1-5-2 Self-diagnosis

(1) Self-diagnostic function

This unit is equipped with a self-diagnostic function. When a problem is detected, copying is disabled. On the 20 cpm copier, the problem is displayed as a code consisting of "C" followed by a number between 011 and 821, indicating the nature of the problem. A message is also displayed requesting the user to call for service.
On the 15 cpm copier, "C" and a number between 011 and 821 altenates, indicating the nature of the problem.
After removing the problem, the self-diagnostic function can be reset by turning safety switch 1, 2 or 3* off and back on.
*Optional for the 15 cpm copier.

(2) Self diagnostic codes

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C011	**Backup memory data problem** • Data in the specified area of the backup memory does not match the specified values.	Defective main PCB.	Replace the main PCB and check for correct operation.
C021	**Operation unit PCB communication problem (20 cpm copier only)** • There is no reply after 20 retries at communication.	Defective main PCB.	Replace the main PCB and check for correct operation.
C034	**Finisher* communication problem** • Communication errors from the communication microcomputer on the main PCB: No communication: there is no reply after 3 retries. Abnormal communication: a communication error (parity or checksum error) is detected five times in succession.	Poor contact of the connector terminals.	Check the connection of connectors CN17 and CN18 on the main PCB and the finisher main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective copier main PCB.	Replace the main PCB and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C040	**DIMM* problem** • Information on DIMM cannot be read out correctly at power-on.	Poor contact of the memory board**.	Check the insertion of the memory board**.
C041	**Bitmap problem** • There is a problem with the data or address bus of the bitmap DRAM.	Poor contact of the DIMM.	Check the insertion of the DIMM into connector CN2 on the memory board (for the 15 cpm copier).
			Check the insertion of the DIMM into connector CN34 on the main PCB (for the 20 cpm copier).
C043	**DMA problem** • DMA transmission of compressed, decompressed, rotated, relocated or blanked-out image data does not complete within the specified period of time.	Defective main PCB.	Replace the main PCB and check for correct operation.

*: Optional **: Optional for the 15 cpm copier only.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C100	**Exposure lamp problem** • Check the CCD input value for the lighting status of the exposure lamp 100 ms after the exposure lamp is lit and the carriage is moved to the shading position. If the exposure lamp does not light, turn off the lamp. After 500 ms, light the lamp again and, a further 500 ms later, check the CCD input. The exposure lamp does not light after 5 retries.	Poor contact of the connector terminals.	Check the connection of connectors CN24, CN23, CN22 and CN3 on the main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective exposure lamp.	Replace the exposure lamp or inverter PCB.
		Defective main PCB.	Replace the main PCB and check for correct operation.
		Incorrect shading position.	Adjust the position of the contact glass (shading plate). If the problem still occurs, replace the scanner home position switch.
		CCD PCB output problem.	Replace the ISU.
C104	**Optical system problem** • After AGC, correct input is not obtained at CCD.	Poor contact of the connector terminals.	Check the connection of connectors CN23, CN22 and CN3 on the main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		CCD PCB output problem.	Replace the ISU.
		Defective main PCB.	Replace the main PCB and check for correct operation.
C200	**Drive motor problem** • LOCK ALM signal remains high for 1 s, 1 s after the drive motor has turned on.	Poor contact of the drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective drive motor rotation control circuit.	Replace the drive motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
C310	**Scanner carriage problem** • The home position is not correct when the power is turned on or at the start of copying using the contact glass.	Poor contact of the connector terminals.	Check the connection of connectors CN28 and CN25 on the main PCB and the continuity across the connector terminals. Remedy or replace if necessary.
		Defective scanner home position switch.	Replace the scanner home position switch.
		Defective main PCB.	Replace the main PCB and check for correct operation.
		Defective scanner motor.	Replace the scanner motor.
C400	**Polygon motor synchronization problem** • The polygon motor does not reach a stable speed within 19 s of the polygon motor remote signal turning on.	Poor contact of the polygon motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C401	**Polygon motor steady-state problem** • The polygon motor rotation is not stable for 400 ms after the polygon motor rotation has been stabilized.	Poor contact of the polygon motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective power source PCB.	Check if 24 V DC is present at CN3-1 and CN3-2 on the power source PCB. If not, replace the power source PCB.
C420	**BD steady-state problem** • The VTC detects a BD error for 800 ms after the polygon motor rotation has been stabilizad.	Poor contact of the laser scanner unit connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective LSU.	Replace the LSU.
		Defective main PCB.	Replace the main PCB and check for correct operation.
C510	**Main charger problem** • MC ALM signal is detected continuously for 800 ms when MC REM signal is turned on.	Poor contact of the high-voltage transformer PCB connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective high-voltage transformer PCB.	Replace the high-voltage transformer PCB.
		Leakage during main charging.	Check and clean the main charger assembly.
		Deformed high-voltage transformer PCB terminal spring.	Replace the spring.
C610	**Broken fixing heater wire** • Warm-up does not end within 90 s. • The secondary stabilization fixing temperature drops to 100°C/212°F or below. • The fixing temperature remains below 40˚C/104˚F for 7 s or longer after the fixing heaters have been turned on.	Fixing heater installed incorrectly.	Check and reinstall if necessary.
		Broken fixing heater wire.	Check for continuity. If none, replace fixing heater.
		Poor contact in the fixing unit thermistor connector terminals.	Check the connection of connector CN12 on the main PCB and the continuity across the connector terminals. Remedy or replace if necessary.
		Broken fixing unit thermistor wire.	Measure the resistance. If it is $\infty\ \Omega$, replace the fixing unit thermistor.
		Fixing unit thermistor installed incorrectly.	Check and reinstall if necessary.
		Fixing unit thermostat triggered.	Check for continuity. If none, replace the fixing unit thermostat. Check the operation of the cooling fan and repair if necessary.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C620	**Abnormally low fixing unit thermistor temperature** • The fixing temperature remains below 100˚C/212˚F for 10 s during copying.	Fixing heater installed incorrectly.	Check and reinstall if necessary.
		Broken fixing heater wire.	Check for continuity. If none, replace fixing heater.
		Poor contact in the fixing unit thermistor connector terminals.	Check the connection of connector CN12 on the main PCB and the continuity across the connector terminals. Remedy or replace if necessary.
		Broken fixing unit thermistor wire.	Measure the resistance. If it is ∞ Ω, replace the fixing unit thermistor.
		Fixing unit thermistor installed incorrectly.	Check and reinstall if necessary.
		Fixing unit thermostat triggered.	Check for continuity. If none, replace the fixing unit thermostat. Check the operation of the cooling fan and repair if necessary.
C630	**Abnormally high fixing unit thermistor temperature** • The fixing temperature exceeds 240˚C/464˚F for 10 s.	Shorted fixing unit thermistor.	Measure the resistance. If it is 0 Ω, replace the fixing unit thermistor.
		Broken fixing heater control circuit on the power source PCB.	Replace the power source PCB.
C710	**Toner sensor problem** • The sensor output voltage is outside the range of 0.5 to 4.5 V during toner control. • The toner sensor control voltage cannot be set within the setting range when maintenance item U130 is run.	Defective toner sensor.	Replace the toner sensor.
		Poor contact of the toner sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Developer problem.	Replace the developer.
C730	**Broken external temperature thermistor wire** • The input voltage is above 4.5 V.	Poor contact of the humidity sensor PCB connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective external temperature thermistor.	Replace the humidity sensor PCB.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C731	**Short-circuited external temperature thermistor** • The input voltage is below 0.5 V.	Poor contact of the humidity sensor PCB connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective external temperature thermistor.	Replace the humidity sensor PCB.
C740	**Image formation unit connector insertion problem** • Absence of the image formation unit is detected continuously for 1500 ms while there is no error on the copier.	Image formation unit connector inserted incorrectly.	Reinsert the image formation unit connector if necessary.
		Defective image formation unit connector.	Replace the image formation unit.
C817	**Finisher* front side registration motor problem**	A problem is detected with the front side registration motor.	See the finisher service manual.
C818	**Finisher* rear side registration motor problem**	A problem is detected with the rear side registration motor.	See the finisher service manual.
C819	**Finisher* trailing edge registration motor problem**	A problem is detected with the trailing edge registration motor.	See the finisher service manual.
C821	**Finisher* stapler motor problem**	A problem is detected with the stapler motor.	See the finisher service manual.

*: Optional **: Optional for the 15 cpm copier only.