Technical Bulletin

Model: Shepherd-P1 Da			Date: 1-Jun-18			No.: RJ093001
Subject: Caution for routing optical fiber cable			Prepared	d by: Y.I	Kurohashi	
From: 1st System Business Promotion Section, System Business Department						
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part informat		tion eive)	Actio	on required ice manual revision ofit information 2

At machine installation:

Make sure not to curve the optical fiber cable sharply shown below. If you do it, the fiber cable will be broken.

[2.Installation] [Installing the Cable Bearer (Right)]

If the cable is broken, following errors may occur.

118: Setting up optical fiber cable communication has failed.

119: Setting up channel mapping has failed.

Detail

DO NOT curve the optical fiber cable within 65mm radius.



Technical Bulletin

PAGE: 1/1

Model: Shepherd-P1			Dat	Date: 10-Sep-18		No.: RJ093002
Subject: Ticking sound from negative pressure valve			Prepared	d by: Y.K	urohashi	
From: 1st System Business Promotion Section, System Business Department						
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part info	ormat al it/rec	tion eive)	Action C Servic Retrot Tier 2	n required ce manual revision fit information

At machine installation:

Please explain the intermittent ticking sound from negative pressure valve is normal work of the machine.

To keep negative pressure at the print heads all times, the electrical valves open and close intermittently.

Therefore, there is the sound not only at printing but also at standby-mode.



j093a2399



j093a2289

Technical Bulletin

PAGE: 1/5

Model: Shepherd-P1

Date: 16-Oct-18

No.: RJ093003

Subject: Changed the installation procedure for installing the proximity sensors.			Prepared by: Y.Kurohashi		
From: 1st System Business Promotion Section, System Business Department					
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part informat Electrical Transmit/rec Other (tion eive)	 Action required Service manual revision Retrofit information Tier 2 	

Service Manual Revision

[2. Installation] - [Installing the Proximity Sensors]

Changed the installation procedure for installing the proximity sensors.

- 1) Proximity Sensors have been changed as **Accessories**.
- 2) According to 1), installing procedure has been changed.
- 3) It requires **Adjustment** of light receiving amount after assembling the sensors.

The items in *italics* were corrected or added.

Procedure

Additional accessories

[For Left Rear], [For Left Front], [For Right Rear], [For Right Front]





Model: Shepherd-P1

Date: 16-Oct-18

No.: RJ093003

Installing the Proximity Sensors

<u>1.</u> Check that the relay cables for assembling sensors are taped at 4 corners of Gantry unit.

LR[A], RF[B], LF[C], RF[D]







Note

The six screws [A] are used for installing the proximity sensors in step 3, and the six screws [B] are used for attaching the proximity sensor covers to the proximity sensors in step 5.

<u>3.</u> Install the proximity sensors [A] and [B] as shown below. Use the screws removed in step 2.



RICOH	Technical Bulletin	PAGE: 4/5
Model: Shepherd-P1	Date: 16-Oct-18	No.: RJ093003

- <u>4.</u> Install the two proximity sensors and proximity sensor cover (left) on the left side of the gantry in the same way.
- <u>5.</u> Connecting the cable of sensor with relay cable. [A] Adjust the length of the cable by Inserting the excess length of the cable into the hole. [B]



6. Adjust the light receiving amount.

Note

Following steps are available after turning power on.

<u>6-1.</u> Check that the light level indication lamp turns green.

-If all 5 lamps turn on, installing procedure of the sensors are finished. -If even one lamp does **NOT** turn on, adjust the level by following 7-2 step.





<u>6-2.</u> Loosen the following two screws, then adjust the sensor position until all Light level indication lamps turn on. After the adjustment, tighten the screws again.





Tighten each screw temporarily at first, then tightening the screws while checking the 5 lamps turning on.

<u>7.</u> Install the proximity sensor cover (right) [A] on the proximity sensors. Use the five screws attached to the screw holes on the proximity sensors.



j093a2233

<u>8.</u> Fix the proximity sensor covers to the proximity sensors with the six screws removed in step 2.



PA	GE:	1/2

Model: Shepherd-P1			Date: 31-Oct-18		8	No.: RJ093004
Subject: Release information of the patch for added Fine mode and Super Fine mode			d	Prepared by: Y.Kurohashi		
From: 1st System Business Departme	Business Promotion Section, Sy	ystem				
Classification:	 ☐ Troubleshooting ☐ Mechanical ☐ Paper path ☐ Product Safety 	Part in Electri Transr	format cal mit/rec (tion eive)	Actio	n required ce manual revision ofit information 2

Outline:

Print Mode Ver.1.0.0.0 has been released for added Fine mode and Super Fine mode.

Fi	irmware Download	Release [)ate all	Click here to	o install the late	st Batch Down	<u>load applica</u> Batch Do	ation. Help wnload
	Firmware 💂	Note	Destination 🚔	Parts No 🚔	Version 🚔	Release Date	Size	нттр
	Print Control Center		<u>GEN (all)</u>	J0936456C	Ver.1.0.1.2	2018/09/28	60,582 KB	Download
	Print Mode		<u>GEN (all)</u>	J0936457	Ver.1.0.0.0	2018/10/25	424 KB	Download

By installing this software, Fine mode and Super Fine mode are available in following print modes.

- 4C-W_Fine
- 4C-W_Super Fine

Wide Printer: Pro T7210

- 4C_Fine
- 4C_Super Fine
- W-4C_Fine
- W-4C_Super Fine

Additional print modes are available at Print Mode selection tab.

Function	
Task Name	003_4C_Standa Print Pieces 1
Print Mode	001_4C_Draft
Region Setting (mm	- 036_4C-W_Quality 037_Pr-4C-W_Draft) 038_Pr-4C-W_Production 039_Pr-4C-W_Standard 040_Pr-4C-W_Quality 040_Pr-4C-W_QUALITY
Width 420	4C-W_Fine 4C-W_Super Fine 4C_Fine
Print Setting	4C_Super Fine W-4C_Fine
X Pos	W-4C_Super Fine
YPos	0 mm Y Mirror Reverse Dir

Model: Shepherd-P1 Da	ate: 31-Oct-18
-----------------------	----------------

No.: RJ093004

These modes are useful to reduce banding image like below photo.



Note:

- If customer needs higher quality print than High Quality mode, use these modes.
- Fine mode is Bi-directional print. Super Fine mode is uni-directional print.
- Super Fine is lowest productivity print mode. (Abt. one fifth productivity of Standard mode)
- These modes are still available after Print Control Software is

newly updated. Not necessary to re-install them at each update of Print Control software.

PAGE: 1/2

Model: Shepherd-P1			Date: 1-Nov-18		3	No.: RJ093005
Subject: [NA model only] Precaution when working near the transformer unit			J	Prepared	d by: Y.ł	Kurohashi
From: 1st System Business Departme	Business Promotion Section, Se	ystem				
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	 ☐ Part information ☐ Electrical ☐ Transmit/rec ☐ Other (tion eive)	Actio	n required ice manual revision ofit information 2

Outline:

For NA model Only

There is a transformer unit at following position. The transformer converts the voltage from 220V to 380V. Though transformer unit is covered with metal gauze illustrated in red frame below, please observe following precautions when working near there.





Precaution

• <u>Make sure to turn off main power switch and disconnect the power supply</u> <u>cable from the machine</u> before starting work.





• Move the carriage unit above left side ink receiver before turn off main SW.

Model: Shepherd-P1

Date: 1-Nov-18

No.: RJ093005

Ink may drip from head surface by broken negative pressure in case the power is not supplied long time.





• Do NOT touch the transformer cover because of following reason.

The cover may have high temperature by transformer heating.

The transformer may have residual electric charge.

PAGE: 1/2

Model: Shepherd-P1			Dat	ate: 7-Nov-18		No.: RJ093006
Subject: Unstable ink ejection without clogged nozzles is occurred at 'Print Status' pattern.			Prepared b	y: Y. Kur	rohashi	
From: 1st System Business Promotion Section, System Business Department						
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	☐ Part infor ⊠ Electrica ☐ Transmit ☐ Other (tion	Action re Service Retrofit i Tier 2	equired manual revision information

SYMPTOM

Ink ejection from print head is available but printing result is not stable. When printing 'Print status' pattern, unstable image is printed like following photo.



Cause

Conduction failure between carriage board to print head. The conduction failure may have caused less communication at printing data.

Solution

- 1. Disconnect and reconnect the cables and connectors on print head, head amplifier board and carriage board.
- 2. Replace the head amplifier boards with new one.
- 3. Replace the carriage boards with new one.

Model: Shepherd-P1

Date: 7-Nov-18

No.: RJ093006





PAGE: 2/2

Model: Shepherd-P1			Date: 16-Nov-18		18	No.: RJ093007
Subject: Check the main ink tank tube condition			Prepared by: Y.Kurohashi			
From: 1st System Business Promotion Section, System Business Department						
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part in Electri Transr Other	forma cal nit/rec (tion eive)	Actio	n required ice manual revision ofit information 2

At machine installation:

Outline

Make sure that main ink tank tube is located correct position before ink filling.

- 1. Whether the edge of the tube is placed lower position than ink end sensor.
- 2. Whether the ink supply tube is straight.

[2. Installation] [Filling the Ink Tanks with Ink]

Check procedure

- 1. Check the points from ink filling port after removing caps.
- 2. Straighten out the kink of tube, or cut it to the correct length, or replace it with correct length one.



Pull the main ink tanks out if it is difficult to recognize visually.

Date: 16-Nov-18

PAGE: 2/4

No.: RJ093007



Reason:

If ink tube is not correct position, the air will be supplied instead of ink or ink is not supplied correctly. The air will be supplied instead of ink when ink surface is below the end of ink supplying tube. When air is in the ink supplying tube, the air may cause nozzle clogged or flowing inks into the air tube by negative pressure broken. The following cases are not good.

No good cases









The end of tube touches the bottom of the bottle because the length of tube is too long. As a result, enough ink may not be supplied.

Solution for product line:

PAGE: 4/4

Model: Shepherd-P1	Date: 16-Nov-18	No.: RJ093007
--------------------	-----------------	---------------

Ink tube will be covered with stainless steel pipe. Cut-in serial numbers of mass production and new service parts number will be announced later.



PAGE: 1/2

Model: Shepherd-P1			Date: 20-Nov-18		No.: RJ093008
Subject: A little occurred when	image shift in main scan c bi-directional printing.	direction a	are	Prepared by: Y. I	Kurohashi
From: 1st System Business Departm	n Business Promotion Section, section, s	System			
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part info Electric Transm	ormat al it/rec	tion Action Servio eive Retro) I rier 2	n required ce manual revision fit information 2

SYMPTOM

A little image shift in main scan direction may occur like the photo below when bidirectional printing at Print Control Software v.1.0.1.2.







Date: 20-Nov-18

No.: RJ093008

Cause

Parameter setting of Bi-Dir Offset does not work correctly.

Temporary Solution

Model: Shepherd-P1

Print the data by uni-directional mode in following setting.

1. Use the print mode of uni-directional printing.

Note:

Refer Field Service manual [7. Detail Description] [Printing Variation].

2. Set the Printing Direction from Bi-Dir to Left.

Print Mode > Print Parameter > Direction

Note:

It requires to enter administrator mode to change the Print Mode setting.

Restore the setting when installing update program which fixes bug.

Print Edit mode		×
Current Mode 003_4C_Standard	Color Mode Setting	_
001_4C_Draft 002_4C_Production	Color Mode 003_4C_Standard	·
003_4C_Standard 004_4C_Quality 005_W-4C_Draft	Print Parameter CarriageSpd. Luian Direction Ri Dir	
006_W-4C_Production 007_W-4C_Standard 008_W-4C_Quality		
009_4C-CI_Draft 010_4C-CI_Production	Vew Save Delete Close	

Permanent Solution

RCL will release update software in beginning of Dec.

PAGE: 1/1

Model: Shepherd-P1			Dat	e: 28-Dec-18	No.: RJ093009
Subject: UV lamps' emission power is too low, which causes the ink not to cure.			Prepared by: T.E	ijima	
From: PP CF/WF Department, Quali Division	Section, CIP Product Quality I ty Assurance Center, Quality M	Managemei Ianagemen	nt t		
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inf Electric Transm	ormat al iit/rec	tion 🛛 Action Servio eive 🗌 Retro Tier 2	n required ce manual revision fit information 2

SYMPTOM

UV lamps' emission power is too low, which causes the ink not to cure. This problem has occurred repeatedly at two of our customer sites.

Cause

There is a bug in Interface Board's firmware. The bug is an interface sequence problem between the Interface Board and the LED Module. (The Interface Board is a service part which part number is J0935404.)



Solution

The vendor updated the firmware of the Interface Board by modifying the limit of time that is used when waiting for a response after sending a command, which fixed the problem.

The improved Interface Board has been given the part number J0935405.

So please replace the current Inter Board(J0935404) with J0935405.



The improved Interface Board has a seal numbered "J0935405".

Model: Shepherd-P1		Date: 11-Jan-18		No.: RJ093010		
Subject: Additional caution when installing the ink supply pump			Prepared	l by: Y.ł	Kurohashi	
From: 1st System Business Departme	Business Promotion Section, Sent	System				
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part in Electric Transr Other	format cal nit/rec (tion eive)	☐ Actio ⊠ Servi ☐ Retro ☐ Tier 2	n required ice manual revision ofit information 2

Service Manual Revision

[4. Replacement and Adjustment] – [Ink Supply Unit] - [Ink Supply Pump] - [When Installing the Ink Supply Pump]

When Installing the Ink Supply Pump

When installing the new ink supply pump, make two tubes (7cm long \times 1, 10cm long \times 1) from the tube prepared in advance. Attach two tubes and two tube fittings to the new ink supply pump, and then install them in the machine as shown below.



j093a2408

No.	Description	No.	Description
[A]	New ink supply pump	[D]	Tube fitting
[B]	Tube (7cm)	[E]	Tube fitting
[C]	Tube (30cm)		

Comportant)

When installing the ink supply pump, make sure to connect the one-touch coupling.

When installing the ink supply pump, assemble the pump, fitting and tube before attached to the printer frame like the photo below.

PAGE: 2/2

Model: Shepherd-P1

Date: 11-Jan-18

No.: RJ093010



Insert the opposite side tube after assembled the tube, fitting and pump.

If the tube and the fitting are assembled after attached to the printer frame, ink may leak from the connection because it is loose by the elasticity of kinked tube at connecting them.



PAGE: 1/3

Model: Shepherd-P1 Da			Dat	e: 18-Jan-19	No.: RJ093011
Subject: USB Error code occurs when the vacuum fan is working.			Prepared by: T.Ejima		
From: PP CF/WF Section, CIP Product Quality Management Department, Quality Assurance Center, Quality Management Division			nt t		
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part info Electric Transm	ormat al it/rec	tion 🛛 Action Servi eive 🗌 Retro Tier 2	n required ce manual revision fit information 2

SYMPTOM

When the vacuum fan is working, USB error message is displayed in T7210 in RPL (Ricoh UK Products. Ltd.).

Cause

The potential difference between PC's GND(earth potential) and T7210's GND became extremely high(28.4[V]) when vacuuming in RPL.

It shows the earth potential in RPL is not stable.

So this issue may occur in the environment where the earth potential is not stable.



Solution

Connecting the PC's GND and T7210's GND directly with a wire cable lowered the difference to 2.66[V] in RPL, which resolved the USB error issue.



The same error has also occurred in Ricoh Deutschland so far, and this measure worked, too.

So if USB error during vacuuming is reported, it may be caused by the unstable earth potential in the environment where T7210 is installed. So please prepare a wire cable and connect the PC's GND(any one of below \bigcirc) and T7210's GND(any one of below \bigcirc) directly.







T echnical	B ulletin

Model: Shepherd-P1 Date:	: 18-Jan-19	No.: RJ093011

Technical Bulletin

PAGE: 1/4

Model: Shepherd-P1			Date: 5-Apr-19		No.: RJ093012
Subject: Printing disorder issue occurs.			Prepared by: T.Ejima		
From: PP CF/WF Section, CIP Product Quality Management Department, Quality Assurance Center, Quality Management Division			nt t		
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part info Electric Transm	ormat al it/rec	tion 🛛 Action Servin eive 🗌 Retro Tier 2	n required ce manual revision fit information

SYMPTOM

The following image problem occurs.



CAUSE

Cypress's USB driver (V1.2.2.0) included with the driver software for the T7210 does not work correctly when used on Windows 10 Ver.**1809**.

Note: This was confirmed not to occur with Windows 10 Ver. 1803, which was used to test the T7210 driver software V1.0.1.3 before its Jan. 2019 release.

SOLUTION

Permanent:

Update the USB driver (Release: Scheduled for late April 2019).

Temporary:

Until the USB driver can be released, avoid using Windows 10 V.1809, or restore Windows to the previous version (if within 10 days of update to V.1809).

See <u>PROCEDURE</u> below.



Model: Shepherd-P1

Date: 5-Apr-19

No.: RJ093012

PROCEDURE

1. Check the Windows 10 version.

Start -> Settings -> System -> About

÷	Settings			-		×
ŝ	Home	PC name	Walter-Desktop			
Fir	nd a setting	Rename PC				
<u> </u>	, , , , , , , , , , , , , , , , , , ,	Organization	WORKGROUP			
Syste	em	Connect to work	or school			
_	Storage	Edition	Windows 10 Pro			
		Version	1803			
M	Offline maps	OS Build	14393.693			
굔	Tablet mode	Product ID	00330-80000-00000-,	AA198	3	
(_)	Multitasking	Processor	Intel(R) Core(TM) i7-6 4.00GHz 4.00 GHz	700K	CPU @	þ
		Installed RAM	32.0 GB			
Ð	Projecting to this PC	System type	64-bit operating syste	em, xé	54-bas	ed
ţ.	Apps for websites	Pen and touch	No pen or touch inpu	ıt is av	vailable	-
Θ	About		for this display			
0	ADVIL	Change product key or upgrade your edition of Windows				

2. If the version is V1809, avoid using this PC or restore Windows 10 to the previous version.

Even if the version is V1809, if it has been less than 10 days since the "installed on" date (sample below), you can return the PC to the previous version of Windows: <u>https://support.microsoft.com/en-gb/help/12415/windows-10-recovery-options</u>

Edition	Windows 10 Pro
Version	1809
Installed on	2019/02/15

3. If the version is **older than** V1809, disable automatic update of Windows as shown below, or simply disable the PC's network connection.



1) Get the following files and save them into an arbitrary folder.

StartWindowsUpdate.bat

StopWIndowsUpdate.bat

Note: You can download these files from the below server.

ftp://10.62.17.218/data/bulletin.dat/copier/2019_addtional/

If you can't download them, please create them by the following procedure.

<How to create "StopWindowsUpdate.bat" and "StartWindowsUpdate.bat">

[1] Open your text editor like "Notepad".

[2] Copy the below line,

reg add "HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows\WindowsUpdate\AU" /v "NoAutoUpdate" /d "1" /t REG_DWORD /f

and paste it on the editor tool, and save it as "StopWindowsUpdate.bat" as shown in the below screen shot.

📗 無題 - メモ帳

> [3] In the same way, copy and paste the below line and create it as "StartWindowsUpdate.bat".

reg add "HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows\WindowsUpdate\AU" /v "NoAutoUpdate" /d "0" /t REG_DWORD /f

2) Open the Command Prompt by clicking on or inputting the following, and then access the folder to which you saved the above files.

Start -> Windows System -> Commando Prompt -> More -> Run as administrator

3) Input "StopWindowsUpdate" as shown in the below screenshot (*).

Note: In this example, "StopWIndowsUpdate.bat" is saved to the "c:\temporary" folder.

Technical Bulletin

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Model: Shepherd-P1	Date: 5-Apr-19	No.: F	RJ09301	2
■ 管理者: コマンドプロンプト		_		Х
Microsoft Windows [Version 10.0.17134.648] (c) 2018 Microsoft Corporation. All rights reser	rved.			î
C:¥WINDOWS¥system32>cd c:¥temporary				
c:¥temporary>StopWindowsUpdate				
c:¥temporary>reg_add "HKEY_LOCAL_MACHINE¥SOFTWAF wsUpdate¥AU" /v "NoAutoUpdate" /d "1" /t REG_DWC この操作を正しく終了しました。	RE¥Policies¥Microsoft DRD /f	¥₩inda	bws¥₩in	do
c:¥temporary>_				

* In the same way, you can enable automatic update of Windows 10 by inputting "StartWindowsUpdate".

4) Reboot the PC.

Technical Bulletin

Model: Shephered-P1 Date: 17			Date: 17-M	1ay-19	No.: RJ093013
Subject: Troubleshooting : Poor Print Quality may occur when parameter in print control software unmatched with current ink type					by: Kobayashi
From: Regional Sa	les Department, Global IP S	ales Center			
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform Electrical Transmit/re Other (nation eceive)	Action re	quired nanual revision nformation Tier 0.5

There is an information of troubleshooting regarding poor print quality by unmatched between parameter in print control software and actual installed ink type.

Symptom

There are different image processing parameters for each ink type in Pro T7210.

Poor print quality may be occurred by unmatched between actual installed ink type and parameter in print control software.

If dot pattern or image alignment is not problem but banding or uneven density may occur, then check the parameter in print control software whether it is matched with actual installed ink type.

How to Check

- ·Check the Connection between PC and Machine
- · Start print control software (if already started, close it once and then restart)
- ·Check the parameter below

Maintenance>Voltage>Printhead configuration

RICOH Pro UV Ink Bottle T7210

T7210-P1_ver1.0

RICOH Pro UV Ink Bottle GP120 GP120_ver1.0

RICOH Pro UV Ink Bottle DG130 DG130_ver1.0



Model: Shephered-P1

Date: 17-May-19

No.: RJ093013

Note

If any prints start before check above the parameter, then the parameter will be changed to ricoh_phcfg, as the result you will not be able to check the parameter.

At that time, you can check by restart print control software and should check this parameter first.

Solution

If unmatched parameter is found, reinstall print control software.

- ·Close the print control software
- ·Uninstall the print control software
- · Reinstall the print control software with select correct ink type

Technical Bulletin

PAGE: 1/2

Model: Shepherd-P1, Shepherd-Lt Date:			Date: 27-M	lay-19	No.: RJ093014
Subject: Troubleshooting : Carriage too low error occur					by: D.Kobayashi
From: Regional Sa	les Department, Global IP S				
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	eshooting Part information nical Electrical path Transmit/receive t Safety Other ()		 Action required Service manual revision Retrofit information Tier 2 Tier 0.5 	

Symptom

Error Code 6 "Carriage height is too low" error may occur when operating Motion Test menu on Print Control software.

rror Report	×
Error Code 6	
Carriage height is too low.	ОК
	Help>>

This error may occur when operate Motion Test as below.

•Select Cleaning Lifter, then click X+ with wiper up then click X- with wiper down .

1	Y2	Х	Z	10
PL	PL	PL	PL	EMG
V1.			7+	RI1
11.	I IZT			RI2
V1-	V2-	χ-	7-	RI3
				RI4
Zero	Zero	Zero	Zero	RIS
NL	NL	NL	NL	RI7
-32798270	-32798270	8000001	0	RI8
✓ Dual Y Sy	/nc Sp	peed: 10	mm/s	
Option>>		OK Axi	s Selection:	Carriage 🛛
			V	Jamage Viper Capping Lifter

After these operations, as result may occur "Carriage height is too low" error. And you may not be able to move carriage any more due to this error.



Model: Shepherd-P1, Shepherd-Lt

Date: 27-May-19

No.: RJ093014

<u>Cause</u>

Software bug

Solution

Perform "Reset Origin" or Restart Print Control software.

Maintenand	e Password
Clear Task Ir	ndex
Reset Origin	ı
Parameter	>
Recent Prin	t >
Calibration	>
Motion Test	t
History Info	rmation
Ink Charge	
Language	>
Data Unit	>

This bug will be resolved in the next version software. Refer to the release note for detail.

Technical Bulletin

PAGE: 1/4

Model: Shepherd-P1			Date: 28-M	1ay-19	No.: RJ093015
subject: Field Service Manual Correction Installation				Prepared by: D.Kobayashi	
From: Regional Sa	les Department, Global IP S				
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform Electrical Transmit/re Other (nation eceive)	Action re Service n Retrofit ir	quired nanual revision nformation

Service manual correction

Please apply the following corrections to your Pro T7210 and Pro TF6250 field service manual, in section:

2. Installation>Main Machine Installation>Installation Procedure>Print Head Front and Back Position Adjustment

Additional step in red for Step 3-3 and 4-3

Step 3-3

Rotate the adjustment screw [B] for the print head [A] (for the cyan nozzles) of the second row to correct the displacement.

• If the line on the left side is lower than the line on the right side: The print head is displaced towards the front. Rotate the screw [B] clockwise to correct the displacement.

• If the line on the left side is upper than the line on the right side: The print head is displaced towards the rear. Rotate the screw [B] counter-clockwise to correct the displacement.



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RICOH	Technical B	Technical Bulletin	
Model: Shepherd-P1		Date: 28-May-19	No.: RJ093015

After the adjustment, print the test pattern and check the two dotted lines. Perform the adjustment until the two dotted lines become overlapped and deviation amount become within the standard value.

•Check whether the screw[C] which is rear side of Print head mount [D] is loose or not.

If it is loose, then tighten the screw [C] until the tip of the screw contacts the print head mount [D].

When tip does not contact the print head mount [D], at this time you can tighten the screw lightly, if you cannot tighten the screw lightly then you don't need to tighten it any more.





•Note

Especially when rotate the screw [B] counter-clockwise, it may need to tighten the screw [C] a little until the tip of the screw contact the print head mount [D].

When tightening the screw [C], it is not necessary to tighten it too hard, it is just contact to the print head mount [D].

•After the adjustment, print the test pattern and check the two dotted lines.

If two dotted lines do not be overlapped, then rotate the screw [B] clockwise little bit more.

Perform the adjustment until the two dotted lines become overlapped and deviation amount become within the standard value.

Step 4-3

Rotate the adjustment screw [B] for the print head [A] (for the yellow nozzles) of the first row to

correct the displacement.

• If the yellow line is lower than the cyan line: The print head is displaced towards the front.

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Rotate the screw [B] clockwise to correct the displacement.

• If the yellow line is upper than the cyan line: The print head is displaced towards the rear.

Rotate the screw [B] counter-clockwise to correct the displacement.



j093a2330

• After the adjustment, print the test pattern and check the two dotted lines. Perform the adjustment until the two dotted lines become overlapped and deviation amount become within the standard value.

• Check whether the screw[C] which is rear side of Print head mount [D] is loose or not.

If it is loose, then tighten the screw [C] until the tip of the screw contacts the print head mount [D].

When tip does not contact the print head mount [D], at this time you can tighten the screw lightly, if you cannot tighten the screw lightly then you don't need to tighten it any more.





•Note

Especially when rotate the screw [B] counter-clockwise, it may need to tighten the screw [C] a little until the tip of the screw contact the print head mount [D].
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When tightening the screw [C], it is not necessary to tighten it too hard, it is just contact to the print head mount [D].

•After the adjustment, print the test pattern and check the two dotted lines.

If two dotted lines do not be overlapped, then rotate the screw [B] clockwise little bit more. Perform the adjustment until the two dotted lines become overlapped and deviation amount become within the standard value.

Technical Bulletin

PAGE: 1/3

Model: Shephered-P1 Dat		Date: 20-Jun-19		No.: RJ093016	
Subject: Notes for updating Print Control Software to version 1.1.0.6			Prepared	by: Kobayashi	
From: Regional Sa	les Department, Global IP S	ales Center			
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform Electrical Transmit/re Other (nation eceive)	Action re Service n Retrofit ir	quired nanual revision nformation

There are Notes for updating Print Control Software to version 1.1.0.6 or later. Check whether following parameters are correct after updating to version 1.1.0.6.

1. Print Option->UV Lamp Setting
Lamp 1 Distance:550Lamp 2 Distance:97Pre-emission Length:55Post-emission Length:40UV Lamp Setting

Lamp 1 Distance	550	mm
Lamp 2 Distance	97	mm
Pre-emission Length	55	mm
Post-emission Length	40] mm
Additional Curing Length	30	mm

2. Print Option->Color Bar SettingWidth:0.5Distance to Image:164Colors Space:2

Color Dur County		-		
Color Bar Setting				
Flush Interval	ush Interval :105025372			

Width	0.5	mm	
Distance to Image	164] mm	
Colors Space	2] mm	
Color Bar Position	No Print		
Flush Interval	105025372	Sec	
Come Lieight With Image			

3. Print Option->Other

Carriage Motion Buffer :300

Technical Bulletin

Model: Shephered-P1

Date: 20-Jun-19

No.: RJ093016

Other		
Images Space	0	mm
Carriage Motion Buffer	300	mm
Circulation Pump Valid Time	60	Sec
Circulation Pump Period	3600	Sec
Color/White Interval Time	30	Sec

4. Print Option->Printhead ProtectionHi-Freq Flash Freq:100Vacuum Forming Time:5Hi-Freq Flash Time:1Printhead Protection

Idle Flash Freq	0	HZ
Hi-Freq Flash Freq	100	HZ
Interim Flash Period	0	Sec
Interim Flash Valid Time	0	Sec
Auto Clean Timer	0	Sec
Auto White Cleaning Timer	106535321	Sec
Auto Capping Timer	100000	Sec
Cap Height in Capping	30	mm
Carriage Height in Clean	3	mm
Purge Ink Time in Manual	3	Sec
Purge Ink Time in Clean	3	Sec
Delay Time After Purge	10	Sec
Vacuum Forming Time	5	Sec
Vacuum Time of Waste Ink	3	Sec
Hi-Freq Flash Time	1	Sec
Wiper Move Length	82	mm
Wipe End Position	13	mm
Wipe Height	14.5	mm
NormalClean Vacuum	Purge V	Nipe
Print Clean 🗹 Vacuum	Purge 🔽	Nipe
EnablePre-Flush	Clean Before	Print

5. Maintenance->Motion->Mechanism Max X Range :3305 Y Max Sync Offset :10

Mechanism 3305 Max X Range 0 mm Edge Sensor Position mm Max Y Range 3470 5 Capping Position mm mm 200 0.4 mm mm X Clean Position X Zero Position 10 X Home Position 0 mm Y Max Sync Offset mm 710 mm 3275 Flash Position Purge position mm 4.09222 Enc/Inc 0 Y Encoder Factor Roll Moving Factor



Model: Shephered-P1

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6. Maintenance->Motion->Pre-print Flush Setting All value :0



7. Maintenance->Calibration->Feed Length

All value :1.0000

Feed Length(mm)	0~10	10~20	20~30	30~40	40~50	50~60	60~100	100~
Correction Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Technical Bulletin

Model: Shepherd-P1		Date: 21-Aug-19		No.: RJ093017	
subject: Field Service Manual Correction Installation: Applying the Setting for Selected Ink				Prepared I	by: Y. Kurohashi
From: Regional Sa	les Department, Global IP S	ales Center			
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform Electrical Transmit/re Other (nation eceive)	 ☐ Action rei ☑ Service n ☐ Retrofit ir ☐ Tier 2 	quired nanual revision nformation

Service manual correction

Add this RTB procedure to Pro T7210 field service manual after the following section.

- 2. Installation > Main Machine Installation > Installation Procedure
- > Reading the Initial Setting File for Print Control Software

Applying the Setting for Selected Ink

Overwrite the following settings in line with selected ink type.

- 1. Enter the Service Mode.
- 2. Print Option- >UV Lamp Setting (Common setting for all ink type)

Lamp 1 Distance Lamp 2 Distance Pre-emission Ler Post-emission Le	:550 :97 :55 :40	
Lamp 1 Distance	550	mm
Lamp 2 Distance	97	mm
Pre-emission Length	55	mm
Post-emission Length	40	mm
Additional Curing Length	30	mm

3. Print Option->Color Bar Setting

Width	:0.5
Distance to Image	:164
Colors Space	:2
Color Bar Position	:No Print
Flush Interval	:90
	·1050253

:90 (For using GP120 ink, or DG130 ink) :105025372 (For using T7210 ink)

<GP120 ink, DG130 ink>

Color Bar Setting		
Width	0.5	mm
Distance to Image	164	mm
Colors Space	2	mm
Color Bar Position	No Print	
Flush Interval	90	Sec
Same Height With Image	9	

<T7210 ink>

Color Bar Setting									
Width	0.5	mm							
Distance to Image	164	mm							
Colors Space	2	mm							
Color Bar Position	No Print								
Flush Interval	10502537	2 Sec							
🗹 Same Height With Imag	е								

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No.: RJ093017

4. Print Option->Other (Common setting for all ink type) Carriage Motion Buffer :300

:5

9	Other		
	Images Space	0	mm
I	Carriage Motion Buffer	300	mm
ľ	Circulation Pump Valid Time	60	Sec
	Circulation Pump Period	3600	Sec
	Color/White Interval Time	30	Sec

5. Print Option->Printhead Protection Hi-Freq Flash Freq :100

Hi-Freq Flash Freq Vacuum Forming Time Hi-Freq Flash Time Enable Pre-Flush

:1 :ON (For using GP120 ink or DG130 ink) :OFF (For using T7210 ink)

<GP120 ink, DG130 ink>

F	Printhead Protection									
	Idle Flash Freq	0	HZ							
I	Hi-Freq Flash Freq	100	HZ							
1	Interim Flash Period	0	Sec							
	Interim Flash Valid Time	0	Sec							
	Auto Clean Timer	0	Sec							
	Auto White Cleaning Timer	106535321	Sec							
	Auto Capping Timer	100000	Sec							
	Cap Height in Capping	26	mm							
	Carriage Height in Clean	3	mm							
	Purge Ink Time in Manual	3	Sec							
	Purge Ink Time in Clean	3	Sec							
	Delay Time After Purge	10	Sec							
	Vacuum Forming Time	5	Sec							
	Vacuum Time of Waste Ink	3	Sec							
	Hi-Freq Flash Time	1	Sec							
	Wiper Move Length	87	mm							
	Wipe End Position	19	mm							
	Wipe Height	8.2	mm							
	NormalClean 🗹 Vacuum 🔽 F	Purge 🔽	Wipe							
	Print Clean 🔽 Vacuum 🔽 F	🖌 Purge 🛛 🗹 Wipe								
L	EnablePre-Flush	Clean Before	Print							

<T7210 ink>

Printhead Protection									
Idle Flash Freq	0	HZ							
Hi-Freq Flash Freq	100	HZ							
Interim Flash Period	0	Sec							
Interim Flash Valid Time	0	Sec							
Auto Clean Timer	0	Sec							
Auto White Cleaning Timer	106535321	Sec							
Auto Capping Timer	100000	Sec							
Cap Height in Capping	26	mm							
Carriage Height in Clean	3	mm							
Purge Ink Time in Manual	3	Sec							
Purge Ink Time in Clean	3	Sec							
Delay Time After Purge	10	Sec							
Vacuum Forming Time	5	Sec							
Vacuum Time of Waste Ink	3	Sec							
Hi-Freq Flash Time	1	Sec							
Wiper Move Length	87	mm							
Wipe End Position	19	mm							
Wipe Height	8.2	mm							
NormalClean 🗹 Vacuum 🗹 F	Purge 🔽 🗸	Wipe							
Print Clean 🛛 Vacuum 🗹 Purge 🔽 Wipe									
EnablePre-Flush	Clean Before	Print							

Technical Bulletin

Model: Shepherd-P1		Date: 21-Aug-19	No.: RJ093017
 Print Option -> UV Curing Contro <gp120 ink=""></gp120> 	bl		
Lamp 1 Right Direction Lamp 2 Left Direction	:ON :ON		
UV Curing Control			
Lamp 1 Right Direction Lamp 2 Right Direction	n 🗹 Lamp 1 Left D	irection 🛛 🖌 Lamp 2 Left Direction	
< DG130 ink, or T7210 ink> Lamp 1 Right Direction Lamp 2 Left Direction	OFF OFF		
UV Curing Control			
Lamp 1 Right Direction 🛛 Lamp 2 Right Direction	u 🗹 Lamp 1 Left Di	rection Lamp 2 Left Direction	

1. Maintenance->Motion->Mechanism (Common setting for all ink type) Max X Range :3305 Y Max Sync Offset :10

- <u>j</u> e e				
3305	mm	Edge Sensor Position	0	mm
3470	mm	Capping Position	5	mm
0.4	mm	X Clean Position	200	mm
0	mm	Y Max Sync Offset	10	mm
lash Position 710 mm		Purge position	3275	mm
4.09222	Enc/Inc	Roll Moving Factor	0]
	3305 3470 0.4 0 710 4.09222	3305 mm 3470 mm 0.4 mm 0 mm 710 mm 4.09222 Enc/Inc	3305 mm Edge Sensor Position 3470 mm Capping Position 0.4 mm X Clean Position 0 mm Y Max Sync Offset 710 mm Purge position 4.09222 Enolnc Roll Moving Factor	3305 mm Edge Sensor Position 0 3470 mm Capping Position 5 0.4 mm X Clean Position 200 0 mm Y Max Sync Offset 10 710 mm Purge position 3275 4.09222 Enclinc Roll Moving Factor 0

2. Maintenance->Motion->Pre-print Flush Setting

RICOH



Technical Bulletin

Model: Shepherd-P1

RICOH

Date: 21-Aug-19 No.: F

No.: RJ093017

<T7210 ink>

Pre-print Flush Setting											
0											
0											
0											
0											
0											
0											
0											
0											
	0 0 0 0 0 0 0										

3. Maintenance->Calibration->Correction Factor (Common setting for all ink type) All value :1.0000

Feed Length(mm)	0~10	10~20	20~30	30~40	40~50	50~60	60~100	100~
Correction Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

4. Maintenance->Calibration->Temp

	<	:GP12	0 ink, (or Pro	T7210) ink>									
PH1-PH14			:43.0												
PH17				:0.0											
		PH18	8-PH19)	:2.0										
PH Parameters	PH1	PH2	PH3	PH4	PH5	PH6	PH9	PH10	PH11	PH12	PH13	PH14	PH17	PH18	PH19
A	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V
В	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V
С	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V
D	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V
Temp	43.0C	43.0C	43.0C	43.0C	43.0C	43.0C	43.0C	43.0C	43.0C	43.0C	43.0C	43.0C	0.0C	2.0C	2.0C

	<	DG13 PH1- PH4- PH9- PH12 PH14 PH17 PH18	0 ink> PH3 PH6 PH11 2-PH13 - - - - - - - - - - - - - - - - - - -		40.0 44.0 47.0 40.0 43.0 0.0 2.0										
PH Parameters	PH1	PH2	PH3	PH4	PH5	PH6	PH9	PH10	PH11	PH12	PH13	PH14	PH17	PH18	PH19
A	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V
в	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V
С	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V
D	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V	0.0V
Temp	40.0C	40.0C	40.0C	44.0C	44.0C	44.0C	47.0C	47.0C	47.0C	40.0C	40.0C	43.0C	0.0C	2.0C	2.0C

Technical Bulletin

Model: Shephere	d-P1	Aug-19	No.: RJ093018						
subject: Print Co	ntrol Software error co	Prepared	by: D.Kobayashi						
From: Regional Sales Department, Global IP Sales Center									
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform Electrical Transmit/re Other (nation eceive)	Action re Service r Retrofit in Tier 2	quired nanual revision nformation				

.

Symptom

Print Control Software error code is added.(from Version 1.1.0.6)

Error	Error Message		Cause/Solution
Code	Error Description	Help Information	
35	Carriage cannot go to original position.	X HP sensor is always ON during printing	Perform the Motion test and check the X HP sensor behavior
			 Check the Door's switches
			 Check whether the proximity sensors work correctly
36	The limit switch signals of Y axis are incorrect.	Y Rear Limit switch is always ON during	Perform the Motion test and check Y rear Limit switches behavior
		printing	 Check the Door's switches
			 Check whether the proximity sensors work correctly
174	Carriage cannot go to	X HP sensor is always	Perform the Motion test and check
	original position.	ON when Reset	the X HP sensor behavior
			 Check the Door's switches
			 Check whether the proximity sensors work correctly
175	Carriage cannot go to	Y1 HP sensor is always	Perform the Motion test and check
	original position. ON when Reset		the Y1 HP sensor behavior
			 Check the Door's switches
			 Check whether the proximity sensors work correctly
176	The limit switch signals	X axis Left Limit switch is	Perform the Motion test and check
	of X axis are incorrect. always ON when Reset	always ON when Reset	the Left Limit switch behavior
		 Check the Door's switches 	
			 Check whether the proximity sensors work correctly
177	The limit switch signals	Y Rear Limit switch is	•Perform the Motion test and check
	ot Y axis are incorrect.	always ON when Reset	the Y Rear Limit switches behavior



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Model: Shepherd-P1			Date: 26-Aug-19 No.: RJ093018		
				Check the Doo Check whethe sensors work	or's switches r the proximity correctly
178	Carriage cannot go to original position.	Y2 HP sensor is al ON when Reset	ways	Perform the M the Y2 HP ser Check the Doc Check whethe sensors work	otion test and check noor behavior or's switches r the proximity correctly

Technical Bulletin

Model: Shephere	Date: 4-Se	ep-19	No.: RJ093019		
subject: Need to Clean the air purge port and air purge jig fitting after purging.					by: D.Kobayashi
From: Regional Sales Department, Global IP Sales Center					
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	 Part inform Electrical Transmit/re Other (nation eceive)	Action re	quired nanual revision nformation

<u>Outline</u>

Describe below to the customer in order to prevent ink leak from Air purge ports when installation or CE visits to customers.

- 1. Clean the air purge port and air purge jig fitting connector after purging with jig.
- 2. Keep air purge port cover closing when not needed.

<u>Cause</u>

1. Ink leak from air purge port may occur by adhesive ink around the fitting connector.

2.Remaining ink into the air purge port will be cured by fluorescent light.

Solution

Clean the air purge port and air purge jig fitting connector following the cleaning procedure below.

1. Purge process

Purge following order the reason why Clear and Primer is easy to cure by fluorescent light in the room and need to avoid attaching Cl and Pr ink to other color's ports.

<Purge order>

Wh, CM, YK, CL, Pr *From left to right

2. Clean process

Clean as you can see the following pictures.

Ink is remaining outer and inner the air purge port fitting connector after performing the air purge.

And also ink is remaining inside the air purge jig fitting connector.

echnical	B ulletin

Model: Shepherd-P1, Lt

Date: 1-Sep-19

No.:

(1) Outer Air purge port

Clean around the air purge port fitting connector by wiping cloth.

At this time clean Cyan and Magenta as example.



(2) Inner Air purge port

Make the wiping cloth twisting then clean inner the air purge fitting connector. To avoid contamination the inks, use the new surface by each port. Then make sure that there is no ink inner the air purge fitting connector.



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Model: Shepherd-P1, Lt

Technical	B ulletin

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No.:

Important

Do not use the stick to clean inner air purge port fitting connector. It may be broken the connector or occur ink leak from them.

(3) Air purge jig

Clean inner Air purge jig fitting connector by wiping cloth same as step1 and step2. Then make sure that there is no ink inner the air purge jig fitting connector.



3. Get back the cover over the air purge port



Important

Close the cover to avoid Ink will be cured by fluorescent light. Keep air purge port cover closing when not needed.

Technical Bulletin

PAGE: 1/2

Model: Shepherd-P1 Date:				ep-19	No.: RJ093020
subject: Troubleshooting "Color Misalignment".					by: D.Kobayashi
From: Regional Sales Department, Global IP Sales Center					
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	 Part inform Electrical Transmit/re Other (nation eceive)	Action re Service n Retrofit ir	quired nanual revision nformation

Troubleshooting information is added

Please apply the correction of this RTB to your Pro T7210 field service manual, in following section:

6. Trouble shooting>Image Quality>Color Misalignment

Additional information is in Red.

Symptom

The ink drop position is misaligned between color nozzles.

<u>Cause</u>

- The print head gap is not correct (0.8 to 1.5mm)
- Vertical calibration misalignment The print head is inclined.
- Print head front and back misalignment The ink drop position of the first/second/third row of the print heads are misaligned.
- Color offset misalignment The ink drop position is misaligned among the color nozzles in the Y direction.
- Adhesive material on X-axis and Y-axis encoder sheet

Action

Perform the following adjustment

- Carriage Original Height Position Adjustment
- Print Head Slant Adjustment
- Print Head Front and Back Position Adjustment
- Color Offset Adjustment
- Wipe the dirty encoder sheet with a dry cloth

Techr	nical	B ull	letin
			$\mathbf{\nabla}$

Model: Shepherd-P1, Lt

Date: 1-Sep-19

No.:

<u>Case</u>

• White ink is misalignment

White image misalignment is occurred when Black image is overprinted on the white ink.

Adhesive material on X-axis encoder sheet, after cleaning the encoder sheet, then this problem is solved.



Technical Bulletin

Model: Shepherd-P1 Date: 2-Oc					No.: RJ093021
subject: Troubles when more than	shooting "Ink end lamp 2 ink tanks empty occu	Prepared I	by: D.Kobayashi		
From: Regional Sa	les Department, Global IP S	Sales Center			
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform Electrical Transmit/re Other (nation eceive)	Action re Service n Retrofit ir Tier 2	quired nanual revision nformation

Symptom

Ink end lamps lit darker or do not lit when more than 2 ink tanks empty occurring at the same time.



Only Cyan is empty



Cyan and Magenta are empty

<u>Cause</u>

It will not be possible to supply enough current for the several lamps at the same time.

Workaround

- 1.Darken around the machine and check the lamps status.
- 2.If could not check the lamps status then check amount of remaining ink by open the ink tank one by one.

Production line engineering changes

Enhanced machine is added the diode circuit like below picture and schematic which is for enhancing visibility of ink end lamps.

Cut in S/N R868XA00002 or later

Vote

This change is not available for earlier machine than S/N above.



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Model: Shepherd-P1, Lt

Date: 1-Sep-19

No.:





Technical Bulletin

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Model: Shepherd-P1/Lt Date				e: 7th-Oct-	19	No.: RJ093022
Subject: Service Manual correction: Installation Ink Filling Procedure					d by: D.I	Kobayashi
From: Regional Sa	ales Department, Global IP Sale	s Center				
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part informat Electrical Transmit/rec Other (For cu		tion eive ustomize)	Actio	on required ice manual revision ofit information 2

Service Manual Correction

Please apply the changes written in this RTB to your Pro T7210/ Pro TF6250 field service manual, in following section:

2. Installation>Main Machine Installation>Installation Flow Chart

Added and changed section were written in red.

<Background>

Currently the machine is shipped after the print head and the ink supply paths are cleaned by cleaning liquid. As the cleaning method changes, only the print head will be cleaned and shipped from now on, so the cleaning procedure of the print head and the ink paths will be changed.

<Cut in S/N of production line>

	New ink filling procedure	Tools for new ink filling are bundled
J093-17	R869X800001	TBD
J093-27	R869X800003	R869X850004
J093-29	T.B.A.	T.B.A.
M0D4-17	5539X600001	T.B.A.
M0D4-27	5539X600006	T.B.A.
M0D4-29	5539X600008	5539X6000008

<Bundled item>

Description	Note
Syringe	For discharging the remained cleaning fluid from the print heads.
Bypass tube	Bypass the tube of print head and the syringe
Cup	Catch the ink when dischaging the ink from sub tank.

Note

Following tools are necessary to do new ink filling procedure. But several machines do not contain the tools. Therefore, please procure the following part, or contact your regional key person for arrangement the tools.

ļ	p/n	Description	Q'ty	Note
	M1533053	MIM:M012545:SYRINGE_ASY	1	60cc type syringe
	M0BY3200	SERVICE PARTS:SYRINGE_KIT		Use without the filter

Model: Shepherd-P1/Lt

Date: 7th-Oct-19

Main Machine Installation

Installation Flow Chart

This table is a summary of the installation procedure.

No.	Operation Item	
1	Unpacking	
2	Table Level Adjustment	
3	Installing the Proximity Sensors	
4	Disconnecting the Connectors (Between Carriage Board 1 and Sub Tanks)	
5	Removing the Shipping Material from the Carriage	
6	Connecting the Power Cord	
7	Turning On the Main Power Switch	
8	Turning ON the Power	
9	Resetting the Negative Pressure Value to Zero	
10	Installing the Print Control Software	
11	Reading the Initial Setting File for Print Control Software	
12	Checking the Sensor Status	
13	Checking the Table Surface Parallel	
14	Carriage Tilt Adjustment	
15	Carriage Original Height Position Adjustment	
16	Changing the Ink Supply Path (When Using Double White Configuration)	
17	Discharging Cleaning liquid from Print Head with Syringe	
18	Replenishing the Ink Tanks with Ink	
19	Cleaning the Ink Supply Tubes and Sub Tanks with Ink	
20	Connecting the Ink Tubes (Between Sub Tanks and Print Heads)	
21	Connecting the Waste tank tube and herness	
22	Filling the Print Heads with Ink	
23	Setting the Negative Pressure Value	
24	Removing the Air Bubbles	
25	Setting the Temperature of the Heater	
26	Setting the Print Media on the Table	
27	Performing the Nozzle Check	
28	3 Print Head Slant Adjustment	
29	9 Print Head Front and Back Position Adjustment	
30) Color Offset Adjustment	
31	Adjustment for Misalignment in Bidirectional Printing	
32	Backing Up the Setting Values in the Print Control Software	
33	Installing the RIP Software	
34	Printing the Confirmation Chart	
35	Instructing the Operator	

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Model: Shepherd-P1/Lt

Date: 7th-Oct-19 No.: R.

No.: RJ093022

2. Installation>Main Machine Installation>Installation Procedure>Discharge Cleaning liquid from Print Head by the Syringe

Discharge Cleaning liquid from Print Head by Syringe

Discharge cleaning liquid inside the print heads with the air bubble ejection tool and the syringe provided with the machine.

1. Click [Left] in the Print Control software to move the carriage [A] to the ink receiver [B].



2. Exit the Print Control software, and then press the power-off button on the front of the machine.





3. Loosen the 4 screws, and then remove the carriage front lower cover [A].



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Model: Shepherd-P1/Lt

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4. Attach the air bubble ejection tool [A] at the maintenance station.



5. Connect ONE tube of the air bubble ejection tool to the any port on the carriage.

Note

Use only one tube to push out the cleaning liquid more strongly, though air bubble ejection tool has 2 tubes,



6. Connect the bypass tube with the tube of the print head which has corresponding air purge port. [B].

Note

Connect the syringe tube assy to print head directly when using M1533053 or M0BY3200, after filling the syringe with the air..





7. Fill the air into the syringe to full.



Comportant)

Do not pull the syringe for air filling while it is being connected to the print head in order to prevent from contamination of the print head.

8. Connect the bypass tube connector (LF4131) to the syringe.



9. Push the syringe in order to discharge the remained cleaning liquid of the print head. (60ml air should be pushed out per 1-2second)



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Model: Shepherd-P1/Lt	Date: 7th-Oct-19	No.: RJ093022
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10. Disconnect the syringe from the tube connector of syringe tool.

Note

Disconnect the syringe tube assy when using M1533053 or M0BY3200.

11. Repeat 3 times step 7 to 10 at one air purge port.

12. Repeat step 6 to 11 to all of the air purge port.

😭 Important

Pull out the tube while pressing the button ① on the side of the ports.



Vote

Perform this procedure each one port individually in line with the port list shown below.

Print head configuration: Standard





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No.: RJ093022

Print head configuration: Double White



2. Installation>Main Machine Installation>Installation Procedure>Replenishing the Ink Tanks with Ink

Replenishing the Ink Tanks with Ink

1. Open the caps of the ink tanks, and then replenish the ink into the ink tanks (C/M/Y/K/Cl/Pr: 1000ml for each, W: 850ml).



😭 Important 🔵

Check the color marked on the cap, and then add the correct color of ink. Be careful not to add ink of a different color.

2. Close the caps of the ink tanks.

Leave the door open.

Model: Shepherd-P1/Lt

Date: 7th-Oct-19 No.: F

No.: RJ093022

2. Installation>Main Machine Installation>Installation Procedure>Cleaning Ink Supply Tubes and Sub Tanks with Ink

Cleaning Ink Supply Tubes and Sub Tanks with Ink (Three times)

Clean the contamination such as dust in the ink tubes and the sub tanks at this procedure.

🚼 Important 🔵

- Before doing the following procedure, **make sure that the Table Front Right Door is OPEN.** If the Print Control software is started up when the doors are closed, the carriage starts the initializing operation and starts moving while the ink drops down from the print heads.
- Negative pressure should be set to 0 kPa in order to prevent invasion of garbage to print head. Refer to **Resetting the Negative Pressure Value to Zero** for a detail.
- 1. Connect the connectors for sub tank ink end detector with the carriage board 1 [A], disconnected in (Disconnecting the Connectors (Between Carriage Board 1 and Sub Tanks).



Vote

The connector number is marked on the carriage board 1. Connect the connectors to the right places.

 Standard Mode
 : 1:W, 2:C, 3:M, 4:Y, 5:K, 6:Cl, 7:Pr

 Double White Mode
 : 1:W, 2:C, 3:M, 4,Y, 5:K, 6:W2



Model: Shepherd-P1/Lt

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No.: RJ093022

2. Press the power-on button on the front of the machine, and then start up the Print Control software on the computer. (Starting the Print Control Software) The machine automatically executes the ink filling.



Note

The initial operation is not carried out and "Error" is displayed when the machine fills the print heads with ink, because machine initialization is interrupted by door opening. But ink filling is done correctly under the condition, so Ignore these errors and proceed to the next step.

Vote

While ink is filling, the remaining ink indicator [A] at the lower right corner of the Print Control screen flashes. After the ink filling is done, the respective color is displayed as shown below.



3. Press the power-off button on the front of the machine.



4. Disconnect the connectors from the carriage board 1 [A], after finished the ink filling. Make sure the indicator of step 3 whether ink filling is finished.

Refer to "Disconnection the Connectors (Between Carriage Board 1 and Sub Tanks)" for detail.



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Model: Shepherd-P1/Lt

RICOH

Date: 7th-Oct-19

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5. Place the cup under the first front ink tube[A] of the sub tanks.



Vote

Each sub tank has three ink tubes as shown below. The three ink tubes are arranged in a line from front to rear.

Example below: Ink tubes of the sub tank for Pr.



6. Open the fitting and discharge the ink completely, then close the fitting.



Note

Three ink tubes will be clean as same operation, so select one tube to perform to clean at this step.

- 7. Repeat step 6 and 7 to all colors of first front sub tank tube to clean.
- 8. Repeat step 1 to 8 for the second tubes to clean.
- 9. Repeat step 1 to 8 for the third tubes to clean.

Restart the Print Control Software if ink pumping does not start after the power on button on.

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Model: Shepherd-P1/Lt

Date: 7th-Oct-19 No.:

No.: RJ093022

2. Installation>Main Machine Installation>Installation Procedure>Connecting the Ink Tubes (Between Sub Tanks and Print Heads)

Connecting the Ink Tubes (Between Sub Tanks and Print Heads, and waste tank)

This section describes how to connect the ink tubes of the sub tanks with the ink tubes of the print heads.

1. Remove the fittings from the ink tubes of the sub tanks, and then connect these ink tubes to the ink tubes [A] of the print heads.

Vote

Refer RTB RM0D4** Installation Procedure of Double White Kit when Double White mode is selected.



• Note

Check that none of the ink tubes are twisted or bent. If an ink tube is twisted or bent, problems may occur with discharge.

- The print heads are arranged in three rows, and each print head has four nozzle rows. The respective color inks (C/M/Y/K/W/Cl/Pr) will be provided to the print heads as shown below. (The black circles in the diagram indicate the location of the ink tubes for each print head.) Referring to the following diagram, connect the ink tubes of the sub tanks for each color with the corresponding color of the ink tubes of the print heads.
- The three ink tubes of the sub tank for each color are arranged in a line from front to rear. Connect the ink tube at the front with the ink tube of the print head in the first row, connect the ink tube at the middle with the ink tube of the print head in the second row, and connect the ink tube at the rear with the ink tube of the print head in the third row. For



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Date: 7th-Oct-19 No.:

No.: RJ093022

example, when connecting the tubes of the sub tank for C ink, connect the ink tube at the front with the ink tube [A], connect the ink tube at the middle with the ink tube [B], and connect the ink tube at the rear with the ink tube [C].



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- For W/C/M/Y/K ink, three ink tubes from the sub tank need to be connected for each color. For Pr ink, one ink tube from the sub tank needs to be connected. For Cl ink, two ink tubes from the sub tank need to be connected. Leave the unused ink tubes from the sub tanks (one tube for Cl, two tubes for Pr) with the fittings attached.
- 3. Check the connector of the print head to amplifier board is set correctly.



Colored Important

If the connector is not set correctly, print head may be broken by short circuit.

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Model: Shepherd-P1/Lt

Date: 7th-Oct-19

No.: RJ093022

2. Installation>Main Machine Installation>Installation Procedure> Connecting the Waste tank tubes and herness

Connecting the Waste tank tube and herness

1. Open the maintenance station rear door [A]



2. Connect connectors [A] and [D], and tubes [B] and [C] through the hole [E] under the maintenance station.



[A]	Connector of the waste ink tank	[D]	Connector from inside the maintenance station
[B]	Tube of the waste ink tank	[E]	Hole under the maintenance station
[C]	Tube from inside the maintenance station		

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Model: Shepherd-P1/Lt

Date: 7th-Oct-19 No.:

No.: RJ093022

2. Installation>Main Machine Installation>Installation Procedure>Filling the Print Heads with Ink

Filling the Print Heads with Ink

1. Connect the seven connectors from the carriage board 1 [A], disconnected in "Disconnecting the Connectors (Between Carriage Board 1 and Sub Tanks)".



Vote

The connector number is marked on the carriage board 1. Connect the connectors to the right places.

Standard Mode : 1:W, 2:C, 3:M, 4:Y, 5:K, 6:Cl, 7:Pr Double White Mode : 1:W, 2:C, 3:M, 4,Y, 5:K, 6:W2

😒 Important 🔵

Before doing the following procedure, make sure that the table front right cover is open. If the Print Control software is started up when the table front right cover is closed, the carriage starts the initializing operation and starts moving while the ink drops down from the print heads.

2. Press the power-on button on the front of the machine. Start up the Print Control software on the computer. (Starting the Print Control Software)

The machine automatically executes the ink filling and operation check.

Note

While ink is filling, the remaining ink indicator [A] at the lower right corner of the Print Control screen flashes. After the ink filling is done, the respective color is displayed as shown below.



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Model: Shepherd-P1/Lt

Date: 7th-Oct-19

No.: RJ093022

2. Installation>Main Machine Installation>Installation Procedure>Setting the **Negative Pressure Value**

Setting the Negative Pressure Value

1. Make sure that the ink is leaking from the nozzle faces [A].



2. Open the table front left cover [A].



Connect the tubes [A] from rear of the negative pressure operation panels [B]. 3.



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Technical **B**ulletin

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Model: Shepherd-P1/Lt

Date: 7th-Oct-19 No.: RJ093022

4. Change the negative pressure at the negative pressure sensor [A] [B].

For C/M/Y/K/CI/Pr ink [A] : Lo-1: -4.4kPa, Hi-1: -4.3kPa, P-2: -4.5kPa For W/(W2) ink [B] : Lo-1: -4.9kPa, Hi-1: -4.8kPa, P-2: -5.0kPa



- 1. Set the Lo-1 value.
 - Press the MODE button and select "Lo-1". The Lo-1 value is displayed. •
 - Press the DOWN button to set the value. (For C/M/Y/K/Cl/Pr ink: -4.4kPa, For W ink: -• 4.9kPa)



- 2. Set the Hi-1 value.
 - Press the MODE button and select "Hi-1". The Hi-1 value is displayed.
 - Press the DOWN button to set the value. (For C/M/Y/K/Cl/Pr ink: -4.3kPa, For W ink: -• 4.8kPa)



- 3. Set the P-2 value.
 - Press the MODE button and select "P-2". The P-2 value is displayed.
 - Press the DOWN button to set the value. (For C/M/Y/K/Cl/Pr ink: -4.5kPa, For W ink: -•



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Vote

Set the Hysteresis mode on the negative pressure operation panel.

Make sure to perform the setting for both operation panels.

This setting is required to stable the pressure inside sub tank. This mode enable to keep negative pressure ± 0.1 kPa.

Enter the Hysteresis mode by pressing the MODE button in two seconds.

Set the Hysteresis mode, according to the flowchart shown below. Select the item in red square for each setting.

Output mode 1
Output mode 2
N.O./N.C. setting
$\begin{array}{c} lacla \rightarrow lcclc \rightarrow loclc \rightarrow lccla \\ \hline N_{0}N_{c} \end{array}$
Response time setting
Press MODE
Display color setting
Unit setting

Model: Shepherd-P1/Lt

Date: 7th-Oct-19

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5. Wipe off the ink drops from the nozzle faces [A] of the print heads with the wiping jig provided with the machine.



2. Installation>Main Machine Installation>Installation Procedure>Removing the Air Bubbles

Removing the Air Bubbles

Use this procedure to eject unnecessary air and cleaning liquid inside the print heads with the air bubble ejection tool provided with the machine.

Vote

- The procedure described in this section is for the service engineer. It is different from the procedure for the user in the user's manual "Operating Instructions".
- Before you start this procedure, make sure that the bottle of the air bubble ejection tool is empty.
- 1. Close all doors. And, enter the Service Mode in the Print Control Software.
- 2. Click [Left] in the Print Control software to move the carriage [A] to the ink receiver [B].



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2. Attach the air bubble ejection tool [A] at the maintenance station.



3. Click [Purge] in the Print Control software.

			COLLEGE VIEW OF							
	Pirt	2	Purge Clear	, 🚢	Home	Let	Right	Stop	Forward	Back
Print Option Print Option Task Select Operation Operation	2017-15-2 5 Initializing Load Cond System Au Initialize P	0:34 System 3 Hardware an gration File Morization Ch rinter	Start. d Firmware weck						(Succes (Succes (Succes (Succes	
EM									j093a	a2877

4. Select the one color of the port to which the air bubble ejection tool will be connected. And change "Purge Ink Time (Sec)" to 15, then click OK.

Note

Usually you cannot select only one color. For example, when you select Cyan, then Magenta will be selected automatically.

But Select one color then drug the mouse to other area, then you can select only one color.

_

P	rint Head Clea	an Option			×
1	All				
	White	Cyan	🗌 Magenta	Vellow]Black
	Clear	Primer			
	Purge Ink Ti	me (Sec)	2	15	
	High Flash F	Freq (Hz)		100	
	High Flash T	īmer (Sec)		1	
	3	ОК		Close	

Print Head Clean Option	×
White 1 Cyan Magenta Yellow B White 2	lack
Purge Ink Time (Sec) ② 15]
High Flash Freq (Hz)]
High Flash Timer (Sec)	
3 OK Close	
5. Connect the one tube of the air bubble ejection tool to the port on the carriage. Insert the tubes straight into the ports until they click.

😭 Important 🔵

- Though air bubble ejection tool has 2 tubes, use only one tube for purge to push out the cleaning liquid more strongly.
- Connect the tool during the purge pump pumping. Otherwise waste ink or contamination may backflow to print head by negative pressure.



- 6. Remove the air bubble ejection tool from the port after approximately 10 seconds.
 - Press the button on the tube connector and pull them straight out of the port when the connector is released.
 - This operation should be performed by 2 persons. One person operates the Print Control Software, the other one connects or disconnects the tube of the air bubble ejection tool.
 - If only one person will perform this step, set "Purge Ink Time (Sec)" to 45, then click OK on step 4. Disconnect the tube of the air ejection tool from the port after approximately 10 seconds. Then connect the next port of same color for 10 seconds, then repeat this step until finish one color air purge.

<Work flow for one person :Total 45 sec (40sec work and 5 sec margin)> Purge > Move to the air purge position (10 sec) > Connect the tube of the tool to 1st port (10sec) > Change the tube to 2nd port (10 sec) > Change the tube to 3rd port (10 sec)

- If the ink is not discharged, check the followings.
 - 1. It does not change even if you change the port.
 - 2. Ink is purged from the nozzle.
 - 3. Purge pressure (within the carriage) is normal.
 - 4. It does not change even if it inserts and removes.
 - 5. It does not change even if you rotate the connector with it inserted.

If everything is true, the connector [A] of air bubble ejection tool is broken. Replace the connector with bundled spare parts.

7. Repeat steps 3 to 6 until the air bubbles for all 24 ports have been discharged.

• Empty the bottle of the air bubble ejection tool after purging per 9 ports to prevent from overflow the waste ink.

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Model: Shepherd-P1/Lt

No.: RJ093022

- 8. Remove the ink from the ports with the paper towel, and then put back the carriage front cover.
- 9. Remove the ink from the connectors of the bubble ejection tool with the paper towel, and then store it in a dust-free place.
- 10. Wipe off the ink drops from the nozzle faces [A] of the print heads with the wiping jig provided with the machine.



11. Click [Right] in the Print Control software to move the carriage [A] to the maintenance station [B].



12. Exit the Print Control software, and then press the power-off button on the front of the machine.

Vote

Click [Exit] in the Print Control software to exit the Print Control software.



13. Close the table front right cover.

Comportant)

- Before closing the table front right cover, make sure to exit the Print Control software and press the power-off button. Otherwise, the carriage might be operated by mistake.
- 14. Press the power-on button on the front of the machine, and then start up the Print Control software.

Technical Bulletin

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Model: Shepherd-P1, Shepherd-Lt			Date:8- Oct-19		No.: RJ093023
subject: Troubleshooting "Cap may be out from Capping unit".				Prepared	by: D.Kobayashi
From: Regional Sales Department, Global IP Sales Center					
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform	nation eceive)	Action re Service n Retrofit ir Tier 2	quired nanual revision nformation

Symptom

Caps may be out from capping unit.



<u>Cause</u>

Vibration during transportation or incorrect daily care around the cap.

Required

Check whether the caps are not out from capping unit and reseat them if they are out. Instruct to customer that wipe around the cap from above not side the cap when cleaning. And instruct to the customer that reseat the caps if they are out from capping unit.



Wiping from side of the cap(no good)



Wiping from above the cap(good)



Model: Shepherd-P1, Lt

Date: 1-Sep-19

No.:

Important

If the capping operation is performed with the cap is out from capping unit, the print head may be damaged.

Vote

Cap holder will be changed one that can fix the cap more strongly.

Cut in S/N are blow

Pro T7210		Pro TF	6250
J09317	R869X900001	M0D417	5539X700001
J09327	R869X900004	M0D427	5539X600002
J09329	TBD	M0D429	5539X600008

Technical Bulletin

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Model: Shepherd-P1, Shepherd-Lt Date			Date: 10-C	Oct-19	No.: RJ093024
subject: Complementary explanation regarding Power supply			Prepared	by: D.Kobayashi	
From: Regional Sa	les Department, Global IP S	Sales Center			
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Troubleshooting□ Part informationMechanical⊠ ElectricalPaper path□ Transmit/receiveProduct Safety□ Other ()		Action re Service r Retrofit ir	quired nanual revision nformation

Necessary power supply in customer site

Only Y(Star) connection satisfies this specification.

Please confirm your sales person whether customer must prepare the power supply with these specifications.

Delta connection cannot be connected to the machine.

Necessary Power supply is below.

- 3 phases + N + PE (4 pole , 5 Wire)
- Mainly North America : 220 Vac±10%, 30 A
- Mainly Europe and Asia : 400 Vac±10%, 25 A

For wall outlet

30 Amp 277/480 Vac(NA/JPN) 32 Amp 400Vac(EU/AP) 4 Pole, 5 Wire (3P+N+E)

Cable Mounting Plug IP67 Watertight IEC60309 For main unit

30 Amp 277/480 Vac(NA/JPN) 32 Amp 400V(EU/AP) 4 Pole, 5 Wire (3P+N+E)

Cable Mounting Socket IP67 Watertight IEC60309







Delta connection transformer

L3

*Above is general image, please be sure to prepare the Protection Earth.

Actual circuit is depending on customer equipment. Please contact electrician for more detail.

Confirm any pins voltage

Confirm the voltage between every connector pin whether voltage is within acceptance as below table.



Pin	Mainly North America	Mainly Europe and Asia
L1-L2	220 V ± 10%	400 V \pm 10%
L2-L3	$220~V\pm10\%$	400 V \pm 10%
L3-L1	220 V \pm 10%	400 V \pm 10%
L1-N	127 V \pm 10%	231 V \pm 10%
L2-N	127 V \pm 10%	231 V ± 10%
L3-N	127 V \pm 10%	$231~V~\pm~10\%$

Technical Bulletin

Model: Shepherd-P1, Shepherd-Lt Date:17- C			Oct-19	No.: RJ093025	
subject: Additional Information of Service manual "Specifying the Adjusting Voltage Value of the Print Head"				Prepared	by: D.Kobayashi
From: Regional Sales Department, Global IP Sales Center					
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform Electrical Transmit/re Other (nation eceive)	 ☐ Action re ⊠ Service n ☐ Retrofit ir ☐ Tier 2 	quired nanual revision nformation Tier 0.5

Additional Information of Service manual

Please apply the following additional information and correction to your Pro T7210 and Pro TF6250 field service manual, in section:

4. Replacement and Adjustment>Carriage Unit >Print Head >Specifying the Adjustment Voltage Value of the Print Head

Added and corrected information is in Red.

Specifying the Adjusting Voltage Value of the Print Head

- 1. Click [Maintenance] in the Print Control software.
- Click the [Voltage] tab.
 Select [Adjusting Voltage]
- **3.** Select [Adjusting Voltage] in [Option Type Selection].





The adjusting voltage values (A, B, C, D) for each print head (PH1-19) are displayed in

Model: Shepherd-P1, Shepherd-Lt

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Date:17- Oct-19

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[PH Parameters] [A].

		•			1		
PH Parameters	PH1	PH2	PH3	PH4	PH	18	PH19
A	0.0V	0.0V	0.0V	0.0V	0.	3V	0.0V
B	0.0V	0.0V	0.0V	0.0V	/ / 0.	V	1.0V
C	0.0V	0.0V	0.0V	0.0V	0.	v	0.9V
D	0.0V	0.0V	0.0V	0.0V	0.	V	0.9V
Temp	43.0C	43.0C	43.0C	43.0C	2.	OC	2.00
		P.1		1	1		j093a2644

PH1 - 19 correspond to the following print heads. (PH7 - 8 and PH15 - 19 are not used • with this machine.)



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In the table below, check the adjusting voltage values for the voltage value of the new print head, 4. written down in Preparation.

Adi	iustina	voltage	corres	pondence	table
				p 0	

Print Head Voltage	Adjusting Voltage	Print Head Voltage	Adjusting Voltage	Print Head Voltage	Adjusting Voltage
18.0	-0.8	19.4	-0.1	20.8	0.7
18.1	-0.8	19.5	0.0	20.9	0.8
18.2	-0.7	19.6	0.1	21.0	0.8
18.3	-0.6	19.7	0.1	21.1	0.9
18.4	-0.6	19.8	0.2	21.2	0.9
18.5	-0.5	19.9	0.2	21.3	1.0
18.6	-0.5	20.0	0.3	21.4	1.0
18.7	-0.4	20.1	0.3	21.5	1.1
18.8	-0.4	20.2	0.4	21.6	1.1
18.9	-0.3	20.3	0.4	21.7	1.2
19.0	-0.3	20.4	0.5	21.8	1.2
19.1	-0.2	20.5	0.5	21.9	1.3
19.2	-0.2	20.6	0.6		
19.3	-0.1	20.7	0.6		

Input the adjusting voltage values that you checked in step 4, into [PH Parameters] in the Print 5. Control software.

Note

- Input all the adjusting values (A, B, C, D) for the new print head. •
- For example, when the print head voltages for the print head installed to the first row • (White) are A: 19.7, B: 19.5, C: 19.9, D: 19.5, the adjusting voltage values will be A: 0.1, B: 0.0, C: 0.2, D: 0.0. Therefore, input the adjusting voltage values into the PH1 column of



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😒 Important 🔵

Base Voltage should be set to 0V. Don't change Base voltage value.

Vote

If the print quality is not stable as shown in the picture below, adjust the image quality by adding 0V to 1.0V from the values in the table above.

• For example, when the print head voltage A is 19.7V, the adjusting voltage values will be A: 0.1V(adding 0V) to 1.1V(adding 1.0V).

Fix the adjustment voltage depending on the printed quality if necessary.

RICOH	Tech	nical B i	ulletin	PAGE: 4/4
Model: Shepherd-P1,	Shepherd-Lt		Date:17- Oct-19	No.: RJ093025
	Not good	Good		
Dot pattern	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	• • • • • •		
Y-direction line pattern				

Technical Bulletin

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Model: Shepherd-P1, Shepherd-Lt			Date:24-0	ct-19	No.: RJ093026
subject: Service Manual Correction "X-axis encoder replacement"					by: D.Kobayashi
From: Regional Sales Department, Global IP Sales Center					
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform Electrical Transmit/re Other (nation eceive)	Action re Service n Retrofit ir	quired nanual revision nformation

Service Manual Correction

Please apply the following corrections to your Pro T7210 and Pro TF6250 field service manual, in section:

4. Replacement and Adjustment>X-axis Drive>X-axis Encoder Sensor>When Installing the X-axis Encoder Sensor

Additional information is in Red.

When Installing the X-axis Encoder Sensor

When installing the X-axis encoder sensor, make sure that the lamp of the X-axis encoder sensor
[A] is lit in green. When the clearance between the X-axis encoder sensor [A] and the X-axis
encoder sheet [B] is the standard value (0.8±0.15mm), this lamp is lit in green.



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• After installing the X-axis encoder sensor, press [Left] / [Right] in the Print Control software to move the carriage from the left end to the right end of the gantry. Make sure that the lamp is continuously

RICOH	Technica	I B ulletin	PAGE: 2/3
Model: Shepherd-P1, Sh	epherd-Lt	Date:24-Oct-19	No.: RJ093026
lit in green.	p Home Let Right Stop Ferward	Back	

- j093a2865
- Take care the wiring route as follow below and fix the sensor cable by cable tie with the ionizer cable inside the UV lamp cover, when installing the Encoder sensor cable.
 - Take care the wiring route[A] as without kink or without touch the X-axis frame. Result of kink, the cable is touched and rubbed with the frame. (Red circle [B])



Good



Not Good (wire kinked)

Take care not to rub the sensor cable[A].

Sensor cable go through narrow space between the X-axis frame.

The bracket and the sensor cable move with carriage, so that check whether the sensor cable doesn't touch around the frame or X-axis slide rail when carriage is moving.



Model: Shepherd-P1, Shepherd-Lt

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No.: RJ093026



Fix the sensor cable with a cable-tie* with the ionizer cable inside the UV lamp cover.
 The sensor cable[A] should be tied by cable tie[C] with the ionizer cable[B].



*Recommended cable-tie part number : 11050042

Technical Bulletin

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Model: Shepherd-P1, Shepherd-Lt Date:18-N			lov-19	No.: RJ093027	
subject: Print Head Cleaning Procedure to Send back to RCL					by: D.Kobayashi
From: Regional Sales Department, Global IP Sales Center					
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	 Part inform Electrical Transmit/re Other (nation eceive)	Action re Service r Retrofit in Tier 2	quired nanual revision nformation

Print Head Cleaning Procedure

Clean the Print Head with cleaning liquid when send back to RCL for investigation.

😒 Important 🔵

- This process will take approx.30min
- If you do not perform the procedure below immediately after replacement, pack the print head with UV shielding material until the procedure is performed.

Requirement tools

- LUER Cap (LCAP31) x2
- Syringe(60ml) x1
- Paper towel as needed
- Bemcot as needed

Procedure

1. Cut the Ink supply tubes of rear side of Print head to about 5cm.



•Note

- Ink supply tubes of rear side of Print head are red circle[A] as above picture.
- When viewing from top of the print head, the boss[B] is located on the right side of the print head.

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2. Put the print head on the ink receiver left side of the machine with paper towel.



Note

- The printhead driver board should be protected from splashing cleaning liquid.
- Air tubes from the air purge port should be put into the drain hole or on the cloth because cleaning liquid will be discharged from this tube.
- 3. Fill the syringe with 30ml of Cleaning Liquid and connect the syringe to ink supply tube.





4. Push the syringe to expel 15ml of cleaning liquid at a speed 1 ml/6 sec.

Note

15ml of cleaning liquid is used for each port of Print Head.



6. Attaching the caps(LCAP31) to the both air tubes from the air purge port.



7. Fill the syringe with 30ml of Cleaning Liquid and connect the syringe to ink supply tube.



8. Push the syringe to expel 15ml cleaning liquid at a speed 1 ml/6 sec. Cleaning liquid will be expelled from nozzle surface.



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Note

- 15ml cleaning liquid is used for each port of Print Head.
- 9. Connect the syringe to another Ink supply tube and push the syringe same as step 8.
- 10. Cutting the either tube of Air purge port to 5cm same as the ink supply tube. Then bypass the tube each port as below picture to avoid liquid leak.



11. Remove the either tube of ink supply tubes and bypass the tube each port same as step10 to avoid liquid leak.



12. Cover the print head nozzle surface by Bemcot.



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13. Cover the print head with Bemcot [A] and store it in the print head part box[B] with complete light shielding. And cover the print head driver board with bubble wrap[C] which was used in brand new print head.





14. Pack the print head in all original packaging from the new print head.

😭 Important 🔵

Print head should be completely shielded from light.

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Model: Shepherd-P1, Shepherd-Lt Date:13-N			lov-19	No.: RJ093028	
subject: Troubleshooting "Print start position is unmatched".					by: D.Kobayashi
From: Regional Sales Department, Global IP Sales Center					
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform Electrical Transmit/re Other (nation eceive)	Action re Service n Retrofit ir	quired nanual revision nformation Tier 0.5

Symptom

Actual print start position is unmatched with the setting of the print start position on Print Control Software.

<u>Cause</u>

The parameter of origin position in Print Control Software may be incorrect.

Action

- **<u>1.</u>** Check whether the actual print start position on Origin (0,0) is matched.
- <u>2.</u> If it is unmatched, correct the offset parameter below.
- Print Pos X Offset : When this value is increased, print start position is toward to Left.
- Print Pos Y Offset : When this value is increased, print start position is toward to backward.

Med	ium information			UV Lamp Setting			Printhead Protection			
Pr	nt Pos X Offset	433.2	mm	Lamp 1 Distance	550	mm	Idle Flash Freq	0	HZ	
Pri	nt Pos Y Offset	174.5	mm	Lamp 2 Distance	97	mm	Hi-Freg Flash Freg	100	HZ	
Re	maining Length	11.8	mm	Pre-emission Length	55	mm	Interim Flash Period	0	Sec	
Ro	It PlatPrt Y Offset	20	mm	Post-emission Length	40	mm	Interim Flash Valid Time	0	Sec	
		10	-	Additional Curing Length	30	mm	Auto Clean Timer	0	Sec	Apply
Cole	v Bar Setting			Olber		-	Auto White Cleaning Timer	106535321	Sec	
W	in our country	0.5	mm	Images Space	6		Auto Capping Timer	100000	Sec	
D	stance to Image	164	mm	Corriges Matics Ruffer	300	11811	Cap Height in Capping	30.5	mm	Maintenanc
0	niore Space	2	mm	Carriage Motion Butter	500	mm	Carriage Height in Clean	1	mm	
	lor Bar Position	No Print		Circulation Pump Ration	2600	aec	Purge Ink Time in Manual	3	Sec	
E	ush interval	00	1.	Calculation Fullip Fellog	0000	Sec	Purge Ink Time in Clean	3	Sec	
	Conservation	30	Sec	Colorivinite Interval Time	30	Sec	Delay Time After Purge	10	Sec	
	Same Height wan image	1.5		2			Vacuum Forming Time	5	Sec	
UVC	Curing Control					1	Vacuum Time of Waste Ink	3	Sec	
1	Lamp 1 Right Direction	Lamp 2 F	Right Directo	on 📓 Lamp 1 Lett Direction 📗 L	amp 2 Left (Direction	Hi-Freq Flash Time	1	Sec	
							Wiper Move Length	90	mm	
Fun	ction					1	Wipe End Position	17	mm	
1	Skin White Snace	Prapin	tenSee an	Ink i evel starm	Close	diam CT	Wipe Height	9.5	mm	
	Images Space Control	Back Y	Origin after I	Print Ecotnote Barcode	- eivae	eriesh est	NormalClean Vacuum	Purge R	Wipe	
							Print Clean Vacuum	Class Refere	Print	
Foot	note						RIP Direct Print Mode	Careful Transferrer		
panet and		10000	-						100	

🔂 Important 🔵

• If incorrect value is set as these values, machine may start printing on incorrect position like above the maintenance unit. Double check the value after setting.

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Model: Shepherd-P1			Date:20-N	lov-19	No.: RJ093029
subject: Service manual correction "Retighten the screw on the wire terminal when installing the Machine".					by: D.Kobayashi
From: Regional Sales Department, Global IP Sales Center					
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform Electrical Transmit/re Other (nation eceive)	Action re	quired nanual revision nformation

Service manual correction

Please apply the following additional procedure to your Pro T7210 field service manual, in section:

Between

2. Installation>Main Machine Installation >Installation Procedure>Removing the Shipping Material from the Carriage

and

2. Installation>Main Machine Installation >Installation Procedure>Connecting the Power Cord

Retighten the screws on the wire terminals and electric devices

This section describes how to retighten the screw on the wire terminal and check whether wire is loose.

The screws on the wire terminals or any electric devices may be loosening cause by vibration during transportation.

• Note

• Make sure the following the [G] cture as Points to tighten.



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Model: Shepherd-P1

Date:20-Nov-19

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Note

Tighten the screw (Must)

Tighten the screw, if not possible then check whether screw is not loosening by shake the wire with finger. If there are loosen, tighten them.

Check whether the screw is not loosening by shake the wire with finger. If there are loosen, tighten them.

- Check whether the connectors or cables are not disconnected.
- **<u>1.</u>** Retighten or check the screws on the wire terminal, any electric devices, cables and connectors regarding view of [A],[B],[C] and [D].









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[C]









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2. Retighten the screws on the wire terminal and any electric devices regarding view of [E]





Model: Shepherd-P1

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3. Retighten the screws on the wire terminal regarding view of [F]



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Model: Shepherd-P1/Lt (T7210/TF6250) Dat				te: 10-De	c-19	No.: RJ093030
Subject: Troubleshooting of Defective PH Plate					d by: J. K	Cobayashi
From: CFWF Section, CIP Product Quality Management Dept						
Classification:	Troubleshooting	Part inf	orma	tion	Action	n required
	🗌 Mechanical	Electrical		🗌 Ser		ce manual revision
	Paper path	Transmit/red		eive	Retro	fit information
	Product Safety	Other ()	🛛 Tier 2	

SYMPTOM

Phenomenon that the nozzle surface of the print head rubs against the media and causes nozzle clogging.

CAUSE

Excessive excavation of the head installation surface of the head plate makes it easier for the nozzle surface at the red circle in the figure below to come into contact with the media and rub it.



SOLUTION

Permanent Solution

Implement the following process changes as countermeasures

- 1) Head plate parts acceptance inspection change & Nozzle surface concave confirmation process added after assembly completed.
- 2) Vendor's parts inspection guidance and inspection standards revised.
- 3) Inspection data continuous monitoring by Ricoh.



Model: Shepherd-P1/Lt (T7210/TF6250) Date: 10-Dec-19 No.: RJ093030

Cut-In serial number of process changes are follows.

Shepherd-P1 (T7210): R869X700001 ~

Shepherd-Lt (TF6250): 5539X300004 ~

Temporary Solution for MIF

Apply the part described below table, when there is a nozzle clogging and the interference of Print Head plate surface is confirmed.

Part information

P/N	Description	Other
J0939903	SHIM PRINT HEAD	6 pcs / part order

Procedure

Check the nozzle surface height

1. Check the convexity of the nozzle surface with respect to the head plate. (Normally concave)

2. Confirmation is made at the two front and rear ends in one head.

Notes: Confirmation work is performed in the following area to avoid damaging the nozzle surface at the time of measurement. Please see the picture below.



Nozzle surface hole

Fig.2

3. Place a scale on the head plate and check for interference with the head. See the picture below.



Model: Shepherd-P1/Lt (T7210/TF6250)

Date: 10-Dec-19

No.: RJ093030

Interference check with the head



Contact the scale with the plate



Front



The scale is used vertically depending on the location of the head.

Fig.3

Apply the spacer

- 1. Apply the spacer parts J0939903 to the head where the nozzle surface is convex from the head plate.
- 2. It is necessary to add 2 sheets of spacer for 1 head. Turn over the same part and use it.



Caution: No gap due to spacer deformation Fig.4

Note: The spacer does not fall even if you shake the head.

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Model: Shepherd-P1, Shepherd-Lt Date: 1			Date: 17-I	Dec-19	No.: RJ093031
subject: Information of compressor air tube diameter for using the positioning pin					by: D.Kobayashi
From: Regional Sales Department, Global IP Sales Center					
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part inform Electrical Transmit/re Other (nation eceive)	Action re Service r Retrofit ir	quired manual revision nformation

Information

Providing the information of compressor air tube which is used for positioning pins.

Installed coupler

Air tube coupler both male and female are installed with the machine as below pictures.



Air tube specification

Please prepare the tube following specification.

- Inner diameter 5 mm
- Outer diameter 8 mm or more less.
- Pressure resistance is required suitable for compressor

Technical Bulletin

Reissued: 17-Jan-20

Model: Shepherd-P1	Date: 15-Jan-20

No.: RJ093032a

RTB Reissue

The items in *bold italics* were corrected or added.

Subject: A cable was damaged.	e in the main scanning ca	Prepared by: T.Ejima	
From: PP CF/WF Department, Quali Division	Section, CP/IP Product Qual ty Assurance Center, Quality		
Classification:	 Troubleshooting Mechanical Paper path Product Safety 	Part informat Electrical Transmit/rec	tion Action required Service manual revision ceive Retrofit information Tier 2

SYMPTOM

A cable in the main scanning cable bearer was damaged in one Ricoh Pro T7210 machine.



CAUSE

The cable length was not regulated precisely in the manufacturing process, in Ricoh Pro T7210 machines which S/N of the table is smaller than R868X900001.

So one of the cables which length was too long was bent, and contacted the edges of parts in the cable bearer, which caused the cable to be damaged.

* Regarding Ricoh Pro TF6250, the cable length has been precisely regulated to prevent this problem from occurring in all the shipped machines.

SOLUTION

Permanent:

Inserting "strain relief separators" as shown in the following picture. (This measure has been taken in Ricoh Pro T7210 machines which S/N of the table is R869X900004 or larger.)

To prevent the above symptom from recurring, the cable length has been regulated precisely in Ricoh Pro T7210 machines(*) which S/N of the table is **R868X900001** or larger.

* Regarding Ricoh Pro TF6250, the cable length has been precisely regulated in all the machines that have ever been shipped.



Reissued: 17-Jan-20

Model: Shepherd-P1	Date: 15-Jan-20	No.: RJ093032a
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To prevent it more thoroughly, "strain relief separators" have been inserted as shown in the following photo in Ricoh Pro T7210 machines which S/N of the table is R869X900001 or larger.



Temporary:

If either of the following two applies, fix it referring to **PROCEDURE** described in the next page.

The above SOLUTION / Permanent has not been applied in Ricoh Pro T7210 machines which S/N of the table is smaller than R868X900001.

So the above symptom may occur in the machines listed in the following table.

<1> Machines shipped to Europe region

R868X300003	R868X300004	R868X400003	R868X400004	R868X500002
R868X500003	R868X500004	R868X600001	R868X600002	R868X700001
R868X700002	R868X700003	R868X800001	R868X800002	R868X800003

<2> Machines shipped to North America region

		V		
R868X200002	R868X300002	R868X500001	R868XC00001	R868XC00002
R869X800001	R869X800002			

<3> Machines shipped to Asia/Pacific region

R868X500005

For these machines, first of all, please see if either of the following two applies.

- A cable in the cable bearer is extremely bent, and there is already a scratch on the cable jacket caused by contacting edges of parts in the cable bearer.
- It is easily presumed that a cable will be damaged over time.

If either of them applies, please fix it referring to <u>PROCEDURE</u> described in the next page.



Reissued: 17-Jan-20

PROCEDURE

1. Detach the cover of the cable bearer.



2. Loosen the fixing part.







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Model: Shepherd-P1	Date: 15-Jan-20	No.: RJ093032a
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3. Arrange cables.



4. Tighten the fixing part.



5. Attach the cover of the cable bearer.

