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***** Basic Information *****

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[Create date] 2019/06/21

[Program Name] Engine

[Version] V2.00

[PCB No.]

[Interchangeability] X / O

[Other Firmware Requirements] Exist

[PCB Requirements] Exist

[Software category] Normal Release

[Release category] Normal Release

[Program category] Firmware

Exported to(language) GEN(all)

[Firmware No.] M1535400J

[File Information]

File Name M1535400J.rom

File Type Module for Service

Size 9.56 MB (10020973 byte)

Check Sum -8Bit Sum: 933C

-16Bit Sum(Little Endian): BFF1

-16Bit Sum(Big Endian): 0F4B

[Availability of RFU] No

[Production reflection] 2019/06

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*** Note ***
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[Note]

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*** Important Notes ***
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[Important Notes]

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***** Modification History *****
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[Modifications made:]

Rank C

1)Additional Model Information

- None

2)Specification Change

- Firmware modification in line with the engineering change for print head.

(M1533112)

3)Error Correction

- No printing from print head after recovering from auto power off.

- Drying feed may not been occurred after printing.

[Modification history]

Version V1.90

Rank C

1)Additional Model Information

- None

2)Specification Change

- HDC board was modified for higher reliability.

3)Error Correction

- Print may not start when 2 layers print or 3 layers print under nozzle recovery function activated.
- "PRAM NONE" error may occur when machine starts up.
- Drying feed cannot be performed after printing, when white ink circulation.
- Ink supplying may not stop after printing.

NOTE:

- Though "TRANSFER ABORT" will indicate for a second when updating FW from less ver than V1.20 to V1.90, keep updating FW until it finished because it is not caused by error.

- Installing the new HDC board (p/n: M1533095) on a machine running on f/w version earlier than 1.80 will cause an error and the machine will not start up.

To replace with the new HDC board, update the f/w to ver1.80 or later in the following procedure before replacing the board.

1. Temporarily disconnect the harness connected to the HDC board.
2. Start up the machine in the Firmware Update mode.
3. Update the f/w in the standard procedure.

Version V1.80

1) Newly supported models

- None

2) Specification Changes

- HDC board was modified for higher reliability.
- Ink system board was modified for higher reliability.
- Added a new function that enables log capturing when an HDC memory error occurs.

3) Error Correction

- Machine may stop when performing Drop Position Correction.
- Drying Feed cannot be performed when in ink near-end status.

NOTE:

Installing the new HDC board (p/n: M1533095) on a machine running on f/w version earlier than 1.80 will cause an error and the machine will not start up.

To replace with the new HDC board, update the f/w to ver1.80 or later in the following procedure before replacing the board.

1. Temporarily disconnect the harness connected to the HDC board.
2. Start up the machine in the Firmware Update mode.
3. Update the f/w in the standard procedure.

Version V1.70

1) Newly supported models:

- None

2) Spec changes:

- F/W supporting the new main PCB was released in advance.
 - Warning message appears when the cleaning solution cartridge is empty or not inserted to the slot.
 - The following error messages appear when the safety feature of the stepper motor drive activates:
 - * Ink Pump Motor (Ink IO Board): "SYSTEMHALT 47a:MTR DRV SPLY"
 - * Suction Pump Motor (Central IO Board): "SYSTEMHALT 47a:MTR DRV SCTN"
 - * Wiping Motor (Central IO Board): "SYSTEMHALT 47a:MTR DRV WIPR"
- NOTE: When the above error is observed, check the cables connected to the corresponding motor, PCB, PCB motor and replace, if necessary.

3) Symptoms corrected:

- When attempted to set the cartridge weight with the INK REMAIN function, the cartridge case weight warning appears.
- "SYSTEM HALT801" error
- When DDR2 PRAM board is damaged or disconnected, the machine stalls with the operation panel showing "BOOT" instead of showing the "PRAM NONE" error.
- Dry feed is falsely initiated between every job even when running batched jobs.

Version V1.60

Specification Change

- Added the [Adjusting the Remaining Amount in the Ink Cartridge] function.
- Added the procedure to check the remaining amount of ink when error "Check Ink Pack" is notified.
- Added the [Media Residential] function.

- Display timing of the [Waste Ink Tank] warning message was changed to two steps, both indicating unprintable statuses; 80% and 100%.
 - Message prompting to replace the white ink filter was eliminated for Pro AR Ink configured system, as filter replacements are not handled by Pro AR Ink users.
 - [Cleaning][Ultra][Lv.1-3] was added as an exhaustive cleaning maintenance for service.
- Setup procedure:
- [#Parameter][OPE param.][No.24 OPultraC1][0]-->[1]
- * Change the above value back to [0] after cleaning.
 - * Ink consumption is higher than standard cleaning, because ink is supplied by pump.
 - * Ink consumption increases in the order of Lv1-3. Lv3 takes approximately 15 min.
- The system automatically runs maintenance, if the machine was left unused for 10+ hours.
 - * OFF/ON and interval of the function can be set in [SETUP][CLN.Leaving].

Error Correction

- Display of " ** Pattern Drawing **" in French and Portuguese languages is shifted to the far right.
- Abnormal screen appears while setting up [Media Cut], if [Media Residential] is enabled.
- If circulation reaches ready status while in [Function] mode, the circulation starts after making a test print.
- Media can be cut even if the clamp lever is in the up position.
- Carriage can be freed from [MAINT], but not from [Function][Maintenance].
- Test pattern cannot be printed out properly, if [Margin] is set.
- [ADJUST] key is inactive.
- Cannot JOG, if print data is received before detecting the media.
- Roof fan does not activate, if test pattern is printed before the heater temp has reached the specified temperature.
- If the print parameters and/or ink replacement report is printed out while the

motor is turned OFF, the machine stalls instead of displaying an error.

Version V1.50

Support of the new AR ink:

- [Pro AR ink] was added under [INK SET] as an option.
- Y900dpi pattern printing was added to the [DROP POS correct] function.
(Support of Super Draft mode under the condition: WF1(ND) Y900dpi.)
- In the cleaning process at the end of Air Purge, the suction power was strengthened.
- Default value of auto refresh was changed to LV3:
[FUNCTION] [MAINTENANCE] [AUTO MAINT.] [REFRESH]
[Lv.1(30min)] --> [Lv.3(10min)]

Version V1.40R2

Spec change:

- Support of the modified Main PCB.
- New REFRESH INK function was added.

How to display REFRESH INK

1. FUNCTION Button
2. #PARAMETER
3. OPE param.
4. 12=1 Opinkref (0 is initial setting)

How to run REFRESH INK

[MAINTENANCE] -> [REFRESH INK]

- New function to verify the REFRESH INK execution record was added.

How to view the record

From [INFORMATION], select [LIST] and press ENTER key.

- Periodical wiping interval was modified, to optimize the ink consumption during maintenance.
- [FUNC] key was made invalid while entering paper feed correction values, to prevent false operation.
- Added a new function to allow the printhead to retract to the capping position when [ERROR 403 X CURRENT] occurs.
- Revised the German and Spanish language display.
- Added a new mode that allows the machine to start up with the jam detection sensors inactivated.

Symptoms corrected:

- Mixing of colors and nozzle problems occur after [Cleaning] operation.
- [ERROR404 YY CURRENT] may occur after starting up the machine.
- Cleaning operation after a test print causes to continuously feed the media.
- X motor continues to run, if the clamp lever is pulled up while [X SERVO] operation.
- Dry feed does not work when all the ink cartridges are out of order or in near-end status.
- Error indication does not appear even when purging air with the cover open.
- [#Adjust/PRINT ADJUST] does not continue, if the cover is opened during its operation.
- 72000 logs are falsely uploaded.
- Printhead pauses followed by a false media jam detection.
- Machine may stall, if it receives a job while sleeping in the Auto Power Off mode.
- Y axis correction value in [POINTER OFFSET] cannot be set to a

value smaller than the value set previously.

- If the unit of temperature is set to Fahrenheit, the unit is not displayed correctly when switched to the remote mode.
- Check feed may run even if [CHECK PATTERN] print had been cancelled.
- Description contained in [SYSTEM HALT] of the error record is insufficient.
- Printing does not stop even if the clamp lever is pulled up.
- Time lag could occur before displaying an error message.
- If the unit of length is set to inch, the left most digit of the drawing length and media length is not displayed.
- If the unit of length is set to inch, amount of remaining media shown during print operation is incorrect.
- ERROR504 appears on the error record even if it had not occurred.

Limitation:

Updating the firmware from a version 1.20 or older to version 1.40R2 will show the error (TRANSFER ABORT) for a split second (approx. 0.5sec).

Ignore the error and continue the update.

Version V1.20

Specification changes:

1. Added error logging function
2. Added scan width adjustment in "LOGICAL SEEK = OFF" status.
3. Dot position correction/default set functions supported for Ricoh

Pro Ink

4. Improved alert indication for ink expiry date
5. Improved wiping control
6. Safety measures implemented to control the voltage of the solenoid in the ink cartridge valve
7. Improved scheduled wiping operation in high room temperature

Symptoms corrected:

1. If opening and closing the cover while the operation panel displays "AIR PG VALVE OPEN" in the initial ink filling process, the ink filling process cannot complete.
2. If the ink cartridge is momentarily undetected during initial ink filling, the process restarts.
3. Ink overflows during initial ink filling.
4. "SYSTEM HALT(1) 181: PCB H21" error occurs when entering the sleep mode.
5. 3-layer unidirectional printing does not work.
6. Feed speed for printing does not match with the feed speed for drying.
7. Duration of "TEST-AGING-CIRCULATION" is longer than the time set.
8. If opening the cover while adjusting the X origin, the X origin is not cleared to "0".
9. Feed speed and drying time do not correspond in "LOGICAL SEEK HOST=ON" status.
10. Time indicated on the "Ink REPL Report" is of the JST (Japan Standard Time).
11. "SYSTEM HALT" error occurs, if "POINTER OFFSET" is performed without media.
12. Coordinates are displayed incorrectly, if "POINTER OFFSET" is

performed without setting the media.

13.Performing the SERVO AGING test causes to change the heating temperature.

14.EDGE ADJUST test pattern is partially printed in magenta.

15.Y OVER CURRENT and ENCODER errors might occur, if the right jog key is pressed and held while adjusting the cap position.

16.CHECK INK PACK is frequently prompted, if the temperature is low.

17.The printhead is capped before completing suction of the cap, if capped during a job that consists of a large non-printing blank area.

18."Y ORIGIN" error is displayed instead of a jam error, if the jam sensor is set ON when detecting the print origin.

19.Inittial ink filling stops midway.

20.If a job printed on-line is suspended to print a test pattern, the print origin returns to the origin of the on-line job instead of the origin for the test pattern.

Version V1.10

Symptom corrected:

1. If printing 3 layers with white ink on the L4160, image cannot be printed in the max allowed width (1610mm) and is cut off at 1375mm.
2. Continuous printing is interrupted with the display of an error message "Check Drying Condition of Printing [ENT]" that appears between jobs.

