RongDa 荣大®

SERVICE MANUAL

FOR RD DIGITAL DUPLICATOR

RD-3108C RD-3208C RD-4019A RD-4029A

RD-4200 RD-4220 RD-4300 RD-4320

Safety Guides

Read the section before install or repair the machine.

Warning:

Do not place metallic objects or water containers on the machine,or it will result a fire or an electric shock.

Do not palce heavy objects on the unit, or it may cause injury.

Place the machine on a level and stable area.

Keep the machine away from dusty or humid place.

Unplug the power connect before moving the machine.

Caution: Avoid installing the machine in the locations listed below.

Extremely bright locations such as locations close to windows or direct sunlight.

Locations that maybe sudden temperature change.

Extremely hot or humid locations or cold and dry locations.

Areas containing corrosive gases.

Power Connection:

Do not overload an electrical outlet or put heavy objects on it .Otherwise, a fire or an electric shock might occur.

Do not plug or unplug the power connect if your hands are wet .Otherwise, an electric shock might occur.

Do not pull the power cord but hold the plug itself when upplugging it,Otherwise, fire or an electrical shock might occur.

Clean the teeth of the plug and their surroundings if dust piles on them.

Be sure to turn off the POWER switch when connecting or disconnecting a cable.

Recommendations

a. Size and Weight Restrictions

Printing paper:

Size: Max .297mm * 420mm
Min. 100mm * 148mm

Weight: 40 g/m2------120 g/m2

NOTE:Do not use the following type of paper,as they can cause jams or misfeeds

Extremely thin paper (less than 40g/m2)

Extremely thick or heavy paper (greater than 120 g/m2)

Wrinkled, curled, folded,or torn paper.

Chemically treated or coated paper(such as thermal paper)

Original:

Size: Max .297mm * 420mm
Min. 100mm * 148mm

Weight: Max. 10 kg

NOTE: Do not use the following originals , as they can effect the quality of printing.

Wrinkled, curled ,creased , patched or worn originals

Transparent originals ,chemically treated originals

Extremely thin or thick originals (less than 50g/m2 , greater than 110g/m2)

Heavy drawing paper

Bound originals

Originals with staples or clips.

b. Guides for better use.

For better use of RD serial duplicator, please use the RD serial consumables(ink and master).

RD Corporation shall not be liable for errors that resulted from the use of other consumables.

After Sale Service

RD tries to provide the best after sale service to our customer and users.

Service	What do I need	Who do I call	When to be fixed	Who pays it
Repair	<Maintain/Error Record>	Tel & Fax: 86-574-88235928	As soon as can be fixed	Free for guarantee/ Charge for labor
Claim	< Maintain/Error Record >			
Supplies	<Purchase order>		As soon as can be delivered	Charge
Training	<Application>	Tel & Fax: 86-574-88235928	As soon as can be arranged	Free

Email: techsupport@nbrdc.com
Address: No.928,Chengxin Road, YinZhou investment and innovation center, Ningbo China.

Warranty:

Warranty service does not include the following situations (they are paid services even within the warranty period).

〈1〉 Fabricate applications or fill in incomplete information in the warranty bill.
〈2〉 Original warranty bill is lost and copied warranty bill instead.
〈3〉 Failures and damages caused by improper operation of customers.
〈4〉 Failures and damages caused by dealers and maintain workers whom are not authorized by RD corporation, including repairing, replacement, disassembling and maintenance .
〈5〉 Customers repair the machine by themselves.
〈6〉 Spare parts that have service life and need periodical replacement, such as paper feed roller and friction pad, paper switch, pressure roller and so on..
〈7〉 Consumables, such as printing ink and master.
〈8〉 Failures and damages caused by natural disaster, including fire, flood, earthquake, and lighting strikes.
〈9〉 Failures and damages caused by power voltages that go beyond the tolerance range.
〈10〉 Failures and damages caused by the use of parts and consumables not designated by RD.
〈11〉 Failures and damages caused by improper transportation and movement.

CATALOGUE

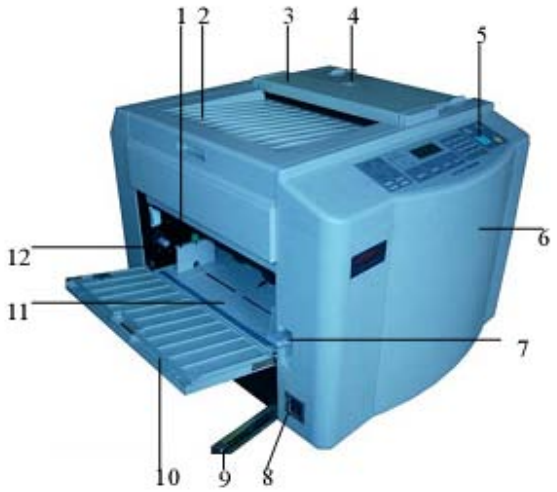
Chapter 1 Introduction :

This chapter mainly provides the basic information about RD duplicatior including overview of features , control panel and names of all parts.

Overview Features

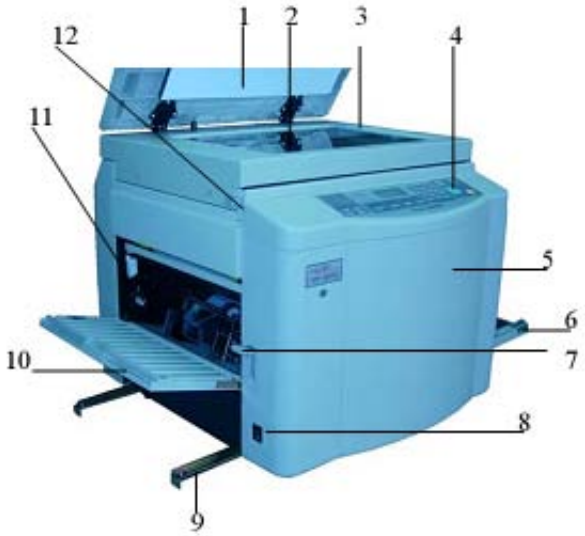
1 RD-3108C

1) Paper feed guide
2) Original receiving tray
3) Scan cover
4) Original guide tray
5) Control panel
6) Front cover
7) Feed tray lock switch
8) Power switch
9) Uplift lever
10) Paper feed guide
11) Paper feeding tray
12) Paper feed pressure knob



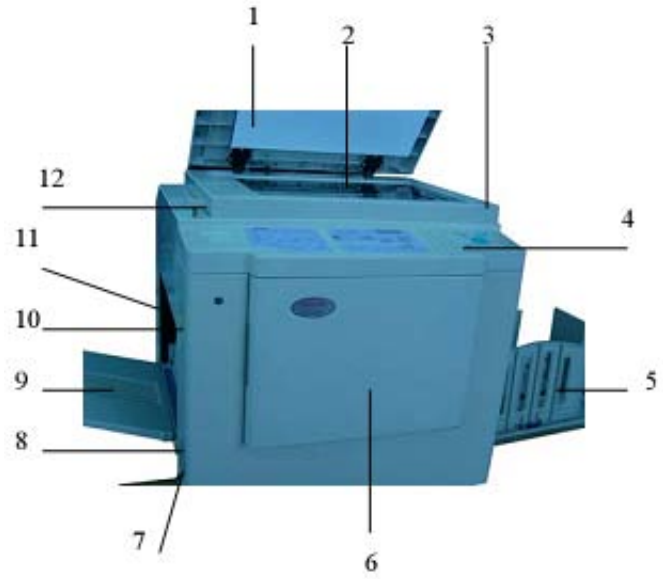
2 RD-4019A

1) Scan cover
2) Scan glass
3) Scan tray
4) Control panel
5) Front door
6) Paper receiving tray
7) Feed tray lock switch
8) Power switch
9) Uplift lever



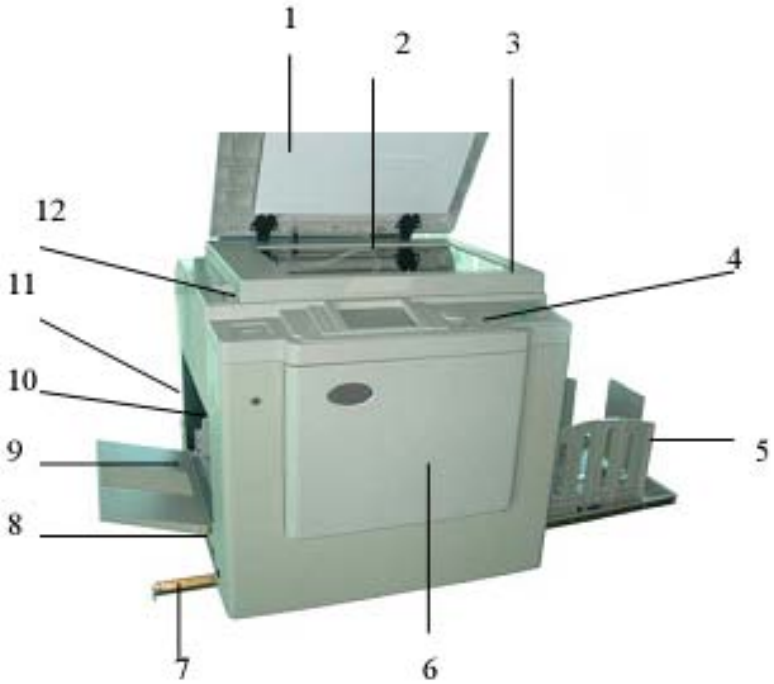
3. RD-4200 / RD-4300

1) Scan cover
2) Scan glass
3) Scan table
4) Control panel
5) Paper receiving tray
6) Front door
7) Uplift lever
8) Power switch
9) Paper feed tray
10) Elevator button
11) Paper feed pressure knob
12) Scan table release lever



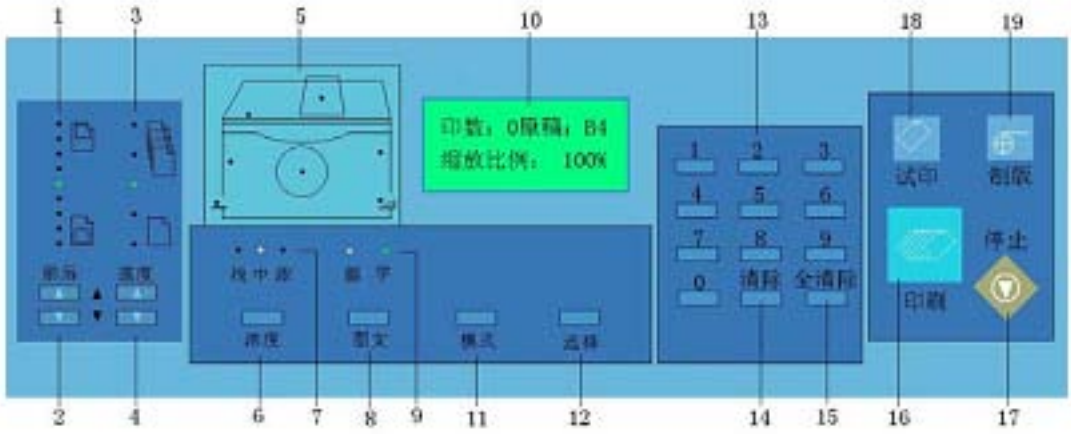
4 . RD-4220/RD-4320

1) Scan cover
2) Scan glass
3) Scan table
4) Control panel
5) Paper receiving tray
6) Front door
7) Uplift lever
8) Power switch
9) Paper feed tray
10) Elevator switch
11) Paper feed pressure knob
12) Scan table release knob



Control Panel

RD-3108C/RD-3208C/RD-4019A/RD-4029A



1.Space position indicate LED : show the selected print speed.

2.Space position key: adjust the space position.

3.Print speed indicate LED : show the selected print speed.

4.Print Speed key: adjust the print speed.

5.Error display LED: show the possible position of error.

6.Master-making density key: adjust the master-making density.

7.Master-making density LED: show the selected master-making density.

8.Documetary/Photo key: select the original according to different doc/photo.

9.Documentary/Photo LED: show the selected original.

10.Main display LED: show the current equipment status or gives instructions for operation.

11.Mode key: show the content for operation.

12.Select key: confirm your selected operation.

13.Print Quantity Keys (0~9) enter the number of copies to be printed, or enter numeric values.

14.Clear key: cancel the number entered and resets the print quantity.

15.All Clear key: return to the inital settings.

16.Print key: start print .

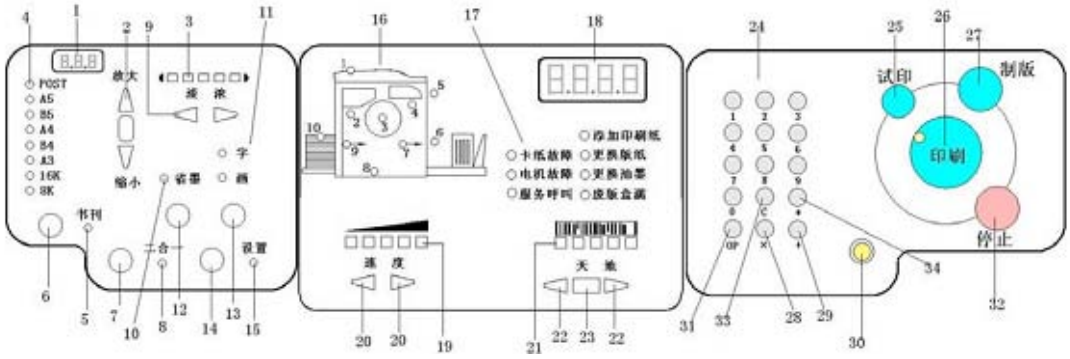
17.Stop key: interrupt printing.

18:Test Print key: test print for two sheets

19.Master-making key: start master-making.

Control Panel

RD-4200 / RD-4300



1. Sub-indicate LED : show the enlarge/reduce, middle shrradow,group mode ,sensor test.
2. Enlarge and reduce key: enlarge and reduce the original size.
3. Master-making density indicate LED : show the selected master-making density .
4. Original size indicate LED: show the selected original size.
5. Book mode LED: show the selected book mode.
6. Original select key: select the original size according to the actual size.
7. Two in one / book/ sheet select key: select the original mode (book/sheet /two in one).
8. Book mode indicator LED: show the selected book mode status.
9. Scan / master-making density adjust key:
   when the setting indicator (No.15) light on, adjust the master-making density.
   when the setting indicator(No.15)light off, adjust the scan density.
10. Ink save indicator LED: show the ink saving status (light on means ink saving).
11. Doc/photo indicator LED: show the status of text, photo , text and photo.
12. Ink save select key: select the ink saving function.
13. Doc/photo select key select the doc, photo, doc/photo.
14. Setting key press this key to set the master-making density.
15. Setting indicate LED: light on means now it is the setting status.
16. Error indicate LED: show the possible position of error.
17. Error indicate instruction: show the content of error.
18. Main LED display: show the quantity to be copied, total copied and master-making.
19. Print speed indicate LED: show the selected print speed.
20. Speed key: adjust the print speed.
21. C key: cancel the number entered and resets the print quantity.

22.Space position select key: adjust the print position.

23.Space home position key: return to the home position.

24.Numric key (0~9) : enter the quantity

25:Test Print key: test print for two sheets

26.Print key: start print .

27.Master-making key: start master-making.

28. X key : group print (quantity of each group is same)

29. + key : group print (quantity of each group is not same)

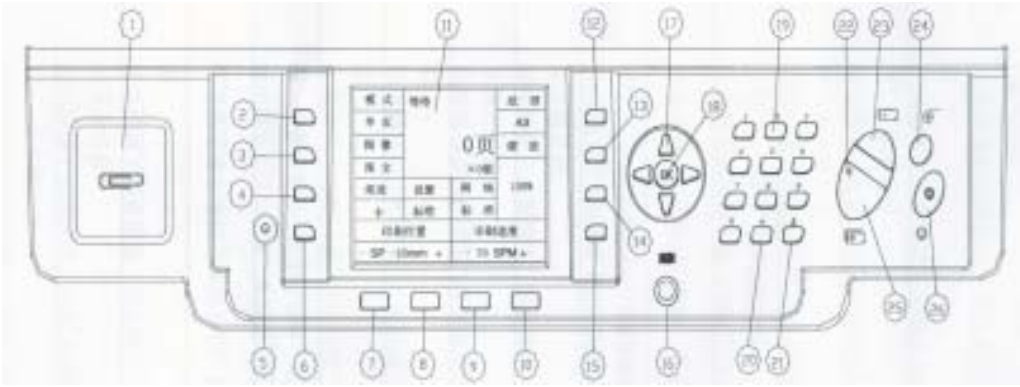
30.All Clear key: return to the inital settings.

31.OP key group setting

32.Stop key: interrupt printing.

Control Panel

RD-4220 / RD-4230 / RD-4320 / RD-4330



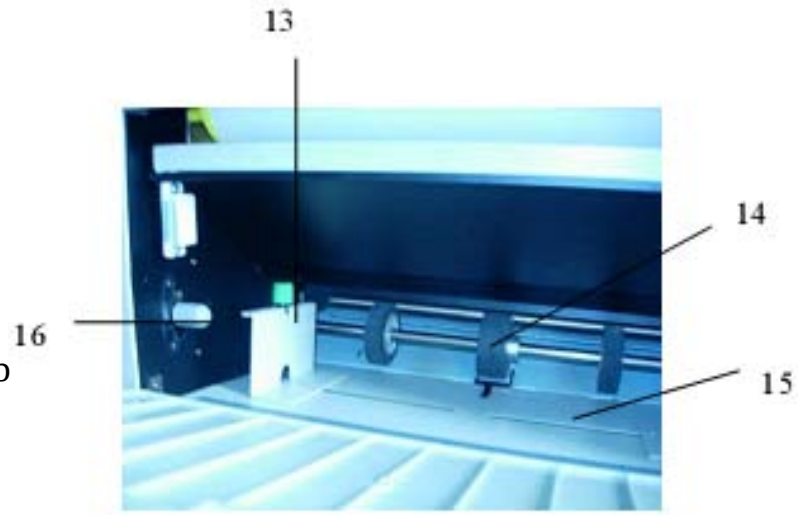
1. Clip location: locate the Clip here.
2. Original mode key: select the original mode .(single ,two in one, book)
3. Image mode key: select the image mode option(text , photo, text/photo).
4. Master-making density key: select the master-making density(5 grades).
5. Indicate LED : +5V power supply indicator.
6. Scan density key: select the scan density.
7. Space - : enlarge the leading space.
8. Space + : reduce the leading space.
9. Print speed - : to lower the print speed
10. Print speed + : to increase the print speed.
11. Main LCD display: show the quantity to be copied, total copied and master-making.
12. Paper size key: select the original size.
13. Zoom in key: increase the zoom rate at 1% (50% ~200%)
14. Standard zoom rate key: select the standard zoom rate.
15. Zoom in key: reduce the zoom rate at 1% (50% ~200%)
16. All clear key: return to the inital settings.
17. Select key: select the setting.
18. OK key: confirm the selection
19. Numric key (0~9) : enter the quantity
20. C key: cancel the quantity of print quantity.
21. X key : group print .
22. Print indicate LED: show the status of print.
23. Test Print key: test print for two sheets.
24. Master-making key: start master-making.
25. Print key: start print .
26. Stop key: interrupt printing or stop test

Chapter 2 Sectional Description & Adjustment

This chapter provides the name of main sectional part and details of adjustment

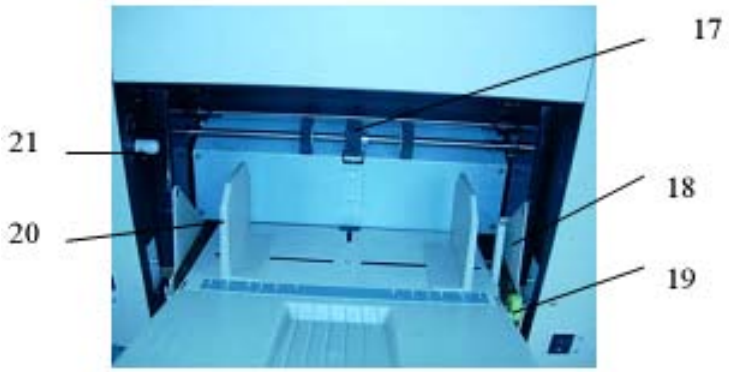
1. First Paper Feed Unit

13) Feed guide
14) Paper feed roller
15) Paper feed guide
16) Paper feed pressure knob



For RD-3108C/4019A

17) Paper feed roller
18) Side guides locked rod
19) Print position adjustor button
20) Feed guides
21) Paper feed pressure knob



For RD-3208C/4029A/4200/4220/4300/4320

Adjustment :

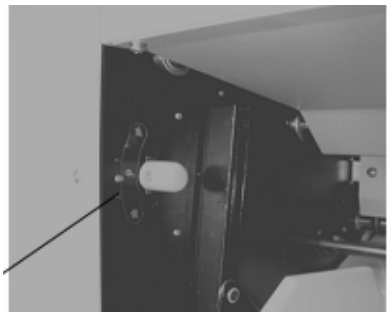
1. Pressure of paper feed

a. Use screwdriver to adjust the pressure of The friction pad.

Clockwise: pressure increased.
Counter-clockwise: pressure reduced

b. Adjust the knob according to the thickness of paper.

High / middle / low

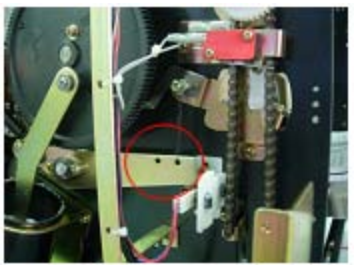


c. Adjust the direction of spring

Use screwdrive to change the direction.

d.Change the position of sensor

Loosen the screw,and upward or downward the position of sensor.



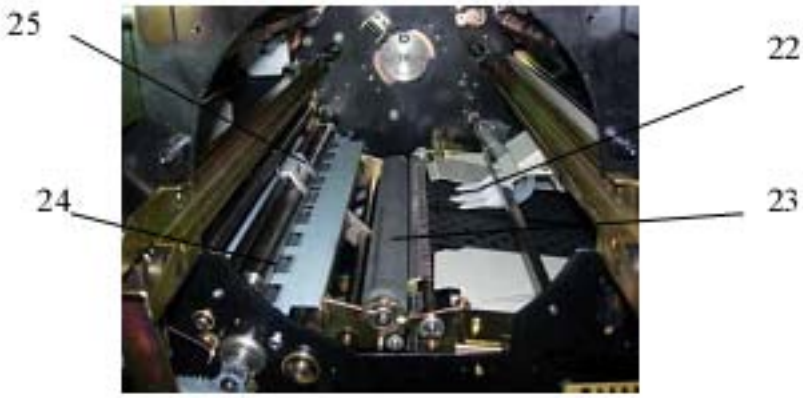
2.Print Transmission Unit

22) Separate pawl

23) Pressure roller

24) Registration roller

25) Paper switch



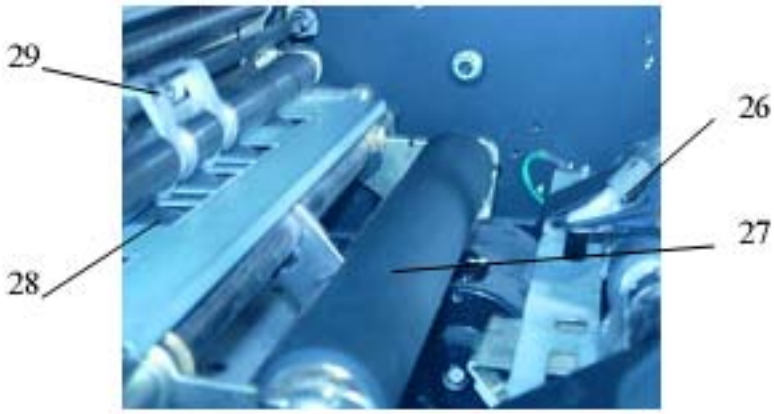
For RD-3208C/4029A/4200/4220/4300/4320

26) Separator pawl

27) Pressure roller

28) Registration roller

29) Paper switch



For RD-3108C RD-4019A

Adjustment:

1.Registration roller

a.Check the clearance bewteen upper and lower roller.

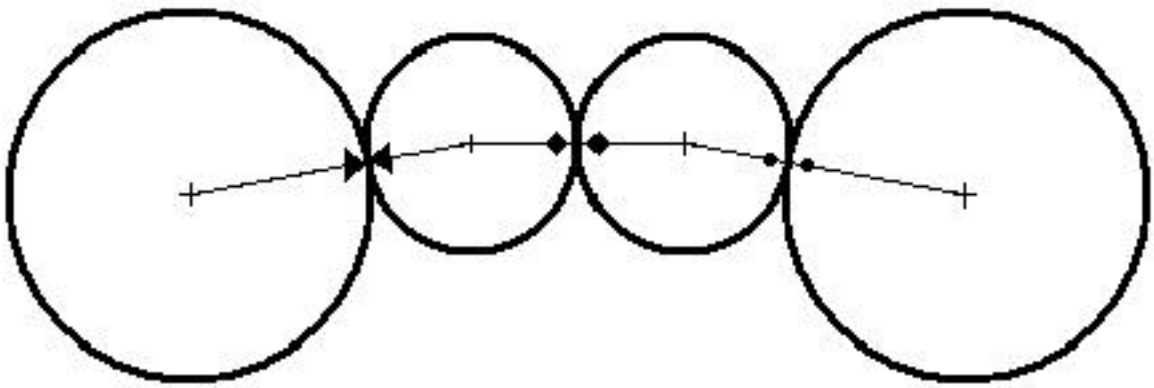
Standard: Clearance of registration roller 1.5 mm

b.Loosen the screw and change the direction.

2. Print time

How to adjust the time of four gears:

triangle-triangle square-square circle-circle



3. Leading edge

a. Press drum jog switch until you see two screws

b.Loosen the two screw ,rotate the 1st paper feed cam and fix.

clock wise: leading edge increase

counterclockwise: leading edge reduce

4. Printing area

a. Loosen the fixed screw.

b. Rotate the hexagonal screw.

Upward: area increase

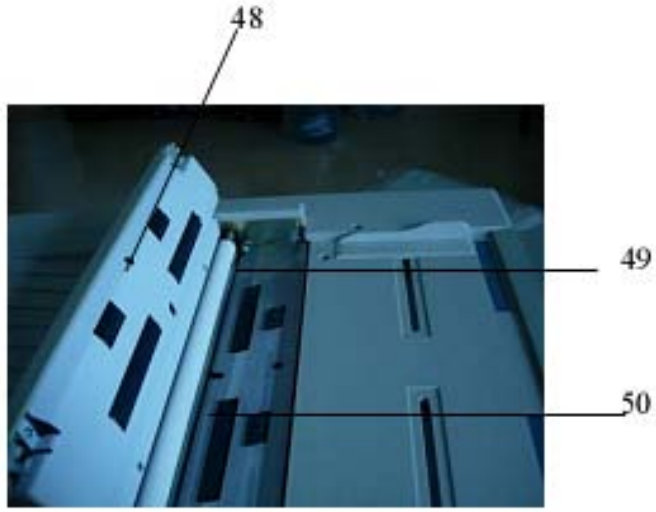
Downward: area reduce

3. Scan Unit

48) Scan cover

49) Scan roller

50) Scan head(CIS)

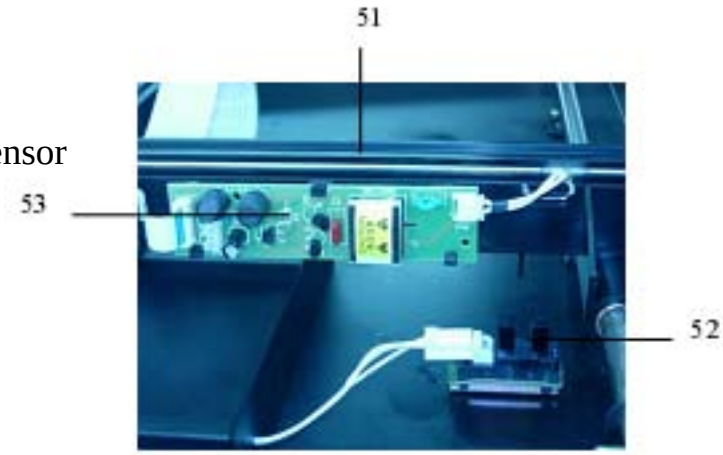


For RD-3108C/3208C

51) Scan head (CIS)

52) Scan home position sensor

53) Lamp stabilizer



For RD-3208C/4029A/4200/4220/4300/4320

Adjustment:

1.Voltage of White /Dark

a.Remove the scan cover.

b.Find the test point of "white" and "dark" on the mainboard.

c.Use the multimeter to test voltage.

Red foot: White/dark Black foot: GND

White : 1.5v (if black dots appeared on copies, lower the voltage below1.5v, Until the black dots disappear)

Dark : 0 v

d. If not , use screwdriver to rotate the potentiometer until the quality of copies is normal.

2. Data line and change-over board

a. Check the connect data line between CIS and change-over board.

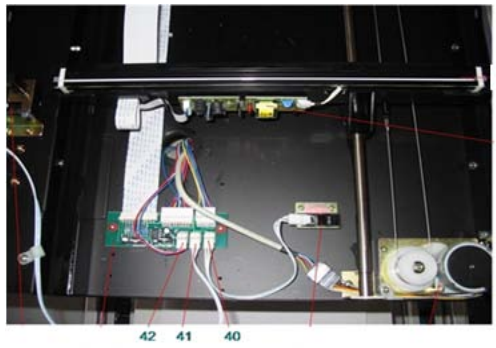
b. Test the voltage of change-board.

Standard: +15v -12v (marked 42)

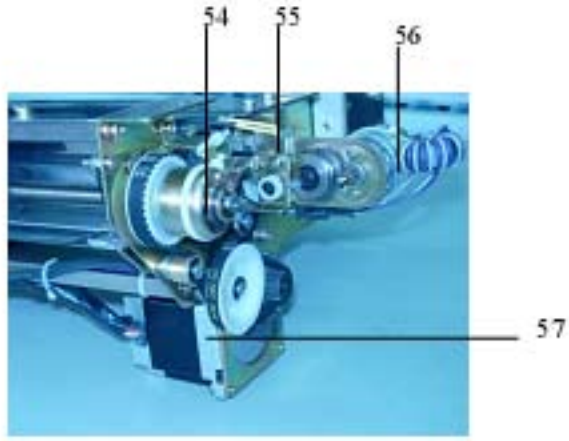
c. Scan home position sensor and scan cover sensor

Standard : unblock: 0-0.2v

block: 3v-3.3v



4. Master-Making Unit



54) Master-Making clutch

55) Blade

56) Cutter motor

57) Master-Making motor

Adjustment:

1. Voltage of Thermal Print Head

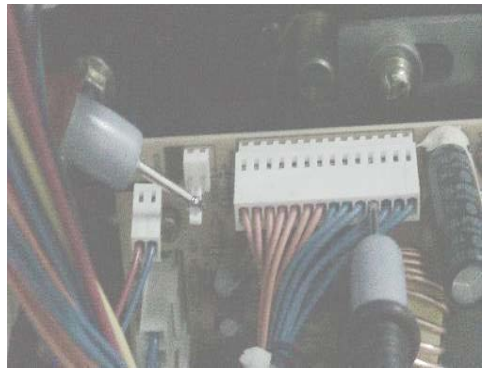
a. Remove the front cover.

b. Find connector on sub power supply board

Red foot: Unplug the connector,touch the two foot together.

Black foot: blue wire (as marked).

Standard: 12.4V



Adjust the potentiometer on the sub power supply board.

Warning: Highest voltage 12.8v

2.. Master feed sensor

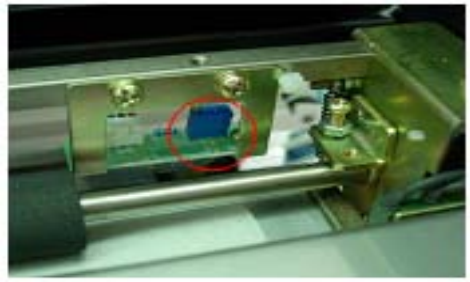
a.Use the multimeter to test the voltage

Red foot: red line Black foot: black line

Standard

With master : 0V-0.02v

Without master: 3V-3.3V

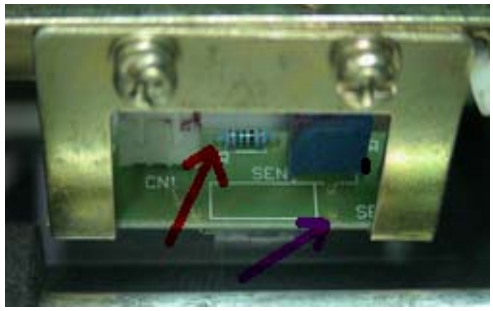


b.Test the resistance (power off)

Red /black foot : as marked

Standard: 165 Ohm

Adjust the potentiometer to change.



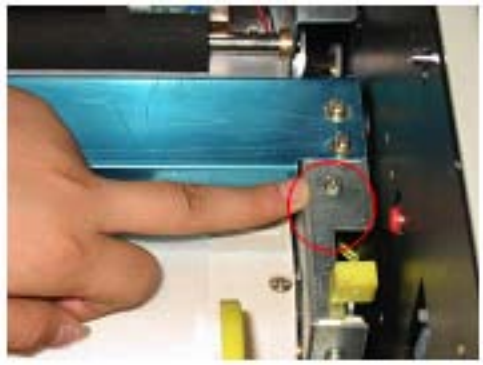
3.Pressure of print roller

a. Open the scan table.

b. Find the TPH adjust screw.

clock-wise: pressure increase

counter clock-wise: pressure reduce



4.Pressure of reverse roller

a. Open the scan table.

b. Remove the cover of reverse roller.

c. Use a piece of master to test the pressure.

Make sure pressure of both side is same.

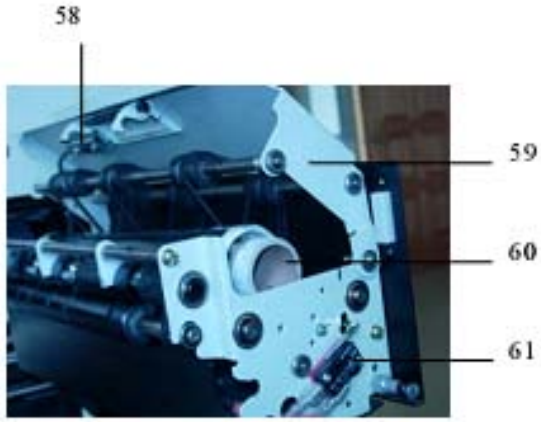
5.Master disposal Unit

58) Master disposal sensor

59) Disposal master box cover

60) Disposal master roll

61) Micro switch

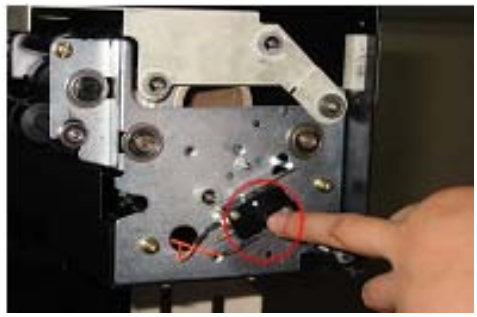


Adjustment:

1. Master eject box micro switch

a.check the micro switch if flexible.

b.Connect of the wire.



2. Master disposal sensor

a. Remove the rear cover.

b.Find the connect wire of master disposal sensor.

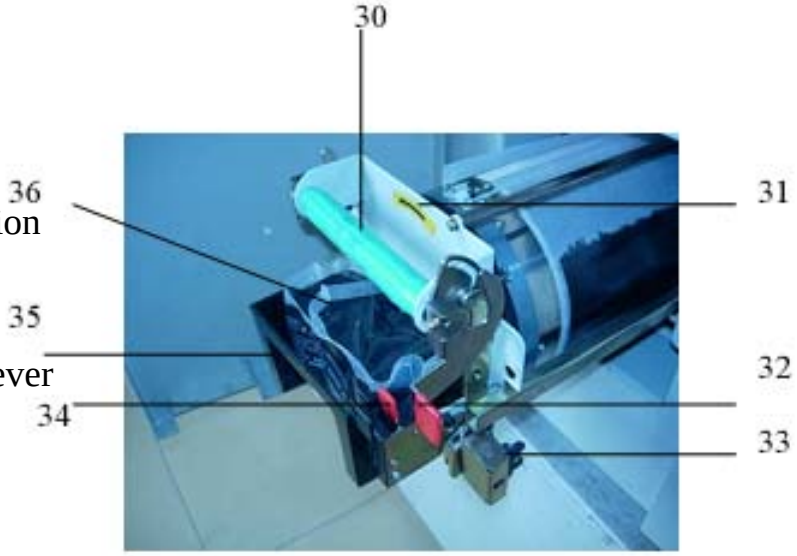
c. Use multimeter to test.

Signal : Unblock 0v--0.2v

block 3v--3.3v

6. Drum Unit

30) Drum handle
31) Drum rotate direction
32) Drum lock lever
33) Drum insert
34) Ink cartridge lock lever
35) Ink case
36) Ink cartridge



Adjustment

1.Drum Home position

a.Check the Drum home position
Make sure it is in the middle.

NOTE: Also before you insert the drum , it should be in the home position.

b. If not in the middle, adjust the drum home position sensor.

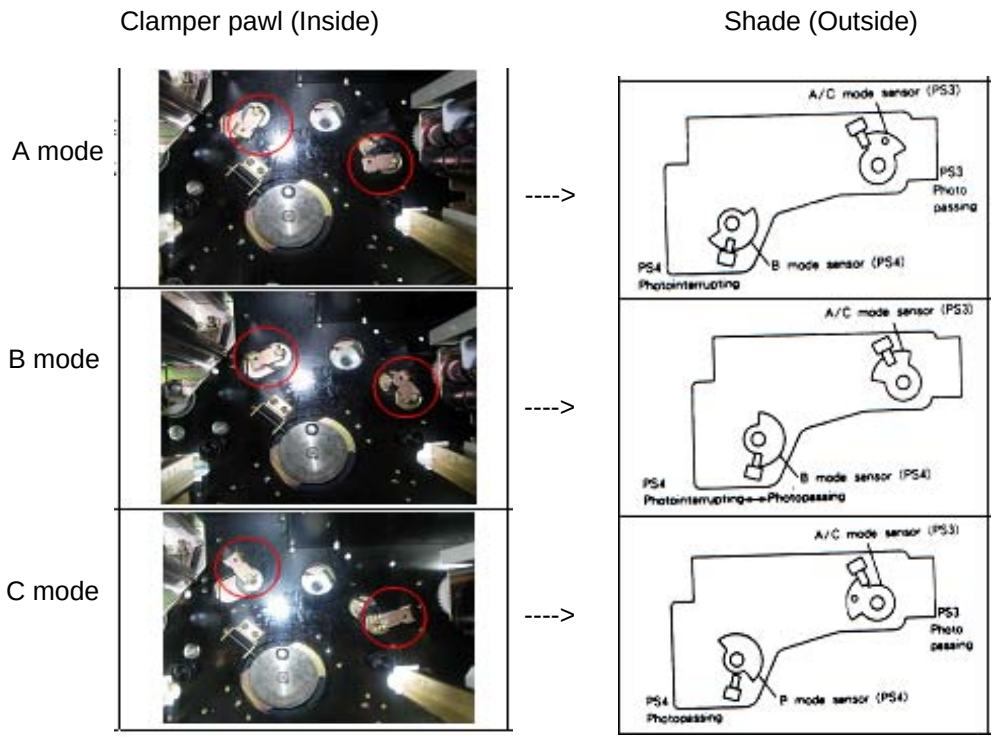
Left : Stop earlier

Right: Stop later

2. Clamper section.

The whole working process of clamper:

Press Master-making button :	clamper A mode ---> B mode	(drum rotate)
Drum rotate to master eject position:	clamper B mode --->C mode	(start eject)
	clamper C mode --->B mode	(drum rotate)
Drum rotate to master feed position:	clamper B mode --->C mode	(master feed)
	clamper C mode ---> B mode	(wrap master on the drum)
Cut the master:	clamper B mode --->A mode	(finish plating and test print)



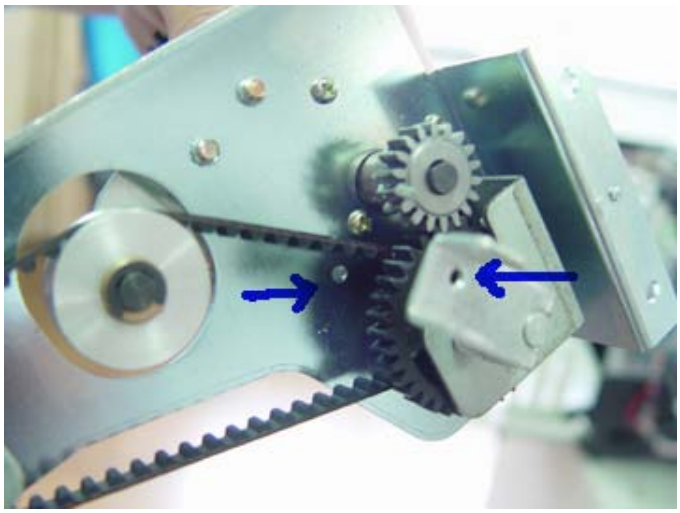
Process of adjustment:

a. If the standard position A/B/C is wrong,

Remove the clamper part when in B position.

b. Loosen the strengthen belt and adjust the clamper pawl (inside) to standard B position.

Standard B position : Hole to Hole



c. Check the position of shade (outside),and adjust it to standard position B , then fix the screw.

d. Install and Test the clamper part:

Enter test mode--->Drive to B mode----> C mode---> B mode--->A mode

Note: Return to A mode after test the clamper part.

3. Clamper drive position

a. Master eject position

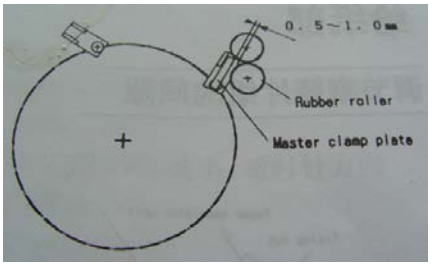
--->Enter test mode.

--->Drive the clamper pawl to B mode.

---> Press "stop" and press "speed +" drum test,drive to master eject position.

--->Open the master eject box and see the position. Make sure the clamp plate can open the clamper bar.

(Check the reference picture)

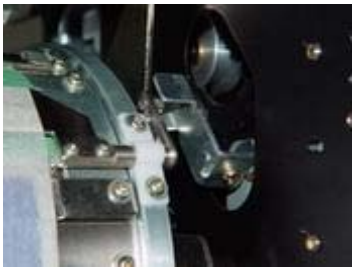


b. Master feed position

---> Press "stop", the drum continue rotate to master feed position.

---> Check the clamping bar.

Make sure the clamper pawl can open clamping bar.



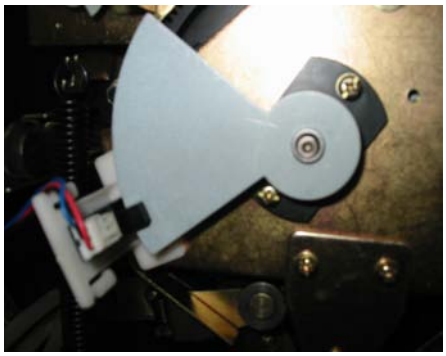
If not,adjustment as follow:

Rotate the clamper drive shade.

Standard:

Clockwise: stop earlier

Counter clockwise: stop later



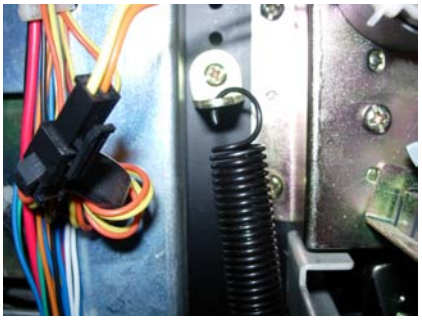
Shade : Control master feed/eject

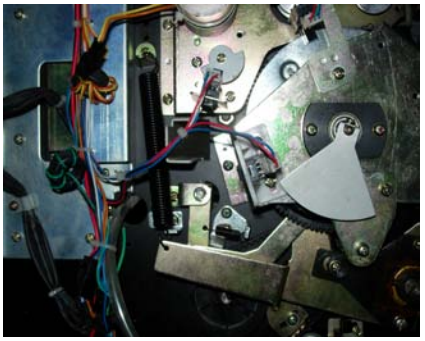
3. Pressure of printing

Downward or upward the spring, to increase the pressure of print.

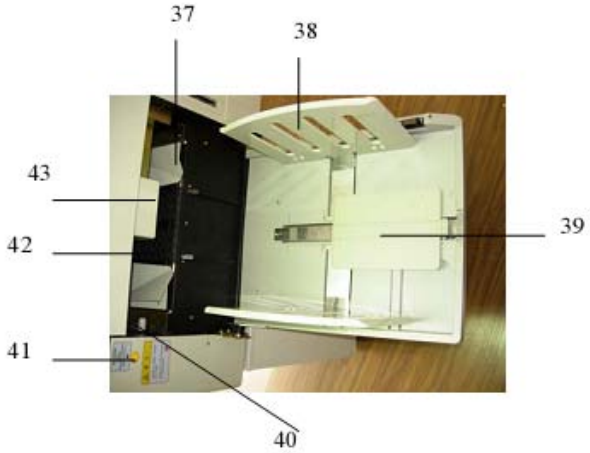
Standard: Image light (faint) : upward

Image dark: downward

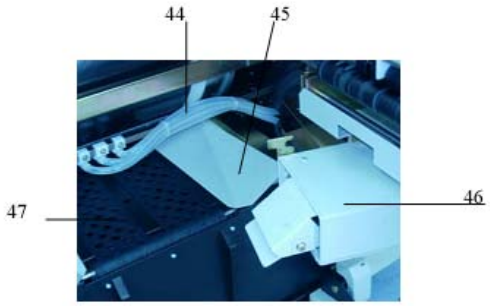




7. Paper Delivery Unit



37) Paper delivery guide
38) Paper receiving guide
39) Paper stop
40) Print pressure adjust knob
41) Drum jog switch
42) Paper delivery belt
43) Air knife/blower

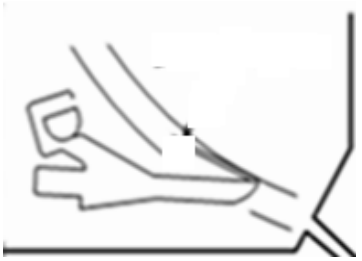


44) Air pipe
45) Receive guide
46) Air knife
47) Delivery belt

Adjustment:

1. Clearance between drum and separate pawl

a. 0pen the paper switch mechanic device and upward K board.



b. Open the master eject box and check clearance between drum surface and separate pawl.

Standard: B4 size: about 1mm~1.5mm
A3 size: about 2mm~2.5mm

c. If not standard: loosen the screw .

d. Shift the position(up/down), meanwhile check the clearance until it's normal, then fix the screw.

B4 size

A3 size

Chapter 3 Test features

This chapter provides how to test the each section and detect the error.

(1) Useful Test

(RD-3108C RD-3208C RD-4019A RD-4029A)

1.How to enter test mode: Hold down "select" and "0"--> power on
If sucess , LED Displayed " Unit test "

2.How to change the language: Hold down "mode" and "9" ---> power on
If sucess, Chinese ----> English / English ---> Chinese

3.How to adjust the print area:

Enlarge the print area: Hold down "speed +" and numric key (0~9)--->power on
If sucess ,LED displayed : Verify + (0-9)

Reduce the print area : Hold down "speed -" and numric key (0~9)---> power on
If sucess ,LED displayed : Verify - (0-9)

4. How to test the TPH: Enter test mode, Hold down "stop" --> press "print"
(Make sure the master and ink were installed, It will automatically start master-making).

5. How to test the sensor(switch):

For example:
You want to know if the scan cover sensor (RD-4019A) is ok:

Enter unit test---> press stop key--->press "0" button,display "11010111" the seventh one for scan cover sensor is "1" .

scan cover closed (sensor blocked)

------>

scan cover open (sensro unblocked)

If the signal (0 or1) can change, that means the sensor is ok.

Also, for other sensor and switch, if it change from 1 to 0 (or 0 to 1) displayed on the panel, means the sensor /switch is ok; Otherwise , the sensor maybe defective.

Unit test (RD-3108C/3208C/4019A/4029A)

Key	LCD display	Functions and Notes
1	Clamp A Position test	To drive the clamp motor, and the clamp is switched to A position
2	Clamp B Position test	To drive the clamp motor, and the clamp is switched to B position
3	Clamp C Position test	To drive the clamp motor, and the clamp is switched to C position
4	Scan clutch test	Engage the scan clutch (RD-3108C only)
5	Feed electromagnet test	Engage the Feed electromagnet
6	Space motor test	Drive the space motor
7	Ink pump motor test	Drive the ink motor, automatically stops when the ink is full
8	Scan motor test	Drive the scan motor and scan clutch (RD-3108C)
9	Print motor test	Drive the print motor and plating clutch
Clear	Cutter motor test	Complete the cutting process (Attention about the danger of cutter)
All clear	Plating clutch test	Engage plating clutch
Speed +	Drum test	Drive the drum : unload(eject), load(feed) position and stop position
Speed -	Indicator light	All lights off / on
Space +	Unload motor test	Drive the unload motor
Space -	Main motor test	Drive the main motor (From low speed to high speed)

Check the sensor as below (Note :the sensor is blocked-1, the sensor is unblocked-0).

0 Sensor group 1

1 Cutter jog switch
2 Feed tray switch
3 Right cutter position switch
4 Left cutter position switch
5 Paper detect switch
6 Original ready sensor (RD-3108C)
7 (A)Original detect sensor (RD-3108C)
(B)Scan cover open/close switch (RD-4019A)
8 N/A

Master-making Sensor group 2

1 Middle paper jam sensor
2 Clamper drive position sensor
3 Drum stop(home) position sensor
4 Clamp B mode sensor
5 Clamp A/C mode sensor
6 Disposal box full switch
7 Master eject sensor
8 Right paper jam sensor

Test print Sensor group 3

1 Ink detect sensor
2 Space shift sensor
3 Space home position sensor
4 Master detect sensor
5 Drum jog switch
6 Drum detect switch
7 Front cover switch
8 Master feed covers switch(not available with RD4019A and 4029A)

(2) Useful Test RD-4200/4300

1.How to enter test mode: Hold down "All clear " --> power on ---> and press "0"
If sucess , LED show "00" ready for test.

2.How to adjust the print area:

Enlarge the print area: Hold down "Space + " and numric key (0~9)--->power on
If sucess ,result print area enlarged.

Reduce the print area : Hold down "Space -" and numric key (0~9)---> power on
If sucess ,result print area reduced.

3. How to test the TPH: Enter test mode, Hold down "stop" --> press "print"
(Make sure the master and ink were installed, It will automatically start master-making).

Unit Test (RD-4200/4300)

Key	LCD display	Functions and Notes
1	Clamp A Position test	To drive the clamp motor, and the clamp is switched to A position
2	Clamp B Position test	To drive the clamp motor, and the clamp is switched to B position
3	Clamp C Position test	To drive the clamp motor, and the clamp is switched to C position
5	Feed electromagnet test	Engage the Feed electromagnet
6	Space motor test	Drive the space motor
7	Ink pump motor test	Drive the ink motor, automatically stops when the ink is full
8	Scan motor test	Drive the scan motor and scan clutch (RD-3108C)
9	Print motor test	Drive the print motor and plating clutch
C	Cutter motor test	Drive the cutter motor (Attention about the danger of cutter)
All clear	Plating clutch test	Engage plating clutch
Speed +	Drum test	Drive the drum : unload(eject), load(feed) position and stop position
Speed -	Indicator LED	All lights off / on.
Space +	Unload motor test	Drive the unload motor.
Space -	Main motor test	Drive the main motor (From low speed 1 to high speed 5)
Space middle	Ink press test	Press this button and "stop" start ink press. press "stop" again quit.
Line/ photo	White	Scan head light on.
Print	Blower(fan)	Test the blower.
Setting		Back to normal operate mode.

Indicate light LED : light on / off

0 key Group 1 sensor test

Post	Cutter jog switch
A5	Feed tray (downward limit) switch
B5	Right cutter position switch
A4	Left cutter position switch
B4	Ink pressure switch
A3	The original limit switch
16K	Scan cover sensor
8K	Elevator (upward limit) sensor

Master-making key Group 2 sensor test

POST	Middle paper jam sensor
A5	Clamper drive position sensor
B5	Drum stop(home) position sensor
A4	Clamp B mode sensor
B4	Clamp A/C mode sensor
A3	Disposal box full switch
16K	Disposal master eject sensor
8K	Right paper jam sensor

Test print key Group 3 sensor test

Post	Ink detect sensor
A5	Space shift sensor
B5	Space home position sensor
A4	Master detect sensor
B4	Drum jog switch
A3	Drum detect switch
16K	Paper detect switch
8K	Elevator jog switch

(3) Useful Test RD-4220/RD-4320

1.How to enter test mode: Hold down "All clear " --> power on ---> and press "0"
If sucess , LCD show each unit for test.

2.How to change the language: Hold down "All clear "---> power on--->and press "OK"
If sucess, Chinese ----> English / English ---> Chinese

3.How to adjust the print area:

Enlarge the print area: Hold down "Select up " and numric key (0~9)--->power on
If sucess ,result print area enlarged.

Reduce the print area : Hold down "Select down" and numric key (0~9)---> power on
If sucess ,result print area reduced.

4. How to test the TPH: Enter test mode, Hold down "stop" --> press "print"
(Make sure the master and ink were installed, It will automatically start master-making).

Unit Test (RD-4220/4320)

Key	LCD display	Functions and Notes
1	Clamp A Position test	To drive the clamp motor, and the clamp is switched to A position
2	Clamp B Position test	To drive the clamp motor, and the clamp is switched to B position
3	Clamp C Position test	To drive the clamp motor, and the clamp is switched to C position
5	Feed electromagnet test	Engage the Feed electromagnet
6	Space motor test	Drive the space motor
7	Ink pump motor test	Drive the ink motor, automatically stops when the ink is full
8	Scan motor test	Drive the scan motor and scan clutch (RD-3108C)
9	Print motor test	Drive the print motor and plating clutch
C	Cutter motor test	Drive the cutter motor (Attention about the danger of cutter)
All clear	Plating clutch test	Engage plating clutch
Speed +	Drum test	Drive the drum : unload(eject), load(feed) position and stop position
Speed -	Indicator LED	All lights off / on
Space +	Unload motor test	Drive the unload motor
Space -	Main motor test	Drive the main motor (From low speed to high speed)

Group 1 sensor test

1 Cutter jog switch
2 Feed tray (downward limit) switch
3 Right cutter position switch
4 Left cutter position switch
5 Ink pressure switch
6 Scan home position switch
7 Scan cover sensor
8 Elevator (upward limit) sensor

Group 2 sensor test

1 Middle paper jam sensor
2 Clamper drive position sensor
3 Drum stop(home) position sensor
4 Clamp B mode sensor
5 Clamp A/C mode sensor
6 Disposal box full switch
7 Disposal master eject sensor
8 Right paper jam sensor

Group 3 sensor test

1 Ink detect sensor
2 Space shift sensor
3 Space home position sensor
4 Master detect sensor
5 Drum jog switch
6 Drum detect switch
7 Paper detect switch
8 Elevator jog switch

Chapter 4 Troubleshooting

This chapter mainly provides the usual problem and relative solutions.

Section 1: Drum Unit

1. Cannot insert/take out the drum.

Solution: a.Check the drum ,if it is in the home position.

Non standard

Standard

b.Check the drum transmission section, press drum jog switch until the the drum transmission section return to home(initial) position.

Then insert / take out the drum .

c. If the drum home position is not standard(It can't return to the middle)

Adjust according to page 19 .

Left : stop earlier

Right: stop later

2. Too light / dark on the copies even several sheets test printed.

Solution: a. Change a light / dark original on the scan table.

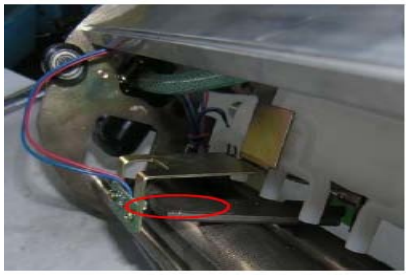
b. Change the scan density : lighter / darker
Change the master-making density: B4: 1 lighter---9 darker A3: light / darker

c. Check the surface of the drum (cylinder) ,correct the ink installation .

d. Check the ink pump pipe: Enter test mode, test the ink pump motor.

e. If the ink pump motor is workable :
Neither there is ink on the surface, nor ink pump motor work, check the mental screen and the cloth screen if it is jam.

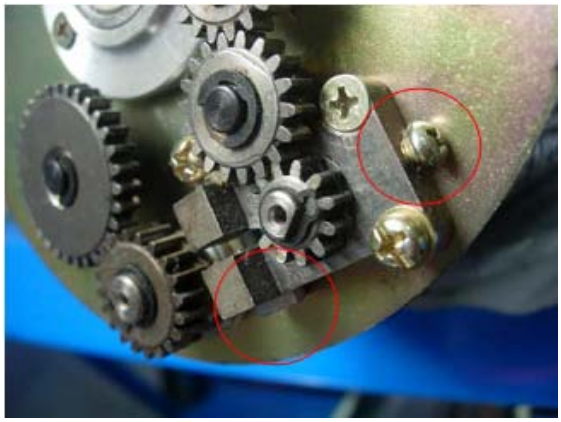
f. Check the ink detect sensor: if it is dirty by the ink .If so, clean the sensor(send and receive).



Too many ink inside the drum:

Lower the position of Ink detect sensor (send &receive)

g. Check the Clearance of Ink roller and pressure roller



Loosen the hexagonal screw(downward) adjust the upward screw, then fix the hexagonal screw.

Counter Clockwise : Ink supply more

Clock wise : Ink supply less

3. Indicate : NO DRUM

Solution:

a. Check the installation of drum, insert and fix the drum.

Check the connect of drum connector if it is well.

b.If it still can't clear the error:

Enter Unit test---->press the "proof" and check the sensor 3 [*1010011]

Check drum detect switch , the sixth (from left to right) , [0] or [1] .

If the [0] or [1] can change while install the drum , the switch is ok .

If it can't change, it may defective. Replace a new switch and test.

4. Indicate: DRUM LOCK

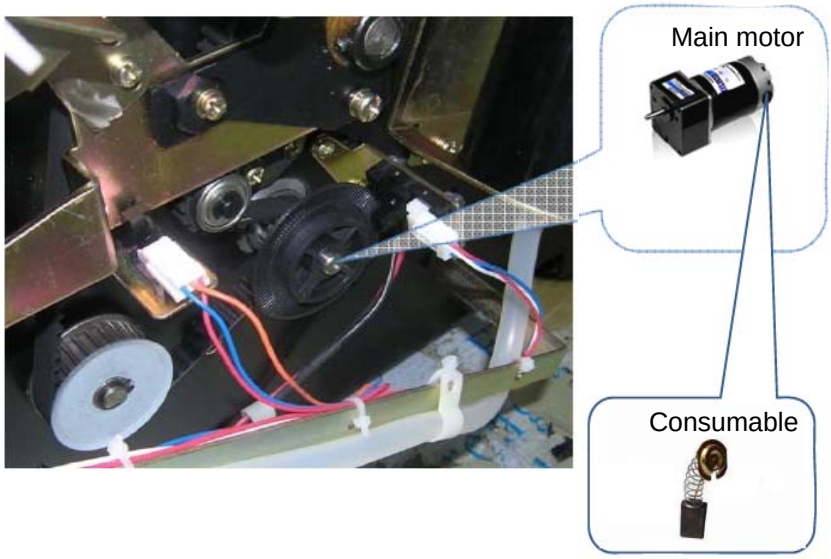
Solution:

a. Check the mechanic transmission part , if there is mis-installation: correct required.

b. Check if there is dust on the code plate or main motor detect sensor: cleaning required.

c. Check the installation of main motor detect sensor and Medium paper jam sensor :
If it is interchange , correct the installation.

d. Check the consumable inside the main motor: if it is possible to change a new one.

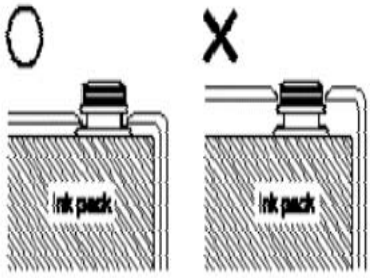


5. Indicate : INK OUT

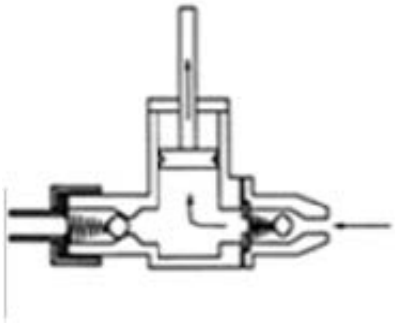
Solution:

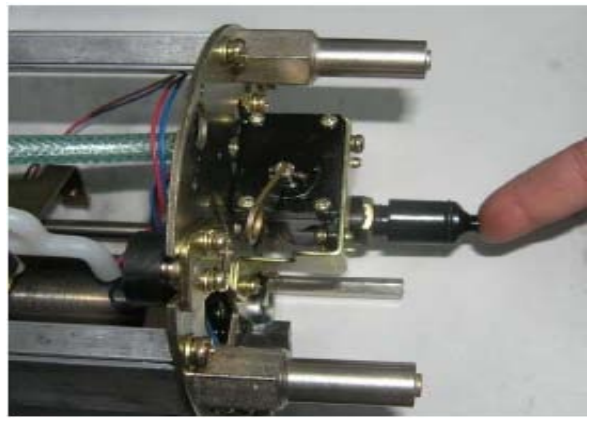
a. Replace a new ink catridges and install.

b. Check the connect : ink catridges and ink pump pipe.



c. Check the ink pump pipe : if it is jam (with ink inside), use something to press ball bearing. Keep the ball bearing workable.





d. If the ink can't enter the drum:

Check the voltage of ink pump motor : DC 24V

Check the connect wire of ink detect sensor.

Enter Unit Test: check the alternation [1] or [0].

If not change, check if the ink dirty the sensor (send and receive) : cleaning required.

e. If it is still error, change a new sensor to test.

Section 2: Paper Transmission Unit

1. Leading edge shift on the copies.

Solution: Adjust the 1st paper feed cam.(Page 13)

2. Left paper feed jam

Solution:

a. Check the pressure of the friction pad.

Clockwise: Pressure increase

Counter clockwise: Pressure reduce

b. Check the angle of the friction pad.

Make the plastic pad(white) work flexibly.

c. Pressure of 1st paper feed

Change the direction of the spring.

d. 1st paper feed length.

Upward : 1st paper feed length reduce

Downward: 1st paper feed length increase

3. Medium Paper feed jam
Paper sticks to the surface of the print cylinder (drum)

Solution :

a. Check the leading edge of original.

b. Check the clearance between separete pawl and drum surface. (Page 23)

c. Check the air pump and connect air pipe.

d. Replace the original in the reverse direction and restart printing.

4. Right pape feed jam

Solution:

a. Check the paper out transmission part.

Section 3 : Master Making Unit

1. Stencil on & cutter

Solution: a.Open the front cover(or scan table) and take out the drum, check if there is piece of master under the sensor.

b. Check the position of master feed sensor , if it is vertical while install .

2. Master feed Error

Solution: a. Open the top cover and close (to clear the error displayed on the panel)

b. Enter unit test, test the master feed sensor.(Page 16)

c. Check the pressure of reverse roller and adjust.(Page 16)

d. Enter unit test and test the master-making motor.

e. Check the print roller and see if there wrapped with master.

3. Cutter motor Error

Solution: a. Power off (wait 10 seconds) and power on.

b. Check the steel wire of cutter and see if it is jam.

c. Enter unit test, test the cutter left and right switch.

d. Test the power supply of cutter motor(24v)

4. Master misfeed : 10 cm master feed and cut off.

Solution: Check the master feed sensor and test. (page 16)

Replace another sensor and test.

Check the connector of the drum ,and test the ink pressure switch. (Available for RD-4200/4220/4300/4320)

5. High pressure of TPH.

Use the screwdriver to adjust.

Clockwise: pressure increase

Counter-clockwise: pressure reduce

6 .High pressure of reverse roller

Upward : pressure increase

Downward : pressure reduce

Section 4. Master eject unit

1. Outs Error

Solution: a. Take out the drum and insert the drum,press master-making to start.
try again if fail to clear the error.

b. Test the signal voltage of the master eject sensor (send and receive),make sure there is no master blocking the send and receive sensor.
Standard:
sensor unblocked : 0-0.2v sensor blocked : 3-3.3v

c. Enter unit test and check the clamper drive position sensor, see if the sensor is ok.

d. Enter unit test and check the master eject motor (conntector wire, power 24V)

e. Check the clamper drive part..If it is wrong, adjust (Page 20)

2. Master disposal box full

Solution: a. Check if there is the master disposal core in the box and empty the master disposal box.

b. Check the Master disposal box mirco switch(enter unit test and test).

3. ST Motor Error (Master disposal motor error)

Solution: a. Check if the master blocks the master disposal sensor,remove it .

b.Test the voltage of master disposal motor(DC 24V).

c. Check the transmission gear inside the motor if it is defective.

Section 5 Electronic Unit

1. System Error

Solution: a. Power off (wait 10 seconds) and then power on .

b. If recovery has failed ,replace another one and test.

2. Power Protect

Solution: a. Power off (wait 10 seconds) and then power on.

b. Check the DC 24V power supply connect .

Check power source of DC24V and replace another one to test.

3. The machine does not start even when the power switch is pressed.

Solution: a. Check whether the power cord is firmly connected to an electrical outlet.

b. Check whether the power circuit is on.

c. Check the fuse on the sub power supply board , if it is normal.

d. Check the connect wire of control panel.

4. Space motor Error

Solution: a. Check the power supply (24V)

b. Enter unit test and check the space home position and space shift position sensor.

c. Check the connector wire.

5. Elevator Error

Solution: a. Check the power supply (24V)

b. Enter unit test ,check the feed tray (downward limit) switch and feed tray feed tray (upwards limit) sensor.

c. Check the connect wire.

Section 6 : Image unit

1. The unwanted background of an original is showed on copies.

Solution: a. Check original and see if it is ok.

b. Adjust the scan density,select lighter.

c. Change the voltage of "Dark". (Page 15)

2. No images on copies.

Solution: a. Check the scan glass whether there is original on it.

b. Test print for several sheets and check whether the ink is empty.

c. Check whether the drum is wrapped with copies.

d. Check the voltage of Thermal Print Head. (standard:12.4v)

3. All black on copies.

Solution: a. Check whether the scan cover is open during scaning.

b. Check whether the date line of scan unit is connected well.

c. Check the voltage of change-over board. (+15v ,-12v)

d. Check the connect wire between chang-over board and mainboard.

4. Copies are incomplete: some images are missing or unclear.

Solution: a. Check whether the scan glas is stained .

b. Check whether a foreign object or piece of master may be wrapped around the drum.

c. Check whether scan cover is open during scaning.

5. Printed images are excessively faint or blurred.

Solution: a. Check whether the original is light, select darker both scan and master-making denstiy.

b. Check whether the temperature is low (below 10 degree), ink may not flow smoothly.

c. Check whether the machine is not used for a long period of time,test print for several times.(if possible , clean the drum inside and wipe the metal screen)

d. Check the pressure of print and adjust.(Page 21)

6. Vertical blank lines missing on printed copies.

Solution: a. Check whether the scan glass is stained with fluid or dust.

b. Check the Thermal Print Head,whether smudged with paper powder from the master. Clean the TPH with a soft cloth or tissue.

7. Black dots appeared on copies.

Solution: a. Check whether the original is stained with black dots.

b. Check the master-making density,select lighter one.

c. Check the image mode, select the proper mode.

Text: For ordinary documents with line and text.

Photo: For photo or half-tone images.

Test & Photo: For both text and photo.

d. Lower the voltage of "White" , until the black dots disappear.

Chapter 5 Maintenance

This chapter mainly provides how to maintain the machine.

Warning:

Do not allow unauthorized persons to make adjustments or repairs.

Do not make any modifications to the unit or remove parts.

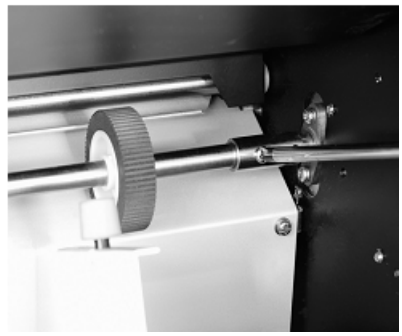
Call your dealer immediately if you have questions or problems.

Neither RD nor its dealer is responsible for maintenance service performed by non-RD-authorized personnel.

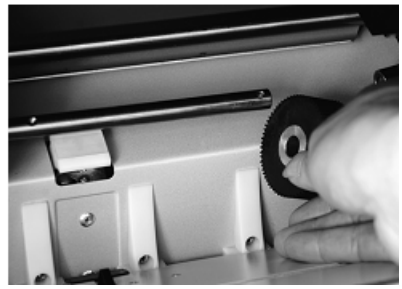
Section 1 Replacement

1. Paper feed roller

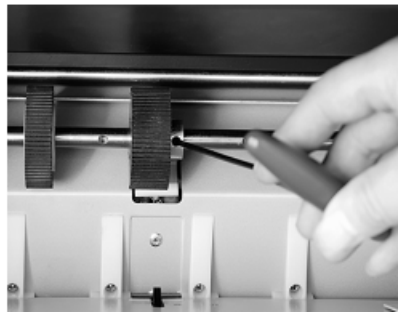
a. Remove the fixed screw.



b.Take out the defective main feed roller.

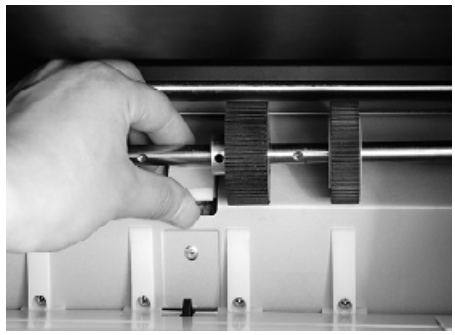


c.Install the new paper feed roller.



2. Friction pad

a.Remove the defective friction pad.



b. Install the new one and fix.

Adjust the direction and pressure.

3. Paper switch

a.Take out the drum and find the paper switch.

b.Use the screwdriver to remove the fixed screw.

c.Install the new one and fix. Keep the balance of both side.

4. Pressure roller.

a.Take out the drum and find the pressure roller.

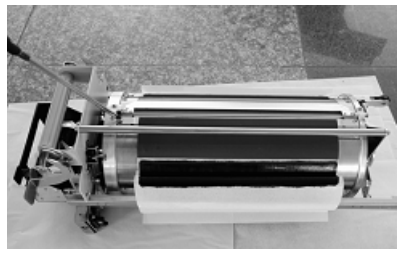
b.Take out the pressure roller.

Warning: Take care , avoid to hurt by the sharp inside the machine..

c.Install the new one and keep balance .

5.Cloth screen.

a..Remove the defective cloth screen.



b.Wrap the new one on the drum.

ATTN: Avoid the wrinkle on the screen surface.
Otherwise, it may cause the wrinkle on the copies.

c.Fix the screw of both side.

Section 2 Cleaning

1. Cleaning the stage glass and cover.

If the stage glass or stage cover is stained, imperfections may appear on prints.

Solution: Wipe them gently with a soft cloth or tissue.

Caution: Since stage glass is delicate,avoid shocks or scratching with a hard object.

2. Cleaning the pressure roller.

If the pressure roller is stained, smudge strip may appear on the side of copies.

Solution: Wipe the pressure roller with a soft cloth dampened with alcohol.

Caution: Since the pressure roller is delicate ,avoid scratching with hard object.
Take extra care not to get hurt by the sharp tip of mechanic device when wiping .

3. Cleaning the Thermal Print Head.

Solution: Wipe the thermal print head with a soft cloth or tissue.

Caution: Since the TPH is very delicate ,avoid shocks or scratching with a hard object.

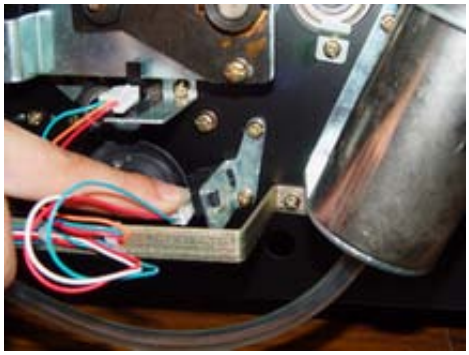
4 .Cleaning the dust on the electronic board.

Solution: Wipe the dust with a soft cloth or brush.

Caution: Since the electronic unit is delicate ,avoid shocks or scratching with a hard object.

6. Cleaning the dust on the code plate periodically.

Caution: Clean it gently and avoid the code plate broken.



Appendix

Switch

1 Cutter jog switch
2 Feed tray (downward limit) switch
3 Right cutter position switch
4 Left cutter position switch
5 Ink pressure switch
6 Scan home position switch
7 Disposal box full switch
8 Drum jog switch
9 Drum detect switch
10 Paper detect switch
11 Elevator jog switch
12 Front door switch

Sensor

1 Ink detect sensor
2 Clamper drive position sensor
3 Drum stop(home) position sensor
4 Clamp B mode sensor
5 Clamp A/C mode sensor
6 Middle paper jam sensor
7 Disposal master eject sensor
8 Right paper jam sensor
9 Scan cover sensor
10 Elevator (upward limit) sensor
11 Space shift sensor
12 Space home position sensor
13 Master detect sensor

Motor

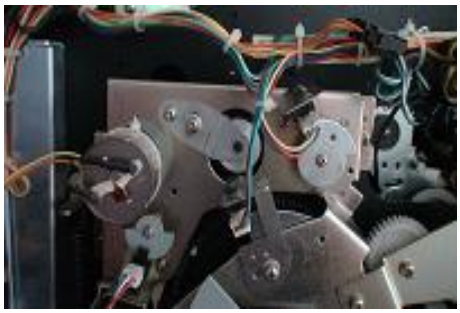
Ink pump motor
Print step motor
Scan step motor
Cutter motor
Clamper motor
Elevator motor
Ink pressure motor
Space motor
Master eject motor
Fan motor
Main drive motor

Clutch

Paper feed clutch
Scan clutch (RD-3108C/3208C)

1 Cutter motor

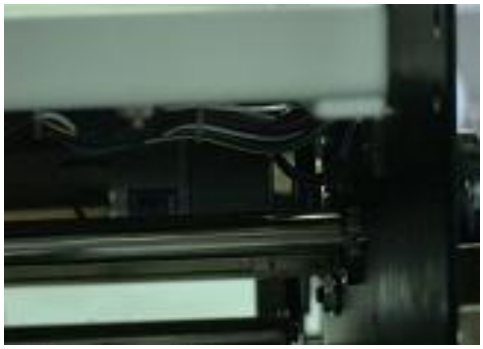
2 Clamper motor



3 Ink pump motor

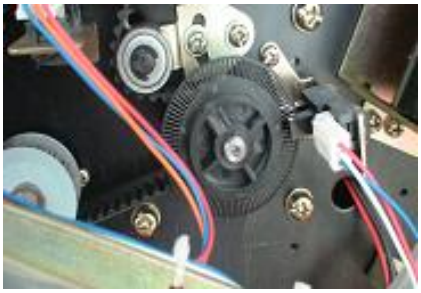
4 Print step motor

5 Master feed motor



6 Scan step motor

7 Main drive motor



8 Space motor

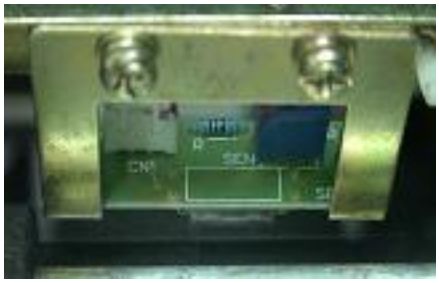
9 Fan motor

10 Elevator motor

11 Master disposal motor

12 Ink pressure motor

1 Master detect sensor



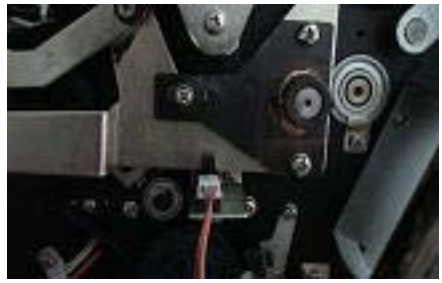
2 Clamper drive position sensor

3 Drum stop(home) position sensor

4 Clamp B mode sensor

5 Clamp A/C mode sensor

6 Medium paper jam sensor



7 Disposal master eject sensor

8 Scan cover sensor

9 Space shift sensor

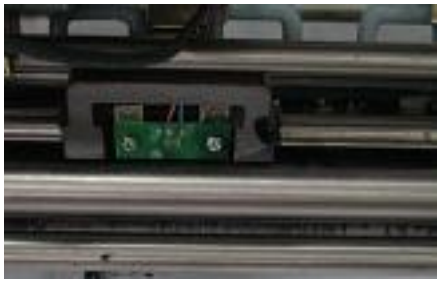
10 Space home position sensor

11 Elevator (upward limit) sensor

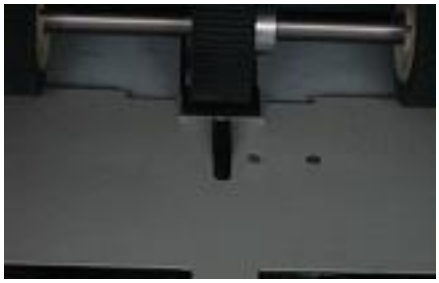
12 Right paper jam sensor

13 Scan home position sensor

14. Ink detect sensor



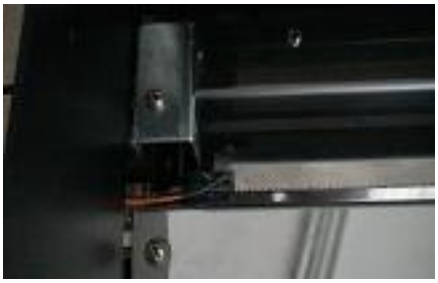
1 Paper detect switch



2 Feed tray (downward limit) switch

3 Paper tray lock switch

4 Cutte switch left



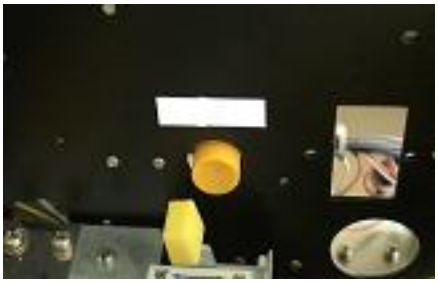
5 Disposal box full switch

6 Drum jog switch

9 Drum detect switch

10 Front door switch

11 Cutter jog switch



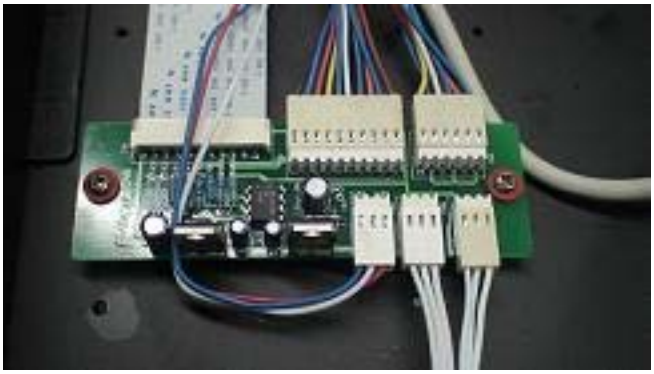
12 Paper feed clutch

13 Scan clutch

CIS

Lamp stabilizer

Change-over board

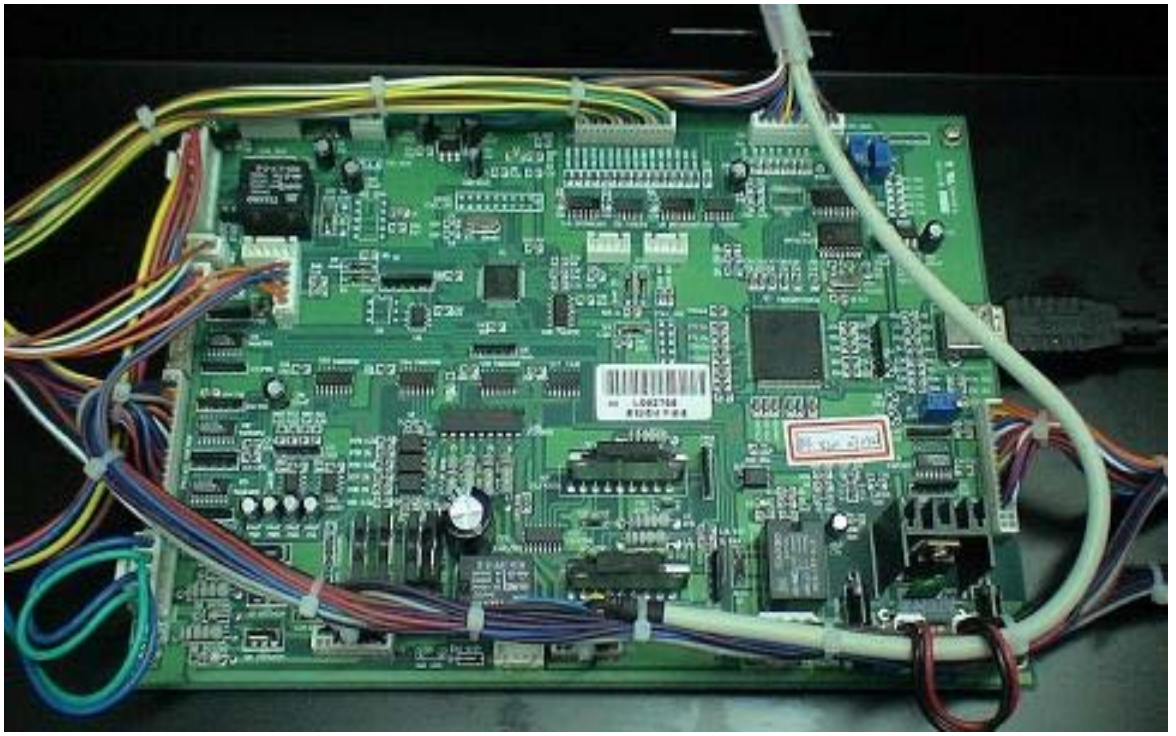


Thermal Print Head (TPH)

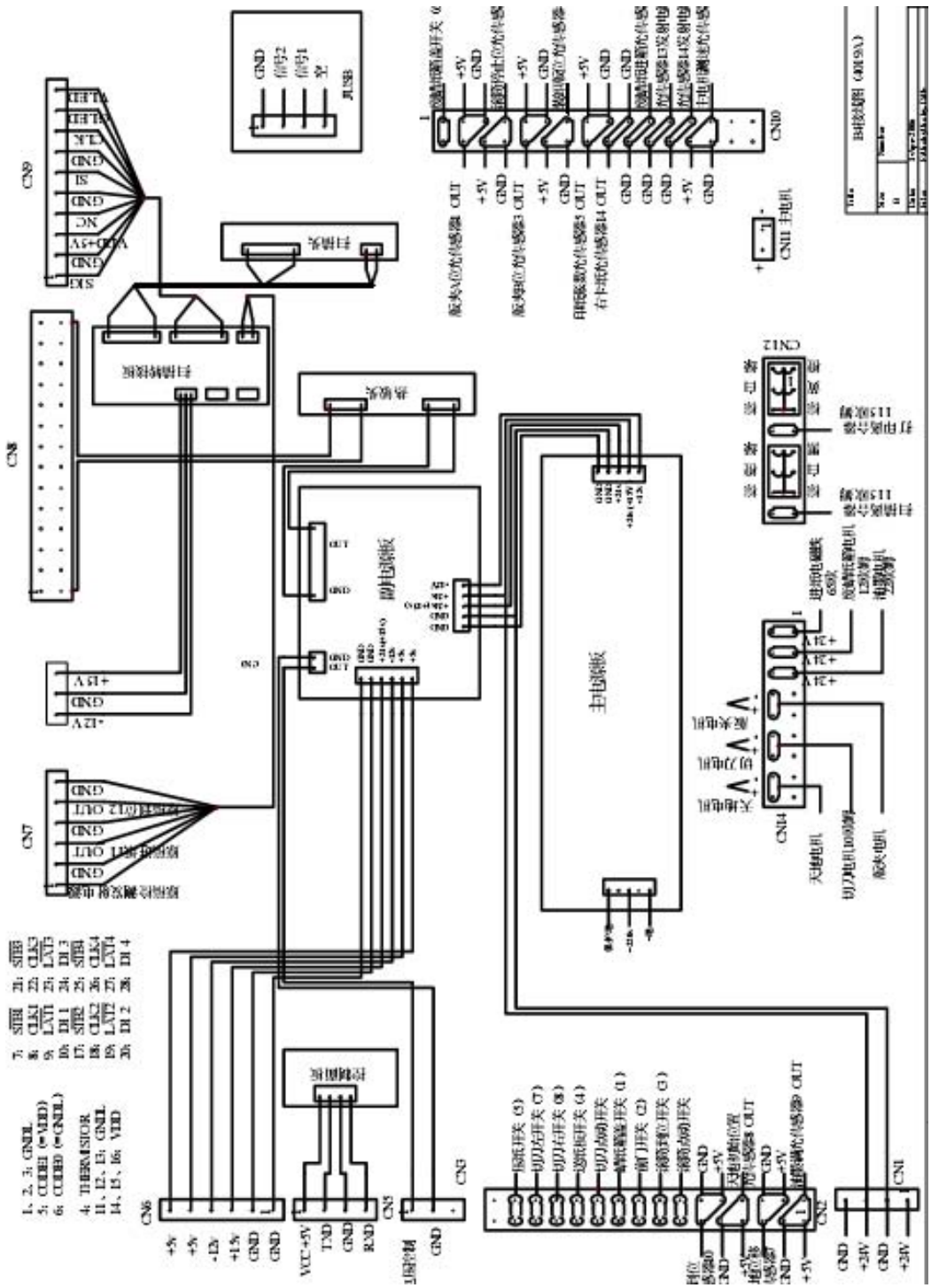
Sub power supply board

Main power supply board

Main board (PCB)



Diagrams of wiring B4



Diagrams of wiring A3