center Procedure:

1. **If another paper cassette is available use the extra cassette.**
2. **Deliver another paper cassette.**

Replacement Procedure:

1. Replace paper cassette.
2. Replace bottom plate lift spring.
3. Replace paper cassette.

Paper out (Tray 2)

Description: The paper sensor in Tray 2 detected paper out but there is paper in the tray.

Probable Cause: The signal from the Tray 2 paper sensor did not change.

Location: Paper sensor (Tray 2)

Service Center Procedure:

1. If another paper cassette is available use the extra cassette.
2. Deliver another paper cassette.

Replacement Procedure:

1. Replace the lift plate of Tray 2.
2. Replace bottom plate lift spring of Tray 2.
3. Replace PFU (Tray 2).

Paper size error

Description: Printer recognized different paper size.

Probable Cause: Paper size is different

Location: None

Service Center Procedure:

1. Confirm that the type of paper loaded is the same as that specified in the printer driver.
2. Select the appropriate setting with printer driver.

Replacement Procedure:

1. Check printer driver setting.
2. Clean transport belt.
3. Replace the 1st registration sensor.
4. Replace trailing edge sensor.
5. Replace inverter guide.

Paper type error

Description: Incorrect paper type selection.

Probable Cause: Paper type is different.

Location: None

Service Center Procedure:

1. **Confirm that the type of paper loaded is the same as that specified in the printer driver.**
2. **Select the appropriate setting.**

Replacement Procedure:

1. **Replace control board.**

Temperature

Room temperature too high

Description: Ambient temperature is above 43°C.

Probable Cause: Signal of the print head temperature sensor did not change, or signal of the PFU relay sensor did not change.

Location: Temperature/humidity sensor, print head temperature sensor, control board

Service Center Procedure:

1. **Determine if ambient temperature is out of range (10°C to 32°C (50°F to 89.6°F).**
2. **Try again once the temperature is within range.**

Replacement Procedure:

1. **Replace control board.**

Room temperature too low

Description: Ambient temperature is below 0°C.

Probable Cause: Signal of the print head temperature sensor did not change, or signal of the PFU relay sensor did not change.

Location: Temperature/humidity sensor, print head temperature sensor, control board

Service Center Procedure:

1. **Determine if ambient temperature is out of range (10°C to 32°C (50°F to 89.6°F).**
2. **Try again once the temperature is within range.**

Replacement Procedure:

1. Replace control board.

Tray

Tray selection error

Description: The tray selection is incorrect.

Probable Cause: The tray selection is incorrect.

Location: None

Service Center Procedure:

1. Check printer driver settings to determine if selected paper tray is the same as the tray selected in printer operation panel.
2. Select the appropriate setting.
3. Check printer driver settings.

Replacement Procedure:

None

Other Problems

Bi-directional Printing On Envelopes

Description: Printer driver executing bi-directional printing even with envelope selector set for thick paper (envelopes) and single-direction printing selected for the job.

Probable Cause: Signal from the carriage position sensor did not change.

Location: Carriage position sensor

Service Center Procedure:

None.

Replacement Procedure:

1. **Replace control board**

Bypass Tray Not Recognized by Printer Driver

Description: Printer does not recognize bypass tray unit.

Probable Cause: The bypass unit detection signal did not change.

Location: Bypass unit, or control board

Service Center Procedure:

None

Replacement Procedure:

1. **Replace bypass unit.**
2. **Replace control board.**

Duplex Unit

Printer does not detect open duplex cover

Description: The duplex unit cover is open but the printer does not detect this condition.

Probable Cause: The signal from the duplex unit sensor did not change.

Location: Duplex unit, control board

Service Center Procedure:

None.

Replacement Procedure:

1. Replace duplex unit.
2. Replace duplex cover switch.

Printer does not detect improper setting of duplex unit

Description: The duplex unit is installed improperly but the printer does not detect this condition.

Probable Cause: The signal from the duplex unit sensor did not change.

Location: Duplex unit, or control board

Service Center Procedure:

None

Replacement Procedure:

1. Replace duplex unit.
2. Replace control board.

Image Quality

Image appears dirty, smeared

Description: The printed image is smeared, scratchy, spotted.

Probable Cause: Paper dust, paper dirty

Location: Gap between print head and paper during printing (print head unit, or transport belt unit)

Service Center Procedure:

1. Do a test print with another file.
2. Check paper thickness.
3. Raise top cover and check condition of transfer belt surface.
4. Set lower ink density if doing a simplex print.
5. If printing on thick paper or image with large coverage, set envelope selector for envelopes.

Replacement Procedure:

1. Clean transport belt.
2. Clean inverter roller.
3. Replace the printer.

Color offset

Description: Offset is characterized by improper overlays of color on lines and text. Outlines of different colors appear around text and lines.

Probable Cause: Gap between transport belt and print head (with the paper in between) is not correct.

Location: Print head unit, transport belt unit

Service Center Procedure:

1. **Do a test print with another file.**
2. **Check printer drive settings (Density setting).**
3. **Print a Nozzle Check pattern.**
4. **Check the amount of line feed during printing.**
5. **Check the print head alignment.**
6. **Check the position of the envelope selector.**
7. **Adjust the printer driver density and mode settings.**
8. **Do "Head-Cleaning" 3 times.**
9. **Do "Head-Flushing" 1 time.**
10. **Adjust line feed.**

Note

- For more details about printing a Nozzle Check pattern, adjusting line feed, and setting the print position, pleaser refer to Section "4. Troubleshooting" of the Service Manual or Operating Instructions.

Replacement Procedure:

1. **Readjust horizontal print position.**

Image appears scratchy, streaked

Description: The surface of the image is scoured and smeared, portions of the image are missing.

Probable Cause: The print head is scouring the surface of the paper because the gap between the print head and paper is incorrect.

Location: Print head

Service Center Procedure:

1. **Adjust the carrier position lever (envelope selector) and select mono-directional printing for images with large amounts of ink coverage.**
2. **Do a test print with another file.**
3. **Check printer drive settings (Density setting).**
4. **Print a Nozzle Check pattern.**

5. **Do "Head-Cleaning" 3 times.**
6. **Do "Head-Flushing" 1 time.**

Replacement Procedure:

1. **Replace the print head.**

Nothing prints

Description: No ink is ejected from print head nozzles.

Probable Cause: Nozzles blocked, print head defective. Print drive wave pattern not output.

Location: Print head, control board

Service Center Procedure:

1. **Do a test print with another file.**
2. **Check the USB connection.**
3. **Do a Nozzle Check print and check the results.**
4. **Do "Head-Cleaning" 3 times.**
5. **Do "Head-Flushing" 1 time**

Replacement Procedure:

1. **Do "Head-Cleaning" 3 times.**
2. **Do "Head-Flushing" 1 time.**
3. **Replace print head.**
4. **Replace control board.**

Ink ejects improperly

Description: Ink ejected at points off the chart, or ejected ink shows unused color.

Probable Cause: Print head defective

Location: Print head unit, or control board.

Service Center Procedure:

1. **Do a test print with another file.**
2. **Check the USB connection.**
3. **Change print mode and try again.**
4. **Do a Nozzle Check print and check the results.**
5. **Do "Head-Cleaning" 3 times.**
6. **Do "Head-Flushing" 1 time.**

Replacement Procedure:

1. **Do "Head-Cleaning" 3 times.**
2. **Do "Head-Flushing" 1 time.**
3. **Replace the print head.**
4. **Replace the control board.**

Vertical bands missing

Description: One or more of the following:

- Image on the left edge of the paper appears masked
- mage in the middle of the paper appears masked
- Parts of the image area missing and streaked

Probable Cause: Change in the 1st registration sensor signal is weak, encoder is dirty.

Location: 1st registration sensor, control board, encoder film strip (horizontal)

Service Center Procedure:

1. **Print a Nozzle Check Pattern and check the results.**
2. **Check the amount of line feed during printing.**
3. **Do "Head-Cleaning" 3 times .**
4. **Do "Head-Flushing" 1 time.**
5. **Adjust line feed.**

Replacement Procedure:

1. **Do "Head-Cleaning" 3 times.**
2. **Do "Head-Flushing" 1 time.**
3. **Replace encoder sensor.**
4. **Replace horizontal encoder film strip.**
5. **Replace control board.**

Nozzles not firing, cannot recover

Description: Neither head cleaning nor head flushing can recover operation of the print head nozzles.

Probable Cause: Suction cap, print head defective.

Location: Maintenance unit, print head

Service Center Procedure:

1. **Do a Nozzle Check print and check the results.**

2. Do " Do "Head-Cleaning" 3 times.
3. Do "Head-Flushing" 1 time.
4. Adjust line feed.
5. Allow the printer to remain unused overnight.
6. Try again after 12 hours.

Replacement Procedure:

1. Do " Do "Head-Cleaning" 3 times.
2. Do "Head-Flushing" 1 time.
3. Replace print head.
4. Replace maintenance unit.

Ink cartridge

Ink cartridge absence not detected

Description: Closing the right front door with no ink cartridge set did not trigger the ink cartridge not set alert.

Probable Cause: Cartridge cover sensor signal did not change.

Location: Ink cartridge cover sensor, control board

Service Center Procedure:

None

Replacement Procedure:

1. Replace operation panel.
2. Replace control board.

Ink Collection Tank

Ink collection tank improper installation not detected

Description: The ink collection tank is not installed correctly but this does not trigger and alert.

Probable Cause: The signal of the ink collection tank sensor did not change.

Location: Ink collection tank sensor, control board

Service Center Procedure:

None

Replacement Procedure:

1. Replace ink collection tank.
2. Replace control board.

Printer does reset after replacement of ink collection tank

Description: The printer could not be reset with SP5003 after the old ink collection tank was removed and a new one inserted.

Probable Cause: The signal from the ink collection tank sensor was weak.

Location: Ink collection tank, control board

Service Center Procedure:

None

Replacement Procedure:

1. Replace ink collection tank.
2. Replace control board.

Ink collection tank near-end alert appears after tank replacement

Description: Even after a new ink collection tank was installed and the printer reset, the ink collection tank near-end alert appeared after printing only a few sheets.

Probable Cause: The signal from the ink collection tank sensor was weak.

Location: Ink collection tank, control board

Service Center Procedure:

None

Replacement Procedure:

1. Replace ink collection tank.
2. Replace control board.

Printer Not Operating Properly

No LEDs light on operation panel

Description: Pushing the [Power] button on the printer operation panel has no effect.

Probable Cause: Operation panel defective, PSU defective, no signal from the [Power] button

Location: PSU, operation panel, control board.

Service Center Procedure:

1. Connect power supply connection.
2. Make sure the power supply rating is correct.

Replacement Procedure:

1. Replace PSU.
2. Replace operation panel.
3. Replace control board.

Printer operation panel LED lights briefly

Description: The LED lights briefly after pushing the [Power] button then extinguishes.

Probable Cause: PSU defective, no PSU control signal is output.

Location: Control board, PSU

Service Center Procedure:

1. Check power supply connection.
2. Make sure the power supply rating is correct.

Replacement Procedure:

1. Replace control board.
2. Replace PSU.

Printer halts during print job

Description: Power switches off suddenly during printing.

Probable Cause: Print head defective.

Location: Print head unit

Service Center Procedure:

1. Check power supply connection.
2. Make sure the power supply rating is correct.

Replacement Procedure:

1. Replace the printer.

Right Front Door

Right front door (ink cartridge cover) open but not detected

Description: Open right cover does not trigger the ink cartridge cover open alert.

Probable Cause: Cartridge cover sensor signal did not change.

Location: Ink cartridge cover sensor, control board

Service Center Procedure:

1. **Make sure the power supply rating is correct.**

Replacement Procedure:

1. **Replace ink cartridge cover (right front door sensor).**
2. **Replace operation panel.**

Top Cover

Top cover open but not detected

Description: Open the top cover does not trigger the cover open alert when the printer is not in sleep mode.

Probable Cause: Signal of the cover open sensor did not change.

Location: Top cover sensor, control board

Service Center Procedure:

1. **Make sure the power supply rating is correct.**

Replacement Procedure:

1. **Replace the top cover sensor.**
2. **Replace front cover sensor (ink cartridge cover).**
3. **Replace control board.**

Tray 2

Printer driver does not recognize PFU (Tray 2)

Description: The optional PFU is installed but does not appear as a paper feed source in the printer driver.

Probable Cause: PFU detection signal did not change.

Location: PFU (optional tray), control board

Service Center Procedure:

None

Replacement Procedure:

1. **Replace PFU (Tray 2).**
2. **Replace control board.**

4. Important Procedures

Preparing for Test Printing

You can see the image adjustment features on the “Maintenance” menu of the printer operation panel.

Note

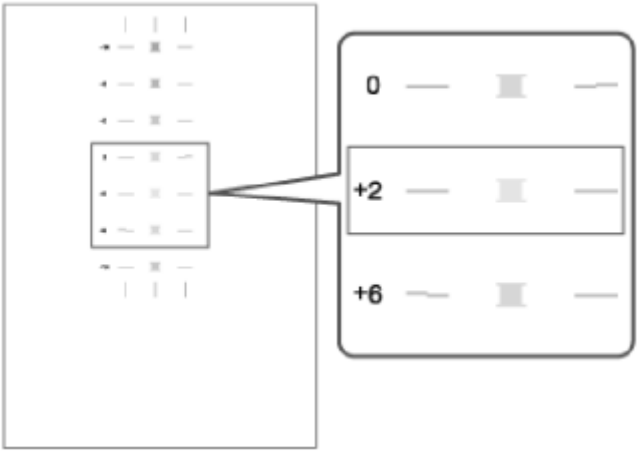
- The test prints and adjustments described in this section can also be done with the printer driver.
- For more details about doing these test prints and adjustments with the printer driver, please refer to the printer User Guide.

1. **Make sure A4 size or LTR size paper is loaded in the printer.**
2. **Make sure the printer is ready to print.**

Adjusting Paper Feed

Print the 'Adjust Paper Feed Test Pattern' and do this adjustment if you see broken horizontal lines or uneven colors in the printouts:

1. **Push [Menu], select "Maintenance", then push [#Enter].**
2. **Select "Adj. Paper Feed" and push [#Enter].**
3. **Select "Pr. Test Print" and push [#Enter]. The test pattern prints.**



1. **Examine the test print. Note the number of the best pattern. The best pattern is the pattern where the horizontal lines should be perfectly flat.**
2. **Select "Adjustment" and push [#Enter].**
3. **Enter the number of the pattern you selected in Step 4 and push [#Enter]. This completes the adjustment.**
4. **Push [Online] to leave the menu mode.**

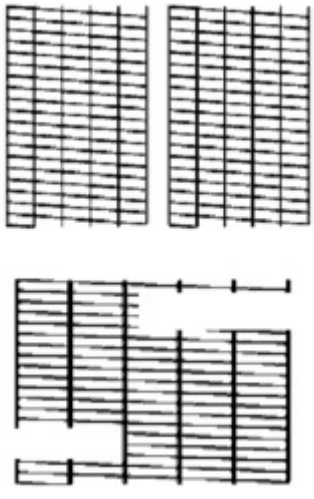
Nozzle Blockage Check

One or more of the nozzles is blocked if you see:

- Broken lines
- Uneven patches of white in the printouts.

Do the following procedure to correct these problems.

1. **Push [Menu], select "Maintenance", and push [#Enter].**
2. **Select "Nozzle Check" and press [#Enter]. The Nozzle Check pattern prints.**
3. **Examine the Nozzle Check pattern for broken lines or white patches. The first sample below is normal, the second sample shows white patches.**



1. **Note which colors are not printing normally.**
2. **Do the print head cleaning procedure for the print head that is blocked.**

Important

- Do “Head-Cleaning” up to 3 times to correct the problem. Do “Head-Flushing” if three "Head-Cleaning" executions does not solve the problem..
- "Head-Flushing" uses a large amount of ink. Do not do the “Head-Flushing” until you have done the “Head-Cleaning” at least 3 times.
- The procedure for "Head-Cleaning" and "Head-Flushing" is described in the next section.

Print Head Cleaning and Flushing

1. Make sure the envelope selector is forward.
2. Push [Menu] select "Maintenance" and push [#Enter].
3. Select "Head-cleaning" or "Head-flushing" and push [#Enter].
4. Select the color or the print that is blocked or select "All Heads" to clean all the print heads and push> [#Enter].
5. Wait for cleaning or flushing to finish. This may require a few minutes to complete.
6. Push [Online] to leave the menu mode.
7. Print another Nozzle Check pattern (see previous section) to determine if the problem has been solved.
8. Repeat Steps 2 to 7 for "Head-Cleaning" two more times.
9. If three "Head-Cleanings" does not solve the problem, do "Head-Flushing".
10. If "Head-Flushing" does not solve the problem, the print heads must be replaced.

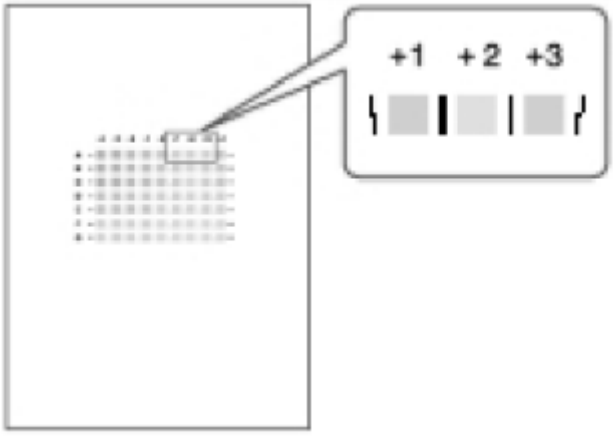
Adjusting Print Head Position

The print head is out of position if you see these:

- Broken vertical lines
- Smeared or streaked colors

Do the following procedure to correct these problems.

1. **Push [Menu], select "Maintenance" and push [#Enter].**
2. **Select "Head Position" and push [#Enter].**
3. **Select "Pr. Test Pattern" and push [#Enter].**
4. **Select the test pattern for print head position adjustment and push [#Enter]. The test pattern prints.**

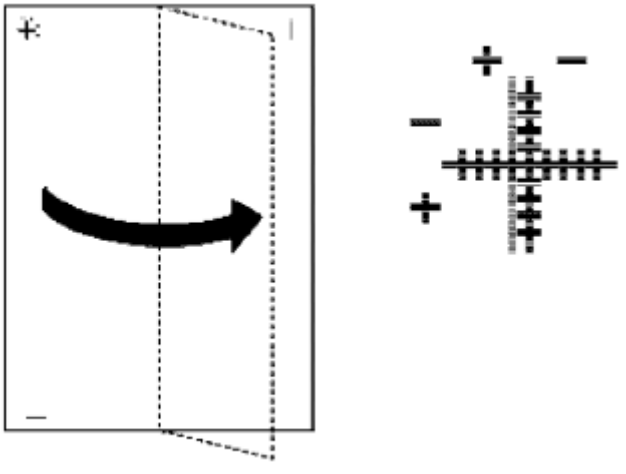


1. **Select the best pattern.**
   - The best pattern is the gray square with straight vertical lines on both sides.
   - The pattern setting is read as a matrix value from the pattern. For example, if the best pattern is in column "+2", line "A", the entry for adjustment will be "A" then "+2"
2. **Select "Adjustment" and push [#Enter].**
3. **Select same setting selected for "Pr. Test Pattern" (High Speed, etc.) and push [#Enter].**
4. **Select the letter of the line of the best pattern noted in Step 5 and push [#Enter].**
5. **Select the number of the line of the best pattern noted in Step and push [#Enter]. This completes the adjustment.**
6. **Push [Online] to leave the Menu mode.**

Adjusting Registration

Do this procedure to adjust the print start position. The print start position is the point at the upper left corner of each sheet where printing begins.

1. **Push [Menu] select "Maintenance", and push [#Enter].**
2. **Select "Registration" and push [#Enter].**
3. **Select "Pr. Test Sheet" and push [#Enter].**
4. **Select the paper tray ("Tray 1 for example) and push [#Enter].**
5. **Select the paper type and push [#Enter]. The test pattern for Registration prints.**



1. **Fold the printed sheet in half lengthwise as shown above.**
2. **Determine the 1st adjustment for the Read Direction.**
   - After folding the test print in half parallel to its long edge as shown above, the adjustment value in the Read Direction is the difference between the single vertical line and cross vertical line that you can see when the folded sheet is held up to the light.
   - If the difference is one calibration mark, for example, the adjustment is +1.0.
3. **Fold the sheet in half widthwise.**
4. **Determine the 2nd adjustment for the Feed Direction.**
   - The value read after folding the sheet widthwise, is the adjustment value for the Feed Direction.
5. **Select "Adjustment" and push [#Enter].**
6. **Select the paper tray and push [#Enter].**
7. **Select the paper type and push [#Enter].**
8. **Enter the adjustment for the Read Direction determined in Step 7 and push [#Enter].**

9. Enter the adjustment for the Feed Direction determined in Step 9 and push [#Enter]
10. Push [Online] to leave the Menu mode.

Drive Cleaning Procedure

Follow the procedure below to do drive cleaning. Here are some important points you should know about drive cleaning.

- Drive cleaning should be done only after head cleaning and head flushing fail to clean the print heads successfully.
- Drive cleaning is done by changing a bit switch setting in the SP mode and should always be done by the service technician.
- Drive cleaning forces the piezo element to switch off and on repeatedly to force ink out of the nozzle ports. (The piezo element does not operate during head cleaning or head flushing done with the operator panel or the printer driver.)
- Drive cleaning consumes more ink than either head cleaning or head flushing and requires more time to complete.
- Only one print head at a time can be cleaned with this procedure.

1. **Push and hold down ▽ and △ for 3 sec. then push [#Execute] to enter the SP mode.**
2. **Push [#Enter].**
3. **Select "Engine Mainte."**
4. **When you see "SP No. 1000", select "5301" then push [#Enter].**
5. **When you see "ENGINE SW" push [#Enter].**
6. **Select "1" for Bit 1. This enables drive cleaning control.**
   - Reading from left to right, the digits represents Bit 7 to 0.
   - "1" switches a bit ON and "0" sets a bit OFF.
   - The second line of the display contains the cursor. This tells you which bit is currently active for selection.

   ```
   ENG SW #1 00001000
   bit0 _
   ```

   Note

   - Push [Escape] at any time if you want to return to the previous level.
7. **Push ▽ or △ to position the cursor under Bit 1 (2nd digit from the right).**

   ```
   ENG SW #1 00001000
   bit0 _
   ```
8. **Push ▽ or △ to display "1".**

   ```
   ENG SW #1 00001000
   ```

bit1 1

9. **Push [#Enter] to set "1" for Bit SW 1.**
10. **After setting Bit 1 to "1", push [Escape] until the display returns to "ENGINE MAINTE."**
11. **At "3. END" press [#Enter] to leave the SP mode.**
12. **Push [Menu] then select "Maintenance"> "3. Head-Flushing".**
13. **Select the one print head (or all) for drive cleaning and push [#Enter].**
    - The print head is flushed. In addition to flushing, drive cleaning is also performed with the piezo element switching on and off..
    - Once drive cleaning is completed for the selected print head, Bit 1 resets to "0" automatically.
    - If you need to do this procedure again for another print head, you must repeat this procedure and set Bit 1 to "1" again in the SP mode.

Note

- Drive cleaning cannot be performed if the ink tank of the selected print head is almost empty.

5. After Repair

Parts Cleaning

These are general guidelines for cleaning and maintenance.

Item	Action
External Covers	Clean with damp cloth.
Paper Feed Rollers	Clean with damp cloth.
Flushing Gate Unit	Clean with damp cloth.
Friction Pad (Paper Trays)	Clean with damp cloth.
Ink Collection Tank*	Replace then reset counter with SP5003.
Firmware Update*	Update with latest version of firmware.
Guarantee Check*	Use special sheet.

* These items are not PM items for on-site servicing. Use a small amount of ethanol if some dirty spots are difficult to clean.

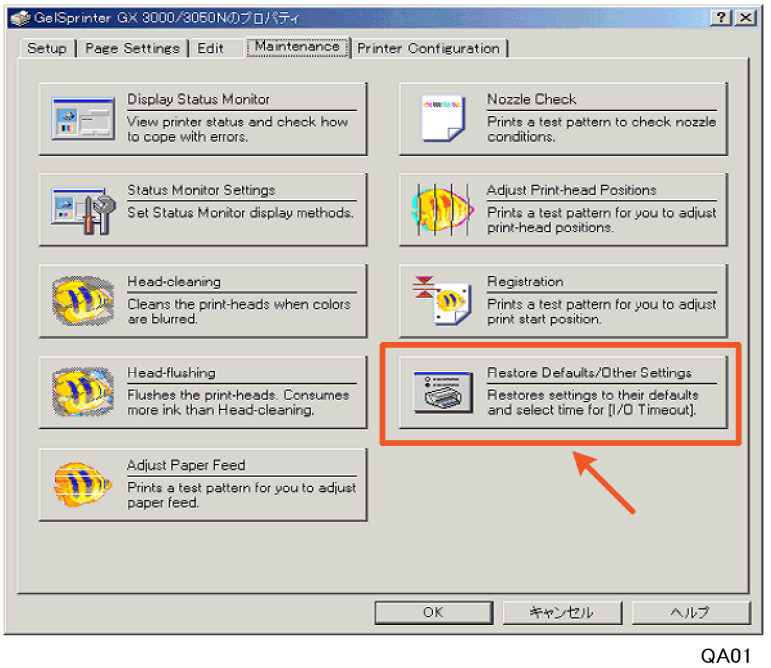
Printing and Checking the QA Sheet

Printing the QA Sheet

Important

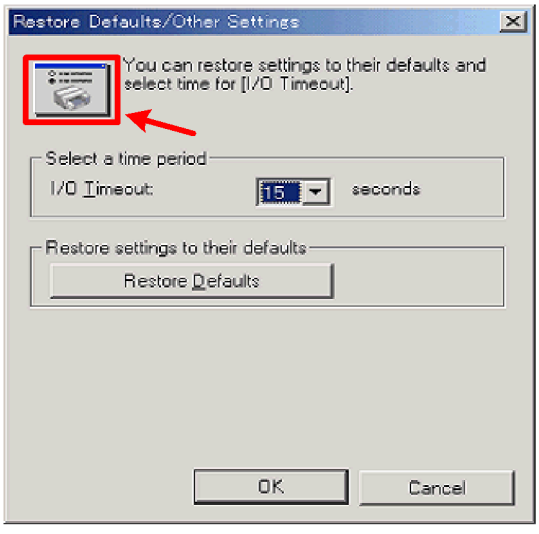
- This procedure can be done with the RPCS printer driver only. This function is not available with the PCL printer driver.

1. Confirm that paper is loaded in the printer.
2. Open the printer driver from the desktop. For example, click Start> "Settings"> "Printer" to open the "Printers" folder, then right-click the printer icon to open the printer driver.
3. Click "Maintenance".



QA01

4. Click "Restore Defaults/Other Settings".



QA02

5

5. **Press and hold down [Ctrl]+[Shift]+[Alt] then right-click twice the icon in the upper left corner of the dialog box (shown above).**

QA03

6. **Click the [Browse] button, select the folder where you want to store the output file, and enter a name for the file.**
7. **Click the name of the file that you want to print.**

   Select the correct filename for the printer model and paper size.

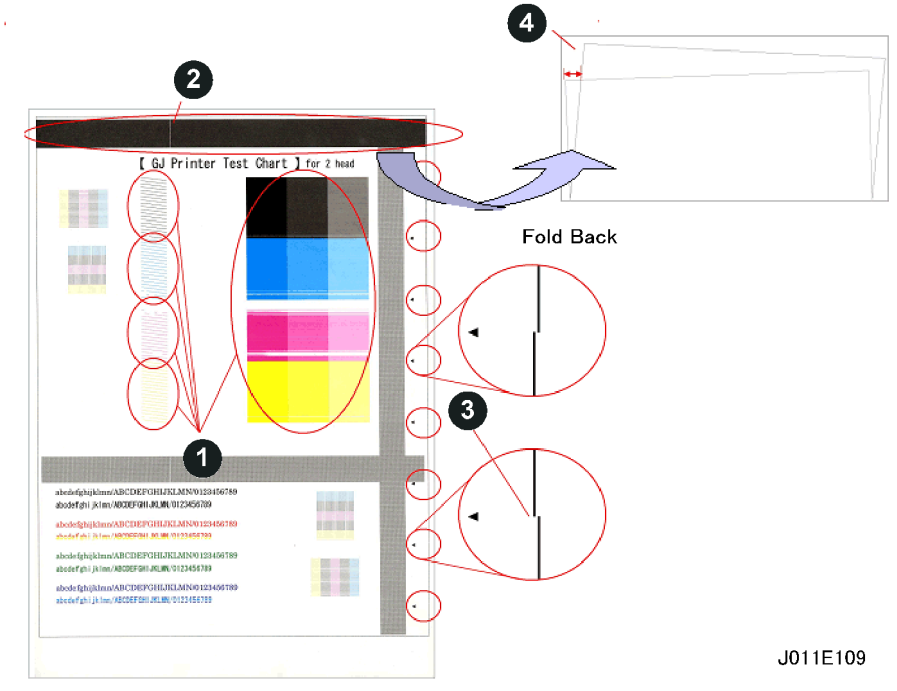
Model Name	Product Name	Filename
GX3000/GX3050 A4	Toscana A4	Tos_A4_QAcheckchart.prn
GX5050 Piemonte A4	Piemonte A4	Pie_A4_QAcheckchart.prn
GX3000/GX3050 Toscana LT	Toscana LT	Tos_LT_QAcheckchart.prn
GX5050 Piemonte LT	Piemonte LT	Pie_LT_QAcheckchart.prn

Note

- The print files will be provided separately.

8. Click the [Output] button to print to the file.
9. Browse to the folder where the file is stored, open it, then print it.

Checking the QA Sheet



No.	Check Item	Check Point	Correction
1	Nozzle Check	Colors uneven? Colors missing?	1. Do "Head-Cleaning" 3 times. 2. Do "Head-Flushing" once.
2	Encoder Check	No white vertical lines, streaks?	1. Clean horizontal encoder film strip with alcohol. 2. Replace encoder
3	Offset Check (Ruled Lines)	No line shifting larger than 1 line width?	1. Clean guide shaft 2. Make sure top cover is closed. 3. Check amount of skew again.
4	Skew Check	Less than 2 mm?	1. Check tray fences. 2. Check tray bottom plate, reverse guide.

Cleaning the Machine Before Storage

Cleaning cartridges that contain liquid cleaner will be provided as service parts. These cleaning cartridges will be used in the field to purge ink paths, print head, sub tanks, and nozzles. Do this procedure to clean the print heads before storing the repaired printer for one month or longer.

Important

- **This procedure should be done at the Repair Center before storing a repaired printer until it can be reused. This procedure is not intended for use at the job site for the customer.**

- PREPARATION -

You will need an ink collection tank and four cleaning cartridges.

- he ink collection tank must be replaced after cleaning. Before you start the cleaning procedure, make sure that an ink collection tank is available (J7468010 for the T-G1 or J7478010 for the P-G1)
- Four cleaning cartridges, one for each ink tank (these part numbers may change in the future):
  1. K J751 8020
  2. C J751 8120
  3. M J751 8220
  4. Y J751 8320

1. **Turn the printer on.**
2. **When the printer enters standby mode, enter the SP mode.**

   Note

   - To enter the SP mode press ▽ or △ together for at least 3 sec. then push [#Enter].
3. **Select "2. ENGINE MAINTE.".**
4. **Select "5007" and push [#Enter].**
5. **When you see "WASHING" push [#Execute].**
6. **Open the ink cartridge cover, remove the ink cartridges, replace them with the cleaning cartridges, and close the ink cartridge cover.**
7. **Confirm that "WASHING" and "EXEC" are still displayed, then push [#Enter].**
8. **When you see "OK?" push [#Enter].**
   - "RUNNING" displays while the cleaning sequence executes.
   - When cleaning is finished, the display returns to "WASHING" and "EXEC"

     Note

     - If the "Alert" lamp lights red, this indicates that an error has occurred. At this step you cannot see the error displayed on the printer operation panel.

- Complete the procedure to return to standby mode, read the number of the error displayed to determine the cause of the error.

9. **Press [Escape] to return to the "2. ENGINE MAINTE." display.**
10. **Select "3. END" and push [#Enter] to return to standby.**
11. **Switch the printer off.**
12. **Remove the cleaning cartridges and store the printer.**
    - The initial ink fill counter resets at the end of washing. The next time the ink cartridges are installed and the printer is switched on, the initial filling sequence will begin.
    - Do not install the ink cartridges and turn the printer on again after washing until you are ready to use or service the printer again.
13. **Remove the ink collection tank from the back of the printer and discard it.**
14. **Insert a new ink collection tank.**
15. **Do SP7200 to reset the software counter for the new ink collection tank.**

6. 6. Preparing a Machine for Transport

Before Transporting

Before Transporting from Repair Center to Customer Site

Check Point	Comment	
Box Proper Side Up	Keep the box with the top up and bottom down. Do not tilt the box more than 45 degrees from the horizontal.	
Ink in Machine	The machine can be shipped with the ink cartridges installed in the machine. However, once the ink cartridges are installed the machine should be set up and used within 30 days. If the machine is kept longer than 30 days, the machine needs to be cleaned with the cleaning cartridges.	
Machine Cover	Cover the machine with a plastic bag. This prevents spillage if the ink cartridges leak.	
New Ink Cartridges	New ink cartridges should always be provided with a repaired machine.	
	Toscana P1/P1n	C, M, Y, K: Medium-Size Cartridges
	Piemonte P1N	C, K: Medium-Size Cartridges M, Y: Large-Size Cartridges

Before Transporting from Customer Site to Repair Center

Check Point	Comment
Box Proper Side Up	Keep the box with the top up and bottom down. Do not tilt the box more than 45 degrees from the horizontal.
Ink Collection Tank	Check the ink collection tank to confirm that it is not leaking. Insert a paper towel between the tank and cover to prevent leakage during transport. Confirm that the paper towel is removed after the machine is set up.
Machine Cover	Cover the machine with a plastic bag. This prevents spillage if the ink cartridges leak.
Ink Cartridges	Return the ink cartridges to the customer.

Check Point	Comment
Options	Return all options (PFU, Bypass Tray, NIC, etc.) to customer. **Note**: Network settings are stored on the NIB. If the NIB is not swapped, the settings do not need to be done again after machine swapping.

What You Need

The following items and equipment are required for packing the machine before shipping.

- Boxes
- Vinyl Bag
- InstaPak Kit or InstaPak Quick Kit
- Ink Cartridges

Model Name	Production Name	Ink Cartridges Needed
GX3000/GX3050	Toscana P1	C, M, Y, K: Medium-Size Cartridges
GX5050	Piemonte P1	C, K: Medium-Size Cartridges M, Y: Large-Size Cartridges

Note

- The large M, Y cartridges are required for the Piemonte P1 because the amount of ink required at initial refilling is larger. For more details, please refer to "Print Head" in Section "6. Details" of the Service Manual.

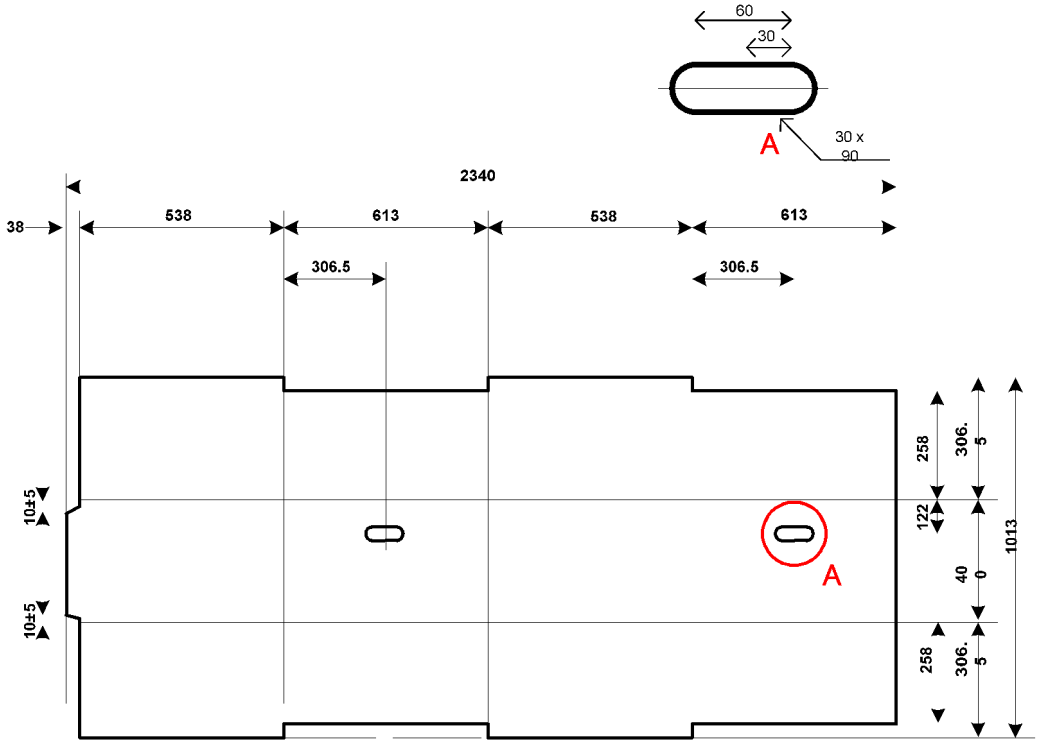
Vinyl Bag Specifications

Material	Width	Length	Thickness
Low-density Poly-ethylene	1200 mm (47.4")	800 mm (31.5")	0.07 mm (0.003")

This bag can be used to wrap either the Toscana-P1 or Piemonte-P1.

Box Specifications

Toscana

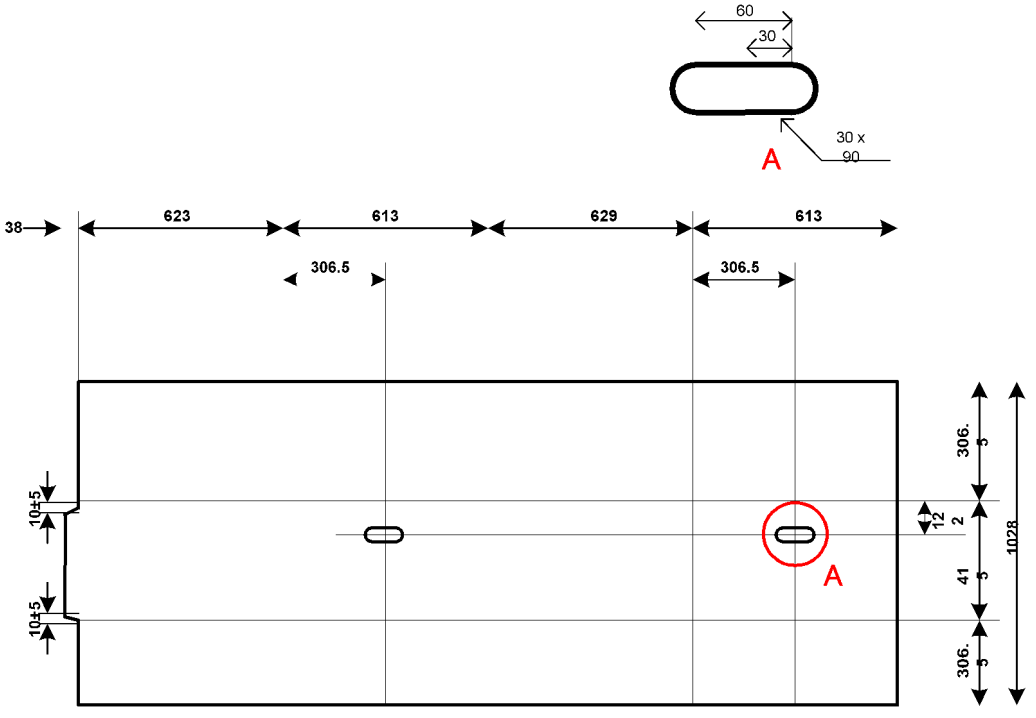


BoxDim 02

Note

- All measurements are millimeters.
- The illustration is not drawn to scale.

Piemonte



BoxDim 01

Note

- All measurements are millimeters.
- The illustration is not drawn to scale.

Packing a Machine with Instapak

Before You Use Instapak...

- The InstaPak shock-absorbing materials prepared for machine packing and transport should be used only once.
- InstaPak materials should be kept separated from other packing materials and discarded after use.
- Other packing materials should be inspected for cracks or other damages before reuse.
- The InstaPak Kit is recommended over the InstaPak Quick Kit, if available.
- The dimensions of the packing boxes must be at least as large as the original boxes.

Model Name	Production Name	mm (W x D x H)	inches (W x D x H)
GX3000/ GX3050	Toscana-P1	544 x 629 x 432	21.4 x 24.8 x 17
GX5050	Piemonte-P1	639 x 629 x 447	25.2 x 24.8 x 18

Instapak Packing

Instapak liquid Urethan foam fills the gaps between the machine and the sides of the packing box to absorb shock during shipping.

Toscana/Piemonte

I01_02

Left	Right
A Liquid	B Liquid

Mixing the A and B liquids produces the foam.

I03_04

Left	Right
Foam Spray Gun	Vinyl Bag

The mixture of liquids A and B is sprayed into a vinyl bag.

I05

Foam Spray Gun

The foam begins to form a few seconds after the mixture is sprayed into the bag and then gradually begins to harden. More can be added if the first injection of foam is not sufficient. Place the bottom of the machine on top of the bag so the foam molds itself to the shape of the machine.

Toscana

I06_07

Left	Right
Instapak for Toscana (1)	Instapak for Toscana (2)

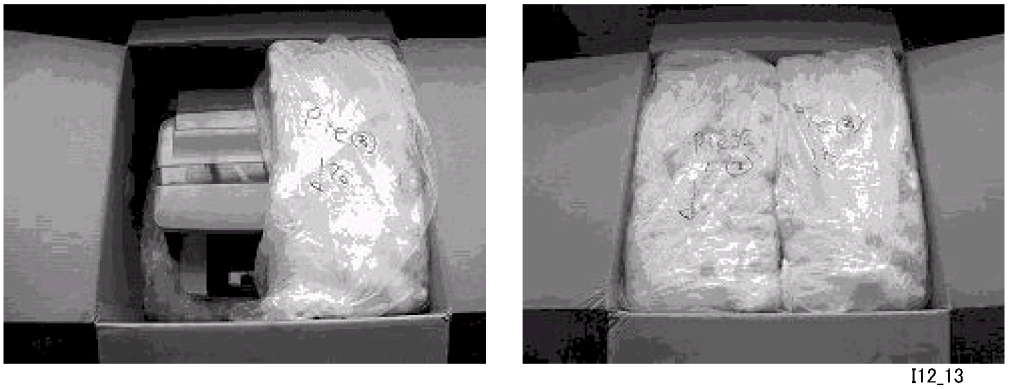
I08_09

Left	Right
Instapak for Toscana (3)	Instapak for Toscana (4)

Piemonte

I10_11

Left	Right
Instapak for Piemonte (1)	Instapak for Piemonte (2)

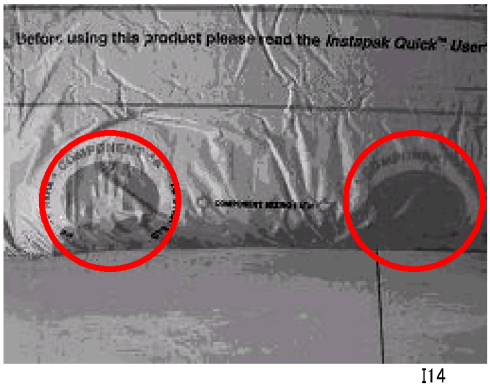


I12_13

Left	Right
Instapak for Piemonte (3)	Instapak for Piemonte (4)

Instapak Quick Packing

Instapak Quick consists of pre-packaged packets of liquid that form urethane foam with application of pressure. This system does not use a spray gun. The packets are inserted between the machine and the sides of the packing box to protect the machine during shipping.



I14

Instapak Quick Packet

When the blue circles on the packet are pressed together this releases the A, B liquids and allows them to mix to instantly start forming urethane foam. This eliminates the need for a spray gun.

Toscana

I15_16

Left	Right
Instapak Quick for Toscana (1)	Instapak Quick for Toscana (2)

Two packets have been placed into the box (left), then the machine placed on top of the packets (right).

I17_18

Left	Right
Instapak Quick for Toscana (3)	Instapak Quick for Toscana (4)

One packet is placed in front of the machine (left), then one packet is placed on the left and one on the right side of the machine.

I19

Instapak Quick for Toscana (5)

Finally, one packet is placed behind the machine.

Piemonte

I20_21

Left	Right
Instapak Quick for Piemonte (1)	Instapak Quick for Piemonte (2)

Two packets have been placed into the box (left), then the machine placed on top of the packets (right).

I22_23

Left	Right
Instapak Quick for Piemonte (3)	Instapak Quick for Piemonte (4)

One packet is placed on the left and one on the right side of the machine (left), then one packet is placed behind the machine (right).

MEMO

MEMO

MEMO