Contents

1. ADJUSTMENT ITEMS 1-1

1.1 Error Codes 1-1

1.1.1 Transmission/reception journal 1-1

1.1.2 Error code list 1-2

1.1.3 Status code list 1-5

1.1.4 Error message 1-6

1.2 Self-diagnosis Modes 1-7

1.2.1 Adjust mode (05) 1-9

1.2.2 Function table 1-11

1.2.3 Function test 1-86

1.2.4 MAINTENANCE 1-90

1.2.5 SERVICE LIST 1-98

1.2.6 Country code 1-103

1.2.7 Printer Unit Adjustment 1-104

1.3 Remote Service 1-109

1.3.1 RDC (Remote Diagnosis Configuration) Service 1-109

1.3.2 Automatic Supplies Order 1-112

2. TROUBLESHOOTING 2-1

2.1 Diagnosis Over Telephone 2-1

2.2 Recommended Flow Chart for Field Service 2-2

2.3 Recommended Flow Chart for Telephone Diagnosis 2-3

2.4 Fault Analysis Flow 2-6

2.4.1 Self-diagnostic function 2-6

2.4.2 Before starting diagnosis 2-6

2.5 Fault Analysis 2-7

2.5.1 Power-ON is not possible 2-7

2.5.2 Document feed error for ADF/RADF 2-7

2.5.3 Recording paper feed error 2-7

2.5.4 Poor print quality 2-7

2.5.5 Communication error 2-8

ADJUST MODE (05) ITEMS

Printer adjustment

Code	Factor	Adjustment item	Default value	Acceptable value
403	Printer system	Polygon motor speed fine adjustment 16 x 15.4 0.126%/step	128	98 - 158
404	Printer system	Polygon motor speed fine adjustment 15.4 x 16 0.121%/step	128	98 - 158
413	Printer system	Laser start position 16 x 15.4 Cassette 1 0.0625 mm/step	100 (117) *2	0 - 255
414	Printer system	Laser start position 15.4 x 16 Cassette 1 0.065 mm/step	100 (117) *2	0 - 255

Scanned image parameter for FAX

Code	Factor	Adjustment item	Image quality mode	Default value	Acceptable value *1
700	Density	Simple binarizing threshold adjustment Center value	Text	121	0 - 255 L ← V → D
701	Density	Simple binarizing threshold adjustment Light step value	Text	18	0 - 255 V → L
702	Density	Simple binarizing threshold adjustment Dark step value	Text	16	0 - 255 V → D
710	Density	Manual density fine adjustment Center value	Photo	145	0 - 255 L ← V → D
714	Density	Manual density fine adjustment Center value	Text/Photo	140	0 - 255 L ← V → D
715	Density	Manual density fine adjustment Light step value	Photo	18	0 - 255 V → L
719	Density	Manual density fine adjustment Light step value	Text/Photo	16	0 - 255 V → L
720	Density	Manual density fine adjustment Dark step value	Photo	20	0 - 255 V → D
724	Density	Manual density fine adjustment Dark step value	Text/Photo	17	0 - 255 V → D
725	Density	Auto density fine adjustment	Photo	145	0 - 255 L ← V → D
729	Density	Auto density fine adjustment	Text/Photo	138	0 - 255 L ← V → D

*1: L = Light, V = Value, D = Dark
*2: The value in parentheses is for the model DP2000/2500 series.

- **FUNC 11**

Bit	Contents	Link with User Function Setting
7 6	Undefined	—
5	Midnight and Noon time setting: 0: 00:00 1: 12:00	—
4 3	Print report after a Multi-polling: 00: Do not print 01: Do not print 10: Always print 11: Print (when completed due to communication error.)	Yes
2 1 0	Undefined	—

<Remarks>

FUNC11 Bit 5 :

It selects whether the clock indication at noon and midnight is 00:00 or 12:00 when the 12-hour system is adopted.

When 0 is selected for this bit, the clock indication is from 00:00 to 11:59. When 1 is selected, the clock indication is from 12:00 to 11:59.

When the 24-hour system is adopted, the clock indication is always from 00:00 to 23:59.

FUNC 11 Bits 4 and 3:

These bits program whether or not the multi polling transmission report is printed or not and the conditions for printing.

- **FUNC 24**

Bit	Contents	Link with User Function Setting
7 6	Priority of recording items in Journal and TX report: 00: Telephone Number > ID > Name 01: Name > Telephone Number > ID 10: ID > Telephone Number > Name 11: ID > Name > Telephone Number	—
5	SUB/PWD/SEP Communication: 0: Not available 1: Available	—
4	Scanned page when memory overflows: 0: Delete 1: Send	Yes
3	Undefined	—
2	Line monitor for user mode: 0: OFF 1: ON	Yes
1	Undefined	—
0	Always monitoring the communication line: 0: Not monitored 1: Monitored	—

<Remarks>

FUNC 24 Bits 7 and 6:

Sets the order of information to be printed in the journal and TX report information.

FUNC 24 Bit 5:

Sets the availability or non-availability of SUB/PWD/SEP communication.

FUNC 24 Bit 4:

It selects whether the transmission is canceled or data stored in memory is transmitted if the memory becomes full during the transmission after storing data into memory.

FUNC 24 Bit 2:

This bit programs whether or not the transmission communication section programmed with FUNC 6 Bit 1 is monitored.

FUNC 24 Bit 0:

Sets the unit to monitor or not monitor the communication line.

<Remarks>

PC FUNC 5 Bit 7:

Set the function to notify the PC, via PC interface, that the RX cover (Front cover, Side cover, ADU cover) is open.

PC FUNC 5 Bit 6:

Set the function to notify the PC, via PC interface, that a printer error has occurred.

PC FUNC 5 Bit 5:

Set the function to notify the PC, via PC interface, that a printer jam has occurred.

PC FUNC 5 Bit 4:

Set the function to notify the PC, via PC interface, that the process unit is not attached.

PC FUNC 5 Bit 3:

Set the function to notify the PC, via PC interface, that a heater error has occurred.

PC FUNC 5 Bit 2:

Set the function to notify the PC, via PC interface, that the replacement of the process unit is soon required.

PC FUNC 5 Bit 1:

Set the function to notify the PC, via PC interface, that the replacement of the process unit is required.

PC FUNC 5 Bit 0:

Set the function to notify the PC, via PC interface, that the replacement of the toner cartridge is soon required.

<Remarks>

PC FUNC 6 Bit 7:

Set the function to notify the PC, via PC interface, that the toner has run out, via PC interface.

PC FUNC 6 Bit 6:

Set the function to notify the PC, via PC interface, that the power is turned on, via PC interface.

PC FUNC 6 Bit 5:

Set the function to notify the PC, via PC interface, that a memory full state has occurred.

PC FUNC 6 Bit 4:

Set the function to notify the PC, via PC interface, that the TX cover (ADF cover or Jam access cover (excluding the platen cover)) is open.

PC FUNC 6 Bit 3:

Set the function to notify the PC, via PC interface, that the paper detection sensor has detected the original.

PC FUNC 6 Bit 2:

Set the function to notify the PC, via PC interface, that no paper cassette exists.

PC FUNC 6 Bit 1:

Set the function to notify the PC, via PC interface, that no paper is loaded.

PC FUNC 6 Bit 0:

Set the function to notify the PC, via PC interface, that paper is loaded on the stack feed bypass.

(5) EX TYPE

The settings here are the Exchange functions. This table has functions of 8 Bits. By entering 0 or 1 in each Bit sets, its function. The following is details of this Table.

- **EX TYPE 1**

Bit	Contents	Link with User Function Setting
7	Exchange Type: 0: PSTN 1: PABX	Yes
6	Undefined	—
5	Undefined	—
4	Dial Type: 0: DP 1: MF	Yes
3 2	PABX Access for Local line: 00: No Setting 01: Not Used 10: Access Digit 11: Flash	Yes
1 0	Flash timing: 00: 80 ms 01: 100 ms 10: 270 ms 11: Undefind	—

<Remarks>

EX TYPE 1 Bit 7:

This bit sets the Exchange Type (PSTN/PABX).

EX TYPE 1 Bit 4:

This bit sets the dialing method (DP/MF).

EX TYPE 1 Bit 3-2:

It determines the way of calling when the exchange type is “PABX” and the first digit of the telephone number is “*.”

EX TYPE 1 Bit 1-0:

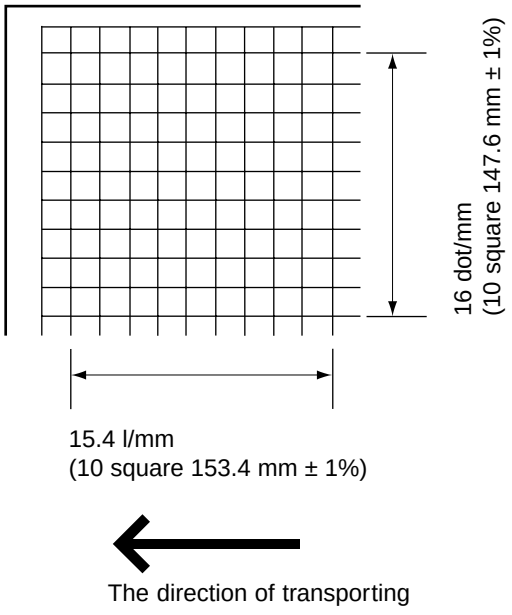
It determines the way of calling when the exchange type is “PABX” and the first digit of the telephone number is “#.”

PRINT TEST ITEM

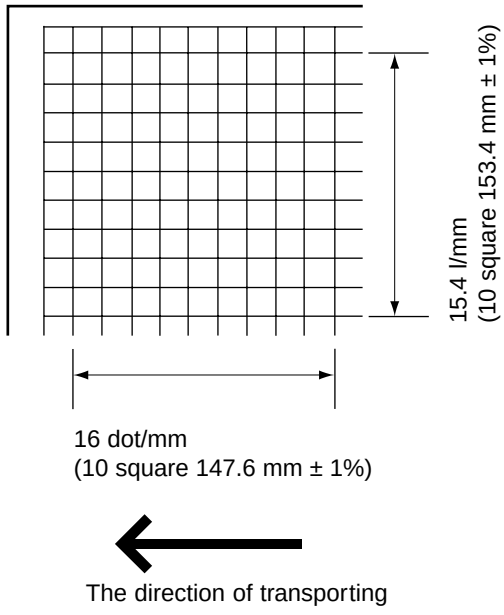
CODE	FACTOR	TEST PATTERN ITEM		REMARKS
212	Image processing	Grid pattern	16 dot x 15.4 l/mm	FAX
213	Image processing	Grid pattern	15.4 l/mm x 16 dot	FAX

Test Pattern

<212>



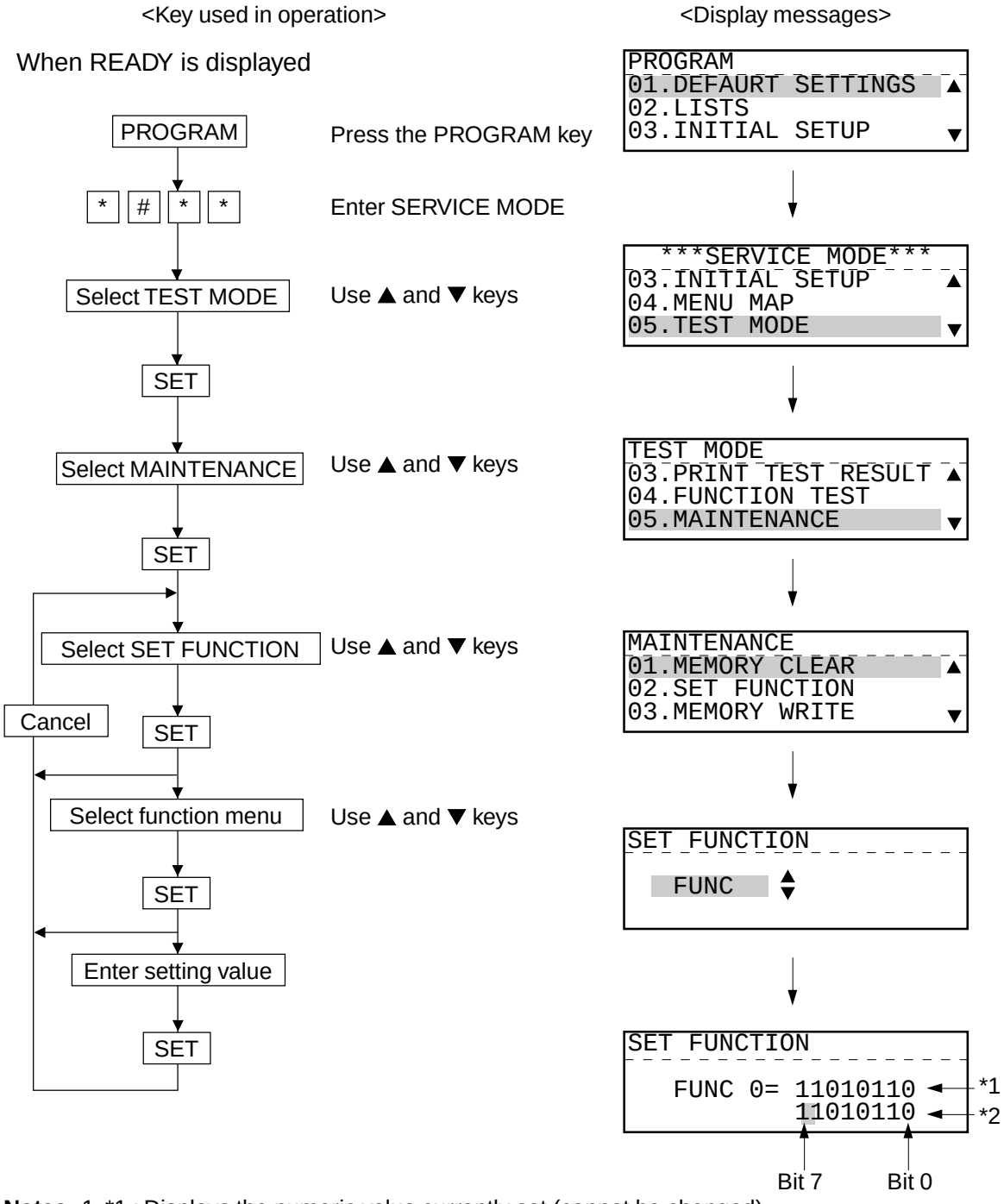
<213>



When the test print is carried out, the grid pattern is printed. For the adjustment procedure, refer to Section 1.2.7 Printer Unit Adjustment.

(2) SET FUNCTION

You can refer to and change the set values in each table (FUNC, PC FUNC, HOME, UAD, EX TYPE, ACC DGT) for function programming.

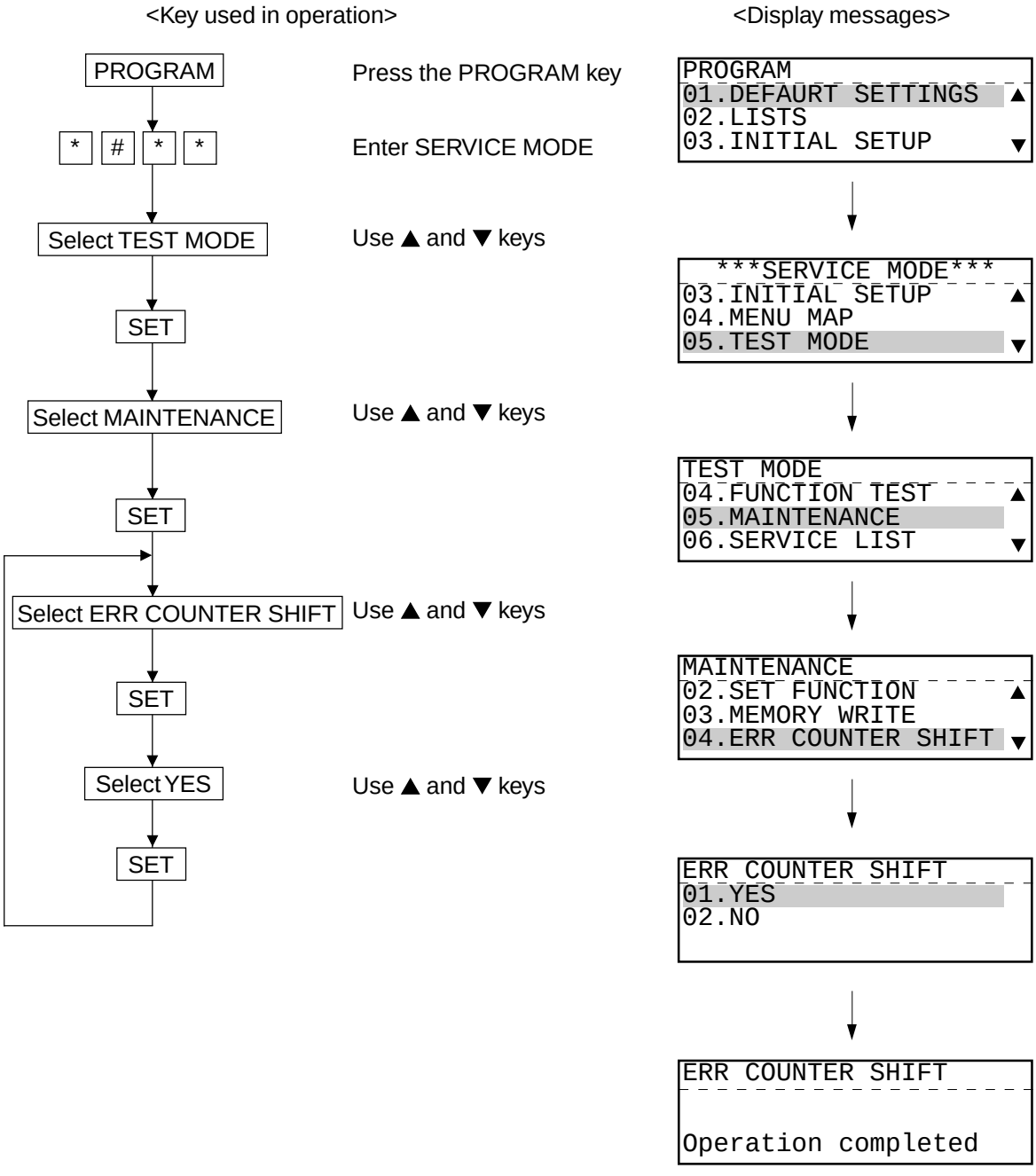


Notes: 1. *1 : Displays the numeric value currently set (cannot be changed).

2. *2 : Displays the numeric value to be entered now (Can only be altered at the point of the cursor).
3. Bit 7 is shown on the LCD display as the left most digit.
4. By entering 1 or 0 in the bit with the desired function, the function is to be set.
5. Press the SET key to store the new setting and advance the next function.

(4) ERROR COUNTER SHIFT

The actual information in the error count list is usually automatically moved to the history side every 1000 communications unless error counter shift is performed. Therefore, this is used to move the information to the history side before reaching 1000 communications. When error count shift is performed, the count values on the actual side of the error count list are moved to the history side and the values on the CURRENT COUNTER side are initialized. The information having been moved to the history side is added to the previous values.

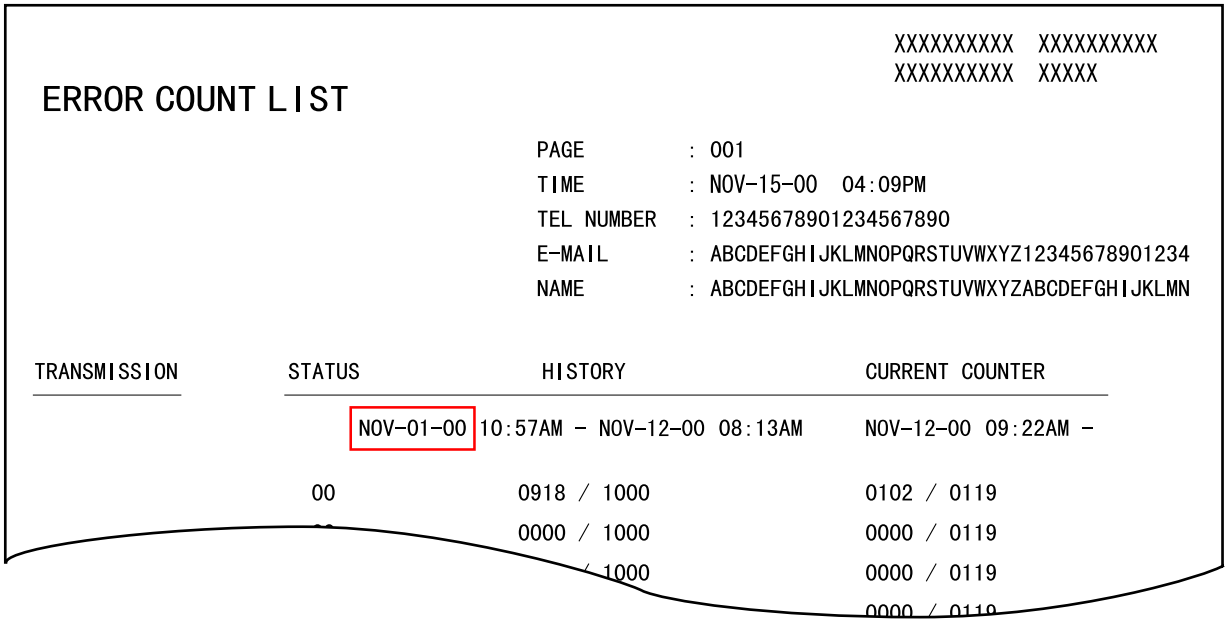


(2) TOTAL ERRORS

This list is printed out with a title of ERROR COUNT LIST. It indicates the history of errors to check for errors attributable to the line conditions.

Print Items

TRANSMISSION/RECEPTION	Indicates whether the error is on the sending side or on the receiving side.
STATUS HISTORY	Prints the error codes in the ascending order. Prints the history of errors moved from the CORRENT COUNTER side by “occurred error count / communication count.” The time when moved to the history side is printed in the time print field (top line).
CURRENT COUNTER	Prints the present error occurred status by “occurred error count / communication count.” The time when counting is started is printed in the time print field (top line). When the communication count reaches 1000 on the CURRENT COUNTER side, the error occurred status is automatically moved to and added to the history side and the CURRENT COUNTER side is cleared. Even if the communication count has not reached 1000, if error counter shift is executed, the counts up to the present will be moved from the CURRENT COUNTER side to the history side.



1.2.7 Printer Unit Adjustment

Adjust each item of the printer unit in the FAX mode, using the grid pattern of the test print.

Adjustment Procedure

Follow the procedure below to adjust each item of the printer unit.

1) Print the FUNCTION LIST to confirm and record the margin values.
2) Set 0 for margin values 430 to 433 in 05: Adjustment mode.
3) Adjust each value of 05-403, 413, 404 and 414.

   Adjustment items:

   05-403 Main scan magnification in the FAX mode (16 x 15.4)

   05-413 Laser starting position in the FAX mode (16 x 15.4)

   05-404 Main scan magnification in FAX mode (15.4 x 16)

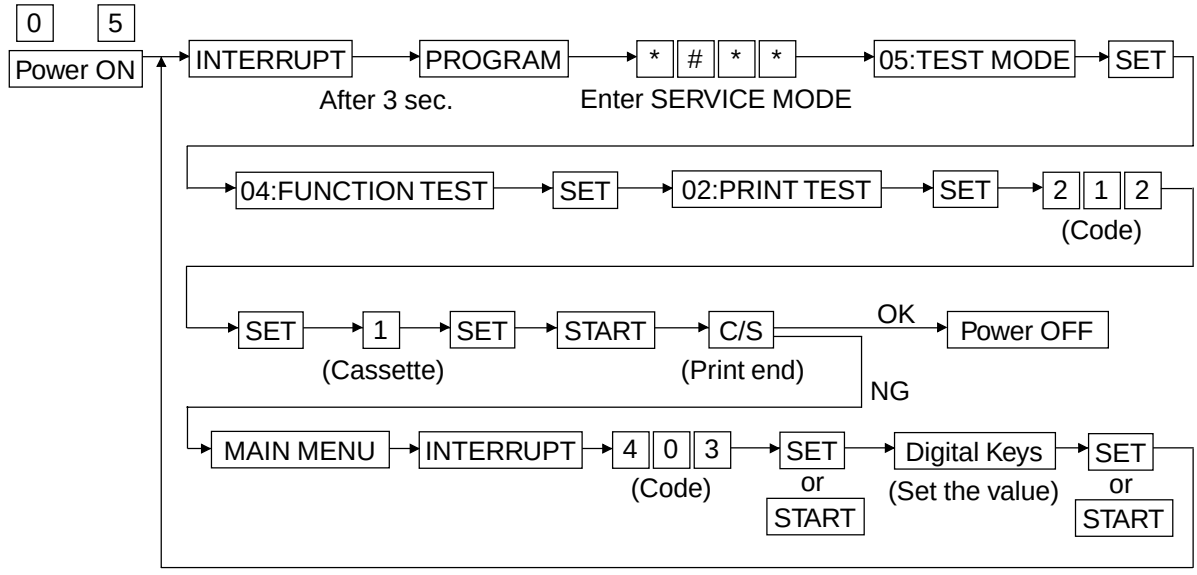
   05-414 Laser starting position in the FAX mode (15.4 x 16)
4) Change the margin values (05-430, 431, 432 and 433) to the values printed in the FUNCTION LIST.

Notes: 1. The adjustment should be made after setting 0 for the margin values (05-430, 431, 432 and 433). Be sure to change the values to the original ones.

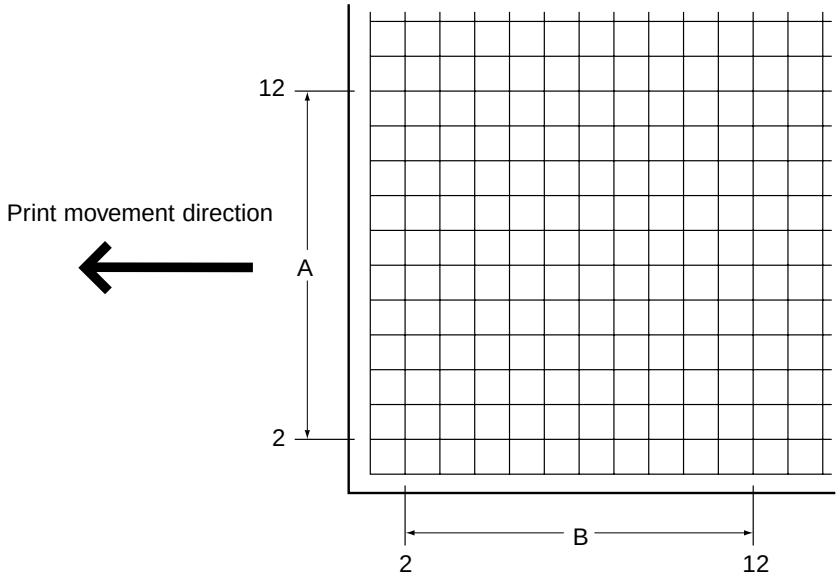
2. Perform the 05-413 adjustment after adjusting 05-403.
3. Perform the 05-414 adjustment after adjusting 05-404.

(1) Adjustment of main scan magnification in the FAX mode (16 x 15.4)

a) Make a test print and adjustment as in the following procedure.



b) Measure distances "A" and "B" in the printed grid pattern. Both distances are from the 2nd to12th lines.



c) Make adjustment so that A and B will be in the following ranges.

A: 147.6 mm ± 1%

B: 153.4 mm ± 1%

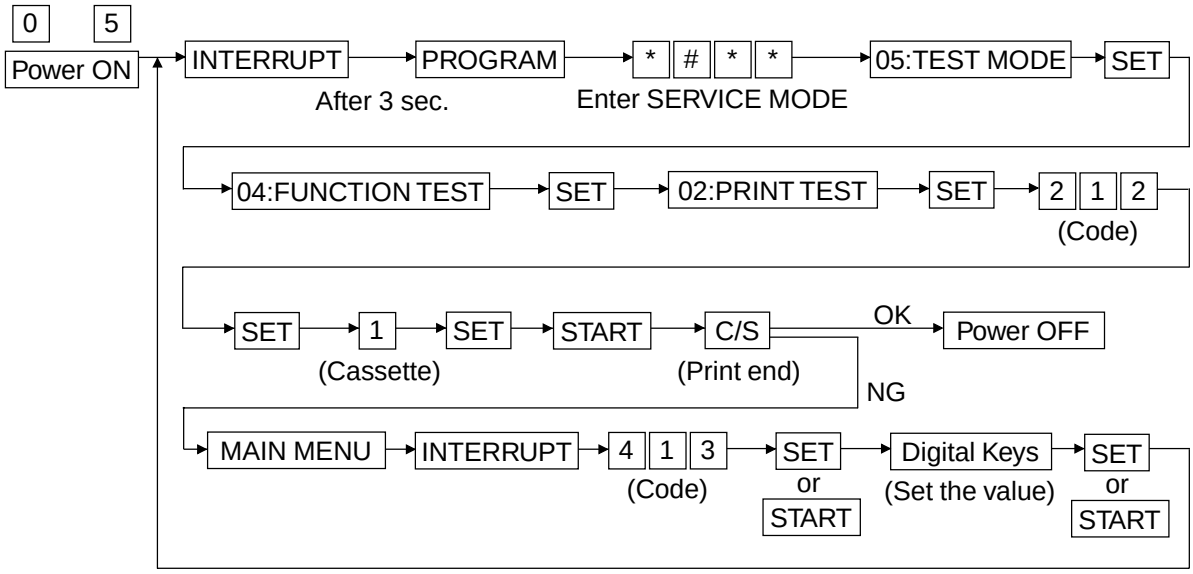
Notes: 1. An increase in the value makes A shorter and makes B longer (0.126%/step).

2. The adjustment value is effective within the range from 98 to 158.

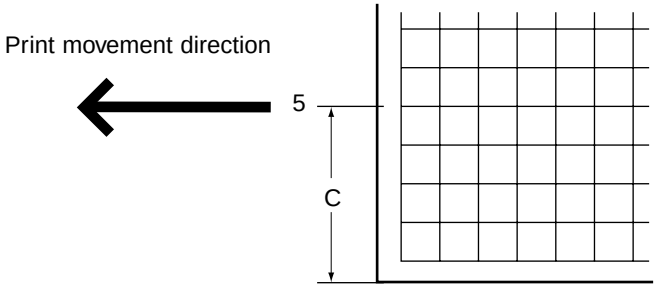
The default adjustment value is 128.

(2) Adjustment of laser starting position in the FAX mode (16 x 15.4)

a) Make a test print and adjustment as in the following procedure.



b) Measure distance "C" in the printed grid pattern. This distance is from the left side of the test print paper to the 5th line.



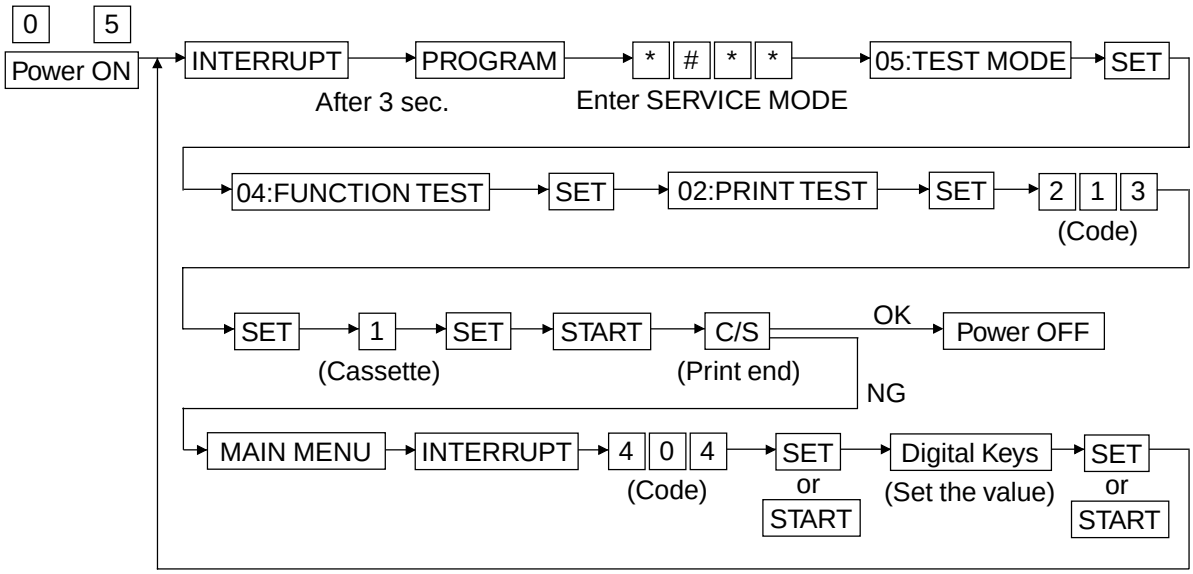
c) Make adjustment so that C will be 59 mm.

Notes: 1. An increase in the value makes C longer (0.0625 mm/step).

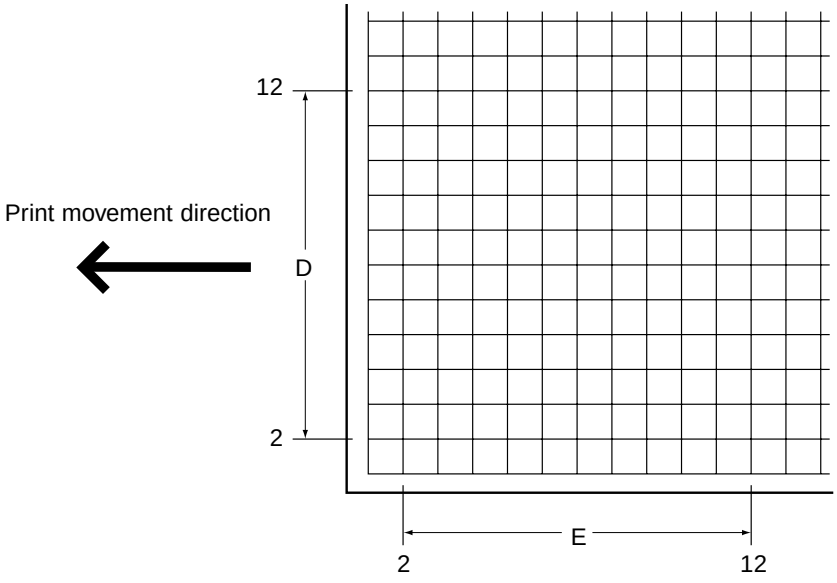
2. Note that the first line of the grid pattern may disappear.
3. The adjustment value is effective within the range from 0 to 255.
   The default adjustment value is 100 (DP1600), 117 (DP2000/2500).

(3) Adjustment of main scan magnification in the FAX mode (15.4 x 16)

a) Make a test print and adjustment as in the following procedure.



b) Measure distances “D” and “E” of the printed grid pattern. Both distances are from the 2nd to 12th lines.



c) Make adjustment so that D and E will be in the following ranges.

D: 153.4 mm ± 1%

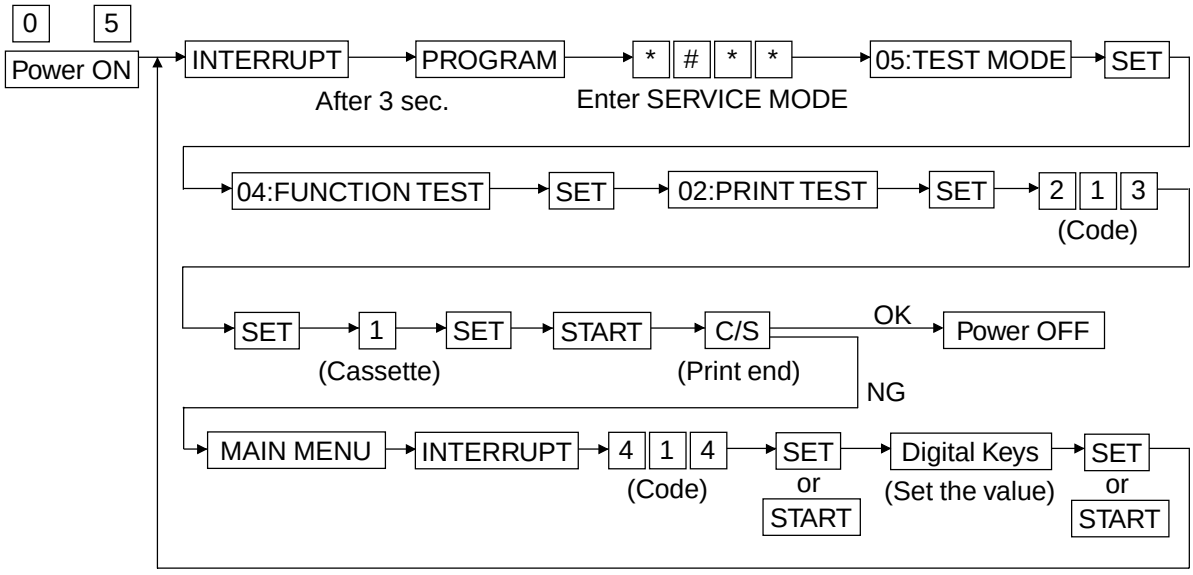
E: 147.6 mm ± 1%

Notes: 1. An increase in the value makes D shorter and makes E longer (0.121%/step).

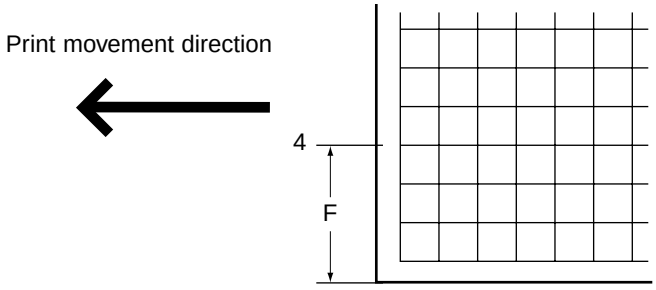
2. The adjustment value is effective within the range from 98 to 158.
The default adjustment value is 128.

(4) Adjustment of laser starting position in the FAX mode (15.4 x 16)

a) Make a test print and adjustment as in the following procedure.



b) Measure the distance "F" in the printed grid pattern. This distance is from the left side of the test print paper to the 4th line.



c) Make adjustment so that F will be 46 mm.

Notes: 1. An increase in the value makes F longer (0.065 mm/step).

2. The adjustment value is effective within the range from 0 to 255.
The default adjustment value is 100 (DP1600), 117 (DP2000/2500).

IMPORTANT: The margin values should be changed to the original ones after all the adjustments are made.

1.3.2 Automatic Supplies Order

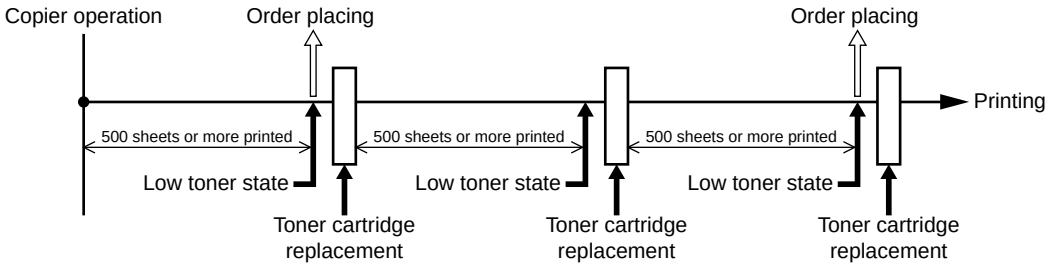
The function automatically places an order of supplies; the toner cartridge and process unit, from the vendor. You can automatically place the order of the registered quantity of the toner cartridge or the process unit, after the registered quantity is used up.
The registered information can be output on SUPPLY ORDER FORM.

(1) Outline of Requirements for Placing Orders

a. Toner cartridge

The automatic supply order of the toner cartridge is placed low toner state is detected the number of times equal to the order quantity, except for the initial toner cartridge, as shown below.
If the toner low state is detected, the toner cartridge is removed, and then it is loaded again, the toner low state may immediately be detected. To prevent unnecessary orders, the order is placed after 500 sheets or more are printed in the intervals between low toner state detections.

Order intervals (when the registered quantity is 2)



Order units

The toner cartridge pack contains one or two toner cartridges. The number of toner cartridge in one pack depends on destinations. (Basically the pack should contain two toner cartridges.)
The order unit is programmed with the following FUNC.

FUNC 35 Bit 1 (Default: 1)
0: The pack contains one toner cartridge.
1: The pack contains two toner cartridges.

By combining the above setting and the order quantity explained later, the number of times when the toner low state is detected before placing the order, is programmed.

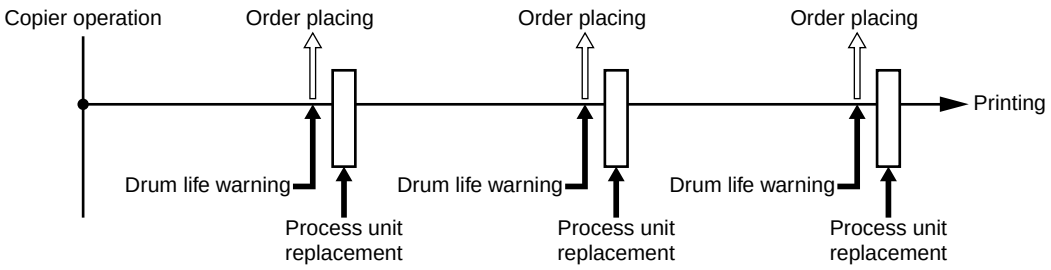
Ex.: When FUNC 35 bit 1 is set to 1 (two toner cartridges contained in one pack), and the order quantity is 2, the order is placed after the low toner state is detected 4 times.

b. Process unit

The automatic order of the process unit is placed after the drum life warning is detected the number of times equal to the order quantity.

There is no FUNC programming related to the order of the process unit.

Order intervals (when the registered quantity is 1)

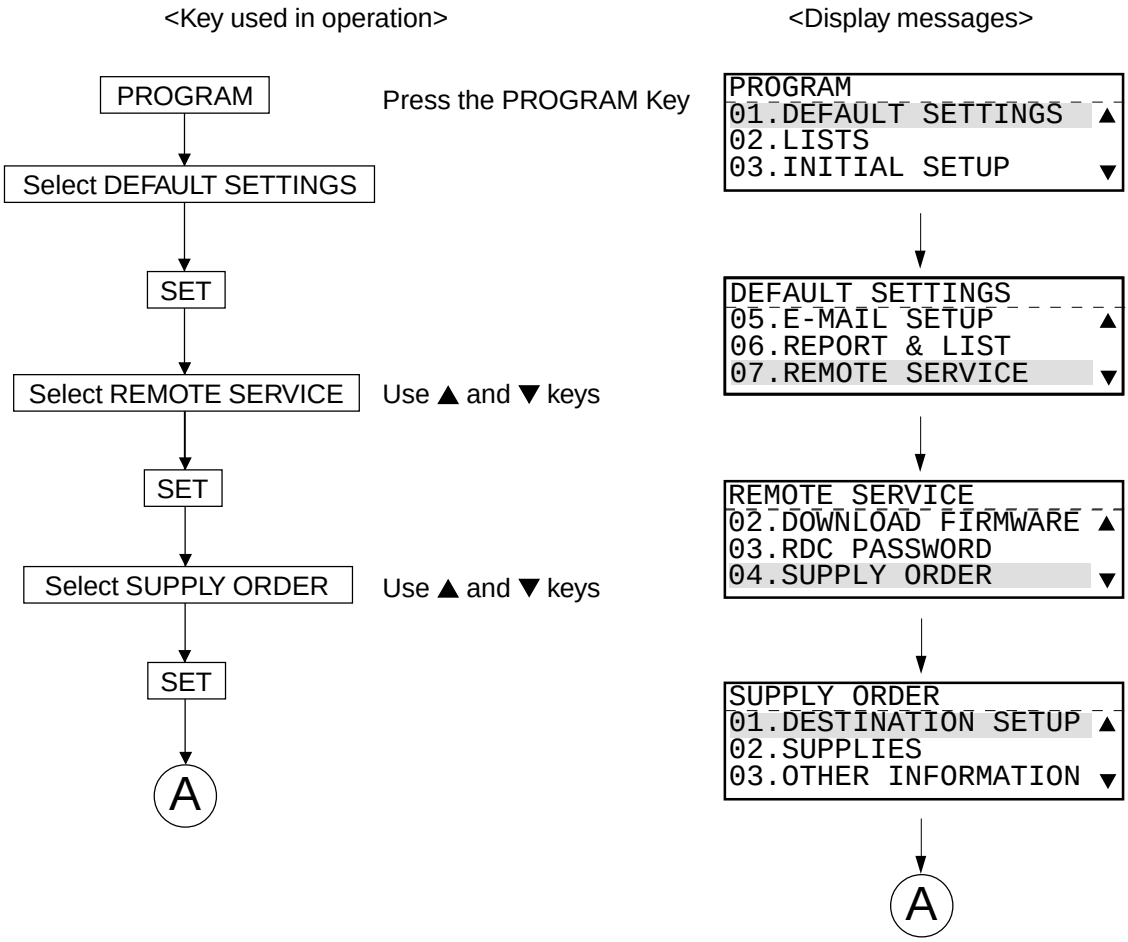


Note: The automatic order is placed through low toner state/drum life warning detection. Therefore, the copier may enter the toner end or process end state and be disabled when there are no spare supplies or before the ordered supplies are delivered.

(2) Items to be set

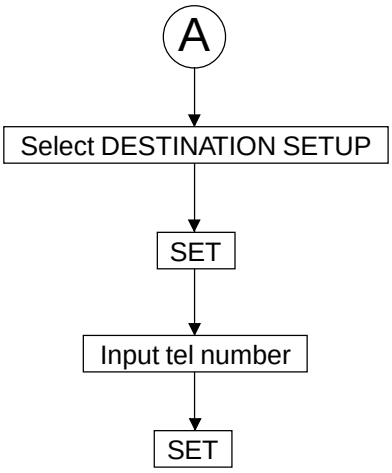
a. Vendor to which the supplies list is sent (telephone number or email address)
b. Quantity of toner pack/process unit to be ordered (1 to 99)
c. Part number for toner pack/process unit (Max. 20 digits)
d. Customer number (Max. 20 digits)
e. Contact name (Max. 40 digits)
f. Telephone person (Max. 32 digits)
g. Customer to whom the supplies are sent (Max. 40 digits)
h. Address to which the supplies are sent (Max. 64 digits)

The procedure for programming each items is described below.
On this page, the procedure that is common to all the programming procedures (up to A) is described. On the subsequent pages, the procedures for programming each item, after A. are described.

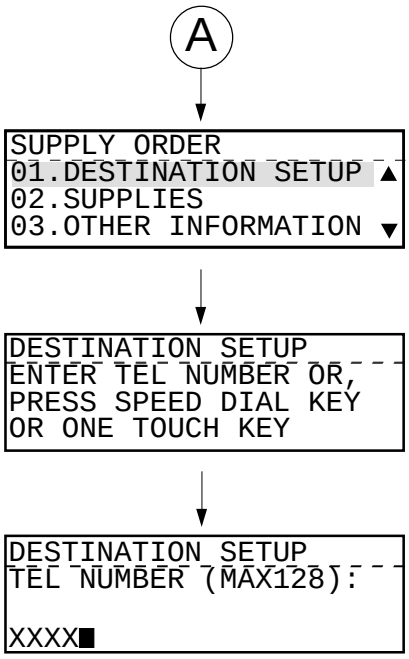


a. Vendor to which the supplies list is sent (telephone number or email address): DESTINATION SETUP

<Key used in operation>



<Display messages>

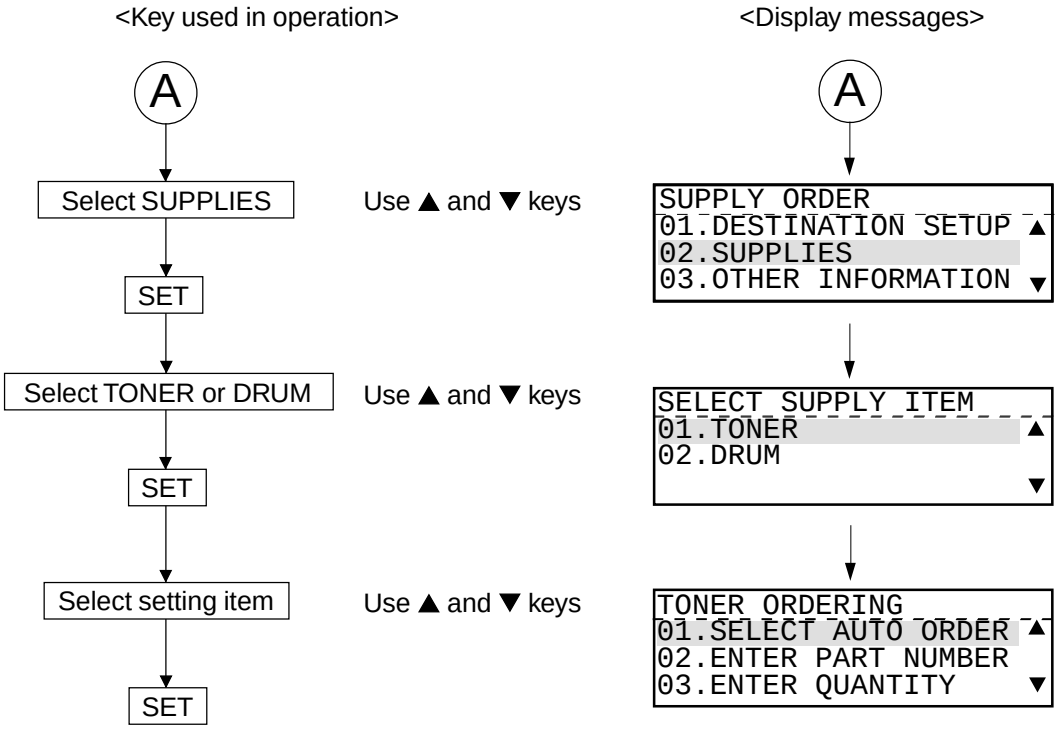


b. Quantity of toner pack/process unit to be ordered (1 to 99): ENTER QUANTITY

c. Part number for toner pack/process unit (Max. 20 digits): ENTER PART NUMBER

Enter the part number and the order quantity for the toner pack and the process unit individually.

The procedure and the screen display are the same after selecting 01.TONER/02.DRUM.



- When 01.SELECT AUTO ORDER is selected, the screen prompts you to select 1.YES or 2.NO. If you do not select 1.YES, the automatic supplies order is not enabled.
- 02.ENTER PART NUMBER is selected to enter the part number for the supplies.
- 03.ENTER QUANTITY is selected to enter the order quantity of the supplies.

d. Customer number (Max. 20 digits): CUSTOMER NUMBER

e. Contact person (Max. 40 digits): CONTACT NAME

f. Telephone number (Max. 32 digits): CONTACT TEL NUMBER

g. Customer to whom the supplies are sent (Max. 40 digits): SHIP TO NAME

h. Address to which the supplies are sent (Max. 64 digits): SHIP TO ADDRESS

Setups of d to h are performed after selecting 03: OTHER INFORMATION.

