MDDELX







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1. INTRODUCTION

This guide explains the basic functions, specifications, theory of electrical, mechanical operations and replace procedures of the DTG-C MODEL X printer.

This guide included herein are intended for the experienced replacement technicians and attention should be given to the precautions.

And also this document is written with android panel v.1.31.4.

1.1. General Specifications

CONTENTS	SPECIFICATIONS		
Size (with housing) / Weight	34" x 52" x 18" / about 216lbs-		
Maximum Print Size (Bed Size)	Large	406 x 508mm (16" x 20")	
	Medium	320 x 457mm (12.6" x 18")	
	Small	266 x 330mm (10.5" x 13")	
Table Height Adjustment	Automatic / 1.25" (depends on bed height)		
Ink Type	Pigment garment ink		
Ink Channels	K/C/M/Y/W/W		
Ink Delivery System	Cartridge type and pump system		
User Interface	7" Touch resistance display (Android ICS 4.03)		
Standard Connectivity	10/100 Base-T internet		
Driver Operating Condition	Pentium i5 2.3Ghz or faster / 4GB or more / 100GB or more disc space		
Display Resolution	SVGA or better / 1024 x 768 or better / 24bit colour or better		
AC Power	AC 100~120V / 50~60Hz (±3Hz)		
Power Consumption	Standby: 20W, Max: 70W / 0.635A (AC)		
Environment	Operating condition	Standard: 50~90ºF / 15~80%	
	Standby condition	Recommended: 59~77ºF / 30~70%	





1.2. Model X Printer Overview

1.2.1. Printer's Front



1.2.2. Printer's Rear

Main Power Switch







1.2.3. Under the Cover

Flushing/spitting Box

It collects the ink discharged during the flushing operation. A message will be displayed when it needs to be replaced







Regarding Use 1.3.

• Do not turn the power off.

This printer periodically circulates ink internally and automatically performs head cleaning. If you do not use the printer for more than 7 days, it is recommended to flush white ink out with cleaning carts.

- Perform maintenance at least once per week. • This printer performs automatic maintenance periodically. But it requires manual maintenance weekly, the ink in the cartridge could settle and/or coagulate, causing poor image quality or printer failure. If weekly maintenance is neglected, carriage warranty will be voided
- Some parts require periodical replacement. This printer includes parts that require replacement due to usage.
- Keeping the printer maintained will help to avoid getting "Errors". • If this printer gets an error, maintenance function may not be working. Then watch the printer status periodically and report to technical support right away.

AC Power Switch

1.4. Power

Power Connector

Power On/Off



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- To turn the power on hold down the sub power for more than 1 second.
- To turn the power off hold down the sub power for more than 3 seconds.

CAUTION - Make sure that the main power switch and sub power are always turned on while white ink is loaded. If off for more than 12 hours with white ink loaded, the warranty may be voided on the print head carriage.





1.5. Overview of User Interface

1.5.1. Home Screen



ltem #	Item name	Description
1		Print home screen with print preview
2		Set position of platen, print, eject, pause and stop
3		Adjust platen height by pressing or holding this button
4 Select platen height adjustment method, auto or manual		Select platen height adjustment method, auto or manual
5 Select from recent print jobs		Select from recent print jobs
6 Select to access the maintenance menu		Select to access the maintenance menu
7 Select to access the USB to find print jobs on USB drive		Select to access the USB to find print jobs on USB drive
8 Select to access the printer settings menu		
9 Printer status display, ready, notifications and errors, etc.		Printer status display, ready, notifications and errors, etc.
10 Display shows temp and humidity, if pressed takes you to ink and waste levels scr		





1.5.2 Recent Jobs

The user can check the print information of recently printed jobs and select the reprint function. It also can remove recently printed information.

The user can view and print a list of print image data stored in a USB.

	Recent Jobs	Select
Ø.	Ised girl white.prn 320 0 x 4572 mm (Medium) 600 x 600 PF 8 Pass	Lock File
RL	Surprised girl dark.prn Paten 320.0 x 4572 mm (Medium) White 600 x 1200 DM Color 600 x 000 DM	Save to USB
*	native-wolf-dark-shirt DTGC 2.pm 3200 x 4572 mm (Medium) 600 x 1200 DPI 8 Pass 600 x 600 DPI 8 Pass	
ARC 2315	Dong.pm 320 0 x 4572 mm (Medium) 600 x 1200 DPI B Pdis	Home

Item # Item name		Description
1		View recently printed job from image
2 Select highlighted job for reprinting		Select highlighted job for reprinting
3 Save the highlighted job, don't allow deletion		Save the highlighted job, don't allow deletion
4 Save highlighted job to inserted USB		Save highlighted job to inserted USB
5 Delete highlighted job		
6 Return to the home screen		Return to the home screen





1.5.3 USB

You can access the USB by selecting the [USB] button on [Stored job] dialogue box.



Item #	Item name	Description
1 Check and select print files on the USB drive		Check and select print files on the USB drive
2 Select highlighted job for reprinting		Select highlighted job for reprinting
3 Save the highlighted job, don't allow deletion		Save the highlighted job, don't allow deletion
4 Save highlighted job to inserted USB		Save highlighted job to inserted USB
5	5 Delete highlighted job	
6 Return to the home screen		





1.5.4 Maintenance Screen



Item # Item name		Description	
1 Print a nozzle check pattern (Must set table first)		Print a nozzle check pattern (Must set table first)	
2 Access parts replacement screen		Access parts replacement screen	
3 Access automatic print head cleaning screen		Access automatic print head cleaning screen	
4 Release carriage to perform manual maintenance		Release carriage to perform manual maintenance	
5 Adjust platen height		Adjust platen height	
6 Set platen in or out (must be in to perform a nozzle check)		Set platen in or out (must be in to perform a nozzle check)	
7 Activate automatic platen height adjustment		Activate automatic platen height adjustment	
8 Return to home screen		Return to home screen	





1.5.5. Settings Screen



ltem #	Item name	Description
1 Access alignment menu to align table, heads, etc		Access alignment menu to align table, heads, etc
2 Access IP address and network settings menu		Access IP address and network settings menu
3 Access temp menu to change between C and F		Access temp menu to change between C and F
4 Activate or deactivate obstruction sensor (turning off may result in carriage dam		Activate or deactivate obstruction sensor (turning off may result in carriage damage)
5 Reset printer to factory settings		Reset printer to factory settings
6 Access sounds menu		Access sounds menu
7		Access printer system info screen
8		Return to home screen





1.5.6 Alignment Screen



ltem #	Item name	Description	
1		Print head adjustment pattern	
2		Print platen adjustment pattern	
3		Print adjustment pattern for print position	
4		Access new table alignment menu	
5		Set or eject platen	
6		Manually adjust platen height	
7		Activate or deactivate auto platen height	
8		Return to home screen	

1.2.1 Replacement Screen





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Display the usage, date of replacement for the replacement parts. And perform replacing process for each part.



0	Left spitting box/sump
2	Print head carriage
3	Right spitting box/sump
4	Maintenance station/capping station





5	White ink bay
6	Cyan and Black ink bay
7	Magenta and Yellow ink bay
8	Return to home screen





2. INSTALLATION

2.1 Installation



1. Open the front cover and remove bracket fix platen.



2. Connect waste ink bottle tube to valve on the right-back side of printer.



3. Connect the power cable and turn on the AC power switch.









5. Hold down the sub power button for more than 3 seconds.

- To turn the power on hold down the sub power for more than 3 seconds.
- To turn the power off hold down the sub power for more than 5 seconds.

CAUTION - Make sure that the main power switch and sub power are always turned on. If you do not, the ink in head could settle and/or coagulate, causing poor image quality or printer failure.

- 6. The printer will start to initialize.
- 7. After initializing, the printer will perform initial ink charging if the printer is not already charged initial ink charging takes about 34 minutes.

WARNING - During the initial ink charging, don't open cartridge cover or cut power.





8. Finishing initial charging, the printer shows "Ready"



REFERENCE - This printer uses ethernet to send the printing data. If ethernet is not set up, you will need to use an external USB drive to print.

2.2 Setting platen



For printing, platen should be set as close to head as possible.





2.2.1 Up & Down



The printer's platen height can be adjusted manually using the up and down arrows:

- Short Touch -> moving slightly up or down.
- Long Touch -> moving continuously up or down.



2.2.2 Auto & Manual platen adjustment

Manual

You can choose automatic or manual height adjustment.

- On the automatic mode the height of platen is adjusted automatically when the platen is moving. The maximum height of the platen is reached on the initial movement of the platen.
- On the manual mode the movement of the platen is stopped by a sensor.





2.2.3 Moving the Platen



This is used for moving the platen to print position.

- Platen starts out, for loading garment.
- In the automatic mode, height of platen is adjusted automatically
- If the platen is stopped when moving to print position you have to select [Eject] to return to the position for placing T-shirt on platen.



Stop

- This is used to stop the platen.
- When the platen is moving this is activated.



Eject

- This returns the platen to the position for T-shirt placement.
- This is activated where platen is not moving and not on the position for T-shirt placement.



Pause

- Pause used to stop printing.
- This is activated when printing.





2.2.4 Obstacle Detection



If obstacle sensor detects something when repositioning platen in manual mode this dialogue box is displayed. Lower the height of platen.

2.2.5 Cancel, Pause and Resume printing



Press the [CANCEL] to cancel the printing

On the printing, press to [stop], printer is paused and pop-up dialogue box as below.

Press the [RESUME] button to re-start the printing.

•





2.3 Data Path Flowchart



If you have installed RIP software and MODEL X DTG-C has no error, you are ready to print.

But, remember the requirements below:

- 1. At anytime the MODEL X DTG-C can receive (or pend) the print data.
- 2. But, to start printing, platen should be set to print start position. To set the platen press button "LOAD" on the panel.
- 3. If print data is pending into printer has no error and platen is set printing process is started.





3. USER INTERFACE

3.1 Home Screen



3.1.1 Setting Platen

Please refer 2.2.3 Setting Platen





3.2 Maintenance Screen

You should perform regular maintenance to maintain the printer's performance. The user can access these functions through this tab.

Built-in scheduled maintenance is listed below.

Nozzle Check	Replace Parts	Platen Height Auto On Platen
Auto Cleaning	Manual Cleaning	Home

Every hour	White ink circulation
Every 3 hours	White channel cleaning
Every 12 hours	All ink cleaning - alarm for agitating white cartridge
Every 7days	Alarm for manual cleaning

WARNING - If the printer is off or has an error status, the maintenance function will not operate. Always keep the printer ready. If cartridge is removed or ink supply slot is opened, maintenance will fail.

Maintenance can be cancelled by:

- Cartridge cover is opened
- Ink cartridge is empty
- CR encoder error
- Service call

"Front cover open" will not cause maintenance failure, but it can delay sequence of maintenance.





3.2.1 Nozzle check



- You can check the nozzle condition with this button.
- Make sure to check the nozzle condition before printing T-shirt.
- If there is nozzle clogging, perform head cleaning until the problem is resolved.



- 1. Prepare the A4 transparent media to check nozzle condition (to check white nozzle, transparent media is required).
- 2. Prepare medium-size platen. Nozzle check pattern is based on medium platen, aligned on top-center. (Additionally, all built-in patterns are based on this platen).
- 3. Attach media on the platen aligned top center using masking tape or sticky spray.
- 4. Move the platen to the printing position, press [Nozzle Check] button.
- 5. And check the results of printed nozzle check pattern.

1	1 2	2	3 3	4 4	
				-	Needs
					deaning
開開				目目目目目目目目目目目目目目目目目目目目目目目目目目目目目目目目目目目目目目目	

If there is nozzle clogging (missing lines) or faded lines, proceed with cleaning procedure.





3.2.2 Automatic Head Cleaning

When there is nozzle clogging or faded lines the print head will need to be cleaned. This printer has an automatic head cleaning function.



You can press this button to perform automatic print head cleaning.



In this box, user can choose the channel to clean, with the option of normal and strong.





If after normal cleaning is complete and nozzle condition is not improved, then perform strong cleaning.

WARNING - Strong cleaning consumes more ink. (Normal cleaning 0.49cc, Strong Cleaning 3.09cc)





3.2.3 Manual Head Cleaning



If nozzle status has not recovered with automatic head cleaning, then you have to clean the head manually. ** Weekly, regular manual cleaning is mandatory! Selecting this moves the print head to the center of bridge. Then you can clean the face of nozzle manually.



Once the carriage has moved to the center, power down the machine at the switch in the back. Use a damp lint free wipe or swab to gently rub off dried ink around the heads. Dry area with lint free wipe when done



Manual cleaning function can be used for cleaning of maintenance unit.

Using lint-free swab wetted with cleaner liquid, clean the wiper of maintenance unit.

When the manual cleaning is finished, select [END] to release manual head cleaning mode.





3.2.4 Agitating White Cartridge Alarm

When using white ink, shake the ink cartridge every 12 hours to avoid ink sedimentation and coagulation.



When this alarm dialogue is displayed you have to shake the white cartridges smoothly to prevent damaging the ink bag inside of cartridge. This dialog will be closed by opening cartridge cover.

WARNING - DO NOT shake cartridge too fast or hard too avoid tearing the ink bag inside cartridge.

3.2.5 Manual Cleaning Alarm

Every 7 days, this dialog box below will appear to notify user to perform manual cleaning.



3.2.6 Circulation

This printer has an automatic function for circulating white ink every hour.





3.2.7 Empty the Waste Ink Bottle

When the waste ink bottle is full the following message is displayed on the touch panel. You can check the amount of waste ink on the [Status Panel] and reset the waste ink counter.

White White Back Cyan Majeria Vellow	
[Printer status] Reset Wo	ste In
RES	ET
-	

To reset the waste ink counter after emptying the waste ink bottle, select [WASTEINKRESET].

WARNING - Ensure you have to emptied the waste ink bottle before resetting the waste ink counter.





3.3 Adjustment Screen

This section describes how to adjust this printer for good image quality with the touch panel.

Although the printer head nozzle status is good, the print quality may not be good. You will need to perform this adjustment process.

These functions can be performed through the [Maintenance] screen.





- 1. Prepare the A4 transparent media and medium-size platen.
- 2. Attach media on the platen aligned Top-Center using masking tape or sticky spray.
- 3. Move the platen to the printing position then press each adjustment button.





3.3.1 Adjusting Head

This function adjusts the print head position. When the print result is not clear (for example, vertical lines are misaligned, or colour is not clear.) this adjustment may improve the result.



Select this button, the pattern of adjusting head is printed.



After pattern is printed find an appropriate adjustment value from the print result to adjust pattern.



Find a pattern with a square in the lightest colour and with vertical lines on both sides aligned.

A value indicated over the pattern indicates an appropriate adjustment value.

An appropriate adjustment value is "+2".

Check adjustment values for all the rows.

WARNING - If machine was idle for a long time, nozzles of print-head can be dry. For fine adjustment, perform cleaning before adjustment process





3.3.2 Adjusting Platen

The printing position can be adjusted.

If the print result has a line of horizon, you need to do this function.



Select this button for print position.



Find an appropriate adjustment value from the print result of adjustment patterns.

DTG-C





Find a pattern with a square in the lightest color and horizontal lines on both sides aligned. A value on the upper of the pattern indicates an appropriate adjustment value.

An appropriate adjustment value is "+6".



In some cases, an adjustment value is an inbetween value of patterns

When a square is in the lightest colour but horizontal lines on both sides are misaligned.

In the this illustration a square in the lightest colour is "+6", but horizontal lines on both sides are misaligned. In this case check horizontal lines for one pattern above and one pattern below of the square.

The horizontal lines for "+2" and "+6" are misaligned in the same direction, but the horizontal lines for "+14" are misaligned in the opposite direction.

In this case, a value that horizontal lines align exists somewhere in between "+6" and "+14". After passing the value, the horizontal lines begin to be misaligned in the opposite direction as getting closer to "+14"

By referring to the alignment of the lines, decide a value between "+6" and "+14" as an appropriate adjustment value.




3.3.3 Adjusting the Printing Position

The printing position can be finely adjusted within the range of ±4mm.



Print Po	osition
Head Direction	0.0
Table Direction	
ALIGN	

The upper button is for adjusting the printing position.

After printing the pattern of adjusting printing position you have to find appropriate value.



Position the paper so that the cross on the test print paper comes at the right bottom corner.

- Values can be selected between "-4.0" ~ "+4.0" in increments of 0.1mm.
- To move the print position to the "A" direction, input a value between "-1" and "-4".
- To move the print position to the "B" direction input a value between "+1" and "+4".
- To move the print position to the "C" direction input a value between "+1" and "+4".
- To move the print position to the "D" direction input a value between "-1" and "-4".





4. 4. REPLACING CONSUMABLE PARTS

This printer has some replaceable consumable parts. You can check the status these parts with [Replace] screen shown as below.



Each button indicates the parts requiring replacement.



(Usage 80%)

The colour of image can be displayed

Green, Yellow or Red.

100%)









4.1 Replacing Carriage Related Parts

4.1.1 Encoder Strip 17 Inch

- 1. Turn off the printer power.
- 2. Unlock the carriage and push it completely to the left side or center of the printer as below.



Rotate the black lever counter-clockwise until the arrow on the lever aligns with the arrow marked "C" below. When the triangles are aligned, the carriage is unlocked.





3. Move printhead to the middle.



4. Release encoder strip on maintenance unit side. The encoder strip is elastic so it can be pulled. Pull and remove strip.









5. Remove encoder strip on print head.



6. Release encoder strip on left spitting box side.



7. Hang encoder strip on the left spitting box side.



8. Insert encoder strip into print-head.







9. Hang Encoder Strip on the maintenance unit side.



- 10. Move print head to maintenance unit side.
- 11. Turn on the printer power.





. .

4.1.2 Carriage Unit

Before replacing print head, it is necessary to flush the ink out of the print heads. Select the maintenance menu and then Ink Path Control and flush ink from system

All Colors	YM OO DO WH1 OO DO DO DO DO DO DO DO DO DO DO DO DO	WH2 WH2 WH2 WH2 WH2 WH2 WH2 WH2 WH2 WH2	Ø
White Ink		All Colors	





Select the manual maintenance button and once the carriage moves to the center of the rail, flip the power switch to the off position. If the carriage needs to be released manually, shut down printer at power switch and release carriage from maintenance station by rotating the white lever counterclockwise to align triangles. Then slide carriage to middle of rails.





- 1. Open the printer top cover case.
- 2. Unlock the carriage
- 3. Push the carriage to the center. Press on the carriage itself as shown, not the top cover.







4. Remove the Encoder strip 17 inch. (Reference 4.1.1).



6. Remove the guide lock linkage.



8. Attach the jigs.



5. Disconnect the vertical arm of the spring and remove it.



7. Push the carriage all the way to the left side of the machine until it stops.



9. Remove screw and cam.





10. Attach the holder to the end of the rod and pull the rod out as far as the first jig.



- 11. Disconnect the bottom half of the carriage timing belt from the back of the carriage.
- 12. Remove the carriage and HRB cover.



When complete this dialogue box will appear to reset the amount of head usage and replacement date.

- 13. Remove the FFC harness and ink tube. (Reference 4.1.3).
- 14. Replace the carriage.
- 15. Assemble in reverse order of disassembly.



4.1.3 Ink Tube

- 1. Turn off the printer power.
- 2 Open the printer top cover.
- 3. Remove the cover of carriage and MODEL X DTG-C junction board.



4. Remove the Ink tube attached to the old carriage and insert the cap to end of ink tube.











5. Separate the tube from the plate tube rhe - loosen one bolt.





- 6. Remove the ink tube fix bracket loosen the fourbolts.
- 7. Remove the lnk tube on the ink supply unit (Reference 4.4.1).







8. Assemble the ink tube to the plate tube and ink tube fix bracket. Align the guide line to the middle of the plate tube hole.



9. Assemble the ink tube to the carriage.





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10. Assemble the new ink tube to the ink supply unit.



11. Turn on the printer power.





4.1.4 Timing Belt – X Axis

- 1. Turn off the printer power.
- 2 Remove the encoder strip (Reference 4.1.1).
- 3. Remove the carriage unit (reference 4.1.2).
- 4. Remove the spring pressure roller remove using long nose pliers.



5. Push the pressure roller inward and remove the timing belt.



6. Assemble a new timing belt.



- 7. Assemble the carriage unit and encoder strip.
- 8. Turn on the printer power.





4.1.5 Pressure Roller Assembly

- 1. Turn off the printer power.
- 2 Remove the carriage unit (reference 4.1.2).
- 3. Using long nose pliers remove the spring pressure roller and remove the timing belt (reference 4.1.5).
- 4. Push the pressure roller inward to remove it. Pull to the marked hole and remove.



5. Assemble the new pressure roller by pushing it outward. Insert into the marked hole and push to assemble.



- 6. Assemble the timing belt, the carriage unit and encoder strip.
- 7. Turn on the printer power





4.1.6 DC Motor Carriage Module

- 1. Turn off the printer power.
- 2. Remove the encoder strip. (Reference 4.1.1)
- 3. Remove the carriage unit. (Reference 4.1.2)
- 4. Remove the timing belt x-axis. (Reference 4.1.5)
- 5. Remove the harness connected to the DC motor.



6. Loosen the two bolts.



- 7. Assemble the new DC motor.
- 8 Assemble the timing belt, carriage unit and encoder strip.
- 9. Turn on the printer power.





4.1.7 Main Controller Board Module

4.1.7.1 Main Controller Board Unit

- 1. Turn off the printer power.
- 2 Remove the printer top cover case.



3. Remove the CTL cover. Loosen the four bolts.



4. Remove the harness connected to the CTL board.



5. Loosen the six bolts.







6. Assemble the new CTL board and connect harness.





- 7. Assemble the CTL cover and printer top cover.
- 8. Turn on the printer power.

4.1.7.2 Serial I/F Board

- 1. Turn off the printer power.
- 2 Remove the printer top cover case.



 Remove the FFC harness to the SCB. The FFC harness to the MODEL X DTG-C connection board and the SCB.



4. Remove the BKT cell board. Loosen the six bolts







 Remove the harness connected to the serial board. The harness to the MODEL X DTG-C interface board and serial board.



6. Loosen the four bolts and separate the serial board from bracket.



7. Remove the harness connected to the serial board. The harness to the CTL board and serial board.



8. Loosen the four bolts and separate the serial board from bracket.

- 9. Assemble the new serial board in reverse order of disassembly.
- 10. Turn on the printer power.





4.1.8 Actuator Unit Valve Module

- 1. Turn off the printer power.
- 2. Open the printer top cover.
- 3. Unlock the carriage (reference 4.1.2.) and push the carriage to the center.



4. Remove the harness connected to the actuator unit valve



- 5. Loosen the two bolts and remove the actuator unit valve and remove the actuator unit valve.
- 6. Assemble the new actuator unit valve.
- 7. Close the printer top cover.
- 8. Turn on the printer power.





4.2 Replacing Maintenance Unit

- 1. Turn off the printer power.
- 2. Unlock the carriage and push it completely to the left side or center of the printer as below.



Insert the tip of a screwdriver into the hole [B] and turn it counter-clockwise to rotate the lower triangle up to the other triangle [C] until they are aligned. When the triangles are aligned, the carriage is unlocked.





3. Remove the two bolts.













- 4. Disconnect maintenance unit sensor, motor and waste tube.
- 5. Move the maintenance unit.
- 6. Assemble is reverse order of disassembly.

Touch the maintenance unit on the [replace] tab.

After this procedure is done, the amount of maintenance and the date of replacement can be reset.





4.3 Replacing Spitting Box

4.3.1 Left Ink Sump Replacement



- 1. Turn off the printer power.
- 2. Open the top cover case.
- 3. Remove one bolt.
- 4. Lift the left ink sump out of the machine.



- Lift the left ink sump out of the machine. (Never touch the surface vertical encoder wheel around its edges).
- 6. Assembly in reverse order of disassembly.

Touch the spitting box on the [Replace] tab. After this procedure is done the amount of spitting box and the date of replacement can be reset.





4.3.2 Right Ink Sump Replacement

- 1. Turn off the printer power.
- 2. Remove the printer top cover.



3. Unlock the carriage and remove the maintenance unit. (Reference 3.2)



Touch the spitting box on the [Replace] tab.

After this procedure is done the amount of spitting box and the date of replacement can be reset.





4.4 Replacing Ink Supply Module

4.4.1 Ink Supply Unit

- 1. Turn off the printer power.
- 2. The cartridge slot is located at the printer's right.









- .1.3.1
 - 4. Remove the ink cartridges.



5. Loosen the eight bolts on the cover guide ink pump.



6. Remove the harness and the ink tube and insert the cap to end of ink tube. Loosen the two bolts on guide ink pump bracket.







8. Assemble in reverse order of disassembly.

After this procedure is done, amount of spitting box and the date of replacement. Select





the ink pump button on the [Replace] tab.





5. SETTING SCREEN



You can set several settings on Setting [Screen].

Ink (or Cleaner) charging, several options and information.

5.1 Ink Path Control

This printer has 3 ink status and the user can switch them by ink path control.

STATUS	PRINTABLE MEDIA	REMARKS	
Ink in all channels	White media, Black media.	All kinds of color media.	
Color ink in color channelWhite media.Cleaner in white channel		For colored media except black media. The Cleaner in white channel is for protect the nozzle of print head	
Cleaner in all channels	Unprintable.	For long term storage.	







To change the setting of ink path control, select the [INK PATH CONTROL] on the [SETTING] tab.



This dialogue box will be displayed to charge ink or cleaner. You can select [INK CHARGING] for ink, [CLEANER CHARGING] for cleaner.

If you choose the ink charging this dialogue box is displayed to charge for all colour channel or white only channel.

For the cleaner, the dialogue box displayed is the same.

When you store the printer in long-term period or transport, it is necessary to charging cleaner in all channels.

IMPORTANT - In the case of all channel is charged with ink or only white channel is charged with cleaner. You can insert the cleaner cartridges for all channels.

5.1.1 Charging White Channel With Cleaner

If you don't want to print on black media you have to charge the cleaner in the white channel.

This will help to reduce ink consumption because of white channel cleaning procedure is not work in every 3 hours. Also it's good to maintain nozzles of head.

But in this case, cleaning procedure of all channels every12 hours works.

IMPORTANT - In the case of all channels charged with inks you can insert cleaner cartridges in white channel only.

5.1.2 Charging All Channels With Ink

In the condition of all channels charged with cleaner, for printing, channels should be charged with ink.

IMPORTANT - In the state of all channels charged with cleaner you can insert ink cartridges in all channels.

5.1.3 Charging With White Ink

If you want to print on black media you have to charge the white ink in the white channel.

IMPORTANT - In case of channels with colours (CMYK) charged with inks and white channel is charged with cleaner, you can insert ink cartridges for all channels.





5.2 Option

If you select [OPTION] this dialog box is shown.



5.2.1 IP Address

To change the setting of network, select [IP ADDRESS].



After inserting the changed value select [CHANGE] to apply.





5.2.2 Temperature



You can switch unit of temperature by this [Temperature] button.

5.2.3 Factory Reset of Adjustment Setting



Below items are initialized by selecting [FACTORY RESET] button. All kind of adjustment. (Head alignment, table alignment, and print position)

5.2.4 Setting Obstacle Sensor



This function turns on/off the sensor that detects obstacles on the platen.

To turn off the obstacle sensor, select [OBSTACLE SENSOR] button.



WARNING - When obstacle sensor is off, head could strike the table.

OFF



When the obstacle sensor is on, color of button on center is blue.



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5.3 Operation Panel Messages

5.3.1 Terminology

WORD	DEFINITION
Ink Stage	What material is filled into ink path in printer?
	After Ink Charging (ink is filled in printer)
	After Ink Without White (ink is filled in printer, but cleaner is filled into only white channel
	After Cleaner Charging (Cleaner is filled in printer)
4-Color	In other word, "After Ink Without White"
6-Color	In other word, "After Ink Charging"
DFU	Denotes "Design or Factory Use". Do not change this value or Ignore it.

5.3.2 Overview of Status

LEVEL	DEFINITION	TYPICAL ERROR
Service Call	Operation is impossible. Machine is critical damaged.	Service Call (SC Code)
Error	Operation is impossible. (be able to recover)	Cover Open
		JAM (PF,CR Error)
		Ink Cartridge Not Set
		Ink Cartridge End
		Waste Ink Tank Full
Warning	Operation is possible.	Ink Cartridge Near End
	Later, operation can be stopped.	Waste Ink Tank Near Full
		Replace Part Lifetime
Information	N/A	N/A





5.3.3 Messages

MESSAGE	DEFINITION
Cleaning.	Printer is cleaning except for change ink path maintenance
4-color only.	Current Ink stage is "After Ink Without white"
Cancelling printing. Please wait.	Printing is cancelling.
Cartridge error.	(Ink or Cleaner) Mixed cartridges are inserted.
Please check cartridge and try again.	An error status - To recover, insert correct type cartridge set.
Cartridge is not loaded.	Any cartridge is not set
	An error status - To recover, insert cartridge.
Charging cancelled.	(Ink or Cleaner) White channel filling has failed
	It is warning status - To recover, retry (ink or cleaner) filling of white channel
Cleaner cartridge is loaded.	Mixed cartridge (CL,W,K,C,M,Y) when current ink stage is "after ink charging"
(W1)	An error status - To recover, insert white1 ink cartridge.
Cleaner cartridge is loaded.	Mixed cartridge (W,CL,K,C,M,Y) when current ink stage is "after ink charging"
(W2)	An error status - To recover, insert White2 ink cartridge.
Cleaner cartridges are loaded.	Cleaner cartridge is inserted when ink is already filled in printer.
	An error status - To recover, insert ink cartridge and filling ink.
Cleaner cartridges are loaded. (W1,W2)	Mixed cartridge (CL,CL,K,C,M,Y) when current ink stage is "after ink charging"
	An error status - To recover, do white cleaner filling process or insert ink cartridge.
Cleaner filling cancelled.	Cleaner filling is failed
	It is warning status - To recover, Do cleaner filling process again.
Cleaner is filled in printer.	Currently cleaner is filled in ink path.
Fill ink for printing.	An error status - To recover, do ink filling process to use printer.
Cleaning Failed. Please retry.	Cleaning is failed because of some reason.
	It is warning status - To recover, retry cleaning again.
CR Encoder Error Please reboot the printer.	Carriage (X-Axis) JAM
	It is error - To recover, the printer should be turned off/on. For details, please call your service representative
Part lifetime notice	Part has reached the end of its life and needs to be replaced.
(PARTNAME)	It is warning - To recover, replace the part.
Filling cleaner	Cleaner is filling
Filling cleaner (White only)	Cleaner is filling using only white ink





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MESSAGE	DEFINITION
Front Cover Open	The front cover is opened.
	It is error - To recover, close the front cover
Initial Ink Filling	Ink is filling.
Initializing. Please wait.	Machine is booting up ~ wait untill initialisation is complete
Ink cartridges are loaded.	Ink cartridge is inserted when current ink stage is not "ink charging complete"
	An error status - Do ink charging for using printer if current ink stage is "Cleaner Charging complete". Do white ink charging for using white ink if current ink stage is "After ink Without White"
Ink Empty (COLOR)	Cartridge is empty.
	An error status - To recover, insert new cartridge.
Ink filling (White only)	White ink is filling
Ink Filling cancelled:	Ink filling is failed
	It is warning status - To recover, do ink filling process again.
Ink low (COLOR)	Remain amount of cartridge is low (Under 20%)
	It is warning status - Prepare new cartridge.
Ink Supply Error	Service Call 988 or 990 or 991 But printer operation is possible.
	 It is warning status - To recover, reboot machine. It can be caused by: 1. Air interfuse in head 2. Nozzle clogging For the detail, refer service call list.
Job Pending. Please SET table.	Table is not in printing position when printer receives print data.
Left flushing box full.	Left flushing box is full
Empty the box before reset the left flushing box counter.	It is error - To recover, replace left ink sump
Left flushing box is nearly full.	Left flushing box is nearly full
	It is warning - To recover, prepare to replace left ink sump
Load garment and tap SET button.	Table is media load position
Non-supported cartridge is	Cartridge ID chip is not available
loaded.	An error status - To Recover, insert genuine cartridge.
Pausing. Close front cover.	Printing is paused by open front cover or Moving table is stopped by open front cover
	It is error - To recover, close the front cover
Pausing. Tap SET or EJECT button to start table moving.	Moving table is stopped
Pausing. Tap STOP button to start printing.	Printing is pausing.





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MESSAGE	DEFINITION
Performing white ink circulation	While W1W2 circulation
Please wait	Table is moving
Printing	Machine is printing.
Receiving data	Receiving the Job data
Right flushing box full	Right flushing box is full
	An error status - To recover, replace right ink sump
Right flushing box is nearly full	Right flushing box is nearly full
Printer will stop working when the box comes to full	It is warning - To recover, prepare to replace left ink sump
Room temperature is too high, it can cause printing quality problem	Room temperature is higher than 30.0 °C
Room temperature is too low, it can cause printing quality problem	Room temperature is lower than 10.0 °C
The temperature is too high	When it's in the operation state already, if the temperature become high (more than approximately 40°C), it will occur. It is necessary to do power off.
The temperature is too high. Able to print.	When an operator turns power on, but the temperature is high (more than approximately 40°C). Wait a moment, if the temperature is less than 40°C, printer will become active.
The temperature is too low	When it's in the operation state already, if the temperature is low (below approximately 1° C), it will occur. It is necessary to do power off.
The temperature is too low. Able to print.	When an operator turns power on, but the temperature is low (below approximately 1°C). Wait a moment, if the temperature is more than 1°C, printer will become active
Updating CTL Firmware. Please wait.	While update MODEL X DTG-C Controller
Updating SCB Firmware. Please wait.	While update SCB
Waste ink bottle is nearly full	Waste ink is nearly full
	It is warning status - Prepare to empty waste ink bottle.
Waste Ink Full	Waste ink is full
Empty the waste ink bottle before reset the waste ink counter.	An error status - To recover, Empty waste ink bottle.





5.3.4 Service Call

CODE	DESCRIPTION
900	HRB Fuse Blown
	The fuse on the HRB (Head Relay Board) mounted behind the print heads on the carriage unit has blown.
	The fuse cannot be replaced.
	1. Replace the carriage unit
	2. Replace CTL
971	Flash ROM Write Error
	The device writing to the Flash ROM generated an error.
	• Flash ROM device defective.
	1. Cycle printer on/off, check result.
	2. Replace control board.
972	Flash ROM Verify Error
	• The verify operation after write failed (the data written to the Flash ROM did not match the content of the
	data in the Flash ROM).
	Flash ROM device defective.
	1. Cycle printer on/off, check result.
	2. Replace control board.
973	EEPROM Write Error
	An EEPROM write error was detected at power on, or during a print job.
	• The EEPROM device is defective.
	1. Cycle printer on/off, check result.
	2. Replace control board.
974	RTC Abnormal
	The RTC (Real Time Clock) malfunctioned.
	Electrical flow to RTC interrupted.
	Excessive condensation in machine.
	1. Check the ambient temperature and humidity.
	 Make sure the readings are within the ranges for optimum operation of the machine. (See installation").
984	DRV Circuit Temperature Abnormal
	The temperature of the DRV board (driver board) is out of range.
	 The temperature of the DRV board (driver board) circuit is not within the specified range: -13°C to 55°C (11.2°F to 131°F)
	1. Cycle printer on/off, check result.
	2. Check fan operation.
	3. Replace control board.




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CODE	DESCRIPTION
986	Humidity Sensor Abnormal
	The printer detected that the humidity sensor was abnormal.
	Sensor connector loose, damaged, or defective.
	Sensor defective
	1. Cycle printer on/off, check result.
	2. Check control board connections.
	3. Replace control board.
988	Ink Supply Error (Air Sensor Abnormal) DFU
	Printer detected air sensor was abnormal when suction was applied 3 times when the printer was powered on
	for the first time for ink tank filling or print head refreshing, but no air was detected.
	Cycle the printer off and on and try again.
	• If the problem persists, the print head air sensors may be defective.
	1. Replace the air release lever sensor and solenoid.
990	Ink Level Feeler Position Error DFU
	The position of one or more ink level feelers could not be detected at initial filling.
	Correct voltage could not be created for operation of the print head tank, so the print heads cannot operate.
	Ink level sensor defective
	Horizontal encoder film dirty, installed incorrectly, broken
	Maintenance unit dirty, defective
	Ink nozzles clogged
	1. Cycle printer on/off, check result.
	2. Clean suction cap.
	3. Replace horizontal encoder film strip.
	4. Replace maintenance unit.
	5. Check the position of the feelers attached to the sides of the tanks.
991	Ink Pump Timeout Error DFU
	The feeler of the ink lever sensor could not be detected.
	Obstruction blocking operation of the feeler
	• Ink tube twisted, broken
	Tube disconnected causing an air leak
	Ink pump motor defective
996	No Input Signal from the Horizontal Encoder
	No input signal from the horizontal encoder was detected during operation of the horizontal motor.
	Horizontal encoder sensor loose, broken, or defective.
	Horizontal encoder film broken, disconnected, or installed upside down.
	HRB defective
	1. Cycle printer on/off, check result.
	2. Confirm film encoder not loose.
	3. Replace horizontal motor.





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CODE	DESCRIPTION
997	Input Signal from the Horizontal Encoder Abnormal
	When the carriage moved to the right, the carriage did not stop at the HP. Or, the carriage scan check
	failed.
	 Horizontal encoder sensor loose, broken, or defective.
	 Horizontal encoder film broken, disconnected, or installed upside down.
	HRB defective
	1. Cycle printer on/off, check result.
	2. Replace encoder sensor.
	3. Check encoder film position.
	4. Check carriage FFC (Flat Film Connector).
999	Maintenance Stepping Motor Out of Home Position
	The maintenance motor HP sensor failed to detect the motor at the home position.
	 Maintenance HP sensor connector loose, broken, or defective
	 Maintenance motor connector loose, broken, or defective
	Movable Feeder connector loose, broken.
	1. Cycle printer on/off, check result.
	2. Clean wiper.
	3. Check HP sensor connector.
	4. Replace maintenance unit.





6. SERVICE MENU

CAUTION

Current MODEL X DTG-C provides Service Menu for supporting advanced maintenance of the printer and providing several test features, experimental features and debugging features. Service Menu allows to access to very critical configuration of the printer. Therefore, if someone who do not have enough knowledge operates in Service Menu, it can make unrecoverable malfunction of the printer.



6.1 How To Get In The Service Menu

- 1. Move to [Setting] Screen on UI Panel.
- 2. Touch 3 points as following figure.

6.2 Service Menu







6.3 Android System Menu



Cleaner Filling	Empty Ink Path	Head Re
Fill cleaner to ink path. *Cleaner cartridges are required.	Discharge liquid in ink path -Dummy cartridges are required	Discharge lig and put back to catridge •Do not remo
Cleaner Filling	Emoty July Dath	Hand D
Cleaner Filling (3 times)	Empty Ink Path	Head K
	+Initial Charging F	lag is set to "true" a
Initial Charging Flag : false	**DO NOT TOUCH THE PRINTER W	HILE PERFORMIN
Set Flag		Re

6.4 Printer System Menu



6.4.1 Ink Path Management [DBG]





- 1. Android Setting: Open Android OS setting menu.
- 2. Reboot Android System: Reboot Android Board (GIB).
- 3. ADB Connection: Select ADB Connection method. (USB/Ethernet).

- [DBG]: Debugging features. Do not use this item in normal case.
- [MFG]: Manufacturing features.
- [SVC]: Service features.

Debug menu for operate ink path control by manual.

DO NOT operate in this menu. It can make unrecoverable malfunction of the printhead.





6.4.2 ID Chip [DBG)

			Refr	resh	Retur	n
ink Vendor :	MUT	MUT	MUT	MUT	MUT	MUT
Expired Date :						
Manufact Date :	28122017	28122017	15092017	15092017	15092017	15092017
Filling Date :	00000000	00000000	00000000	00000000	00000000	00000000
Capacity :	20000	20000	20000	20000	20000	20000
Lot No :			1056	1056	1356	1356
ink Type :	000075	000076	000071	000072	000073	000074
OEM Name :	MUT	MUT	MUT	MUT	MUT	MUT
Color	White1	White2	Black	Cyan	Magenta	Yellow

Read chip information of inserted cartridges.

6.4.3 White Management [DBG]

White Auto Cleaning	9	ON	All-Head Auto Cleaning	ON I	Auto Spitti	ng orr	9
No	rmal	Strong	Normal	Strong	Period	60	min.
Period) 80	min.	Period 720	min.	Spit	17	
Force Stro	ng	DN	Circulation	A DH	FeelerEmp Notify	ity	ON
o contrary			Period 60	min,	Period	10	sec.
Switch	1	hour(s)	Shaking	100000	Busy	Auto On	Auto Of
Period	56	time(s)	Notify Period 720	min.			
		Ret	set Timer	OK F	Return		

Configure white ink maintenance settings for debugging.

6.4.4 Ink Stage [SVC]



Set internal flag of ink charging status. Should be matched with actual situation of the printer after replacing the Android Board.

- After Ink Filling: Ink has been charged in the printer.
- After Cleaner Filling: Cleaner has been charged in the printer.
- After Discharging: Ink has been discharged in the printer. There are no liquid in the printer.
- Not Use White: Cleaner for white channels and Ink for color channels has been charged.





6.4.5 Display OPU [SVC]



Emulate physical OPU of Ricoh CTL.

6.4.6 Endurance Test [SVC/MFG]

X (CR) Motor			
			Start
Y (PF) Motor	-		
Feeding Pitch	5	(mm)	
			Start

Performs endurance test for X(Carriage) and Y(Table Feeding) axis.

6.4.7 Initialize Waste Counter [SVC]

Initialize Warning, Error Threshold of Main waste tank/Left spitting box/Right spitting box as default value and reset their counters to zero. Should be performed after replacing CTL.





6.4.8 Waste Ink Counter [SVC]



Configure Warning/Error threshold of Main waste tank/Left spitting box/Right spitting box. Counter should be reset after replacing.

6.4.9 Increase Spitting Amount [DBG]



Increase spitting amount before printing. (0~255%) Adjust spitting drops during the printing. (50~2500)

6.4.10 Set Auto Start Printing [DBG]

It is only for debugging. DO NOT change this value.

6.4.11 Set Temperature [DBG]



Fake the temperature that CTL measures. CTL will take the waveform by given temperature always regardless actual temperature. In order to reset, need to reboot the printer.

But, to use this function, ink type is required as TP-3 (Ricoh Original Ink) Refer "Set Ink Type" on service menu.





6.4.12 Lifetime Counter [SVC]



Display and reset lifetime counter of replacement parts.

6.4.13 Lifetime Setting [DBG]

	Warning Threshold	
PF motor	30000	count
CR motor	15000	count
Maintenance Unit	15000	count
Print head Unit	15000	count
IH Assy (R)	30000	count
IH Assy (L upper)	30000	count
IH Assy (L lower)	30000	count
Set	Return	

6.4.14 Set Head Rank [DBG]



Change lifetime threshold of the replaceable parts.

Set head rank value of CTL (0~7). Do not recommended to change this value.





6.4.15 Time Set [SVC/MFG]



Set date/time of CTL and GIB. Date/Time information will be stored and kept by RTC on the CTL. Should be set after replacing CTL.

6.4.16 IP Initialize [SVC]

Initialize IP configuration as below.

- IP: 192.168.1.253
- Netmask: 255.255.255.0
- Gateway: 192.168.1.254

6.4.17 White Timer Reset Config [DBG]



Choose whether if reset the white auto cleaning timer after white layer printing or not.

- On: Reset the timer after white layer printing. (Default)
- Off: Do not reset the timer after white layer printing.





6.4.18 Ink End Threshold & Purge Interval [DBG]



- Ink End Threshold: Adjust timeout threshold for ink-end judgement by CTL. (0: Default of CTL)
- Purge Interval: Adjust spitting interval during the printing.
 (0: Default of CTL)

6.4.19 Set Ink Type [SVC/MFG]

6.4.20 Set Temperature Offset [DBG]



Choose temperature vs viscosity matrix depends on the ink.

- 3: TP-3
- 5: Dupont P5000
- 6: Dupont P6000
- 35: Dupont P3500 (Actually White P3500, Color P6000)

Maintenance net genixcorp.g Engine Firmware OS Kernel Vers OS Build Numb Set Cancel MrnetAutha Sample Black Media Stampte Return

Set offset between measured temperature by CTL and actual temperature.





6.4.21 Reset Initial Charging Flag [SVC]

Reset the initial charging flag of the CTL. After performing this, CTL do not start initial ink charging during the boot up. Should be perform this after replacing CTL on already charged printer.

6.4.22 Drop Count Management [DBG]



Configure after printing maintenance threshold.

6.4.23 Table Adjust [SVC/MFG]



Support adjusting media detect sensor height and table balance.





6.4.24 Z Axis Config [DBG]



Experimental function.

- Soft Margin: Move table down as specified distance after automatic height detection for protecting nozzle surface from the nap.
- Z-Axis Config: Specify Z axis distance when user tap up/down button.

6.5 Serial Number



Input the serial number of the printer.





7. TROUBLE SHOOTING

7.1 CR Encoder Error

4	CR Encoder Error
	If the carriage is left while not capping, the head nozzles will be clogged. Please tap "Cap in" button and reboot the printer.
	Z-Down

If interference of moving carriage (Print-head) is detected, CR Encoder Error occurs. To resolve cause of this problem, check below.

- Check obstacle on the path of print- head. Reboot machine after removing any obstacles.
- Still CR Encoder error occurs even if there is no any obstacle. Check if encoder strip is stained, and clean it as following.

- 1. Turn off the printer power.
- 2. Unlock the carriage and push it completely to the left side or center of the printer as below.





Insert the tip of a screwdriver into the hole [B] and turn it counter-clockwise to rotate the lower triangle up to the other triangle [C] until they are aligned. When the triangles are aligned, the carriage is unlocked.



3. Move printhead on the middle.



 Release encoder strip on maintenance unit side. There is elasticity so encoder strip can be pulled. Pull and remove strip.







5. Remove encoder strip on print head.



6. Release encoder strip on left spitting box side.



7. Clean encoder strip using cotton with alcohol.



9. Hang encoder strip on the left spitting box side.









9. Hang encoder strip on the maintenance unit side.



- 10. Move print head to maintenance unit side.
- 11. Turn on the printer power.





7.2 PF Motor Error



7.3 Z-AXIS ENCODER ERROR

_	Fatal error
Fatal error error code	occurred! Reboot the printer. : Z-AXIS ENCODER ERROR
	Z-Down

- If interference of moving platen is detected, PF Motor Error occurs.
- To resolve cause of this problem reboot the printer after remove obstacle on platen path.
- And also below item is target of consideration.
- 1. Overload of platen movement.
- 2. Dirty encoder strip of Y-Axis.
- 3. Not installed (or broken) encoder sensor of Y-Axis.
- If interference of platen Up-Down is detected, Z-AXIS ENCODER ERROR occurs.
- To resolve cause of this problem reboot the printer after removing obstacle on mechanical of Z-Axis assembly.
- And also below item is target of consideration.
- 1. Overload Media.
- 2. Broken Z-Axis assembly.
- 3. Not installed (or broken) sensor on Z-Axis assembly.



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7.4 Diagnostic Flow For Initialize Sequence

If initializing is not correctly finished, machine is running until each problem is resolved. Below sequence is diagnostic flow for initializing. Refer this to resolve endless initializing problem.







1. If USB connection failure or CTL is not turned on, this dialog box will appear. To recover, check connection of USB cable (GIB-CTL) and if CTL is turned on.



You can also check if CTL is turned on by below 4 LED on SCB. If below LED in red box are lit, it means CTL is turned on.





For your information, these LED are emulated for Ricoh Original OPU (OPU: Operation Panel Unit)



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2 If front cover is abnormal, this message will appear "Close Front Cover" To recover, close front cover or check connection of front cover sensor.



If table is not moving, check SCB version.
 If you can't check SCB version, it is communication error.
 You should check serial communication cable between GIB and SCB.



Meanwhile, if you can check Sub Control version, you check verify Y-Axis motor & encoder.



- 4. If Y-Axis limit sensor is defected, table is backward moving forever. To recover, check the Y-Axis limit sensor.
- If table is not moved up, check 2 case as below.
 First, check if Y-Axis limit sensor is correctly installed. If table is not detected by this sensor, table homing is not finished. For the detail, refer table homing detail
 Second, check if Z-Axis limit sensor is correctly installed. For the detail, refer table homing detail





7.5 Table Homing Detail



Homing sequence of Y & Z-Axis are basically same and It use the below element to check for table path.

- 1. Limit sensors.
- 2. Encoder sensor.
- 3. Encoder strip.
- 4. Motor.

So, if any element has problem, homing cannot be finished it cause endless sequence.





7.6 Android Screen Error

When Android screen is acting abnormally. To recover follow the procedures below.



If you see this screen, select

[:::] and "MODEL X"



If printer is not working, try turning the printer off/on.





8. HARDWARE INFORMATION

8.1 Harness Schematics with PCBs









8.2 Harness Connections on SCB

.1.3.2.1 Connector Description

- 5. J1 : Sub Control Board Input Power DC24V
- 6. J2 : Android Power Switch
- 7. J3 : Power Switch
- 8. J4 : Cartridge Cover Open Switch SCB to CTL
- 9. J5 : Y Axis Positive Limit Sensor
- 10. J6 : Y Axis Negative Limit Sensor
- 11. J7 : Z Axis Positive Limit Sensor
- 12. J8 : Z Axis Negative Limit Sensor
- 13. J9 : Android RS422
- 14. J10 : Media Sensor RX
- 15. J11 : Media Sensor TX
- 16. J12 : Android Board Output Power DC24V
- 17. J14 : CTL OPU

- 18. J16 : Y Axis DC Motor
- 19. J17 : Z Axis DC Motor
- 20. J18 : Top Cover Open Sensor SCB to Top Cover Sensor
- 21. J19 : Cartridge Cover Open Sensor SCB to Cartridge Cover Sensor
- 22. J27 : Top Cover Switch SCB to CTL
- 23. J35 : Mist FAN (DC 24V / Max. 900mA)
- 24. J40 : CTL to SCB Ink Pump
- 25. J41 : SCB to Cartridge Slot Ink Pump
- 26. J42 : Feeler Sensor FFC
- 27. J43 : Emergency Stop Switch





8.3 Setting the Media Sensor

Obstacle sensor displays 4 kinds of status.

	LED	DETECTED	OBSTACLE
0		Not detected	No
		Not detected (unstable)	No
		Detected(unstable)	Yes
		Detected	Yes

The media sensors can both emit and receive





 Install media sensor, down to the lowest position.







.1.3.3

2. The obstacle sensor bracket must be secured.



3. Check the reflected light of red color at the light receiving position. The light emitting portion is adjusted so that the reflected light comes to the center of the light receiving portion.







.1.3.4

4. Move the JIG#1 to the receiving side, check the signal light of sensor is stable detect.





5. Raising up receiving sensor screwing the adjust screw. (Slightly loosen the media sensor bracket so that the adjustment screws move.)

Make sure the state of unstable detect, then screwing the adjust screw till the state of sensor is unstable not detected.



 Screwing the adjust screw continually, in the state of stable not detected you should fix the bracket of media sensor.







7. Check the state of stable detected inserting JIG#2. If it is not, return to the No. 1 $\,$ procedure.

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8 Checking the state of receiving sensor, adjust the height of the emitting sensor till the unstable detect. (Slightly, loosen the media sensor bracket so that the adjustment screws move.)

Then, screwing till the state of the sensor is stable not detect.



9. Screwing the adjust screw continually, in the state of stable not detected you should fix the bracket of media sensor.







10. Insert JIG#2, check the state of the sensor is stable detect. If it is not, return to No. 6 procedure.



 Remove JIG#2 and move JIG#1 to the center of bridge. Check the state of receiving sensor is stable not detect, If it is not, return to No. 1 procedure.



12. Insert JIG#2, check stable detecting status. If it is not, return to No. 1 procedure.





MODELX



9. REPLACEMENT AND ADJUSTMENT FOR SERVICE PART

9.1 Adjustment of X-Y Orthogonality



Insert Wedge Block Between Main-Shaft Block and Sub-Shaft Block

8 Push the Lever to the Right and Make Sure the Position of Pin is Bottom of the Guide







Tighten the 6 Rounded Screws on Each Side





9.2 Check Head GAP



Set the Dial Gauge to Zero, putting the Jig's Bottom into contact with Reference Surface
 Read the value of the Dial Gauge(=Head Gap), while sliding it over the Bridge Shafts





9.3 Replacing MODEL X DTG-C Sub Control Board

- $\label{eq:constraint} 1 \quad \text{Turn off the printer power.}$
- 2 Remove the printer top cover case.



3. Loosen the four bolts and remove the SCB cover.



4. Remove the harness connected to SCB.



5. Loosen the four support bolts and remove the SCB.



- 6. Assemble the new SCB and connect the harness.
- 7. Assemble the SCB cover.
- 8. Assemble the printer top cover case.
- 9. Turn on the printer power.



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9.4 Replacing Temperature and Humidity Sensor

- 1. Turn off the printer power.
- 2. Remove the printer top cover case.



 Remove the FFC harness to the SCB

 the FFC harness to the connection board and the SCB.



4. Remove the BKT cell board - loosen the six bolts.



5. Remove the harness to the temperature and humidity sensor.



 Loosen one bolt and remove temperature and humidity sensor.



- 7. Assemble the new sensor.
- 8. Assemble BKT cell board.
- 9. Close the printer top cover case.
- 10. Turn on the printer power.





9.5 Replacing LCD and TSP Module

- 1. Turn off the printer power.
- 2. Remove the printer top cover case.



3. Loosen the two bolts and remove the LCD frame from the right cover case.



4. Remove the harness connected to the interface board.



- 5. Loosen the four bolts.
- 6. Assemble the New LCD and TSP module and connect the harness.
- 7. Turn on the printer power.




9.6 Replacing Y AXIS MOTOR BELT_227ST1.5-6.0



9.7 Replacing Encoder SUB SCANNING _4800 MELTEC







9.8 Replacing TIMING PULLEY TRANSPORT ROLLER Module



9.9 Replacing DC MOTOR SUB SCANNING Module







9.10 Replacing PCB SENC TOS/PIE

