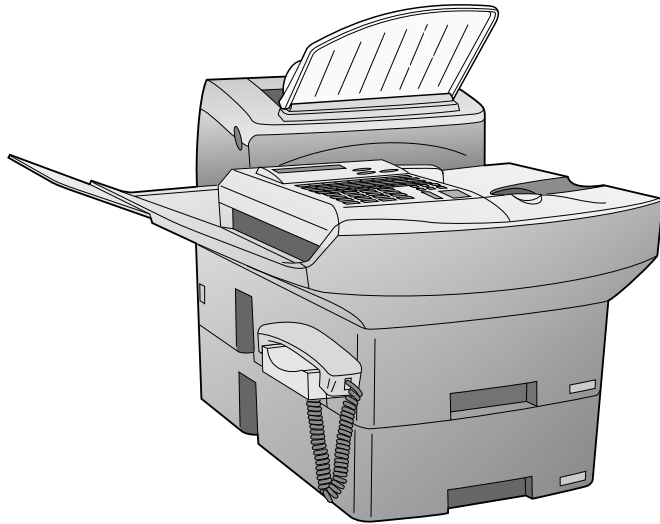# SHARP SERVICE MANUAL

No. 00ZFO6600USME

FACSIMILE

MODEL FO-6600

CAUTION

This laser printer is a class 1 laser product that complies with 21CFR 1040.10 and 1040.11 of the CDRH standard. This means that this machine does not produce a hazardous laser radiation. The use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This laser radiation is not a danger to the skin, but when an exact focusing of the laser beam is achieved on the eyes retina, there is danger of spot damage to the retina.

The following cautions must be observed to avoid exposure of the laser beam to your eyes at the time of servicing.

1) When a problem in the laser optical unit has occurred, the whole optical unit must be exchanged as a unit, not an individual part.

2) Do not look into the machine with the main switch turned on after removing the toner/developer unit and drum cartridge.

3) Do not look into the laser beam exposure slit of the laser optical unit with the connector connected when removing and installing the optical system.

4) The cover of Laser Printer Unit contains the safety interlock switch.

   Do not defeat the safety interlock by inserting wedges or other items into the switch slot.

   Laser Wave Length : 770-810 mm
   Laser Pulse Times   : 49.2 µs
   Laser Output Power : 0.5 mW

Parts marked with "⚠" is important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

CONTENTS

CHAPTER 1. GENERAL DESCRIPTION

[1] Specifications

• GENERAL

Applicable telephone line:	Public switched telephone network
Compatibility:	ITU-T (CCITT) G3 mode
Configuration:	Half-duplex, desktop transceiver
Compression scheme:	MH, MR, MMR and Sharp special mode
Memory size*:	2 MB (approx. 108 average pages)
Memory option:	1 MB/2 MB/4 MB/16 MB Flash Memory
Scanning method:	Flat-bed, solid-state CCD
Resolution:	Horizontal:
	203 lines/inch (8 dots/mm)
	Vertical:
	Standard-98 lines/inch (3.85 lines/mm)
	Fine/Halftone-196 lines/inch (7.7 lines/mm)
	Super fine-391 lines/inch (15.4 lines/mm)
Printing density:	Horizontal:
	406 lines/inch (16 lines/mm)
	Vertical:
	391 lines/inch (15.4 lines/mm)
Reception modes:	Auto/Manual switching
Modem speed:	33600 bps with automatic fallback to 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, or 2400 bps **Note:** Transmission speeds in Super G3 mode may vary due to telephone line conditions.
Transmission time*:	Approx. 3 seconds
Input document size:	Automatic feeding:
	Width — 5.8 to 11.0" (148 to 280 mm)
	Length — 5.0 to 14.3" (128 to 364 mm)
	Manual feeding:
	Width — 5.8 to 11.0" (148 to 280 mm)
	Length — 5.0 to 17.0" (128 to 432 mm)
Paper size:	Width — 8.5" (216 mm)
	Length — 11-14" (280-356 mm)
Paper capacity:	1150 sheets
Automatic document feeder:	50 documents max.

Effective scanning width:	10.1" (256 mm)
Effective recording width:	8.0" (203 mm)
Copy function:	Single/Multi-copy/Sort-copy (99 copies/page)
Telephone function:	Standard (cannot be used if power fails)
Halftone (gray scale):	64 levels
Power requirements:	120 V AC, 60 Hz
Operating environment:	50-86°F (10-30°C), 20 to 85% RH
Power consumption:	Stand-by: 15 W
	Maximum: 400 W
Dimensions:	Width: 13.8" (351 mm)
	Depth: 22.9" (582 mm)
	Height: 18.5" (469 mm)
Weight:	Approx. 59.8 lbs. (27.1 kg)

• PRINTER SECTION

Type:	Desktop, Laser Beam Printer
Print system:	Electrostatic Dry Powdered Imaging System
Exposure system:	Laser Diode + Polygon Mirror Scanning
Resolution:	Horizontal: 406 (dot/inch)
	Vertical: 391 (dot/inch)
Print speed:	6 pages per minute (Letter size paper)
First print time:	Within 19 seconds (face down)
Warming-up time:	Within 40 sec.
Operating environment:	Temperature: 10-30°C
	Humidity: 20-80%RH
Toner cartridge life:	3,700 prints or more (when black-to-white ratio on print is 4% or less)
Drum cartridge life:	20,000 prints or more (when black-to-white ratio on print is 5% or less)

* Based on ITU-T (CCITT) Test Chart #1 at standard resolution in Sharp special mode, excluding time for protocol signals (i.e., ITU-T phase C time only).

<IMPORTANT PLEASE READ FIRST>
To avoid problems with supplies, please don't use supplies from other units. Please use new supplies, when supply changes are required.

[2] Operation panel (1)

LINE STATUS lights
This **LINE-1** lights illuminates when Line 1 is being used, and the **LINE-2** lights illuminates when Line 2 is being used.

LINE key
Press this key before dialing to select the line.

Display
This displays messages and prompts during operation and programming.

CHANGEOVER key
Three types of information appear in the display: prompts related to operations you are performing, information about how the fax is using the line 1 (transmitting, receiving, etc.), information about how the fax is using the line 2. Press this key to switch through the three types of information.

Service indicator
This lights when a problem occurs which must be fixed by a service technician.

RESOLUTION key
Press this key to adjust the resolution before sending or copying a document.

LINE-STATUS RESOLUTION
IN USE STANDARD
LINE-2 FINE
LINE SUPER FINE
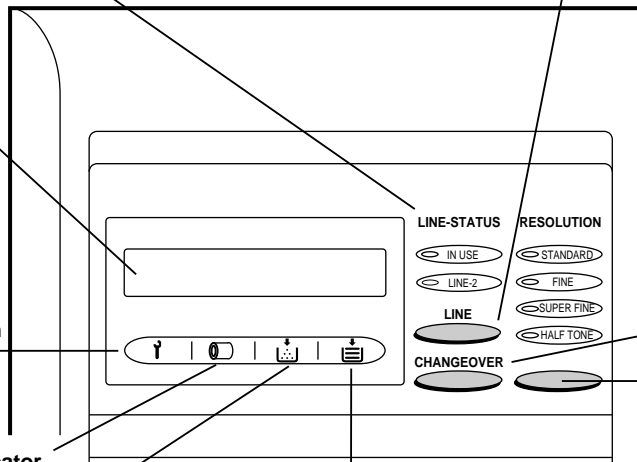CHANGEOVER HALF TONE

Drum cartridge indicator
This blinks when the drum cartridge nears the end of its life, and lights steadily when the drum cartridge needs replacement.

Toner cartridge indicator
This blinks when toner nears empty, and lights steadily when the toner/developer cartridge needs replacement.

Paper out indicator
This blinks when one of the paper sources (cassette) is out of paper, and lights steadily when all sources are out of paper.

SPEED DIAL key
Press this key to dial a Speed Dial number.

FUNCTION key
Press this key to select various special functions.

BROADCAST key
Press this key to send a document to a group of receiving fax machines.

REPORT key
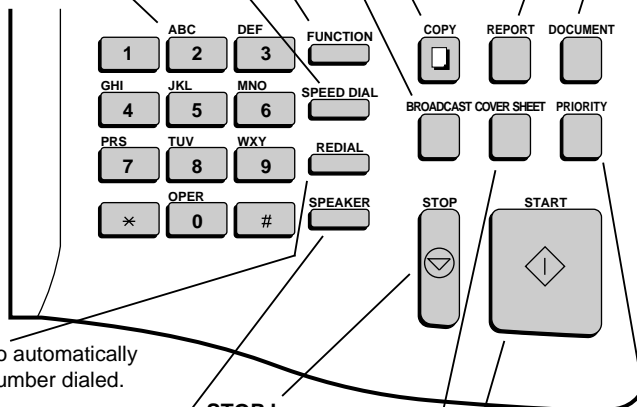Press this key to print out a report on the transaction just completed.

COPY key
Press this key to make a copy of a document.

DOCUMENT key
Press this key to transmit a document without reading it into memory.

Telephone dial keypad (numeric keys)
Use these keys to dial and program numbers.

```
      ABC   DEF
 1     2     3     FUNCTION      COPY   REPORT  DOCUMENT

 GHI   JKL   MNO
 4     5     6     SPEED DIAL    BROADCAST COVER SHEET PRIORITY

 PRS   TUV   WXY
 7     8     9     REDIAL

      OPER
 *     0     #     SPEAKER       STOP   START
```

REDIAL key
Press this key to automatically redial the last number dialed.

SPEAKER key
Press this key to dial a number without picking up the handset.
Note: **This is not a speakerphone**. You must pick up the handset to talk with the other party.

STOP key
Press this key to stop operations before they are completed.

COVER SHEET key
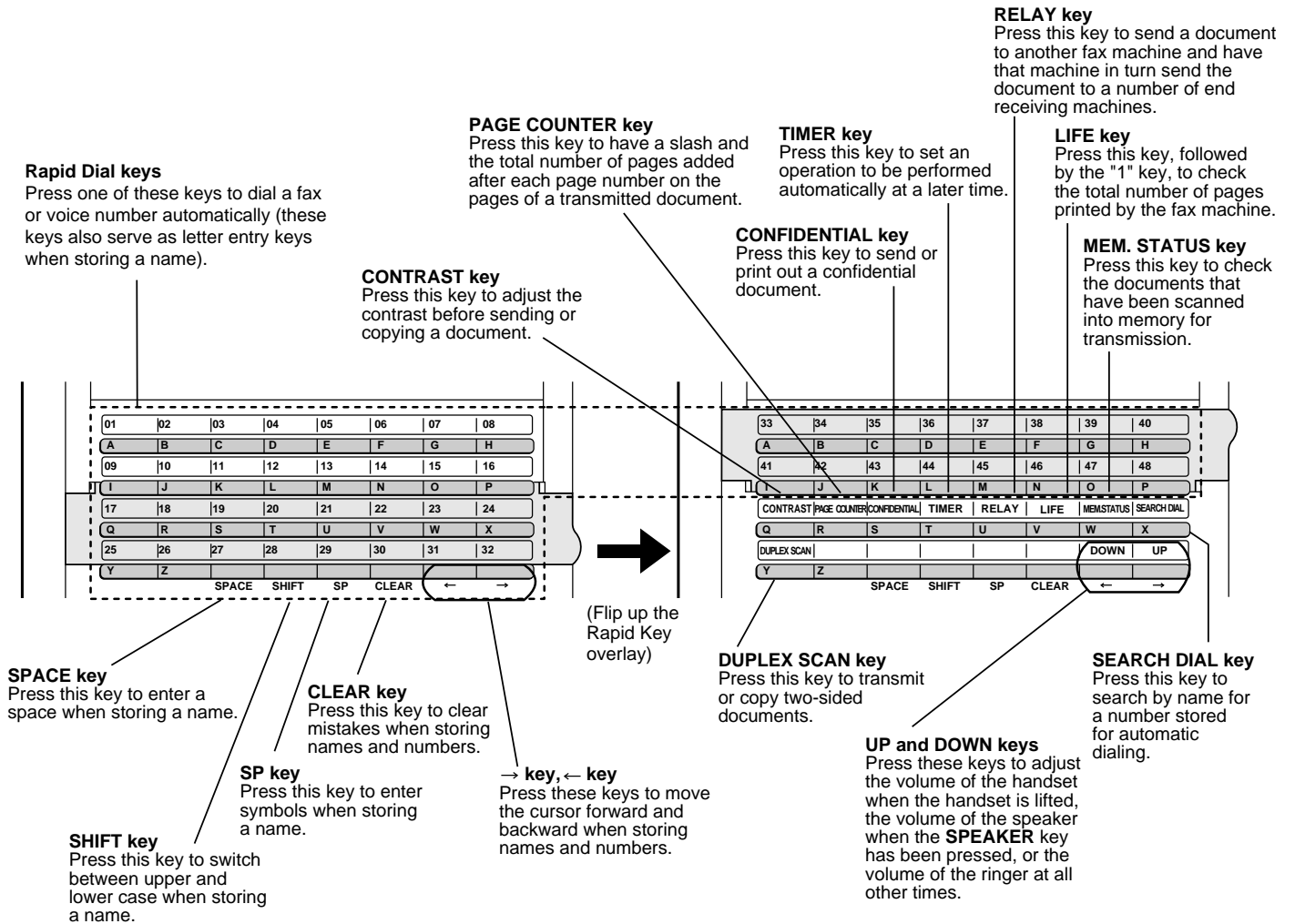Press this key to include a cover sheet with a transmitted document.

START key
Press this key to send or receive a document.

PRIORITY key
Press this key when you want to transmit a document ahead of other documents waiting in memory for transmission.

1 – 2

Operation panel (2)

RELAY key
Press this key to send a document to another fax machine and have that machine in turn send the document to a number of end receiving machines.

PAGE COUNTER key
Press this key to have a slash and the total number of pages added after each page number on the pages of a transmitted document.

TIMER key
Press this key to set an operation to be performed automatically at a later time.

LIFE key
Press this key, followed by the "1" key, to check the total number of pages printed by the fax machine.

Rapid Dial keys
Press one of these keys to dial a fax or voice number automatically (these keys also serve as letter entry keys when storing a name).

CONFIDENTIAL key
Press this key to send or print out a confidential document.

MEM. STATUS key
Press this key to check the documents that have been scanned into memory for transmission.

CONTRAST key
Press this key to adjust the contrast before sending or copying a document.

(Flip up the Rapid Key overlay)

SPACE key
Press this key to enter a space when storing a name.

CLEAR key
Press this key to clear mistakes when storing names and numbers.

SP key
Press this key to enter symbols when storing a name.

→ key, ← key
Press these keys to move the cursor forward and backward when storing names and numbers.

DUPLEX SCAN key
Press this key to transmit or copy two-sided documents.

UP and DOWN keys
Press these keys to adjust the volume of the handset when the handset is lifted, the volume of the speaker when the **SPEAKER** key has been pressed, or the volume of the ringer at all other times.

SEARCH DIAL key
Press this key to search by name for a number stored for automatic dialing.

SHIFT key
Press this key to switch between upper and lower case when storing a name.

[3] Transmittable documents

1. Document Sizes

| Normal size | width | 5.83"–8.5"(148 – 216 mm) |
| | length | 5.04" – 11"(128 – 279 mm) |
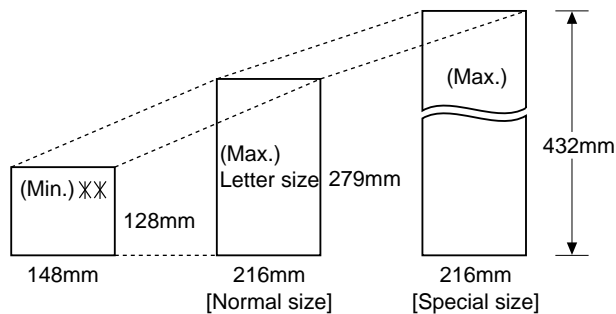
※※ Use document carrier sheet for smaller documents.

* With special sizes, only one sheet can be fed into the machine at a time. Insert next page into feeder as current page is being scanned.

2. Paper Thickness & Weight

| | | Product specifications | |
	Indication	Lower Limit	Upper Limit
Weight indication	Japanese indication Size 4 × 6	45kg paper	70kg paper
	Metric system indication	52g/m^2	80g/m^2
	American indication LB system indication	14 LB	20 LB
Thickness indication	Metric system indication	0.06mm	0.1mm
	Inch system indication	0.0024"	0.0035"
Document size	Document size Range	(148mm × 128mm) ~ W letter (279.4mm × 432mm)	
		A4 (210mm × 297mm)	
		Letter (216mm × 279mm)	
Number of ADF sheets	Document size Weight	B6 ~ Letter/A4 size 50 sheets	
		B4 size/Legal 20 sheets	
		W letter size 1 sheet	
		90 kg (104g/m^2) or more 135 kg (157g/m^2) or less 1 sheet	
Paper quality	Kind	Paper of fine quality/bond paper/ Kent paper	

3. Document Types

- Normal paper

  Documents handwritten in pencil (No. 2 lead or softer), fountain pen, ball point pen, or felt-tipped pen can be transmitted.

  Documents of normal contrast duplicated by a copying machine can also be transmitted.

- Diazo copy (blueprint)

  Diazo copy documents of a normal contrast may be transmitted.

- Carbon copy

  A carbon copy may be transmitted if its contrast is normal.

4. Cautions on Transmitting Documents

- Documents written in yellow, greenish yellow, or light blue ink cannot be transmitted.
- Ink, glue, and correcting fluid on documents must be dry before the documents can be transmitted.
- All clips, staples and pins must be removed from documents be-fore transmission.
- Patched (taped) documents should be copied first on a copier and then the copies used for transmission.
- All documents should be fanned before insertion into the feeder to prevent possible double feeds.

5. Automatic Document Feeder Capacity

Number of pages that can be placed into the feeder at anytime is as follows:

Normal size: max. 50 sheets (14 lbs – 20 lbs)

Special size: single sheet only (manual feed)

NOTES:
- When you need to send or copy more pages than the feeder limit, place additional pages in feeder when last page in feeder is being scanned.
- Place additional pages carefully and gently in feeder. If force is used, double-feeding or a document jam may result.

6. Readable Width & Length

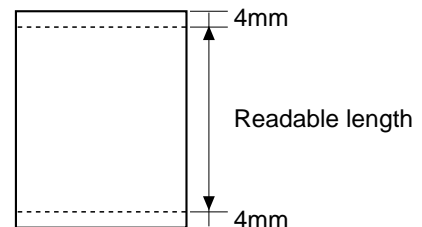The readable width and length of a document are slightly smaller than the actual document size.

Note that characters or graphics outside the effective document scanning range will not be read.

- **Readable width**

8.3" (208 mm) max.

Readable width
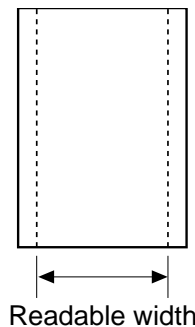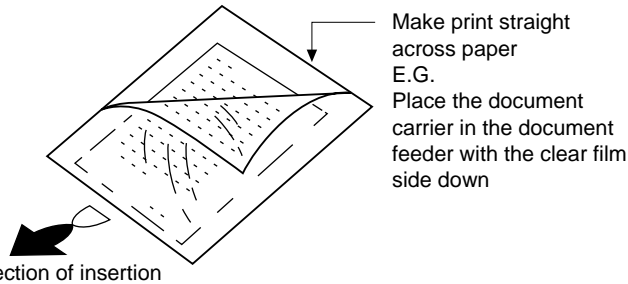
- **Readable length**

This is the length of the document sent minus 0.16" (4 mm) from the top and bottom edges.

7. Use of Document Carrier Sheet

A document carrier sheet must be used for the following documents.

- Those with tears.

- Those smaller than size 5.83" (W) × 5.04" (L) (148 mm (W) × 128 mm (L)).

- Carbon-backed documents

Make print straight across paper
E.G.
Place the document carrier in the document feeder with the clear film side down

Direction of insertion

NOTE: To transmit a carbon-backed document, insert a white sheet of paper between the carbon back of the document and the document carrier.

- Those containing an easily separable writing substance (e.g., tracing paper written on with a soft, heavy lead pencil).

NOTES:
- When using the document carrier, carefully read the instructions written on the back.

- If the document carrier is dirty, clean it with a soft, moist cloth, and then dry it before using for transmission.

- Do not place more than one document in the carrier at a time.

- The thickness of document which can be held with the carrier sheet is up to 20 lb.

[4] Installation

1. Site selection

Take the following points into consideration when selecting a site for this model.

ENVIRONMENT

- The machine must be installed on a level surface.

- Keep the machine away from air conditioners, heaters, direct sunlight, and dust.

- Provide easy access to the front, back, and sides of the machine. In particular, keep the area in front of the machine clear, or the original document may jam as it comes out after scanning.

- The temperature should be between 41° and 95°F (10° and 35°C).

- The humidity should be between 30% and 85% (without condensation).

ELECTRICITY

A 120 V, 60 Hz, grounded (3-prong) AC outlet is required.

Caution!

- Connection to a power source other than that specified will cause damage to the equipment and is not covered under the warranty.

- If your area experiences a high incidence of lightning or power surges, we recommend that you install a surge protector for the power and telephone lines. Surge protectors can be purchased at most telephone specialty stores

TELEPHONE JACK

A standard RJ11C telephone jack must be located near the machine. This is the telephone jack commonly used in most homes and offices.

- Plugging the fax machine into a jack which is not an RJ11C jack may result in damage to the machine or your telephone system. If you do not know what kind of jack you have, or need to have one installed, contact the telephone company.

If the machine is moved from a cold to a warm place...

If the machine is moved from a cold to a warm place, it is possible that the reading glass may fog up, preventing proper scanning of documents for transmission. To remove the fog, turn on the power and wait approximately 2 hours before using the machine.

## 2. Installing the printer cartridges (Toner cartridge: FO-45ND/Drum cartridge: FO-45DR)

① Press the button on the side of the printer compartment, and open the printer cover.

- **Caution!** The ribs on the bottom of the inside of the printer cover become very hot during printing. Be careful not to touch them.

- If you are installing the cartridges for the first time, go to Step 4.
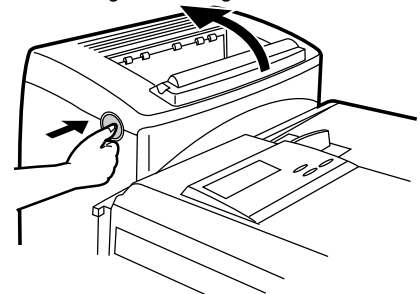
② If you are replacing the cartridges, grasp the handle on the toner cartridge, and pull the toner cartridge out of the compartment.
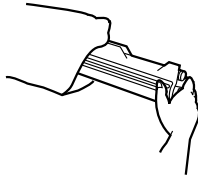
- If you are only replacing the drum cartridge, place the toner cartridge on a piece of paper on a horizontal surface.

- If you are only replacing the toner cartridge, go to Step 6.
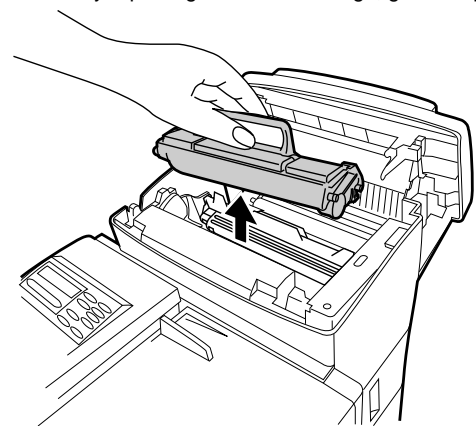
③ Pull the old drum cartridge out of the compartment.
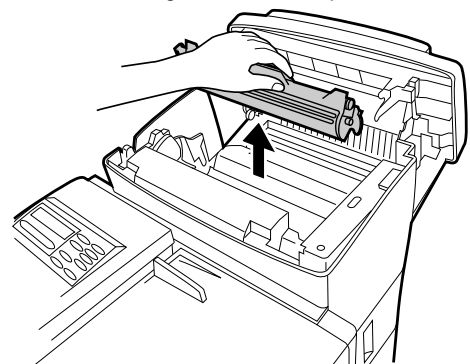
④ Remove the new drum cartridge from its packaging.

⑤ Align the arrowhead on the right side of the drum cartridge (the right side is marked "R") with the arrowhead pointing down on the right side of the compartment, and insert the cartridge into the compartment so that the ends of the cartridge move along the guides on the sides of the compartment. Make sure the cartridge is set firmly in place.

- Place the old drum cartridge (if you removed one) in the empty drum cartridge bag, seal the bag, and dispose of it in a way that conforms to any local regulations that may exist in your area.
- If you are not replacing the toner cartridge, go to Step 7.
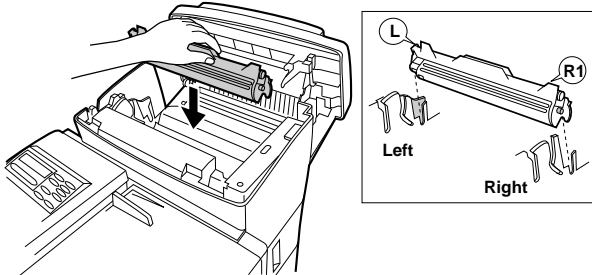
⑥ Remove the new toner cartridge from its packaging, and shake it several times as shown.

- This ensures that the toner is well distributed inside the cartridge.
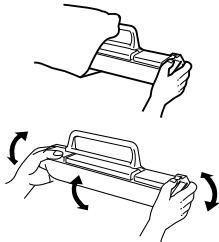
⑦ Hold the handle of the toner cartridge so that the "2" marked on the cartridge is to the right, and insert the cartridge into the com-partment that the two knobs on each side of the cartridge move along the two guides on each side of the compartment. Press the handle down so that the cartridge sets into place.

- Place the old toner cartridge (if you removed one) in the empty toner cartridge bag, seal the bag, and dispose of it in a way that conforms to any local regulations that may exist in your area.
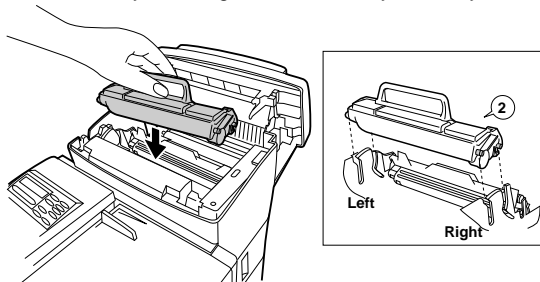
⑧ Close the printer cover.
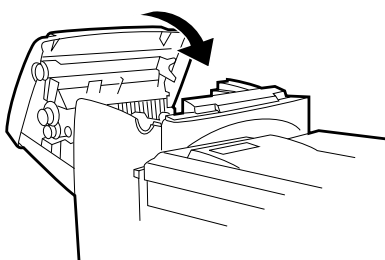
⑨ If you replace the toner cartridge, reset the toner counter by pressing the LIFE key (flip up the Rapid Key overlay if necessary), the "2" key, and the START key.
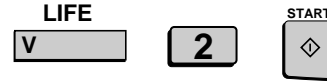
⑩ If you replace the drum cartridge, reset the drum counter by pressing the LIFE key (flip up the Rapid Key overlay if necessary), the "3" key, and the START key.
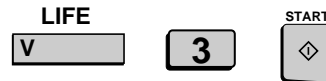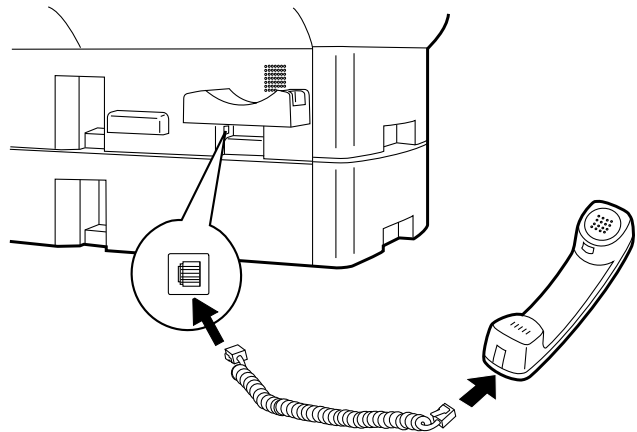

3. Assembly and connections

① Connect the handset cord to the handset and the fax as shown.

- The ends of the handset cord are identical, so they will go into either jack.

Place the handset on the handset rest.

Use the handset to make ordinary phone calls, or to transmit and receive documents manually.

② Connect the LINE 1 jack and the LINE 2 jack to the appropriate wall jacks with the telephone line cords. The wall jacks should be standard (RJ11C) single-line wall jacks for separate lines.

- **Note:** Voice communications, manual fax transmission and manual fax reception are only possible on Line 1.
- The fax machine will only ring when a call is received on Line 1 (it will not ring when a call is received on Line 2).
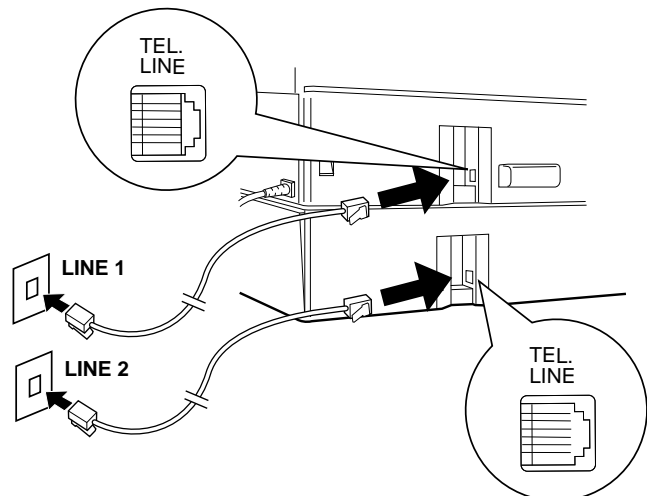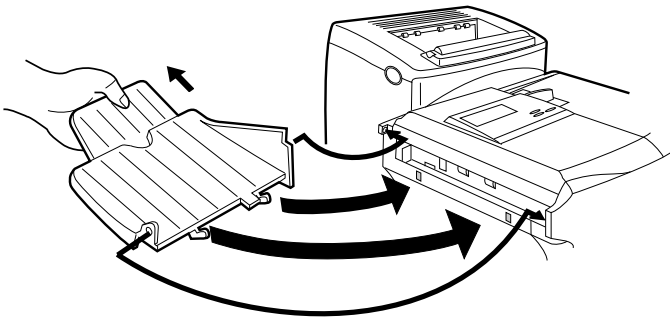
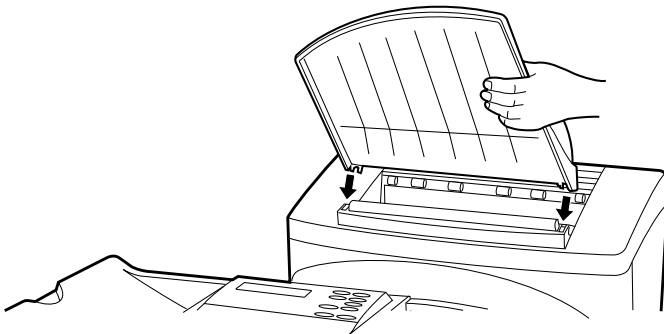③ Plug the power cord into a 120V, 60Hz, grounded (3-prong) AC outlet.

Press the power switch to turn on the power.
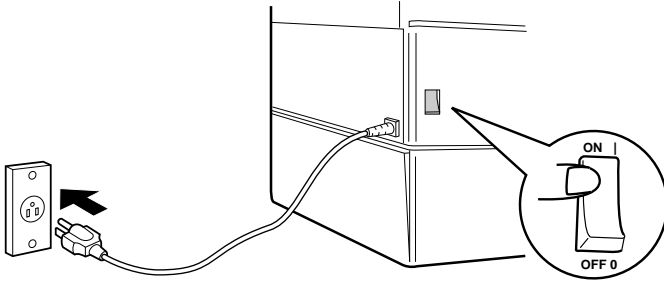
④ Attach the original document OUT tray by inserting the tabs into the holes in the fax as shown.

⑤ Attach the received document tray by inserting the tabs into the holes in the fax as shown.

⑥ Insert the male end of the PC interface cable into the port on the right side of fax as shown. Tighten the attached screws with a screwdriver.
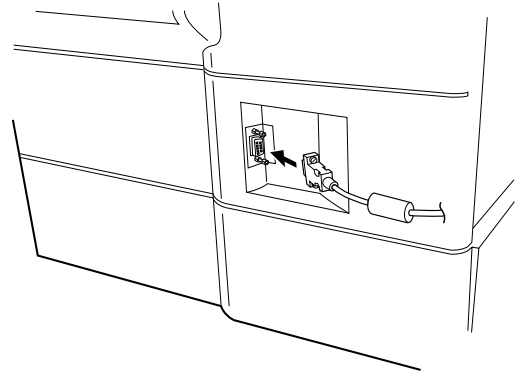

⑦ Insert the female end of the PC interface cable into the serial (RS232C) port on your computer. Tighten the attached screws with a screwdriver.
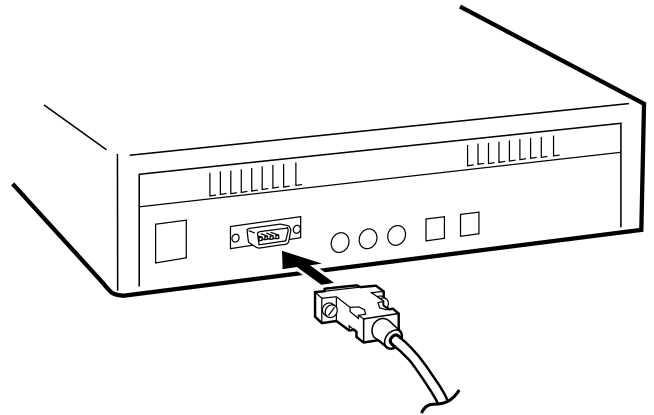

4. Loading printing paper

The paper cassettes and the paper tray hold the paper on which received documents are printed. The FO-6600 comes with two paper cassettes. Each paper cassette can hold 500 sheets of either legal or letter size paper. The paper tray can hold 150 sheets of either legal or letter size paper.

① Grasp the hand hold on the cassette as shown, lift the cassette slightly, and then pull it out as far as it will go. Do not force. Push down on green levers on both sides of the cassette tray as shown, and then pull it completely out of the fax using both hands.
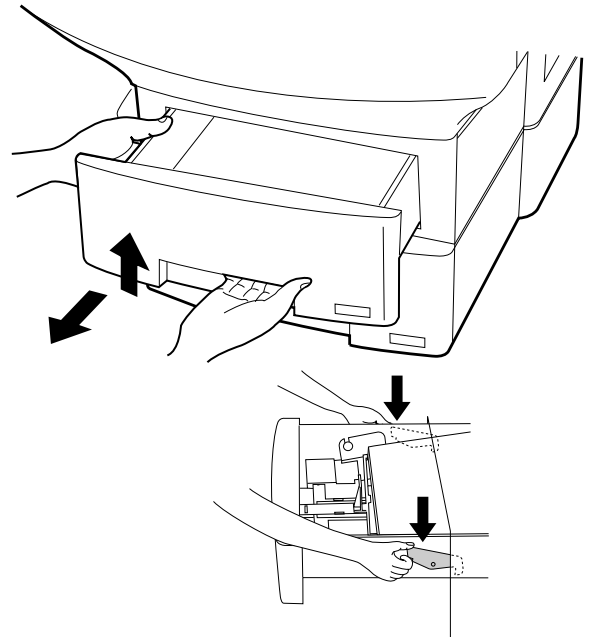
② Pinch the ends of the paper guide together, and move the guide to the appropriate position depending on whether you are loading letter or legal size paper.
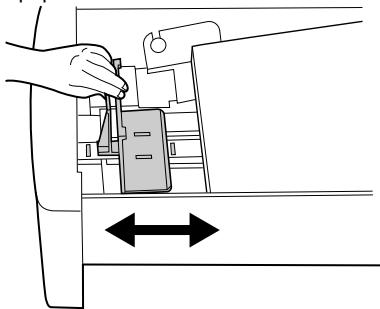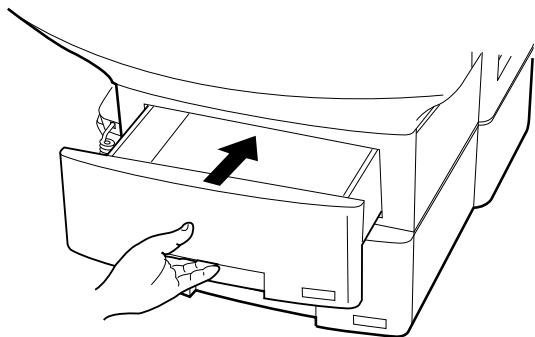

③ Push the pressure plate down until it locks into position.
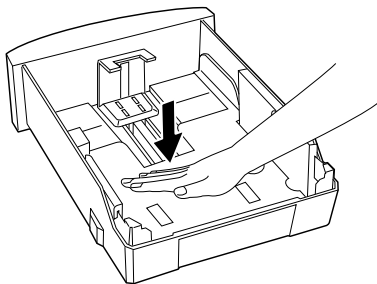
④ Place a stack of paper in the cassette, print side up. Make sure the two far corners of the paper go under the paper holders as shown.

- Make sure the stack of paper is not higher than the tabs at the top of the paper guide. If it is, remove some of the paper.
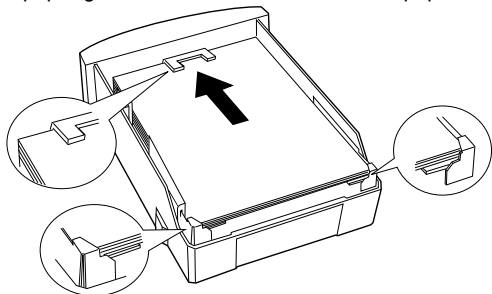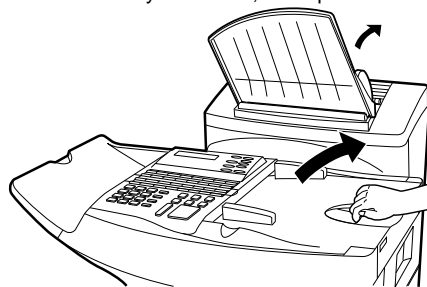

⑤ Put the cassette back in the fax.

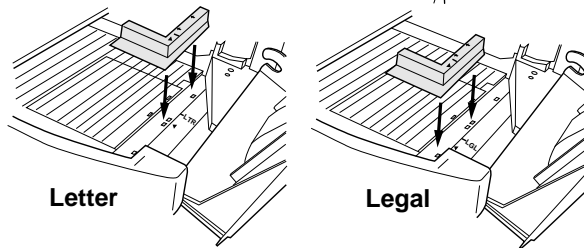⑥ If desired, attach a letter or legal sticker as appropriate to the cassette.
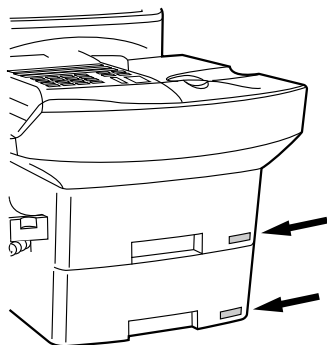
⑦ Rotate the received document tray back. Grasp the hand hold on the original document IN tray as shown, and open it.

⑧ Move the paper guide to the appropriate position depending on whether you are loading letter or legal paper.

- To remove the paper guide, press its inner side at the arrow marks and lift.
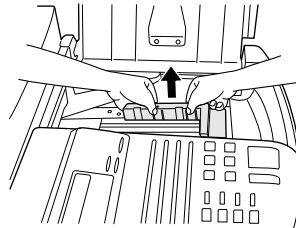
Letter   **Legal**

⑨ Place the paper in the tray.

⑩ Close the original document IN tray.

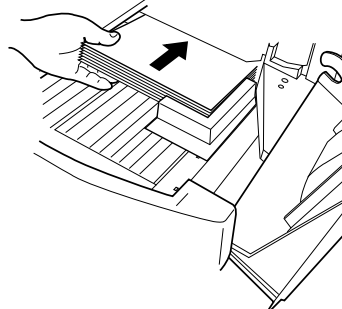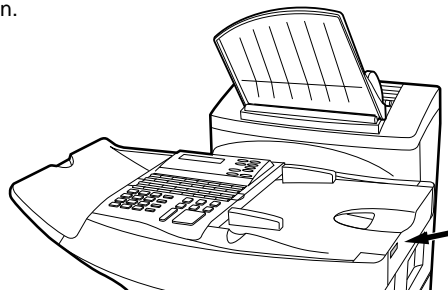⑪ If desired, attach a letter or legal sticker as appropriate to the fax as shown.

5. Clearing paper jams

If a document doesn't feed through the scanner properly during transmission or copying, or DOCUMENT JAM appears in the display, first try pressing the **START** key. If the document doesn't come out of the feeder, open the operation panel by squeezing the operation panel release on the right side of the operation panel (marked "**PULL OPEN**"), and gently pull out document.

①

② If the leading edge of the document is protruding from the printer compartment outlet, try pulling it out.

- If you are unable to clear the paper jam in this way, continue with the following steps.
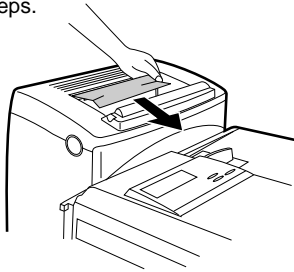
③ Open the printer cover and remove the toner cartridge and drum cartridge.

- **Caution!** The ribs on the bottom of the inside of the printer cover become very hot during printing. Be careful not to touch them.
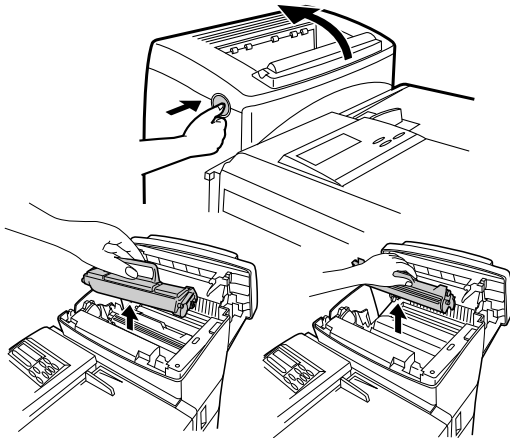
④ Gently pull the paper out of the compartment.

- If the leading edge of the paper has entered the fusing unit, first pull the leading edge out of the fusing unit, then pull the paper out of the compartment.

- Be sure to remove any torn pieced of paper.
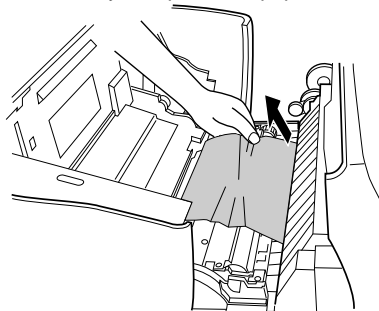
⑤ Replace the drum cartridge, and then the toner cartridge.
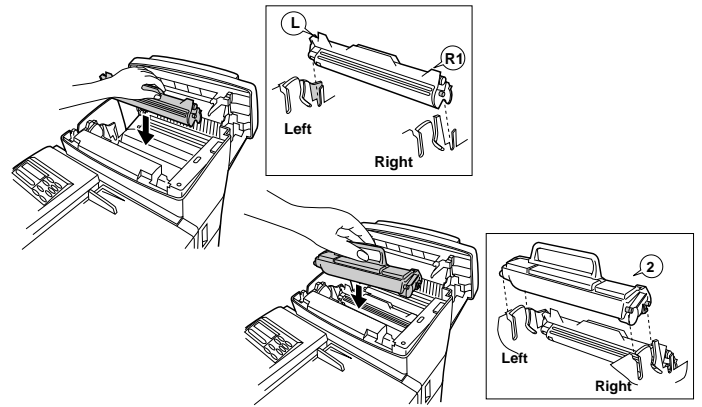
⑥ Close the printer cover.
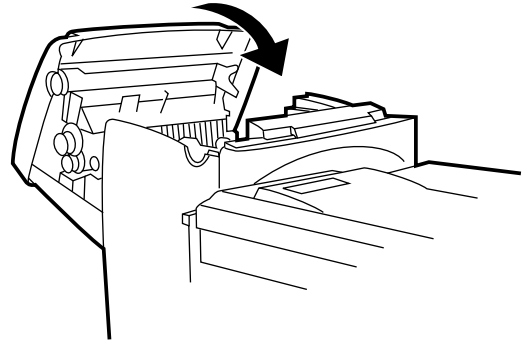
⑦ If you didn't find any paper in the printer compartment, or if PAPER JAM still appears in the display after you close the printer cover, check each paper cassette and the paper tray.

- To release the cassette when pulling it out, press down on the levers on each side of the cassette.

- To check the paper tray, grasp the hand hold on the original document IN tray and rotate the tray up.
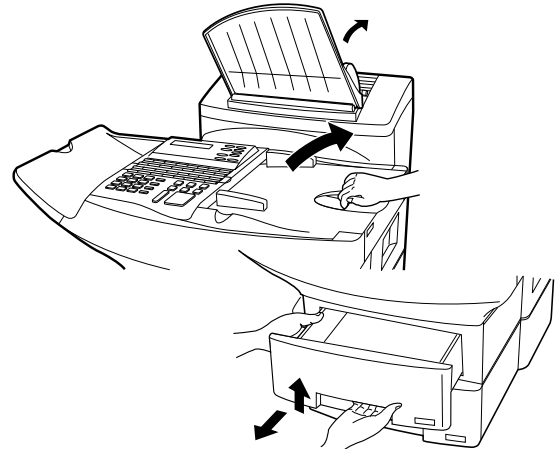
⑧ Gently pull out any jammed paper you find, and then replace the cassette or close the original document IN tray.
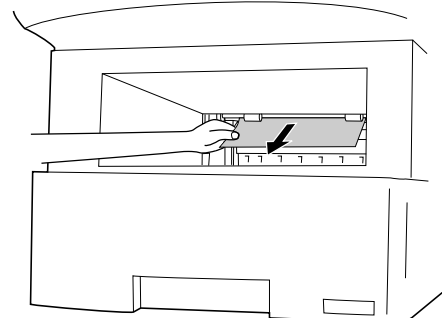
[5] Quick reference guide

FUNCTION key menu

The following chart shows the layout of the functions and settings accessed by pressing the **FUNCTION** key. First press the **FUNCTION** key, the appropriate numeric key as shown, and then "#" or "⚹" until the desired item appears. Instructions for making each setting appear in the display. Refer to the detailed instructions on the page shown below the setting.

FUNCTION

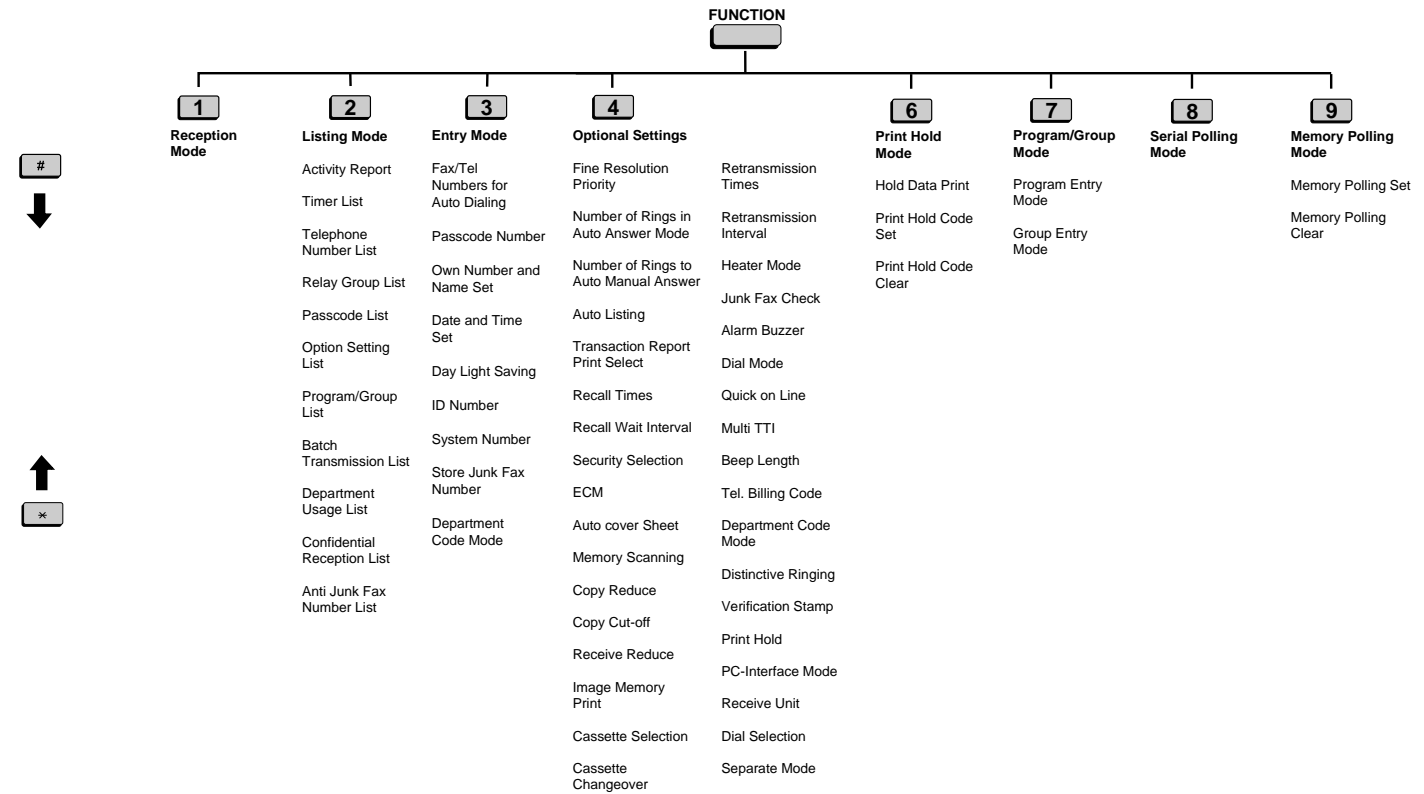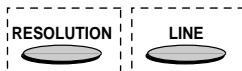| 1 Reception Mode	2 Listing Mode	3 Entry Mode	4 Optional Settings		6 Print Hold Mode	7 Program/Group Mode	8 Serial Polling Mode	9 Memory Polling Mode
	Activity Report	Fax/Tel Numbers for Auto Dialing	Fine Resolution Priority	Retransmission Times	Hold Data Print	Program Entry Mode		Memory Polling Set
	Timer List	Passcode Number	Number of Rings in Auto Answer Mode	Retransmission Interval	Print Hold Code Set	Group Entry Mode		Memory Polling Clear
	Telephone Number List	Own Number and Name Set	Number of Rings to Auto Manual Answer	Heater Mode	Print Hold Code Clear			
	Relay Group List	Date and Time Set	Auto Listing	Junk Fax Check				
	Passcode List	Day Light Saving	Transaction Report Print Select	Alarm Buzzer				
	Option Setting List	ID Number	Recall Times	Dial Mode				
	Program/Group List	System Number	Recall Wait Interval	Quick on Line				
	Batch Transmission List	Store Junk Fax Number	Security Selection	Multi TTI				
	Department Usage List	Department Code Mode	ECM	Beep Length				
	Confidential Reception List		Auto cover Sheet	Tel. Billing Code				
	Anti Junk Fax Number List		Memory Scanning	Department Code Mode				
			Copy Reduce	Distinctive Ringing				
			Copy Cut-off	Verification Stamp				
			Receive Reduce	Print Hold				
			Image Memory Print	PC-Interface Mode				
			Cassette Selection	Receive Unit				
			Cassette Changeover	Dial Selection				
				Separate Mode				

#

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⚹

Note: Steps which are optional are enclosed in a dotted frame: | RESOLUTION | LINE |

Transmitting documents

Normal Dialing (1)
Load document → [RESOLUTION] → Lift handset or press **SPEAKER** → Dial (press numeric keys) → Wait for reception tone → **START** ◇ → Hang up

Normal Dialing (2)
Lift handset or press **SPEAKER** → Dial (press numeric keys) → Load document → [RESOLUTION] → Wait for reception tone → **START** ◇ → Hang up

Direct Keypad Dialing
Load document → [RESOLUTION] → [LINE] → Dial (press numeric keys) → **START** ◇

Rapid Key Dialing
Load document → [RESOLUTION] → [LINE] → Press Rapid key

Speed Dialing
Load document → [RESOLUTION] → [LINE] → **SPEED DIAL** → Enter Speed Dial number (press numeric keys, -if less than 3 digits, press **START** to complete entry) → **START** ◇

Redialing
Load document → [RESOLUTION] → **REDIAL** → Wait for reception tone → **START** ◇