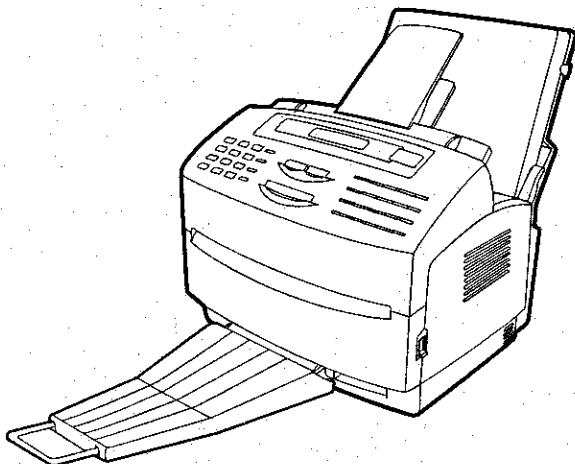


SHARP SERVICE MANUAL

CODE: 00ZFO2850/A1E



PLAIN PAPER FACSIMILE

MODEL FO-2850

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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

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The contents are subject to change without notice.

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[1] FEATURES

Laser Facsimile

- 14.4Kbps Fax Modem
- 15 pages Per Minute Quick Scan
- 2M Bytes of Document Memory

When the optional multifunction kit is added, this facsimile works as the Multifunction Device.

[2] OUTLINE SPECIFICATION

1. OS

OS:

- Windows 3.1, WFW3.11 Windows 95, DOS box

2. Devices

Item		Description	
Sound	Line Monitor	On/Off/Until Answer selectable	
	Ring Volume	Selectable (High/Middle/Low)	
Operation Panel	Layout	see section 4	
	Display	Device	LCD
		Size	20 characters × 2 Lines
		Characters	Alphanumeric + Symbol
	Keys	Dial	12 keys (0 - 9, *, #)
		One Touch Dial	20 keys
Function		16 keys	
Indicator (see section 5)		7 LEDs (Orange × 2, Green × 5)	
PC Interface		IEEE1284 (ECP/Peppy/Nibble)	
Line (PSTN) Interface		TEL (Line Out) and LINE jack Only LINE jack for SEEG	
Power Source		110V type: for 110V rating area ± 10% 120V type: for 120V rating area ± 10% 127V type: for rating area ± 10% 230V type: for 220/230/240V rating area ± 10%	

3. Printer Specifications

Item		Description		
Engine	Recording Method		Electro-photograph printing method with semiconductor laser diode	
	Print Speed		4.5ppm	
	Resolution (H × V)		600 × 600 dpi, 300 × 300 dpi selectable	
	Paper Size		Letter, Legal, Executive Envelope Sizes Commercial 10 (business), Monarch, International DL, International C5	
	Paper Weight		Standard paper (weight 60 - 80 g/m ²) Thicker paper (weight 81-128 g/m ²) • Recommend to use face-up paper output for thick paper.	
	Special Paper		Overhead projector transparency film, label sheets.	
	Paper Input	standard	100 sheets (Standard paper)	
		optional	Not Available	
	Paper Output	standard	Face Down	100 sheets (Standard paper)
			Face UP	Yes (Paper Output method can be selected by switching the paper output selector lever.) Envelope etc.
		Optional		Not Available
	First print time		Approx. 30s	
	Charging method		Brush change method	
Developing method		Mono component non-magnetic roller process		
Fusing method		Quick heat-up with pressure pad method		
Controller	Printing System		• Microsoft WPS • Host Based PCL4	
	Font		Windows built-in fonts	
	Memory Size		512 KBytes	
	Toner sensor		Yes Toner low: when the remainder pages 450 pages ± 200 pages (A4 / Letter, 4% coverage)	

4. Fax Specifications

Item	Description	
Compatibility	ITU-T G3	
Modem Rate	14400 bps with automatic fallback to 12000, 9600, 7200, 4800, or 2400 bps	
Compression Method	MH, MR, MMR	
ECM (Error Correction Mode)	On/off selectable	
Transmission Time	6 sec. * ITU - T Test Chart #1 (standard resolution)	
Memory Size	2 Mbytes	
Memory Backup	No	
Sending Document Size	Maximum: Legal, Minimum: A5	
Recording Paper Size	A4, Legal or Letter	
Receiving Document Size	The Width is specified by G3 standard, and the length is 1m.	
Transmittable Documents	One sheet at a time (weight) From 14lbs. (52 g/m ²) to 36lbs. (157 g/m ²) (size) From 5.0" (L) × 5.8" (H) to 8.5" (L) × 39.4" (H) (From 128 mm (L) × 148 mm (H) to 1.0 m (L) × 216 mm (H)) Several sheets at once (weight) From 14lbs. (52 g/m ²) to 20lbs. (80 g/m ²) (size) From 5.0" (L) × 5.8" (H) to 8.5" (L) × 14" (H) (From 128 mm (L) × 148 mm (H) to 356 mm (L) × 216 mm (H))	
Automatic Document Feeder	Max. 30 sheets	
Resolution in Text Mode (H × V)	Standard	200 × 100 dpi
	Fine	200 × 200 dpi
	Super Fine	200 × 400 dpi
Resolution in Photo Mode	300 × 300 dpi or 200 × 200 dpi with automatic fallback	
Grayscale Method in Photo Mode	Error Diffusion	
Grayscale Level in Photo Mode	64 levels	
Contrast	Light, Middle, Dark	
Quick Scan	15 pages per Minute (Letter/A4 size)	
Broadcasting	Destination	Max. 50 different locations
	Destination Setting	By Rapid key (Group key) or Speed Dial code
Polling	Kinds (Mode)	Polling Others, Being Polled from ADF *use Rapid key #20
	Security	No
Delayed Faxing	Yes (3 timers; Memory-Transmit or Polling Others)	
Anti Junk Fax	Yes (10 Fax numbers, 20 digits / number)	
Auto Cover Sheet	6 Type (urgent, important, confidential, pls. distribute, pls. call back, No message)	
Department Control	No	
Confidential	Transmit	No
	Reception	No
Report	Transaction, Power Fail, Activity (Send / Receive)	
List	AntiJunkFax#, Timer, Group, Phone# (Rapid, Speed), Optional Setting	
Receive Reduce	5 kinds (Auto, No reduction, Letter to Print paper, A4 to print paper, Legal to Print paper)	

5. Telephony Specifications

Item	Description	
Telephone Line	PSTN	
Dial Mode	Pulse 20 pps, Tone	
Hand Set	No	
Speaker Key	Yes (For SEEG version: This key is replace to R-Key.)	
Hold Key	No	
Automatic Fax/Phone Changeover *1	No	
Digital Answering	No	
Talk Request	No	
Rapid Dialing Key / Group Dialing Key	Number	20 keys (Both RAPID and GROUP key)
	Stored digit	Rapid : Max. 20 digits / key Group : Max. 49 numbers (Rapid key or Speed Dial key)
	Name	Rapid : Max. 20 characters / key can be set. Group : Max. 20 character / key can be set.
	Chain Dial Setting	Yes
Speed Dialing	Number	Max. 100 codes (00 ~ 99)
	Stored digit	Max. 20 digits / code
	Name	Max. 20 characters / code can be set
Distinctive Ring (SEC only)	Yes (selectable from 4 ring pattern or off)	
PBX Connection	Yes	
Redial	Yes	
Auto Redial	Yes	
Dial Number Search	Yes (Alphanumeric)	

*1: This function means;

The machine catches the line and detect whether the call is Fax or Phone, if it is phone, the machine makes the special ring to alert an operator to pick up this machine's handset. (The line is not switched to an external phone.)

6. Copier specifications

(This function can only operate with optional FO-28MK)

Item	Description
Copy Speed	4 cpm
First Copy Speed	less than 30 sec
Scanning Resolution (H x V)	300 x 300 dpi, 6 bit
Printing Resolution (H x V)	Max.600 x 300 dpi, 6 bit
Copy Multiple	Up to 99 copies
Copy Mode	Text, Photo
Document Paper Size and Weight	One sheet at a time (weight) From 14 lbs. (52 g/m ²) to 36 lbs. (157 g/m ²) (size) From 5.0" (L) x 5.8" (H) to 8.5" (L) x 39.4" (H) From 128 mm (L) x 148 mm (H) to 1.0 m (L) x 216 mm (H) Several sheets at once (weight) From 14 lbs. (52 g/m ²) to 20 lbs. (80 g/m ²) (size) From 5.0" (L) x 5.8" (H) to 8.5" (L) x 14" (H) (From 128 mm (L) x 148 mm (H) to 356 mm (L) x 216 mm (H))
Copy Paper Size	Letter, Legal
Grayscale in Photo Mode	(Only single copy) Error Diffusion after scaling from 300 x 300 dpi to 300 x 600 dpi (Multi Copy) Error Diffusion with 300 x 300 dpi
Collating	Yes
Enlargement/Reduction	Two Types Menu can be selected. 1. Optional ratio: From 50% to 150% in 1% increments 2. Fixed ratio: SEC :150, 125, 120, 100, 93, 87, 75, 50%
Contrast	Light, Medium, Dark

7. Scanner Specifications

Item	Description
Scanner Type	Sheet Feed
Light source	LED
Sensor	CCD
Basic Resolution	300 x 300 dpi
Original Size	Legal, Letter, A4, A5
Scan Range	Width: 2464 pixels, Length: 3508 lines
Output Date	1 bit or 6 bits
Scan Speed	Monochrome: 10 ms / line (6 bit), 33 ms (1 bit)
Bit Depth	1 bit (2 levels) / 6 bit (64 levels)
Resolution	100, 150, 200, 300
Contrast Level	3 levels (Dark, Medium, Light)
ADF	30 sheets
Compatibility	TWAIN

8. PC-FAX Specifications

(This function can operate with optional FO-28MK)

Win Fax Lite 4.0

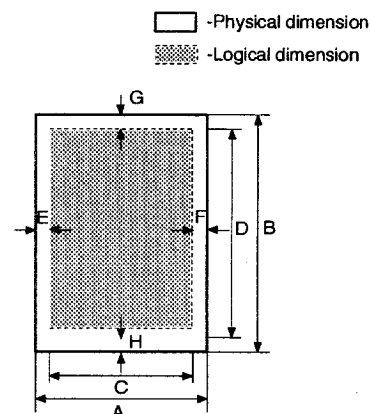
Facsimile DCE Standard Class 1

9. Environmental Specifications

Item	Description
Power consumption	575W
Acoustic Noise	Printing: Less than 46 [dB(A)] Stand-by mode: Background noise level
Dimensions (W x D x H)	330 (W) x 690 (D) x 350 (H) mm (13.0 (W) x 27.2 (D) x 13.8 (H) inch) 330 (W) x 317 (D) x 258 (H) mm (without projection) (13.0 (W) x 12.5 (D) x 10.1 (H) inch)
Weight	7.6 Kg
Machine Life	5 years or min. 60,000 pages (Print) (Whichever comes earlier)
Monthly Duty (Print)	Recommended: 1,000 pages/month. Max. 3,000 pages/month.
Environmental Requirement	Operating: 10 ~ 30°C / 20 ~ 80%RH Storage: -10 ~ 50°C / 10 ~ 90%RH Storage: -10 ~ 40°C (Supply)

10. Printing Area

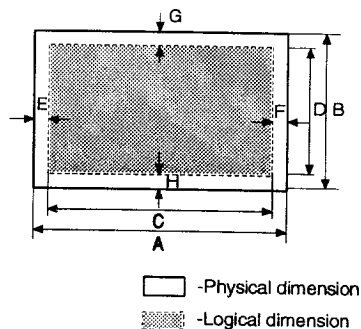
A. Portrait



Paper size	A	B	C	D	E	F	G	H
Letter	5100	6600	4927	6399	100	73	100	101
Legal	5100	8400	4927	8199	100	73	100	101
A4	4960	7014	4799	6813	100	61	100	101
COM-10	2474	5700	2303	5499	100	71	100	101
Monarch	2324	4500	2175	4299	100	49	100	101
C5	3826	5408	3647	5207	100	79	100	101
DL	2598	5196	2431	4995	100	67	100	101
A5	3508	4960	3327	4761	100	81	100	99
Executive	4350	6300	4159	6099	100	91	100	101

* applied for left side value / * dot size = 600 dpi

B. Landscape



Paper size	A	B	C	D	E	F	G	H
Letter	6600	5100	6399	4927	100	101	100	73
Legal	8400	5100	8199	4927	100	101	100	73
A4	7014	4960	6813	4799	100	101	100	61
COM-10	5700	2474	5499	2303	100	101	100	71
Monarch	4500	2324	4299	2175	100	101	100	71
C5	5408	3826	5207	3647	100	101	100	79
DL	5196	2598	4995	2431	100	101	100	67
A5	4960	3508	4761	3327	100	99	100	81
Executive	6300	4350	6099	4159	100	101	100	91

* applied for left side value / * dot size = 600 dpi

11. Safety

- 120 V type:
- US (UL-1950 2nd Edition with D3'S) FDA (21 CFR chapter 1)
 - CUL (CSA950-M89 with D3'S)
- 230 V Type:
- TÜV GS-Mark (EN60950/IEC 825)
 - SEMKO (EN60950/IEC 825)
 - NEMKO (EN60950)
 - BSI (EN60950)

- * 110 V type: No safety required
- * 127 V type: No safety required

12. EMC (Electro-Magnetic Compatibility)

- 120 V type:
- FCC (Part 15, Subject J Class B) IC (ICES-003)
- 230 V type:
- EN55022 – Class B
 - EN50082 – 1 (CE-Mark, Generic Immunity Standard)
 - EN61000-3-2
 - EN61000-3-3
- 110 V type: No EMC required
- 127 V type: No EMC required

13. Other Requirement

Energy Star

14. Printing engine

Type

Desktop

Recording Method

Electro-photographic printing method with semiconductor laser diode

Paper Supply Block

Multi purpose paper supply tray: 100 sheets capacity (Standard paper, Max. 11 mm total thickness)

Adjustable paper guide and paper support

- Special printing material transparency film, label sheet, envelope

The paper supply section consists of the following components.

- Paper tray, paper feed tray cover
- Paper support
- Paper release lever
- Paper guide

Paper Output Block

- ① Face-down: Available with 100 sheets tray (Standard paper)
- ② Face-up: Available (no tray available)

Optical System

The semi-conductor laser light forms an image on the OPC drum.

Imaging Cartridge

The Imaging Cartridge contains mono component non-magnetic toner and roller process method is used.

* The sensor to measure the toner amount is provided.

Life: approx. 3,000 pages (A4 or Letter 4% coverage)

* Replace when the printing density becomes poor.

The measurement above are conducted, using the standard paper, under the Standard Condition.

Drum Cartridge

OPC (organic photoconductor-coated) drum

Life: approx. 20,000 pages (A4 or Letter)

* Replace when the background becomes noticeable.

The measurements above are conducted, using the standard paper, under the Standard Condition.

* No sensor to measure the drum life.

Charging Method

Brush charging method

Developing Method

Mono component non-magnetic roller process

Fusing Unit

Features

Quick heat-up fusing method with pressure pad.

Shutdown power consumption in stand-by mode.

The fusing unit consists of the following components.

Heat roller

Heater lamp

Pressure pad

Cooling Fan

The cooling fan is stopped during stand-by mode.

(The cooling fan is provided.)

Power Source

Rated local AC voltage $\pm 10\%$

15. Print performance

Print Speed

Max. 4.5 ppm (pages per minute) (A4 or Letter size paper is used)

Resolution

600 × 600 dpi (Standard resolution)

First Print Time

Approximately 30 sec (including warm-up time)

* This is the time taken from the cold start condition until paper is completely ejected. In this case, the measurement is made, using A4 or Letter paper. (under the Standard Condition)

* Exclude computer processing time.

Page Orientation

Portrait or landscape

16. Hardware

CPU

- Main controller: NS32FX164
- PCU: TMS37C08

Memory

- Main controller: 4 MB
- PCU: 512 KB
- * No additional memory

LED lamp

LED list

LED	Color		STATUS
TONER	ORANGE	Light	Toner is empty.
		Flush	Toner is near empty.
PAPER	ORANGE	Light	Paper is absent.
AUTO	GREEN	Light	Reception mode is AUTO mode.
MANUAL	GREEN	Light	Reception mode is MANUAL mode.
A.M.	GREEN	Light	Reception mode is Answering Machine mode.
PC-COMM	GREEN	Light	Line (FO-2850↔PC) is in use. (This LED lights with optional multifunction kit)
TEL-LINE	GREEN	Light	PSTN is in use.

17. Software

Driver Installation

- ① HDD space requirement:
 - Approx. 5.0 MB (at full installation)
 - Approx. 4.0 MB (at min. installation)
 - * without PCL emulation, on-line help, and TrueType fonts.
- ② Selectable installation

At the installation, following software are selectable.

 - * WPS core system
 - * PCL emulation software
 - * ON-line help files
- ③ Installation method

Express installation: Install all of the available software

Custom installation: Install user selected software items

Compact installation: Install the minimum software items.
- ④ Automatic Windows version sensing

Installer check Windows version between Windows 3.1 (WFW 3.1x) and Windows 95, then starts the installation procedure.

System Requirement

- ① Minimum Requirement for Host System

Host computer: IBM PC/AT and 100% compatibles

CPU and Memory configuration:

O.S.	CPU	Physical RAM	*1 Virtual Memory
Windows 3.1 WFW 3.11	486SX, 25 MHz	8 MB	8 MB
Windows 95	486SX, 25 MHz	8 MB	8 MB

*1 The amount of virtual memory (swap file) required dependent upon the amount of physical RAM installed in the computer.

Hard disk drive:	Approx. 5 MB free disk space for the driver installation
Floppy disk drive:	3.5-inch high-density floppy drive
Parallel port:	IEEE-1284 compatible port
Display:	VGA or super VGA
Operating system:	MS-DOS 3.3 + MS-Windows 3.1 or later in enhanced mode MS-DOS 3.3 + MS-Windows for Workgroups 3.11 or later in enhanced mode MS-Windows 95 in enhanced mode

* Disk cache size: recommend to set less than 128 kB for minimum configuration PC.

② Other Requirement and Feature

a) Switch-box

Switch-box is not officially guaranteed.

* A switch box can work, but the conditions are not definable.

b) Co-existence

Host-based WPS uses the parallel port (for example, LPT1:) exclusively to other printers which are mounted on the same parallel port.

The install program of WPS printer changes the port of other installed printers to "FILE:". In the case of the installation of another printer after the WPS printer installation, the user must change the communication port of WPS printer to "FILE:" before the installation procedure of new printer.

To switch to another printer for printing, change communication port (for example, LPT1:) of the WPS printer to "FILE:" from control panel, then change the port of the printer to the parallel port.

To notify this, some dialog boxes appear. User shall operate according to the dialog box.

c) Multiple WPS printer installation

Since this cannot be used simultaneously with the other printer's Windows printing system, if the other printer's Windows printing system is installed, delete it.

d) De-installer

De-installer program removes all component parts of WPS from the Windows system.

There are two-de-installer programs for Windows and MS-DOS version.

Windows program: Click De-installer icon to activate

MS-DOS program: Type MS-DOS command from the Windows directory to activate

e) Resolution reduction

When the resources of host machine are not sufficient to print a complicated print file, the WPS driver reduces the printing resolution automatically to guarantee the whole printing job and gives advanced notification.

Resolution reduction may occur for complex pages only. Adding memory will solve this problem.

f) Under-run printing

When the resources of host machine are not sufficient to print a print file which is not complex enough to cause resolution reduction, WPS driver makes over-run printing then prompt "Reduce Computer Use While Printing!" dialog box. In this case user need to reduce computer use for printing.

g) Pre-feed function

From the second page of multiple copies, the pre-feed command and the print start command are sent to the engine for every page. (These commands are not generated for the first page.)

(When there are two or more print jobs, these commands are not generated for the first page of every job.)

The pre-feed command and the print start command are sent to the engine only for A4 and letter paper.

18. Interface

Bi-directional parallel interface:

- Peppy mode (500 kB/s, High speed transfer mode)
- Nibble mode; used only for printer ID and "Plug and Play" recognition

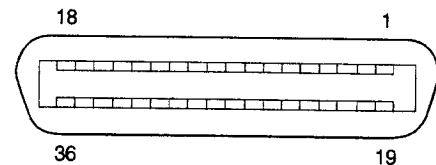
Connector:

Female 36-pin DDK 57LE-40360-730B (D29) connector or equivalent

Interface cable:

- IEEE 1284 (Shielded and grounded) cable that comply with Part 15 of FCC rules or with EN55022 Class B, up to 2 meter length.
- The length of the cable should be less than 15 feet (3 meters).

* To ensure the best performance and bi-directional communication, use of an IEEE-1284 compliant cable.



19. Option

FO-28MK MULTIFUNCTION KIT

Followings are packed.

- Utility disks (FD) 4 pcs.
- Parallel Interface Cable 1 pc.
- Multifunction Kit Manual 1 pc.
- WinFax LITE™ 1 pc.

[3] SUPPLIES

Standard paper and applicable paper

Item	Standard paper	Applicable paper
Weight	65 – 90 g/m ²	55 – 128 g/m ²
Smoothness	Front: ≥20s Back: ≥20s (BEEK method)	Front: ≥ 20s Back: ≥ 16s (BEEK method)
Holes	≥7s (BEEK method)	Same as the left.
Untransparency	≥ 77%	Same as the left
Surface resistance	$1 \times 10^{10} - 5 \times 10^{10} \Omega \text{ cm}$ (20 ±1°C, 65 ±2%RH)	$\geq 5.0 \times 10^8 \Omega \text{ cm}$ (20 ±1°C, 65 ±2%RH)
Hardness	Vertical: >17 cm Horizontal: >13 cm (CLARK method)	Same as the left.
Moisture content	4.5% – 7.0%	Same as the left.
Thickness	75 μm – 110 μm	Same as the left.
Dimensions	Standard ±1mm	Same as the left.

1. Paper size

Standard paper

Weight:	55 – 90 g/m ²	
Max. size:	Max. width: 216 mm	Max. length 366 mm
Min. size:	Min. width 98 mm	Min. length 148 mm
Typical size:	Size	Dimensions
	A4	210 × 297 mm
	B5	182 × 257 mm
	A5	149 × 210 mm
	Letter	8 ½" × 11" (215.9 × 279.4 mm)
	Legal	8 ½" × 14" (215.9 × 355.6 mm)

Thick paper

a. Weight:	91 – 128 g/m ²	
Max. size:	Max. width 216 mm	Max. length 297 mm
Min. size:	Min. width 98 mm	Min. length 148 mm
Typical size:	Size	Dimension
	A4	210 × 297 mm
	B5	182 × 257 mm
	A5	149 × 210 mm
	Letter	8 ½" × 11" (215.9 × 279.4 mm)
b. Weight:	91 – 105 g/m ²	
Typical size:	Size	Dimension
	Legal	8 ½" × 14" (215.9 × 355.6 mm)

Special paper

- a. OHP film, label sheet
- This laser printer allows to use only A4 (210 x 297mm).
(OHP film using condition)
The temperature must be stabilized at 200 C.
(Label using condition)
Labels with adhesive must be stabilized at 200 C.
The following labels must not be used.
- Curled labels, expanded labels
 - Paper with wrinkles, bubbles, or peeling of layer
- b. Postcards, envelopes
- Postcards made by Government (148 x 100mm)
- Envelope: Size Dimension
- Long No. 3 120 x 235mm
- Long No. 4 80 x 205mm

* It is recommendable to discharge special paper in face down.

(Unapplicable paper)

Do not use the following paper, or a paper jam and trouble may occur.

- Paper with breakage, wrinkles, or folds
 - Wet or dry paper
 - Curled paper
 - Paper with staples or clips
 - Paper with punch holes, sewing machine holes, windows
 - Embossed paper
 - Paper with special coating on the surface, color paper with surface coating
 - Rough surface paper, slippery paper
 - Paper separated from paste-bound book
 - Paper which was printed by a laser printer (excluding postcards)
 - Paper which was copied once.
- (Note)
- When using paper other than the recommendable ones, be sure to check that printing is proper or not before use.
 - When cut paper is used, the cut edge may be caught to cause paper jams. In this case, turn the paper back. (Especially thin paper)

When using special paper, do not use the following paper, or a paper jam or trouble may occur.

Postcard

- Postcard with stamp on it
- Postcard with special print on it

Envelope

- Rough texture paper
- Glittering paper
- Carbon paper, Japanese paper
- Paper with label on it
- Paper with folding margin with stick on it
- Paper with folding margin with tape, film, or paper on it
- Paper with folding
- Paper with bubbles in it
- Paper with adhesive on the surface
- Paper with metal tab, clip, string, hole, windows

Label paper

- Paper with peeling label
- Paper with adhesive on the surface
- Paper the whole surface of which is not covered with label

OHP sheet

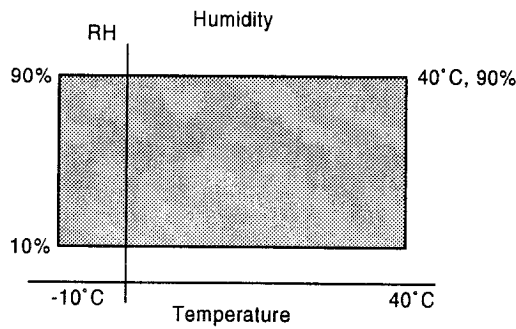
- Paper which is deformed by printing heat (about 200 C)
- Paper with base sheet

2. Imaging cartridge, Drum cartridge

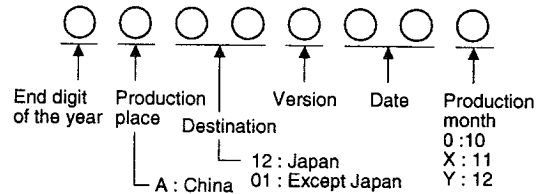
Name	Product name	Supply life	Shelf life
Toner cartridge	FO-28ND	<ul style="list-style-type: none"> * Approx. 3,000 pages (A4, Letter – 4% coverage) * Replace when the printed density becomes poor. * The measurements above are conducted, using the standard paper, under the Standard Condition. 	24 months from the manufacturing month under packed and sealed condition or 12 months after the placement (whichever comes earlier, Max. 24 months)
Drum cartridge	FO-28DR	<ul style="list-style-type: none"> * Approx. 20,000 pages (A4, Letter) * Replace when the background becomes noticeable. * The measurements above are conducted, using the standard paper, under the Standard Condition. 	36 months from the manufacturing month under packed and sealed condition or 20 months after the placement (whichever comes earlier, Max. 36 months)

• Storage condition (packed in the packing material)

Transport condition (packed in the packing material)



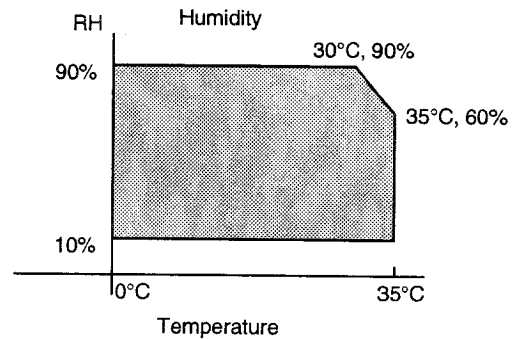
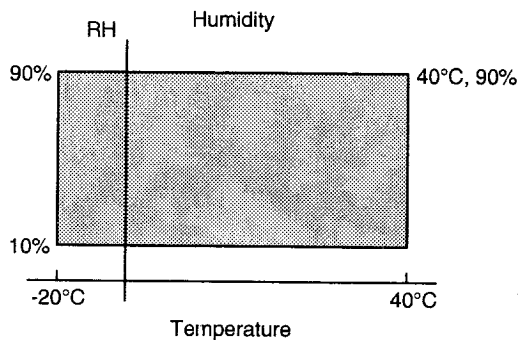
(Imaging cartridge)



Note: • When the imaging cartridge and the drum cartridge are unpacked, store them under the following conditions (the same conditions for the main body).
 Temperature: 0 °C (32 °F) to 35 °C (95 °F)
 Humidity: 10%RH to 90%RH
 1 year

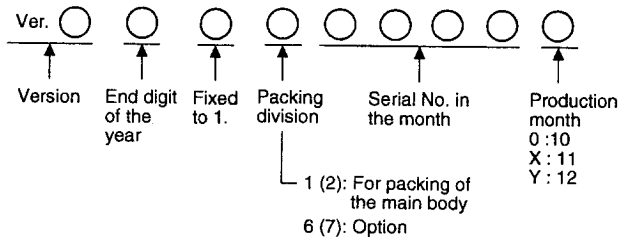
• Max. alteration: 15°C/hour, 15% RH/hour – No dewing

Max. alteration: 15°C/hour, 15% RH/hour – No dewing



• Lot number identification

(Drum cartridge)



- Do not store the imaging cartridge and drum cartridge in the following places.
 - In direct sunlight
 - In dusty places
 - Places which experience extreme changes in humidity
 - Places where corrosive gases are present
 - Places where the air is particularly salty

[4] OPERATION PANEL

Left arrow key (←) and right arrow key (→)
 Use these keys to scroll through a menu. During input mode, these keys are also sometimes used to move the cursor.

RECEPTION MODE key
 Press this key to select the mode of reception.

A.M. light
 This light indicates that reception is in Answering Machine mode.

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

CONTRAST key
 Press this key to adjust the contrast before sending faxes or making copies.

MANUAL light
 This light indicates that reception is in Manual mode.

SEARCH key
 Press this key to search for an Automatic Dialing number.

FUNCTION key
 Press this key to enter function mode.

RESOLUTION key
 Press this key to adjust the resolution before sending faxes or making copies.

AUTO light
 This light indicates that reception is in Auto mode.

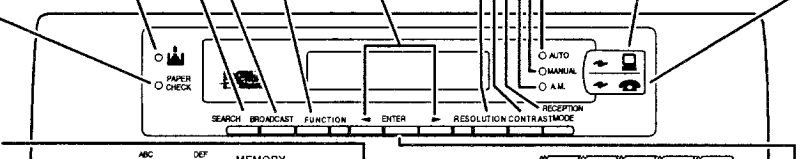
Toner empty indicator
 This blinks when the toner is near empty, and lights up steadily when it is completely empty.

PC-comm light
 This light indicates that the unit and your PC are interacting. (When using the unit with the FO-28MK.)

PAPER CHECK light
 This light comes on when the unit is out of paper.

Tel-line light
 This light indicates that the telephone line is in use.

COPY key
 Press this key to enter copy mode.



Number keys
 Use these keys to dial numbers, and enter numbers and letters during number/name storing procedures.

START key
 Press this key to start an action of the unit, such as making copies, sending faxes, and manually receiving faxes.

ENTER key
 Press this key to decide an item in a menu, or to enter numbers and letters you have typed in.

*** / #**
 Use these keys to enter symbols during the name storing procedure. Press the "*" key to change from pulse dialing to tone dialing mode.

MEMORY key
 Press this key to pre-scan a document before sending it.

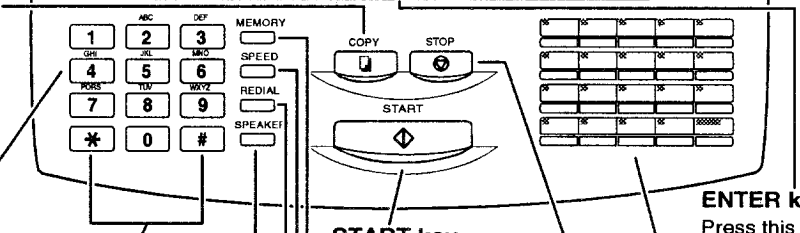
Rapid keys
 Press one of these keys to dial a fax or telephone number automatically. Press Rapid key number 20 to start polling. (Note that you must attach the Rapid key label.)

SPEED key
 Press this key to dial a two digit Speed Dial number. During character inputting, use this key to delete an incorrect entry.

SPEAKER key
 Press this key to begin manual dialing. (To close the line, press the SPEAKER key again.)

REDIAL key
 Press this key to automatically redial the last number you dialed. Also, press this key to insert a pause when entering numbers.

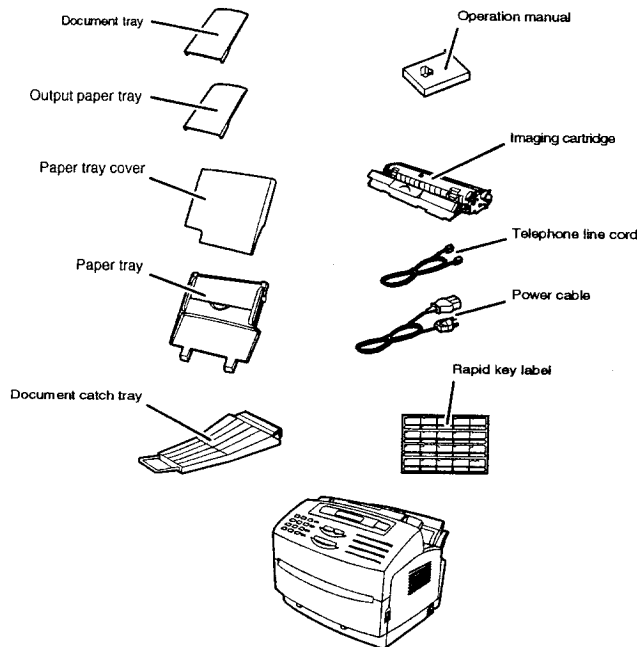
STOP key
 Press this key to stop an operation before it is completed, or to delete the number that was last input. This key is also used to close the line when manually dialing.



[5] UNPACKING AND SETTING

1. Unpacking

Take the unit out of the box carefully, and remove all packing material. Make sure you have all the items listed below. If any are missing, contact your dealer or retailer.



Note: The drum cartridge component of the unit comes pre-installed. The document support and output paper support are identical.

Notes on Handling

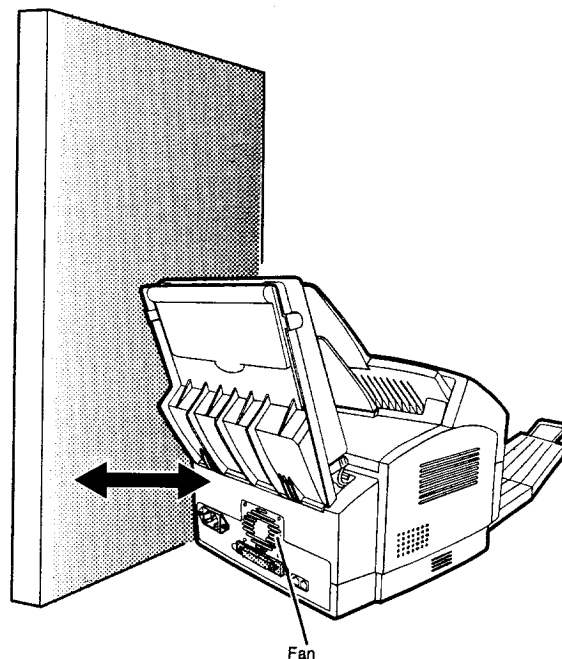
- Do not subject the unit to strong physical shocks or vibrations.
- Keep liquids away from the unit, as they can seriously damage the circuitry.
- Do not allow any debris to fall inside of the unit. This could cause a jam in the paper feeding mechanism and cause internal damage to the unit.

2. Choosing a Location

All electrical equipment is potentially dangerous if not installed and operated correctly.

Make sure that you meet the following requirements when you set up or move the unit.

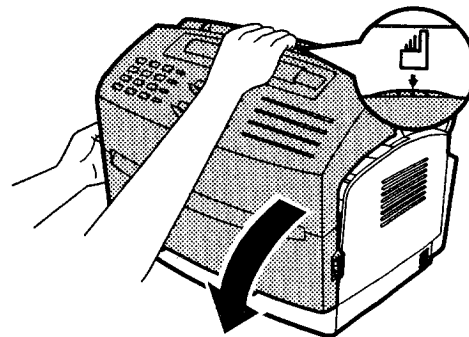
- The unit must be installed on a level surface.
- Use only the rated voltage from a properly grounded wall socket.
- Keep the unit away from areas that are:
 - Dusty or smoky
 - Damp or humid
 - Poorly ventilated
 - In direct sunlight
 - Subject to other extreme conditions
- Provide ample room for easy access to the front, back, and sides of the unit.
- Leave enough space around the ventilation outlets for heat from the fan to dissipate properly. Blocking these outlets could cause the unit to overheat, which can cause serious damage to the internal parts.



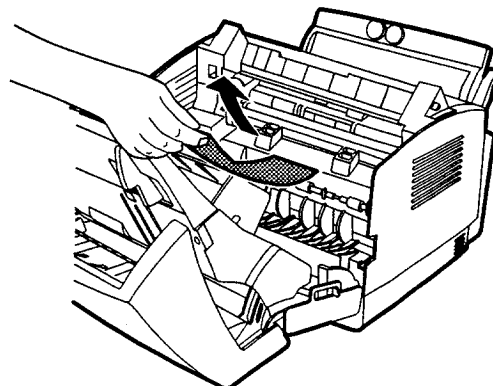
3. Assembly and Connections

Preparing the Drum Cartridge

- ① Open the front cover by gripping it at the top and pulling it forward.

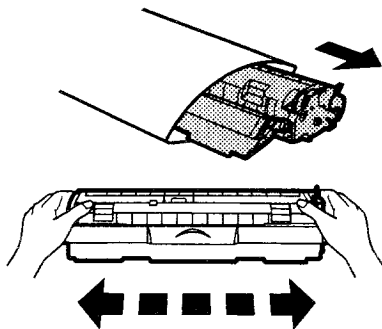


- ② The drum cartridge comes pre-installed. Before operation, carefully remove the sheet of black protective paper from the drum cartridge. Be sure not to leave any torn pieces of paper in the machine.

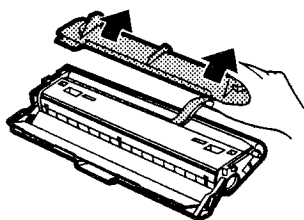


Installing the Imaging Cartridge

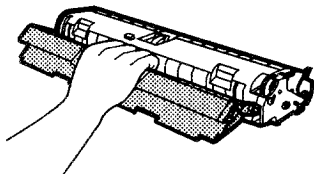
- ① Remove the imaging cartridge from its aluminum bag and shake it four or five times to distribute the toner evenly inside the reservoir.



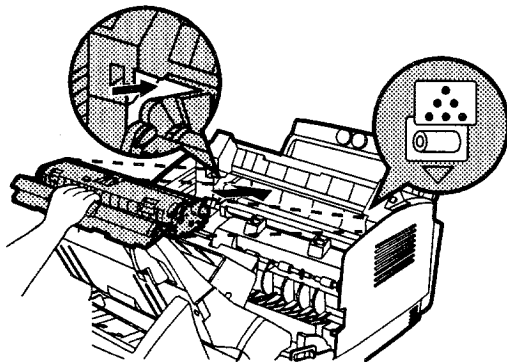
- ② Remove the imaging cartridge cover and the black rubber material. (The imaging cartridge cover is the white cover on the bottom of the cartridge.)



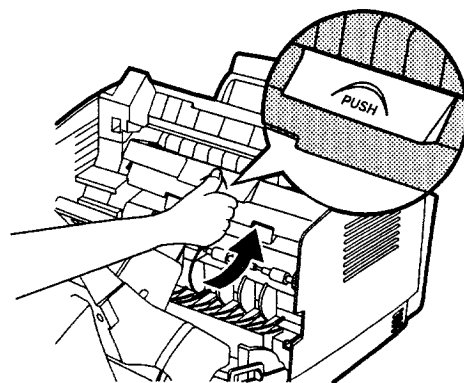
- ③ Hold the purple handle of the imaging cartridge so that the stamped markings on top of the cartridge are facing upwards.



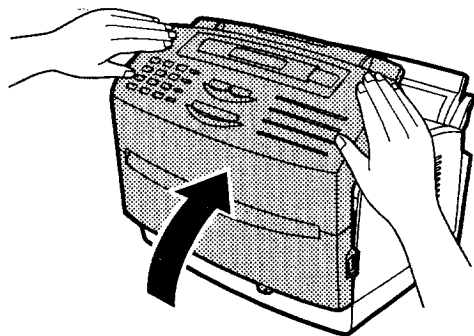
- ④ Place the two projecting guides at each end of the imaging cartridge on top of the runners at the place indicated by the imaging cartridge mark (⋄) and then gently insert the imaging cartridge inside the machine.



- ⑤ Push the place marked PUSH until the imaging cartridge is fully inside the machine.



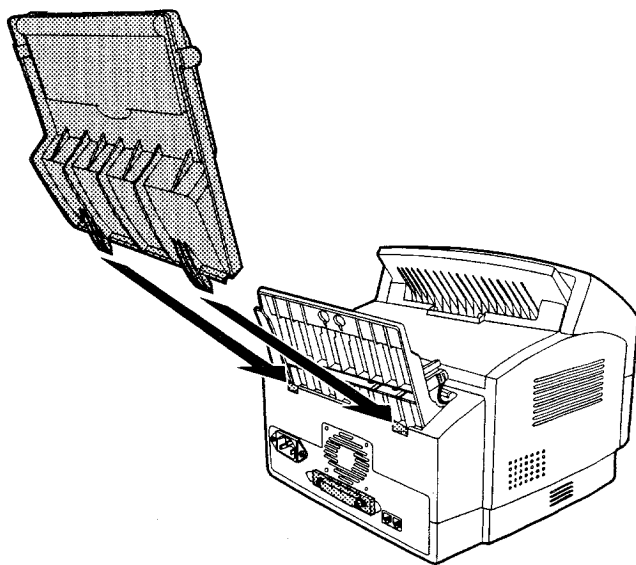
- ⑥ Close the front cover.



Installing the Trays

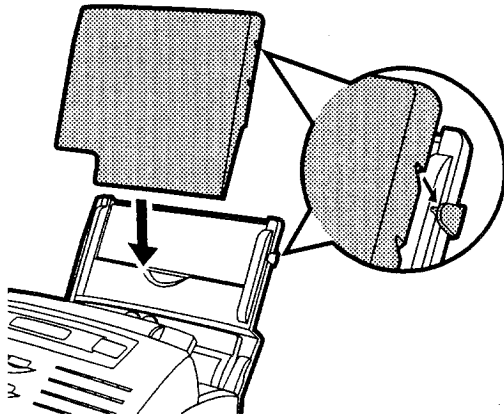
Paper Tray

The paper tray should be attached to the rear end of the machine, as seen below.

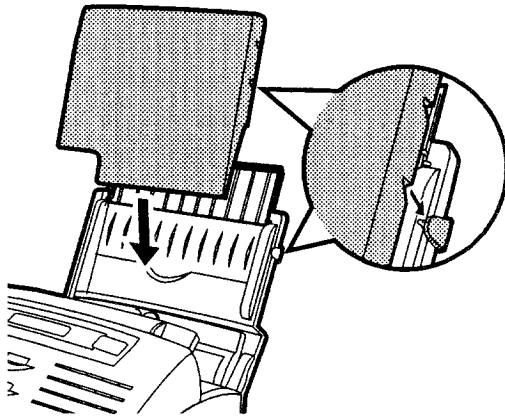


Paper Tray Cover

The paper tray cover should be attached to the paper tray as seen below. When using legal-size paper, be sure to use the lower slots of the paper tray cover, to compensate for the length of the paper. Also make sure that both catches (left and right) fit into both slots.



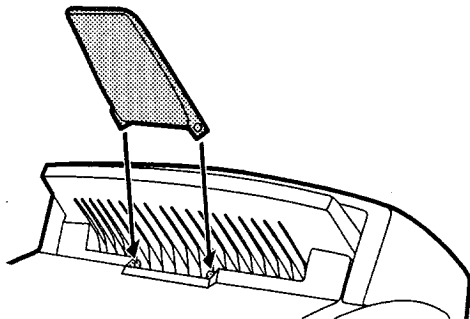
Letter- or A4-size paper



Legal-size paper

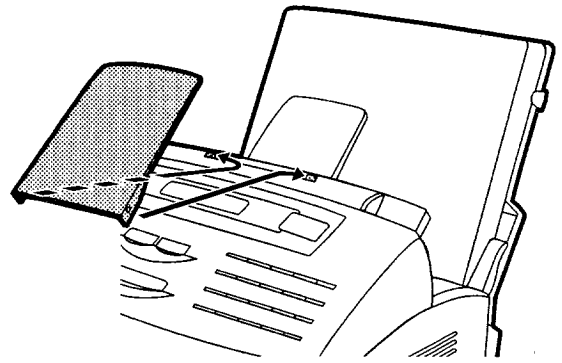
Output Paper Support

The output paper support should be attached as seen below.



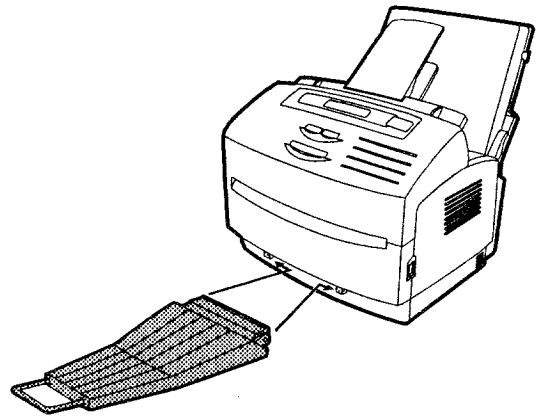
Document Support

The document support should be attached as seen below.



Document Catch Tray

The document catch tray should be attached as seen below. You can adjust the end of the tray to match the length of your documents.



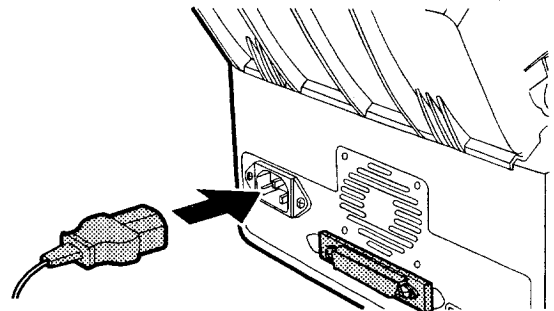
Connecting the Power Cable

As electricity is always dangerous if not used properly, please take all necessary precautions to prevent electric shocks when connecting and disconnecting the unit.

Note: If you use this product in a country other than the country where it was purchased, you will need to make sure that your local power supply is compatible with your model. If you plug the machine into an incompatible power supply, irreparable damage to it may result.

Connect the power cable to the socket in the rear of the unit, and then plug the other end into a properly-grounded power outlet.

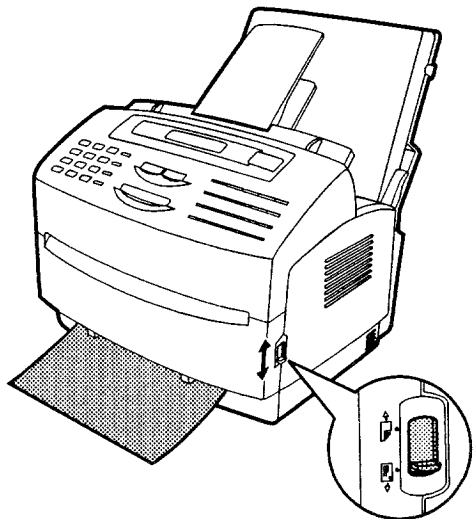
Note: The power of the unit is constantly on when it is plugged in.



Face-up Printing

Face-up Printing is useful for printing on media that doesn't bend easily, such as thick paper, transparency film envelopes, and label sheets.

Set the paper output selector in the down position and the printed page will come out face-up from the face-up output slot.



Connecting Other Devices

If desired, an answering machine or external telephone can be connected to the unit through the telephone jack, labeled "TEL" on the rear of the unit.

- Connecting an answering machine to the unit allows you to receive both voice and fax messages when you are out. To use this feature, first change the outgoing message of your answering machine, and then set the reception mode of the unit to "A.M." (Answering Machine mode) when you go out.

Note: If you are using distinctive ringing with an answering machine, do not heed the following instructions. (Please note that when distinctive ringing is used, the answering machine must be connected to a separate wall jack, not to your fax.)

The outgoing message (OGM) of your answering machine should be changed to inform callers who want to send a fax to press their START key

Comments:

1. It is advisable to keep the length of the message under 10 seconds. If it is too long, you may have difficulty receiving faxes sent by automatic dialing.
 2. Your callers can even leave a voice message and send a fax message on the same call. Modify your outgoing message to explain that this can be done by pressing their Start key after leaving their voice message.
- You can connect an extension phone to the fax to make and receive calls like any other extension phone on your line.

4. Repacking the Printer

When you pack the printer away for storage or transportation, follow the instructions given below to ensure that the printer will not get damaged. Use the original box and packing materials.

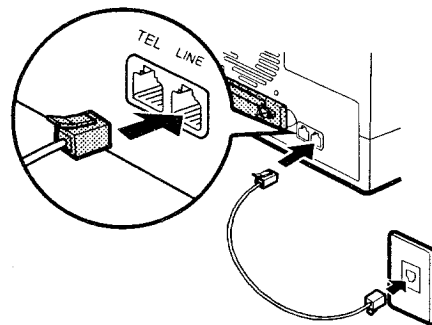
1. Turn off the power switch and disconnect the power cord.
2. Disconnect the interface cable from the parallel interface connector on the rear of the printer.
3. Open the front cover.
4. Remove the imaging cartridge.

Note: Be careful not to let any toner spill out of the imaging cartridge during removal.
5. Remove any paper from the multipurpose paper tray.
6. Close the front cover.
7. Pack the printer into its box in the reverse order to unpacking.

Connecting the Telephone Line Cord

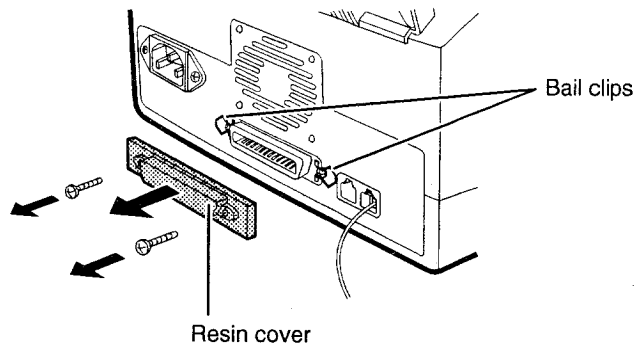
Plug one end of the telephone line cord into the jack on the unit marked "LINE". Plug the other side into a standard (RJ11C) single-line telephone wall jack. Be sure not to plug this line cord into the "TEL" jack.

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



Removing the Resin Cover of the Parallel Interface Connector

The unit is shipped from the factory with a resin cover over the parallel interface connector. In order to connect the parallel interface cable included in the FO-28MK Multifunction Kit to the unit, this cover must first be removed. Use the following procedure to remove the resin cover:

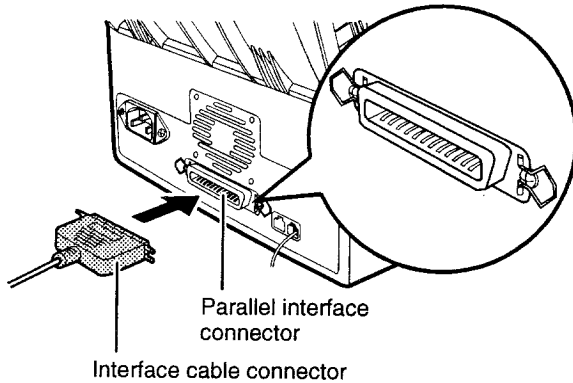


1. Remove the two screws located on the sides of the parallel interface connector with a slotted screwdriver.
2. Remove the resin cover.
3. Move the bail clips inward (so they will not be screwed to the back panel of the unit again), replace the screws, then push the bail clips outward again (so they don't get in the way when you connect the parallel interface cable).

Connecting the Parallel Interface Cable

Before installing the FO-2850 Utility Software from the included Utility Disks on your computer, the unit and your computer should be connected. Use the following procedure to connect the unit and your computer with the parallel interface cable included in the FO-28MK Multifunction Kit:

1. Check that the power of both the unit and your computer is off.
2. Plug the parallel interface cable into the unit's parallel interface connector.
3. Fasten the bail clips at the side of the parallel interface connector to hold the interface cable connector in place.
4. Plug the other end of the parallel interface cable into the parallel interface connector of your computer (refer to your computer manual for more details).



- The unit sends and receives data bi-directionally and at high speed. Some switch boxes cannot support high-speed, bi-directional transfer of data, and using them may cause errors.
- For further details on the specifications of the unit's parallel interface, refer to "Parallel Interface Specifications" in Chapter 16 of the FO-2850 Operation Manual.
- To install the FO-2850 Utility Software on your computer, refer to "6. SETTING UP YOUR PC" of the FO-2850 Operation Manual.

Trademark Acknowledgements:

WinFax LITE™ is a trademark of Symantec Corporation.

- If using a cable other than the one supplied with the unit, make sure that it complies with applicable regulations. Use a high-quality, shielded IEEE-1284 compliant parallel interface cable to comply with EN55022 Class B or with Part 15 of the FCC rules.
- The unit sends and receives data bi-directionally and at high speed. Some switch boxes cannot support high-speed, bi-directional transfer of data, and using them may cause errors in printing to occur.
- For further details on the specifications of the unit's parallel interface, refer to the on-line help.

Note: For information regarding software installation, please refer to Chapter 3.

Caution!

While the interface cable is connected, the interruption of power to the unit during transmission will result in the erasure of all items in fax memory.

5. Final Preparations

Loading Printing Paper

The paper tray holds the paper on which received documents and copies are printed.

Up to 100 sheets of letter or legal sized paper from 16 to 21 lbs. can be loaded in the tray.

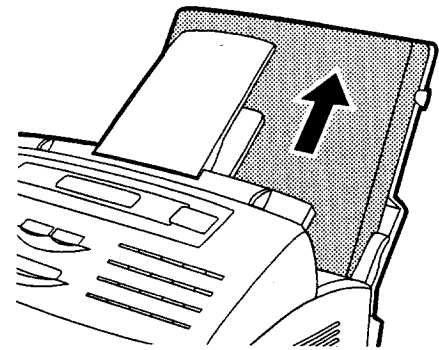
Caution!

Do not use paper which has already been printed on one side by a laser printer or copier. This may damage the roller in the fusing unit, and cause poor paper quality and frequent paper jams.

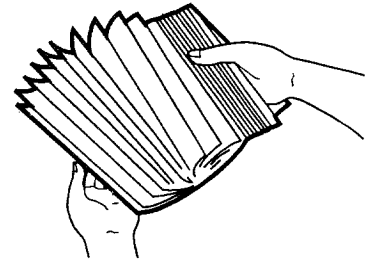
Be sure that the unit is plugged into an electrical socket, and that the power is on before you load paper into the paper tray.

Note: Plain paper has a "print" side which should be used to obtain the best print quality. The print side is not visible to the naked eye, so check the label on the end of the package before removing the paper. The print side will be indicated by an arrow, symbol, or wording. Load the paper in the tray print-side up as described below.

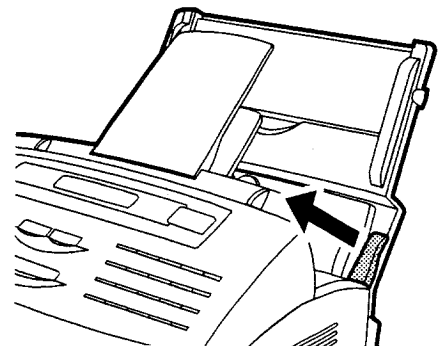
- ① Remove the paper tray cover.



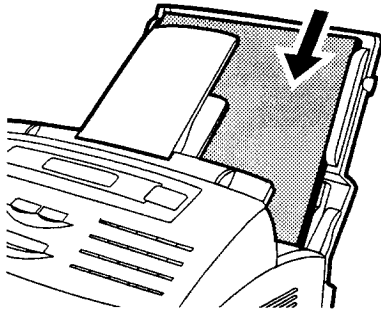
- ② Fan the paper, and then tap the edge against a flat surface to even the stack.



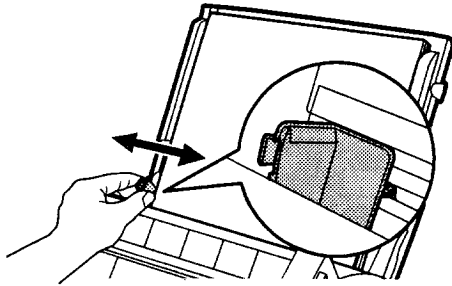
- ③ Pull the paper release lever on the right side of the paper tray (marked "PULL") toward you.



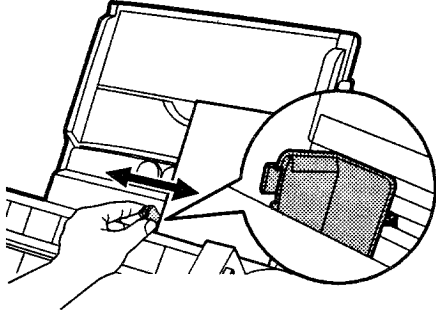
- ④ Insert the paper into the tray, print side up.



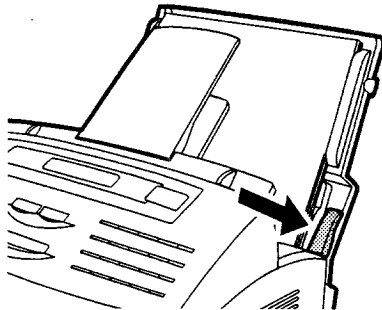
- ⑤ Make sure that the right edge of the paper is aligned the right paper guide, and then move the left paper guide until it reaches the position marked "LTR" for letter-size paper, "A4" for A4-size paper or "A5" for A5-size paper.



When printing onto an envelope, insert it vertically and align it with the right paper guide. Make sure that the print side is face upwards and that the flap is on the right when looking at the unit from the front. Leave a gap of approximately 1 mm (1/32") between the paper guide and the edge of the envelope.

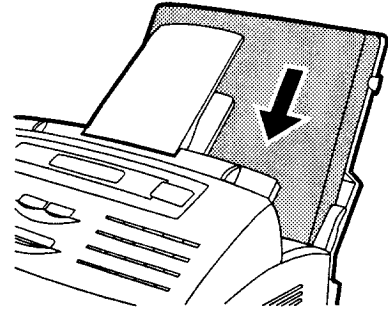


- ⑥ Push the paper release lever on the right side of the paper tray down to set the paper.



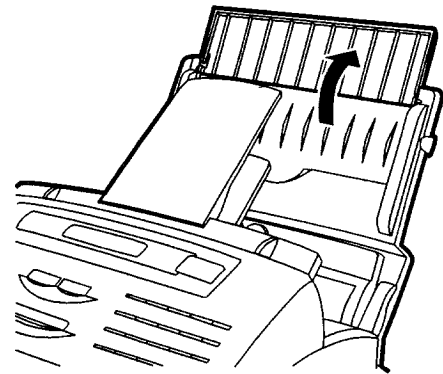
Notes: When printing envelopes, transparencies, and labels, do not overstock the paper tray, otherwise paper jams may occur. If a paper jam does occur, feed items one envelope or sheet at a time.

- ⑦ Replace the paper tray cover.



Notes: When loading paper that is too long to be supported by the paper tray, unfold the flap located on the upper side of the paper tray upwards to increase support length.

When adding paper to the paper tray, you must first take out any remaining paper, combine it into one stack with the new paper, and then put the stack in the paper tray. If you do not remove the remaining paper and simply place new paper on top of it, double feeding may result.



- ⑧ Set the paper output selector in the up position if you wish to have documents feed into the output paper support (face-down printing), or the down position if you wish them to come out into the face-up output slot (face-up printing).

Face-down Printing

Face-down Printing places the output documents into the output paper support. This method is best used for standard types of paper.

Set the paper output selector in the up position to select Face-down Printing.

Output paper support

