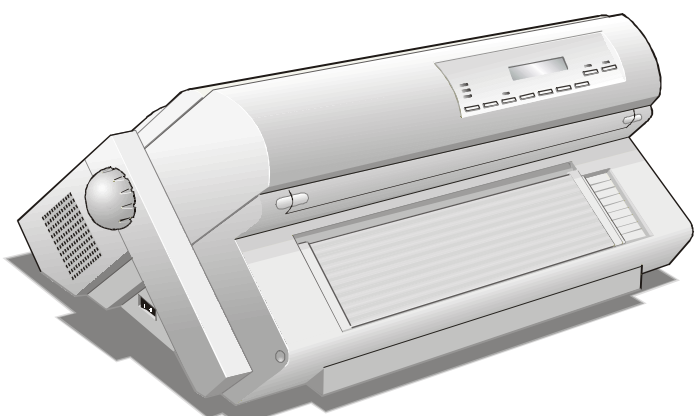
Model 3850

User's Manual



GENICOM®

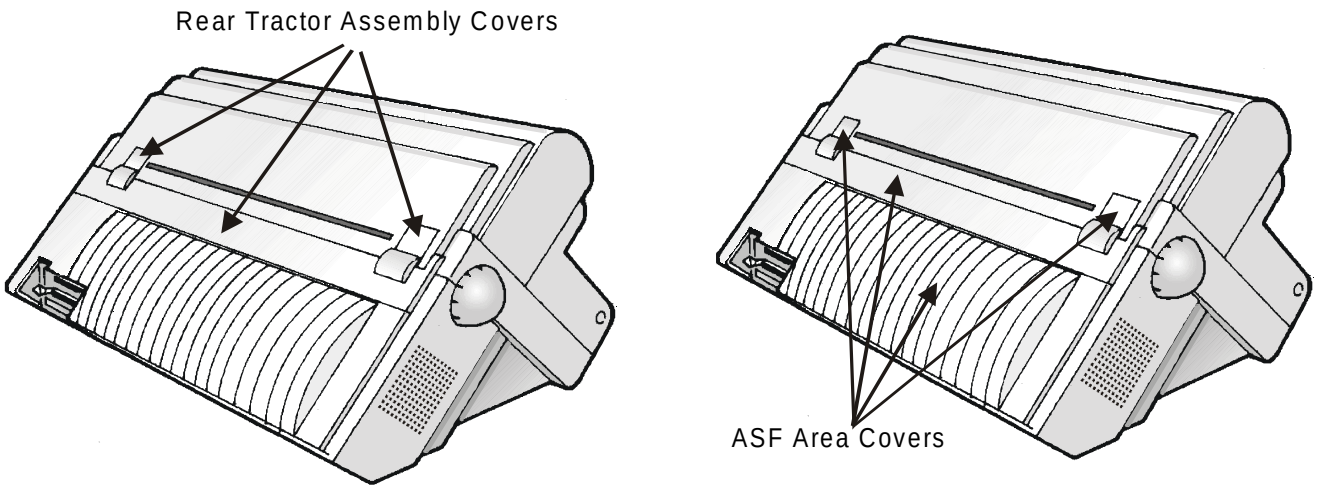
GEK-01003

Safety Information

A. Never remove any printer cover except to install a printer accessory and as expressly described in this manual.

B. Please store the printer covers in a safe place. The covers must be reinstalled if you decide to remove any printer accessory.

The following areas of the printer should be covered for safety reasons:



The above openings must always be protected with their covers when the corresponding option is not installed. Do not touch inside the opening and do not insert any object into these openings or into the gears.

Table of Contents

Getting to Know Your Printer

Printer Features

- 24 Needle Print Head
- 136 columns
- Draft printing at 500 cps, LQ printing at 133 cps
- IBM Proprinter XL24E-XL24, EPSON LQ 1050, GENICOM ANSI emulations
- Multiple copies (1 original and 5 copies) all paths
- Easy print function selection and printer configuration via operator panel or SW commands
- Additional Front Push Tractor Assembly (option)
- Rear Pull Tractor Assembly (option)
- Automatic Sheet Feeder (option) that handles cut sheets and envelopes
- Usage of all specific features by means of the Specific Software Driver which is applicable to the most popular S/W Packages
- Plug & Play capability for Windows 95/98/2000®
- Bi-directional IEEE 1284 parallel interface and standard serial RS-232/C and RS-422/A interface. Automatic switching between both interfaces

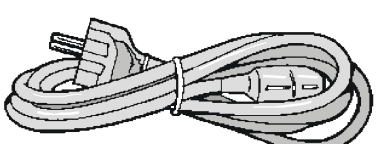
Unpacking Your Printer

Together with the CD-Rom with this *User's Manual*, the following items are included in the box:

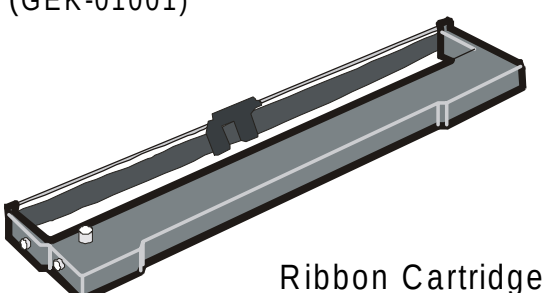
Notify any damage to your supplier.

Quick Reference Guide
(GEK-01009)

CD-Rom
(GEK-01001)



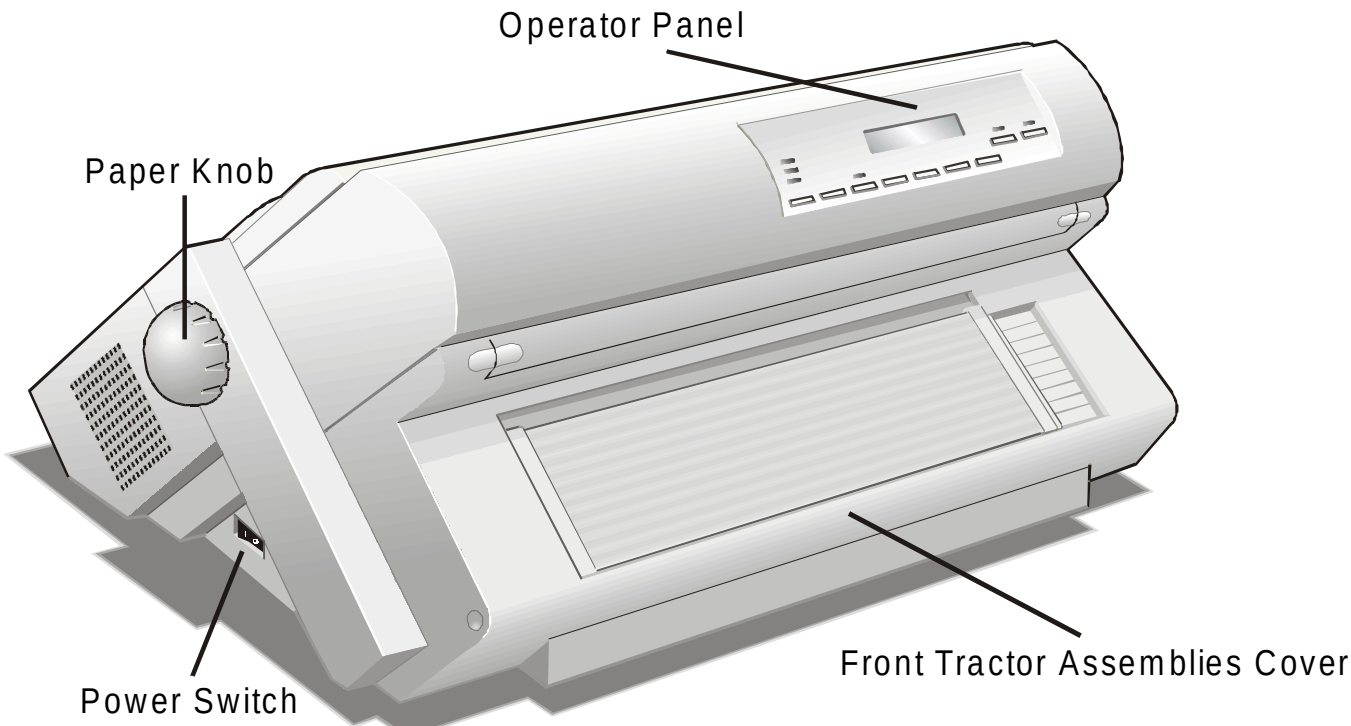
Power Cable



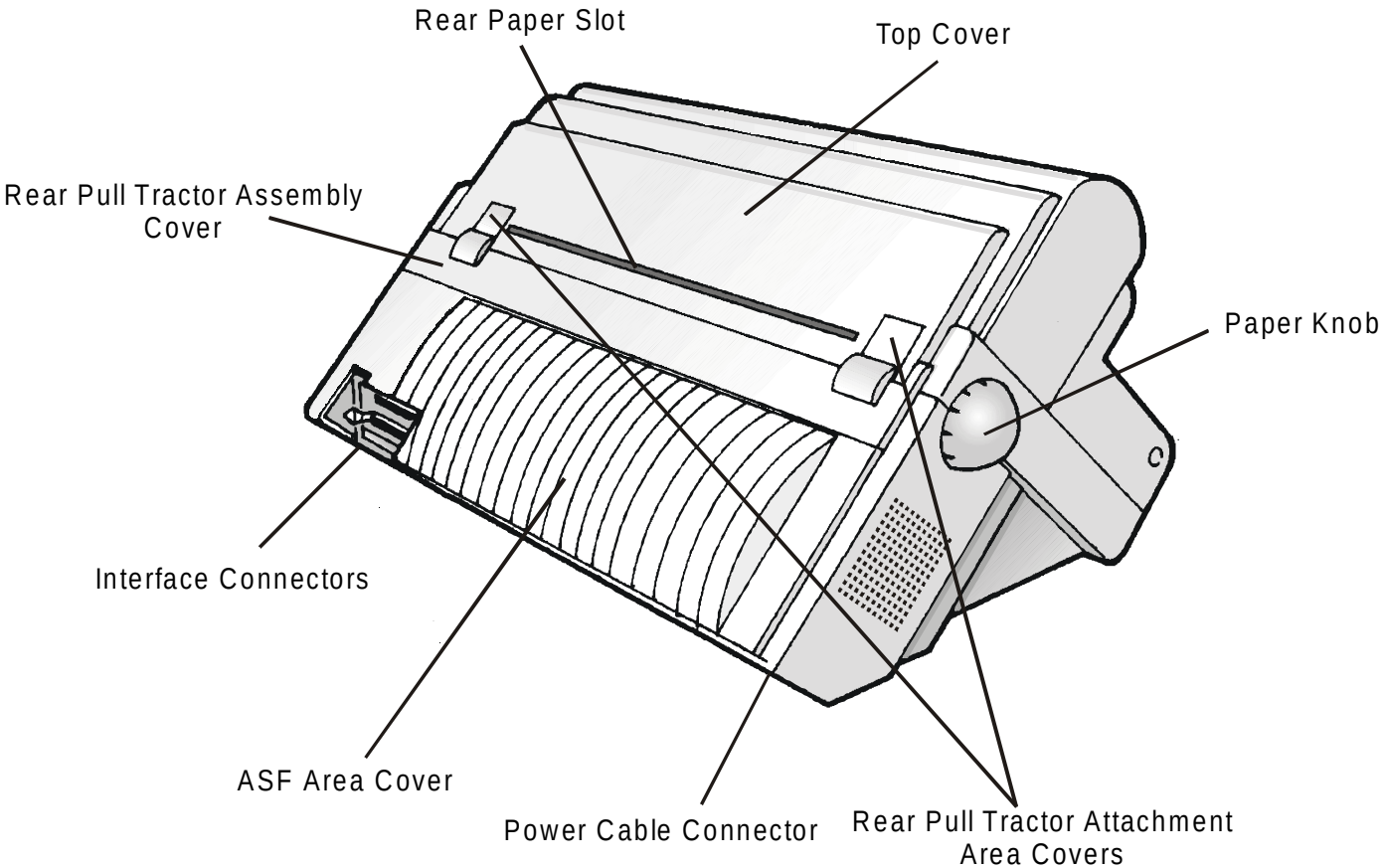
Ribbon Cartridge
(1A3000B01)

Printer Parts

Front View



Rear View


Rear Paper Slot
Top Cover
Rear Pull Tractor Assembly Cover
Paper Knob
Interface Connectors
ASF Area Cover
Power Cable Connector
Rear Pull Tractor Attachment Area Covers

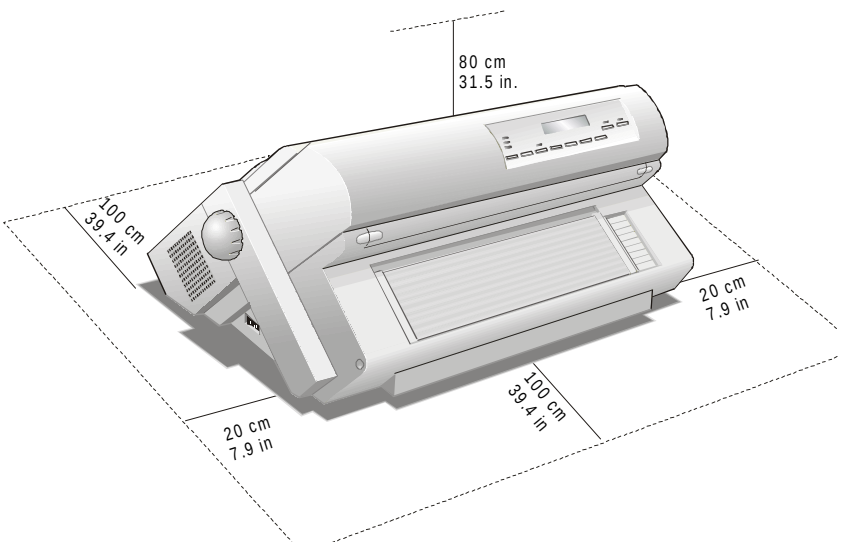
Setting Up Your Printer

Choosing a Suitable Location

Consider the following points when you choose the location for your printer:

- The distance between the printer and the host computer must not exceed the length of the interface cable;
- The location must be sturdy, horizontal and stable;
- Your printer must not be exposed to direct sunlight, extreme heat, cold, dust or humidity (see **Printer Specifications** later in this *User's Manual*);
- The power outlet must be compatible with the plug of the printer's power cord.

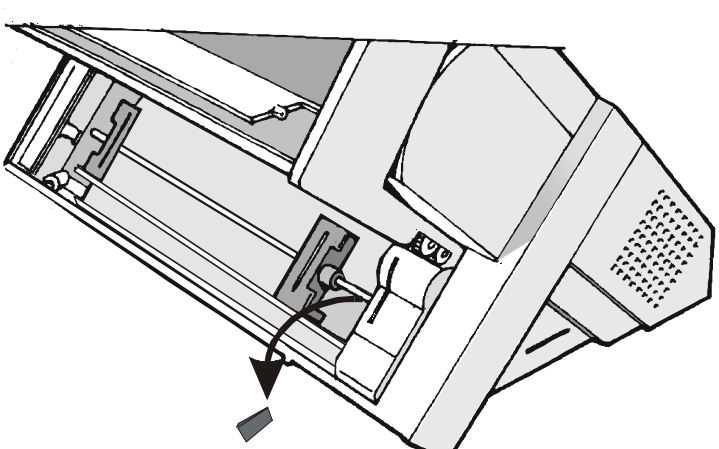
There must be sufficient clearances on all sides for easy operation. The required space is shown in the figure:

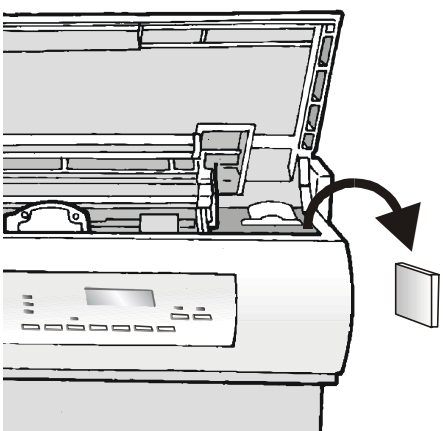


Printer Assembly

Removal of the Shipment Locks

Open all the printer covers and make sure that you remove the two shipment locks from the printer.

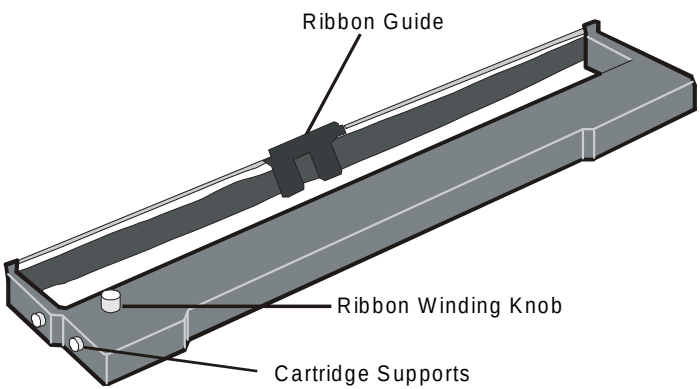


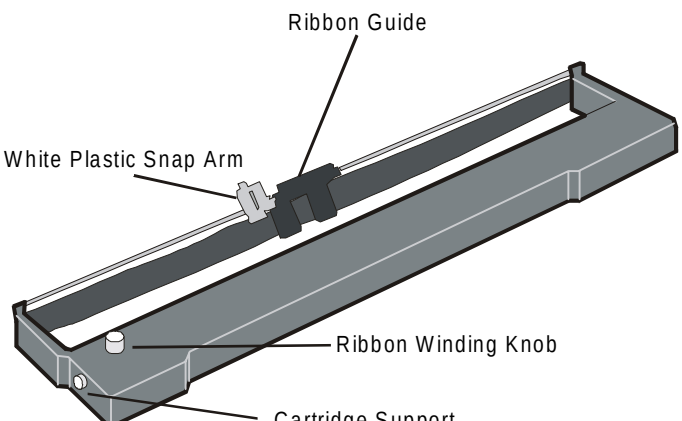


Ribbon Cartridge Installation

Make sure that you are using only original consumables.

1. Make sure that the printer is turned off.
2. Find the ribbon cartridge among the accessories





1A3000B01
to be used, when the color kit option is not installed

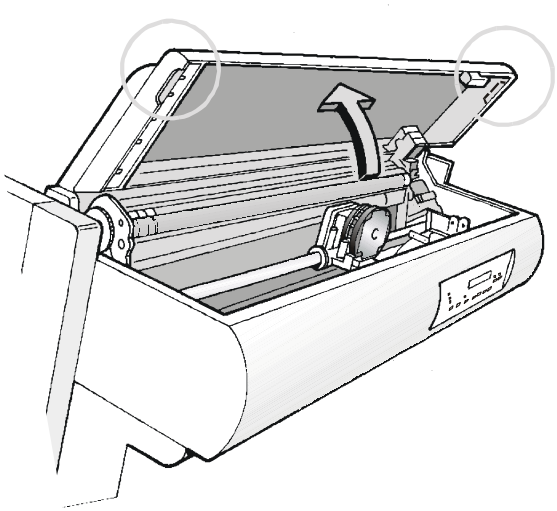
1A3000B02 (Color)

1A3000B03 (Red/Black)

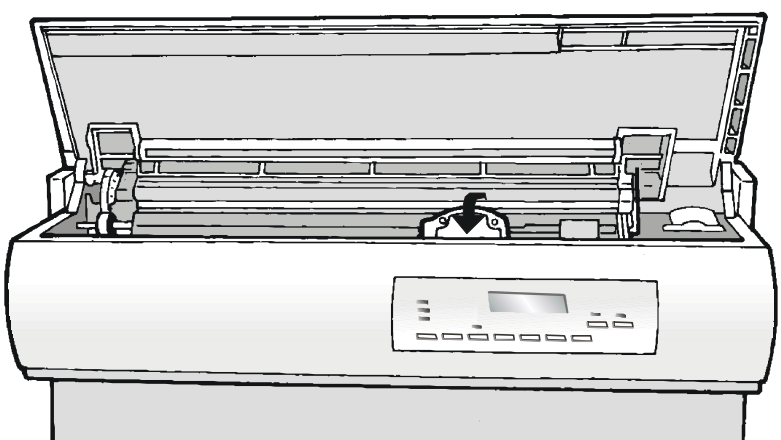
1A3000B04 (Extended Life Black)

to be used, when the color kit option is installed

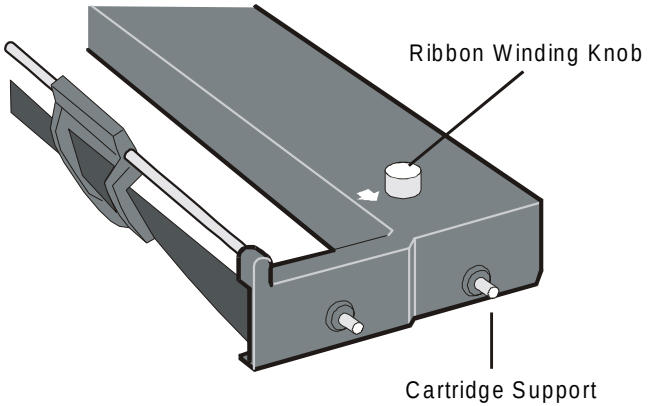
3. Open the top cover using the small handles on either side of the top cover.



4. Turn the printer on. The print carriage prepares for ribbon cartridge installation.



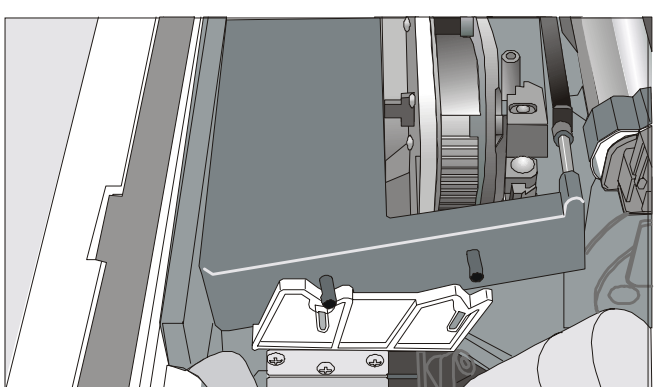
5. Before installing the ribbon cartridge turn the ribbon winding knob in the arrow direction (located on the cartridge) to take up slack in the ribbon.



To avoid damage to the ribbon, do not turn the winding knob in the wrong direction.

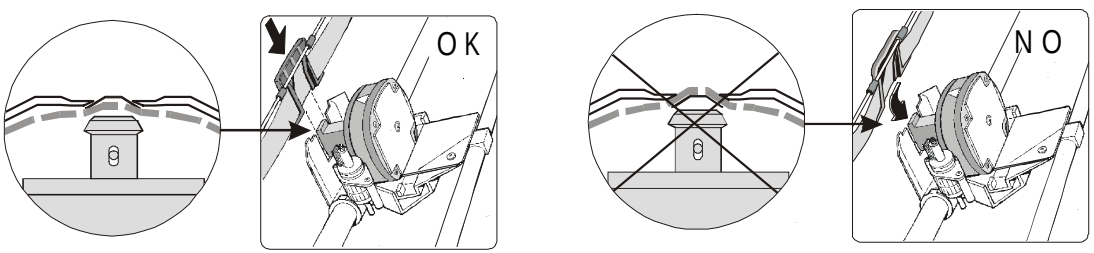
6. Align the left and right cartridge supports with the printer locking points.

The Extended Life Black ribbon cartridge (1A3000B04) or the 4 Color Process ribbon cartridge (1A3000B02) to be used when the color kit option is installed has only one groove.

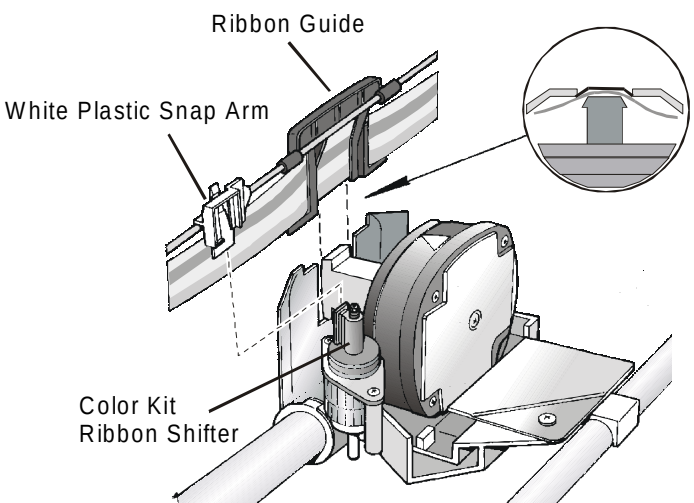


7. Slide and insert the ribbon guide between the print head and the ribbon guide mask holding it perpendicular to the print head.

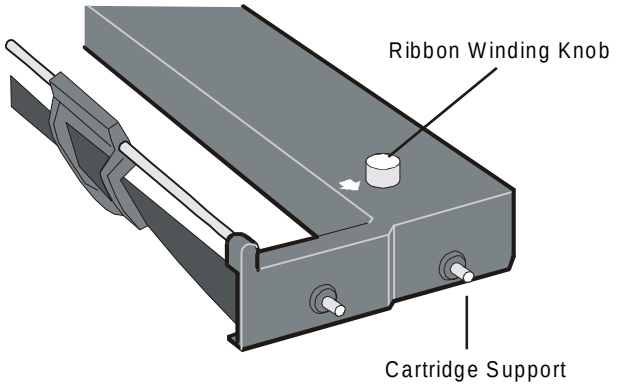
Make sure that the ribbon is inserted correctly between the print head and the print head mask.



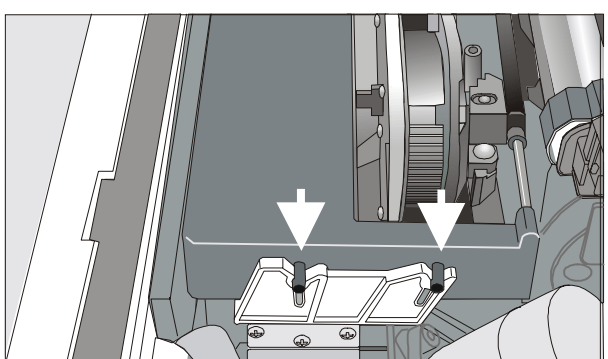
8. If the color kit option is installed in the printer, insert the white plastic snap arm onto the color kit ribbon shifter as shown in this figure.



9. Turn the ribbon winding knob in the arrow direction (located on the cartridge) to take up slack in the ribbon.



10. Push the cartridge down gently until it clips into place at all locking points: two on each side for the black ribbon, one on each side for the color and the extended life ribbon.



11. Turn the ribbon winding knob again in the direction of the arrow to take up slack in the ribbon.

12. To ensure that the ribbon guide runs freely along the ribbon, manually move the print carriage horizontally.

If the used ribbon cartridge needs to be replaced, see **Replacing the Ribbon Cartridge** later in this *User's Manual.*

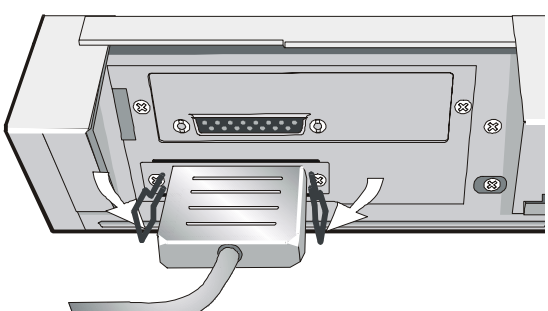
Host Computer Connection

This printer can be connected to the host computer via two available interfaces. The interface connectors are located on the rear of the printer.

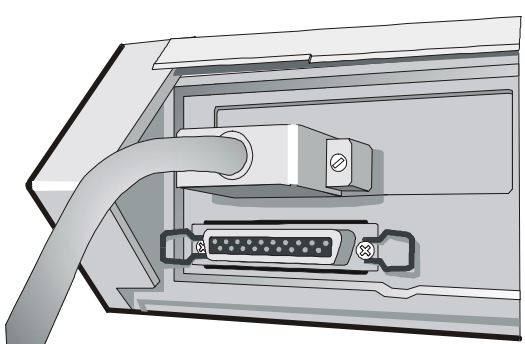
- A bidirectional IEEE1284 parallel interface
- A RS-232C/422A serial interface

Before connecting the interface cable, make sure that the printer and the host computer are turned OFF.

Insert the *parallel interface cable* into the parallel connector and fasten it by means of the clips.
Insert the *serial interface cable* into the serial connector, and fix it fastening the two screws on both sides of the connector.



Parallel Interface



Serial Interface

Software Driver Selection

At this point it is necessary to configure the printer for the application package. The installation procedures depend upon the host environment.

In a WINDOWS 95/98/2000® environment the printer supports the Plug & Play feature.

Install the printer driver following the instructions on the CD-Rom:

1. Insert the CD-Rom into the CD drive.
2. Select the language you prefer and press the `Next =>` button.
3. Select `Install Printer Driver`, then press the `Next =>` button.
4. Select whether the printer should be installed as a local or remote printer, then press the `Next =>` button.
5. Press the `Driver disk` button.
6. Select the CD drive.
7. Select the 3850 directory, then select the environment and the language for the printer driver that should be installed. Press the `OK` button.
8. Select the printer port with which the printer is connected to the host.

The printer drivers of .GENICOM printers can be found at the Internet Address
http://www.genicom.com/drivers/genicom.htm

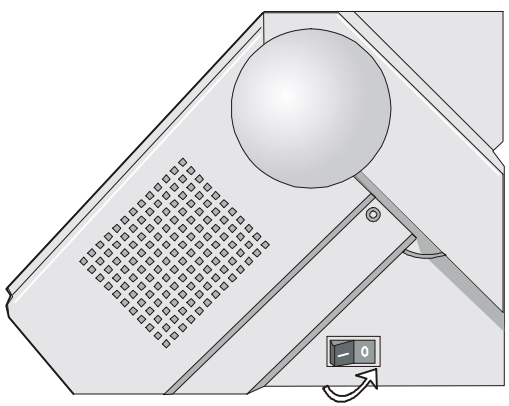
Power Connection

The power outlet must be compatible with the plug of the printer's power cord.

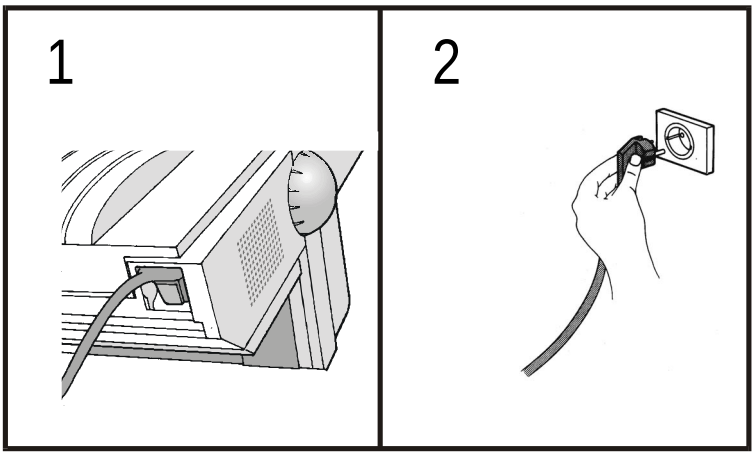
Always use a grounded outlet.

1. Make sure the power outlet is near the printer location and easily accessible.

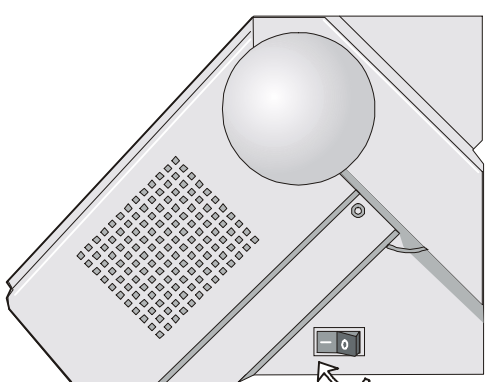
2. Make sure that the power switch is in *0 position (*OFF).



3. Insert the power cable plug into the printer connector and the other power cable end into a convenient outlet (the figure shows the European power cable).



4. If you need to turn the printer on, press the power switch in the *I position* (ON).



Selecting the Display Language

The display messages for the printer can be displayed in five different languages: English (Default), French, German, Italian and Spanish. To select the language, that you prefer, proceed as follows:

1. Hold the MENU key down on power up. The display shows:

   STARTING UP

2. Shortly after the power comes up, the LCD displays the following message:

   SYSTEM MENU

3. Release the MENU key. The LCD displays the first menu item:

   CHARACTER SET

4. Now, press the ↓ key until the LCD language function displays:

   LCD LANGUAGE

5. Press the ENTER key to enter this function.
6. Press the ↓ key to scroll the LCD languages:

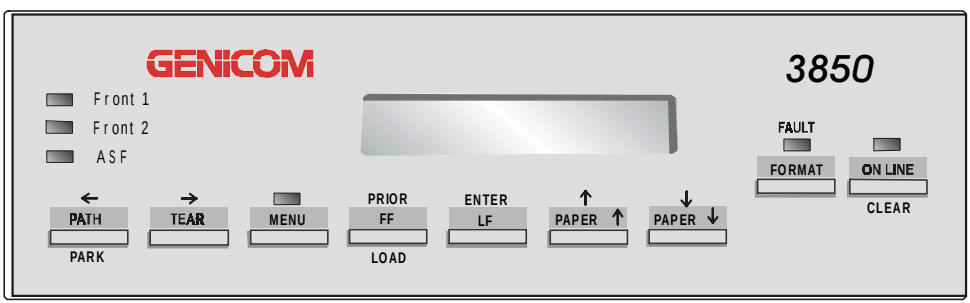
   LCD:ENGLISH LCD:FRANCAIS LCD:DEUTSCH
   LCD:ITALIANO LCD:ESPANOL

7. When the desired language is displayed, press the ENTER key again to select it.
8. Press the ON LINE key to exit menu.

Configuring the Printer

Operator Panel Presentation

The operator panel enables you to perform many of the printer functions including paper path selections, font selection and the printer setups. From the front of the printer, the operator panel is located on the right and appears as follows:



The operator panel consists of:

- A 16-character LCD (Liquid Crystal Display)
- Six led indicator lamps
- Nine function keys

LCD (Liquid Crystal Display)

The LCD shows messages (up to 16 characters) regarding the print functions and the operating state of the printer. All display sets can be displayable in language specified by the LCD language selection of the *System Menu* (see **Selecting the Display Language** in this *User's Manual*).

Since words in some messages are abbreviated, be sure to carefully read the explanations found throughout this manual for their meanings.

LEDs

Indicate the On line status, fault condition and the current paper path.

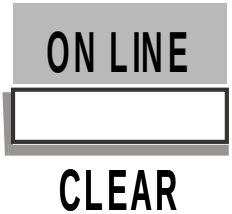
 ON LINE	On , when the printer is On line.
	Blinking, when data is present in the input buffer and printer is in WAIT condition.
	Off , when printer is Off line.
	Located above ON LINE key.
 MENU	On, when printer is in any menu.
	Off , when printer in not in any menu.
	Located above MENU key.
FAULT 	On, when printer is in any error condition, including but not limited to: cover open, carriage stall, line feed motor stall, paper jam, paper out, serial interface framing/parity errors and buffer overflow.
	Located above FORMAT key.
 Front 1	On, when the Front1 paper path is selected. On, when the Push-Pull paper path is selected (if the optional Rear Pull tractor assembly is installed.)
 Front 2	On, when the Front2 paper path is selected (if the optional Front2 Push tractor assembly is installed).
 ASF	On, when the ASF paper path is selected (if the optional ASF is installed).

Key Functions

The operator panel keys have different functions depending on the printer's mode of operation. The modes of operation are:

- OFF LINE Mode
- ON LINE Mode
- MENU Mode
- POWER ON Mode
- TEAR OFF Mode

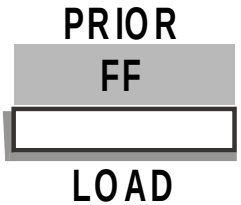
Some keys may be "locked" or have no function in a given mode. See Selecting Key Lockout in the *System Menu*.



STATUS	*FUNCTION*
Off Line	Puts the printer in ON LINE condition. The ON LINE led is turned on and the LCD displays the name of the currently active format (`FORMAT # x`) or displays `CURRENT` if no format has been selected. In an error condition, if you press this key, the printer will clear the error and the LCD will display `OFF LINE`, if you press this key again the printer goes ON LINE.
On Line	Puts the printer in OFF LINE condition. The ON LINE led is turned off and the LCD displays `OFF LINE`.
Menu	Exits Menu and goes ON LINE. If the Menu was on a selection item and a change was made, then the selection will be updated accordingly; the LCD will display `SAVING CHANGE` and printer will exit Menu and go ON LINE.
Power Up	No action.
Tear Off	Same as OFF LINE or ON LINE.

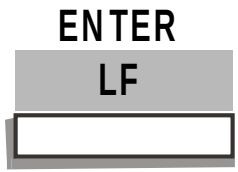
Some keys may be "locked" or have no function in a given mode. See Selecting Key Lockout in the *System Menu*.

STATUS	FUNCTION
On Line	A configuration status report is displayed on the LCD by cycling through the *current* FONT STYLE, CPI, LPI, FORM LENGTH, EMULATION, PAPER PATH and INTERFACE.
Off Line	The printer will enter the *Operational Menu* and display the first menu item: FONT STYLE. (See The Operational Menu for details in this *User's Manual*).
Menu	Exits Menu and the printer goes OFF LINE. If the Menu was on a selection item and a change was made, then the selection will be updated accordingly, the LCD will display SAVING CHANGE and printer will exit Menu and go OFF LINE.
Power Up	The printer will enter the *System Menu* and display the first menu item: CHARACTER SET. (See The System Menu for details in this *User's Manual*).
Tear Off	No action.

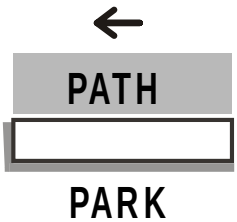


STATUS	*FUNCTION*
On Line	If the paper is loaded it will move to the top of the next form. If the paper has not been loaded, the paper will be loaded from the currently selected paper path.
Off Line	Same as if ON LINE.
Menu	Will cause the display to go back to the next higher level of the menu at the point it was entered. If you are at a selection level and a change has been made with the ↑ or ↓ key, then the change will NOT be saved and the display will go to the next item in the next higher level of the menu.
Power Up	If you press this key together with the LF key, the printer will enter the *Initial Set Up Menu* (ISU). See **The Initial Set Up (ISU) Menu** for details in this *User's Manual*.
Tear Off	If the paper is loaded it will move to the top of the next form at the tear off position.

Some keys may be "locked" or have no function in a given mode. See Selecting Key Lockout in the *System Menu*.



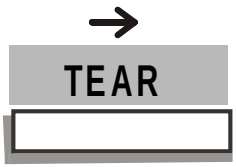
STATUS	FUNCTION
On Line	Causes the paper to advance one line at the currently selected line spacing increment, if you hold down this key more than one second a continuous line slew will occur at maximum rate.
Menu	Causes the Menu selection to go into the next lower level of the menu. If you are at a selection level and a change has been made with the PAPER ↑ or PAPER ↓ key, then the selection will be updated accordingly; the LCD will display `SAVING CHANGE` and then go to the next item in the next higher level. If no change has been made while at the selection level, then the display will go to the next item in the next higher level of the menu.
Off Line	Same as if ON LINE.
Power Up	When this key is pressed together with the FF/LOAD key, the printer will enter the *Initial Set Up Menu* (ISU). See **The Initial Set Up (ISU) Menu** for details in this *User's Manual.*
Tear Off	No action.



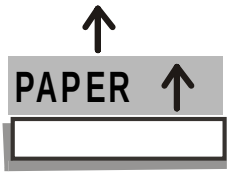
This key performs both "PARK" and "PATH SELECT" functions.

STATUS	*FUNCTION*
On Line	A first press will cause the current path to park the paper if another press of the key is not made within 1.5 seconds. The second key press within 1.5 seconds will cause the path selection to cycle with each additional press of the key and after 1.5 seconds of no key action, the paper will park in the current path, switch to the new path, and paper will be loaded. The printer will be Busy to the Host during this time until paper is successfully loaded and the printer is ON LINE.
Off Line	Same as ON LINE.
Menu	If `PROGRAM UNITS: NUMERIC` is selected (see **Selecting Fixed or Numeric Program Units** in the *System Menu*) and if at selection level of menu, the keystroke causes the LCD cursor to shift one segment to the left. If cursor is at leftmost position of the data modification field, then keystroke is ignored. If `PROGRAM UNITS: FIXED` is selected, then keystroke is ignored.
Power Up	No action.
Tear Off	Same as ON LINE.

Some keys may be "locked" or have no function in a given mode. See Selecting Key Lockout in the *System Menu*.

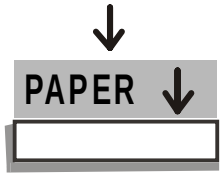


STATUS	FUNCTION
On Line	Causes the paper to advance to the Tear position from the current print position. If ASF is installed, then additional distance will be added (if necessary) to ensure tear off position. LCD will display `PLEASE TEAR OFF`. The paper will automatically retract to the current print position after a preset time.
Off Line	Same as ON LINE.
Menu	If `PROGRAM UNITS:NUMERIC` is selected (see **Selecting Fixed or Numeric Program Units** in the *System Menu*) and at selection level of menu, the keystroke causes the LCD cursor to shift one segment to the right. If cursor is at rightmost position of the data modification field, then keystroke is ignored. If `PROGRAM UNITS:FIXED` is selected, then keystroke is ignored.
Power Up	No action.
Tear Off	Terminates the Tear Off mode and causes the paper to retract to the current print position. If the tear off dimension was modified with the ↓ and ↑ keys then the new dimension is stored when this key is pressed.



STATUS	*FUNCTION*
On Line	Advances the paper by 1/180" (one step). If you press and hold this key more than 1 sec. the paper feed speed increases. The printer (similar to turning the paper knob) does not memorize paper advance using this key.
Off Line	Same as ON LINE function.
Menu	At the non-selection level, will cycle backward through the menu structure of each level of the menu. When you are on a "fixed" selection item, pressing this key will increase value (such as `1.0` to `1.5`) or change the selection (such as `DRAFT` to `COURIER`). When you are on a "variable" selection item, pressing this key will increase the value at the LCD cursor position (e. g. `4` to `5`).
Power Up	No action.
Tear Off	Causes the paper to move up for setting a new Tear Off distance. During tear-off, the LCD will display `TEAR OFF ADJ` and will increase value as the ↑ key is pressed. Paper will move 1/180 " with each press or will repeat if you hold down. New dimension is saved when the TEAR key is pressed or when tear off time-out occurs.

Some keys may be "locked" or have no function in a given mode. See Selecting Key Lockout in the *System Menu*.



STATUS	FUNCTION
On Line	Reverses the paper by 1/180" (one step). If you press and hold this key more than 1 sec. the paper feed speed increases. The printer (similar to turning the paper knob) does not memorize paper reverse using this key.
Off Line	Same as ON LINE function.
Menu	At the non-selection level, will cycle forward through the menu structure of each level of the menu. When you are on a "fixed" selection item, pressing this key will decrease the value (such as `1.5` to `1.0`) or change the selection (such as `DRAFT` to `COURIER`). When you are on a "variable" selection item, pressing this key will decrease the value at the LCD cursor position (e. g. `5` to `4`).
Power Up	No action.
Tear Off	Causes the paper to move down for setting a new Tear Off distance. During tear-off, the LCD will display `TEAR OFF ADJ` and will decrease value as the ↓ key is pressed. Paper will move 1/180 " with each press or will repeat if you hold down. New dimension is saved when the TEAR key is pressed or when tear off time-out occurs.

STATUS	*FUNCTION*
On Line	Same as OFF LINE.
Off Line	Basically, each key depression will toggle through the stored format numbers/names in order to allow user to simply change from one format to another. • The first press will cause the LCD display to indicate `SELECT CURRENT`. • If the key is not pressed again within 3 sec., the printer exits *Format* selection. • If the key is pressed again within 3 sec., then the next format number/name will be displayed. If the FORMAT key is not pressed again within 3 sec., then the format displayed is loaded, all format parameter values will be updated and the printer exits *Format* selection. • If the user cycles through the formats and the last one displayed is `CURRENT`, then no change will take place. If format names have been assigned, then they are displayed, else `FORMAT # x` is displayed where `x` is the default value assigned to a format.

STATUS	FUNCTION
Menu	In the FORM THICKNESS (AUTO or FIXED) function (see **Adjusting for the Thickness of Your Forms** for details in this *User's Manual*), press the FORMAT key, the printer prints 3 rows of "H's". Pressing any other key will cause the tear position to move back to the original print line.
Power Up	No action.
Tear Off	No action.

Some keys may be "locked" or have no function in a given mode. See Selecting Key Lockout in the *System Menu*.

Printer Setups

The main printer setup parameters can be selected via the operator panel. The setup parameters are divided into three printer setups: the *System Menu*, the *Operational Menu* and the *Initial Set-up Menu*.

System Menu — Allows configuration of parameters that are not used on a day-to-day basis. For example, printer response to CR code, interfaces type and code page selection.

Operational Menu — Allows you to set various print mode parameters that are useful in your day-to-day job. For example: font character pitch and margins (left/right and top/bottom).

As new selections are made using the *System* and *Operational Menu*s, there may come a time when the condition of the printer parameters is too confusing or is not what they are expected them to be. When this happens, an Initial Setup (ISU) may be executed:

Initial Set-up Menu — The main purpose of this menu is to provide the user with a way to get the printer back to a known state.
All *System / Operational Menu* values are restored to the factory default settings except `ALIGNMENT` and `SENSOR TUNE` functions (and `RIBBON` and `ASF TYPE` functions of the *System Menu*).

Menu Structure

The menus are structured in an outline format:

Primary level for main headings

Secondary levels for parameter selection

In the LCD:

- The primary "level" of the menu is in the leftmost and successive "levels" are tabbed accordingly.
- The flashing serves to indicate that you are at the "selection" or "change" level.
- The mark " >" (greater than) symbol in the display message indicates the current default value.
- The convention that will be used during the parameter description selections is the following one:

LCD MESSAGE **Key to be pressed**

The Initial Set-Up (ISU) Menu

There are three primary headings in the *Initial Set Up Menu* as shown below. Each primary heading has one or two levels below it:

1. INITIALIZE
2. ALIGNMENT
3. SENSOR TUNE

Entering Initial Set-Up Menu

To enter the *Initial Set-Up Menu*, proceed as follows:

1. Turn off the printer's power.
2. Press and hold the LINE FEED and FF/LOAD keys.
3. While holding these keys, turn on the printer's power. Shortly, after the power comes up, the LCD displays the following message:

   INITIAL MENU

4. Release the LINE FEED and FF/LOAD keys. The LCD displays the first menu item:

   INITIALIZE

Moving within the Initial Set-Up Menu

1. Press the ENTER key to go into the next Front1 level of the menu.
2. Use the ↑ or the ↓ keys to scroll within a level as well as to change parameter value display at the selection level.
3. Press the ENTER key to save selections at the selection level (SAVING CHANGE displays). The selection level is apparent whenever the LCD is flashing on and off.
4. Use the PRIOR key to go to the next higher level as well as to not save a selection at the selection level.

Selecting the Initialization

This function restores all *System* and *Operational Menu* values to the factory default settings:

NO: no changes made.

INT: initializes all menu values to the International settings.

DOM: initializes all menu values to the US settings.

AFP: initializes all menu values of special applications.

INITIALIZE	**ENTER**
INIT:NO	↓
INIT:INT	↓
INIT:DOM	↓
INIT:AFP	↓

Selecting the Alignment (Print Wire Flight Time)

If the currently displayed value is changed, then the flight time setting changes. Pressing the FORMAT key causes 3 rows of H's to be printed; the paper moves to the view position and paper returns to the original print position when the FORMAT key is pressed. The alignment value is stored by exiting the *Initial Setup Menu* by pressing the MENU key. The alignment value is not affected by ISU. The value selected is applied to all paper paths.

ALIGNMENT	**ENTER**	**ALIGN:-6**	↓
ALIGN>0	↓	**ALIGN:-5**	↓
ALIGN:1	↓	**ALIGN:-4**	↓
ALIGN:2	↓	**ALIGN:-3**	↓
ALIGN:3	↓	**ALIGN:-2**	↓
ALIGN:4	↓	**ALIGN:-1**	↓
ALIGN:5	↓		
ALIGN:6	↓		

This function checks the ambient light level of the optical paper sensors and stores a reference value.
Y: checking takes place (Sensors Tuning message is displayed).
N: no checking takes place.

SENSOR TUNE	**ENTER**
TUNE>N	↓
TUNE:Y	↓

Before selecting this function (TUNE>Y), make certain that paper is removed from all paper paths. Failure to remove paper during tuning will result in incorrectly tuned sensors.

Leaving Initial Set-Up Menu

To exit the *Initial Set Up Menu* press the MENU key and the printer leaves this Menu.

The System Menu

There are 16 primary headings in the *System Menu* as shown below. Each primary heading has one or two levels below it:

1. CHARACTER SET
2. NATIONAL SET
3. CHARACTER TABLE
4. LCD LANGUAGE
5. IBM OPTIONS
6. ANSI OPTIONS
7. OTHER OPTIONS
8. BUFFER SETUP
9. INTERFACE
10. PARALLEL OPTIONS
11. SERIAL OPTIONS
12. KEY LOCKOUT
13. PATH OPTIONS
14. PATH/FORMAT
15. PROGRAM UNITS
16. PRINT STATUS

Entering System Menu

To enter the *System Menu*, proceed as follows:

1. Hold the MENU key down on power up.
2. Shortly, after the power comes up, the LCD displays the following message:

   SYSTEM MENU

3. Release the MENU key. The LCD displays the first menu item:

   CHARACTER SET

Moving within the System Menu

1. Press the ENTER key to go into the next lower level of the menu.
2. Use ↑ or the ↓ keys to scroll within a level as well as to change parameter value display at the selection level.
3. Press the ENTER key to save selections at the selection level (SAVING CHANGE displays). The selection level is apparent whenever the LCD is flashing on and off.
4. Use the PRIOR key to go to the next higher level as well as to not save a selection at the selection level.

Select a character set for emulation: EPSON, IBM or ANSI.

CHARACTER SET

Epson Emulation

To change the character set in the Epson emulation, press the ENTER key to go from the top level to the second level as shown below:

CHARACTER SET	**ENTER**
CHR: EPSON	**ENTER**
CHR:E>ITALIC	↓
CHR:E:CS1	↓
CHR:E:CS2	↓

IBM Emulation

To change the character set in the IBM emulation, press the ENTER key to go from the top level to the second level as shown below:

CHR: IBM	**ENTER**
CHR:I>CS1	↓
CHR:I:CS2	↓

ANSI Emulation

To change the character set in the ANSI emulation, press the ENTER key to go from the top level to the second level as shown below:

CHR: ANSI	**ENTER**
CHR:A>CS1	↓
CHR:A:CS2	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (NATIONAL SET displays).

Select a national set for the EPSON and ANSI emulations only.

NATIONAL SET

Epson Emulation

To change the national set in the Epson emulation, press the ENTER key to go from the top level to the second level as shown below:

NATIONAL SET	ENTER	NATL:E:LATIN AME ↓
NATL: EPSON	ENTER	NATL:E:KOREA ↓
NATL:E>USA	↓	NATL:E:LEGAL ↓
NATL:E:FRANCE	↓	NATL:E:NETHERLAN ↓
NATL:E:GERMANY	↓	NATL:E:ANGLO-UNI ↓
NATL:E:UK	↓	NATL:E:S. AMERICA ↓
NATL:E:DENMARK 1	↓	NATL:E:PORTUGAL ↓
NATL:E:SWEDEN	↓	NATL:E:AFRICA ↓
NATL:E:ITALY	↓	NATL:E:SWISS ↓
NATL:E:SPAIN 1	↓	NATL:E:TURKEY ↓
NATL:E:JAPAN	↓	NATL:E:GREECE ↓
NATL:E:NORWAY	↓	NATL:E:YUGOSLAV ↓
NATL:E:DENMARK 2	↓	NATL:E:CYRILLIC ↓
NATL:E:SPAIN 2	↓	

To change the character set in the ANSI emulation, press the ENTER key to go from the top level to the second level as shown below:

NATL: ANSI	**ENTER**	**NATL:A:DAN/NOR C**	↓
NATL:A>USA	↓	**NATL:A:DAN/NOR D**	↓
NATL:A:GERMANY	↓	**NATL:A:SWE/FIN A**	↓
NATL:A:FRANCE A	↓	**NATL:A:SWE/FIN B**	↓
NATL:A:FRANCE B	↓	**NATL:A:SWE/FIN C**	↓
NATL:A:FREN/CANA	↓	**NATL:A:SWE/FIN D**	↓
NATL:A:DUTCH	↓	**NATL:A:SWISS**	↓
NATL:A:ITALY	↓	**NATL:A:YUGOSLAV**	↓
NATL:A:UK	↓	**NATL:A:UK A**	↓
NATL:A:SPAIN	↓	**NATL:A:TURKEY**	↓
NATL:A:DAN/NOR A	↓	**NATL:A:GREEK**	↓
NATL:A:DAN/NOR B	↓	**NATL:A:CYRILLIC**	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (CHARACTER TABLE displays).

Selecting Character Table for an Emulation

Select a character table for emulation: EPSON, IBM or ANSI.

CHARACTER TABLE

Epson Emulation

To change the character table in the Epson emulation, press the ENTER key to go from the top level to the second level as shown below:

CHARACTER TABLE	**ENTER**	**TBL:E:ISO-3**	↓
TBL: EPSON	**ENTER**	**TBL:E:ISO-4**	↓
TBL:E>CODE437	↓	**TBL:E:ISO-5**	↓
TBL:E:CODE850	↓	**TBL:E:ISO-6**	↓
TBL:E:CODE851	↓	**TBL:E:ISO-7**	↓
TBL:E:CODE852	↓	**TBL:E:ISO-8**	↓
TBL:E:CODE853	↓	**TBL:E:ISO-9**	↓
TBL:E:CODE855	↓	**TBL:E:ISO-15**	↓
TBL:E:CODE858	↓	**TBL:E:MAZOWIA**	↓
TBL:E:CODE860	↓	**TBL:E:TURKISH**	↓
TBL:E:CODE863	↓	**TBL:E:GREEK**	↓
TBL:E:CODE864	↓	**TBL:E:ROMAN-8**	↓
TBL:E:CODE865	↓	**TBL:E:KAMENICKY**	↓
TBL:E:CODE866	↓	**TBL:E CWI**	↓
TBL:E:CODE867	↓	**TBL:E:IN2**	↓
TBL:E:ISO-1	↓	**TBL:E:CODE864E**	↓
TBL:E:ISO-2	↓		

IBM Emulation

To change the character table in the IBM emulation, press the ENTER key to go from the top level to the second level as shown below:

TBL: IBM	**ENTER**	**TBL:I:ISO-3**	↓
TBL:I>CODE437	↓	**TBL:I:ISO-4**	↓
TBL:I:CODE850	↓	**TBL:I:ISO-5**	↓
TBL:I:CODE851	↓	**TBL:I:ISO-6**	↓
TBL:I:CODE852	↓	**TBL:I:ISO-7**	↓
TBL:I:CODE853	↓	**TBL:I:ISO-8**	↓
TBL:I:CODE855	↓	**TBL:I:ISO-9**	↓
TBL:I:CODE858	↓	**TBL:I:ISO-15**	↓
TBL:I:CODE860	↓	**TBL:I:MAZOWIA**	↓
TBL:I:CODE863	↓	**TBL:I:TURKISH**	↓
TBL:I:CODE864	↓	**TBL:I:GREEK**	↓
TBL:I:CODE865	↓	**TBL:I ROMAN-8**	↓
TBL:I:CODE866	↓	**TBL:I:KAMENICKY**	↓
TBL:I:CODE867	↓	**TBL:I:CWI**	↓
TBL:I:ISO-1	↓	**TBL:I:IN2**	↓
TBL:I:ISO-2	↓	**TBL:I:CODE864E**	↓

To change the character table in the ANSI emulation, press the ENTER key to go from the top level to the second level as shown below:

TBL: ANSI	**ENTER**	**TBL:A:ISO-3**	↓
TBL:A>CODE437	↓	**TBL:A:ISO-4**	↓
TBL:A:CODE850	↓	**TBL:A:ISO-5**	↓
TBL:A:CODE851	↓	**TBL:A:ISO-6**	↓
TBL:A:CODE852	↓	**TBL:A:ISO-7**	↓
TBL:A:CODE853	↓	**TBL:A:ISO-8**	↓
TBL:A:CODE855	↓	**TBL:A:ISO-9**	↓
TBL:A:CODE858	↓	**TBL:A:ISO-15**	↓
TBL:A:CODE860	↓	**TBL:A:MAZOWIA**	↓
TBL:A:CODE863	↓	**TBL:A:TURKISH**	↓
TBL:A:CODE864	↓	**TBL:A:GREEK**	↓
TBL:A:CODE865	↓	**TBL:A:ROMAN-8**	↓
TBL:A:CODE866	↓	**TBL:A:KAMENICKY**	↓
TBL:A:CODE867	↓	**TBL:A:CWI**	↓
TBL:A:ISO-1	↓	**TBL:A:IN2**	↓
TBL:A:ISO-2	↓	**TBL:A:CODE864E**	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (LCD LANGUAGE displays).

Selecting the LCD Language

Select the desired language of your choice from the list below.

LCD LANGUAGE

To change the LCD language selection, press the ENTER key to go from the top level to the second level as shown below:

LCD LANGUAGE	**ENTER**
LCD>ENGLISH	↓
LCD:FRANCAIS	↓
LCD:DEUTSCH	↓
LCD:ITALIANO	↓
LCD:ESPANOL	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (IBM OPTIONS displays).

Selecting IBM Emulation Options

Select the IBM emulation specific options as shown below.

IBM OPTIONS

To change the IBM options, press the ENTER key to go from the top level to the second level as shown below. There are three options that can be specified.

Compressed Character Pitch

If the printer receives a command (SI) from the host to print in compressed pitch, then the printer will print in 17, 20 or 24 cpi.

IBM OPTIONS	**ENTER**
IBM: COMP CHR	**ENTER**
IBM:COMP CHR>17	↓
IBM:COMP CHR:24	↓
IBM:COMP CHR:20	↓

Automatic Carriage Return

If the printer receives a command (LF) from the host to perform a line feed, then the printer will (Y) or will not (N) append a carriage return based upon your selection.

IBM: AUTO CR	**ENTER**
IBM:AUTO CR>N	↓
IBM:AUTO CR:Y	↓

Alternate Graphics Mode

If AGM is set to Y, the line spacing increment is 1/180 inch.
If AGM is set to N the line spacing increment is 1/216 inch.
Also the ESC* command is valid if AGM is set to Y. Line spacing commands affected by this parameter are: ESC 3, ESC a and ESC J.

IBM: AGM MODE	**ENTER**
IBM:AGM MODE>N	↓
IBM:AGM MODE:Y	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (ANSI OPTIONS displays).

Select ANSI emulation specific options as shown below.

ANSI OPTIONS

To change the ANSI options, press the ENTER key to go from the top level to the second level as shown below. There are 12 options that can be specified:

Reset Enable

If the printer receives a command (ESC c) from the host to reset the printer, then the printer will (Y) or will not (N) reset the current configuration to the power-up configuration.

ANSI OPTIONS	**ENTER**
ANS: RIS ENABLE	**ENTER**
ANS:RIS ENBL>Y	↓
ANS:RIS ENBL:N	↓

SI/SO Control

If the printer receives a command (SI or SO) from the host to enable or disable the special modes (oversize, expanded and bar code modes), then the printer will (Y) or will not (N) respond to the <SI> and <SO> commands based upon your selection.

ANS: SI/SO CTL	**ENTER**
ANS:SI/SO CTL>N	↓
ANS:SI/SO CTL:Y	↓

Auto Carriage Return

If the printer receives a command (LF) from the host to perform a line feed then the printer will (Y) or will not (N) append a carriage return based upon your selection.

ANS: AUTO CR	**ENTER**
ANS:AUTO CR>N	↓
ANS:AUTO CR:Y	↓

Prime on Delete

If the printer receives a command (DEL) from the host, then the printer will (Y) or will not (N) perform a prime (reset) based upon your selection.

ANS: PRIME ON DEL	**ENTER**
ANS:PRIME ON>N	↓
ANS:PRIME ON:Y	↓

Control Codes in Dot Graphics

If the printer receives a control code from the host while in dot graphics mode, then the printer will (Y) or will not (N) respond to the particular control code based upon your selection.

ANS: CONTRL IN DG	**ENTER**
ANS:CTRL DG>Y	↓
ANS:CTRL DG:N	↓

Vertical Expansion

This setting defines the vertical expansion from the baseline up (Y) or from the top line down (N).

```
ANS:   EXPAND UP      ENTER
ANS:EXPAND UP>Y       ↓
ANS:EXPAND UP:N       ↓
```

AGM

If is selected N: the 6-bit graphics horizontal densities are multiplies of 72.
If is selected Y: the 6-bit graphics horizontal densities are multiplies of 60.

```
ANS:  ALT GRAPHICS    ENTER
ANS:AGM>N             ↓
ANS:AGM:Y             ↓
```

8-bit Control

If the printer receives a control code command (80H to 9FH) whose eighth data bit is set, and the character set is selected, then the printer will (Y) or will not (N) respond to the particular code based upon your selection.

```
ANS:  8 BIT CTRL      ENTER
ANS:8BIT CTL>N        ↓
ANS:8BIT CTL:Y        ↓
```

ENQ Code Enable

1: enables printer response to <ENQ> and enables type 1 download sequence.
2: enables printer response to <ENQ> and enables type 2 download sequence.
NO: printer does not respond to <ENQ> code.

See "*ANSI Emulation Commands*" for additional information in the *Programmer's Manual* on the CD-Rom.

```
ANS:  ENQ CODE          ENTER
ANS:ENQ CODE>NO         ↓
ANS:ENQ CODE:1          ↓
ANS:ENQ CODE:2          ↓
```

Superscript/Subscript Character Enable

The printer will (Y) or will not (N) respond to ESC [2 m and ESC [3 m commands.

```
ANS:  S/SUB SCRIPT      ENTER
ANS:S/SUB SC>N          ↓
ANS:S/SUB SC:Y          ↓
```

ESC+Control Code

In this setting the control codes imbedded within escape sequence are valid (Y) or ignored (N). In both cases, the escape sequence will be valid.

```
ANS:  ESC+CTRLCODE      ENTER
ANS:ESC+CTRL>N          ↓
ANS:ESC+CTRL:Y          ↓
```

VT Code

In this setting the VT code received without tab set will yield line feed (Y) or will be ignored (N).

ANS: VT NOT SET	**ENTER**
ANS:VT NOT SET>Y	↓
ANS:VT NOT SET:N	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (OTHER OPTIONS).

Select emulation non-specific options as shown below.

OTHER OPTIONS

To change the options that pertain to all emulations, press the ENTER key to go from the top level to the second level as shown below. There are 23 options that can be specified:

Automatic Line Feed

If the printer receives a command (CR) from the host to execute a carriage return, then the printer will (Y) or will not (N) also execute a line feed based upon your selection.

OTHER OPTIONS	**ENTER**
OPT: AUTO LF	**ENTER**
OPT:AUTO LF>N	↓
OPT:AUTO LF:Y	↓

Double Line Feed

If the printer receives a command (LF) from the host to execute a line feed, then the printer will (Y) or will not (N) also perform double line feed based upon your selection.

OPT: DOUBLE LF	**ENTER**
OPT:DOUBLE LF>N	↓
OPT:DOUBLE LF:Y	↓

Automatic Wrap

If the printer receives printable data from the host, and such data exceeds the current line length (right margin), then the printer will (Y) or will not (N) continue to print the remaining data on the following line based upon your selection.

If you disable auto wrap by selecting N, then the data beyond the right margin is discarded up to the next line terminator.

OPT: AUTO WRAP	**ENTER**
OPT:AUTO WRAP>Y	↓
OPT:AUTO WRAP:N	↓

Automatic Tear Off

Y: If the printer is at the TOF

- and there is no data received after 1.5 sec., the paper will automatically advance to the tear-off position.
- if data is received, then the printer will sound 4 beeps (approx. 0.25 sec. apart), retract the paper to the last print position and continue to print. If you press the TEAR key tear off retraction is executed.

N. Tear off only occurs if the TEAR key is pressed.

OPT: AUTO TEAR	**ENTER**
OPT:AUTO TEAR>N	↓
OPT:AUTO TEAR:Y	↓

Retract Timer

If you have pressed the TEAR key to move paper to the tear-off position, then the length of time that the printer waits before retracting the paper is variable from one second to 98 seconds. If the value saved is "99" then paper retract will occur only if TEAR key is pressed or if data is received from host.
You can increase or decrease the retract timer by pressing the ↑ or the ↓ keys respectively. The default retract time is 10 seconds.

OPT: RETRACT TIME	**ENTER**
OPT:RET TIME> 1-99	↓

Confirm Park

Y: Upon receipt of the path select or park command from the host, and prior to park current path, the paper will move to the tear-off position. The LCD will display PLEASE TEAR OFF. You must press the TEAR or the PARK keys that enable the subsequent form park.
N: Paper Parking will occur without moving to tear-off position.

OPT: CONFIRM PARK	**ENTER**
OPT:CNFRM PARK>N	↓
OPT:CNFRM PARK:Y	↓

Interlock Sensor

Y: Enables error indication of rear pull tractor cover or rear pull tractor assembly not installed.
N: Disables this error indication.

OPT: INTERLOCK	**ENTER**
OPT:INTERLOCK>Y	↓
OPT:INTERLOCK:N	↓

Non-volatile RAM Save

Y: The current *Operational Menu* values are retained when the printer is powered-off and re-established as the "active" values at the next power-up.
N: The current *Operational Menu* values are cleared when the printer is powered off. Factory default values or Format assigned to current paper path values are used at the next power-up.

OPT: NVRAM SAVE	**ENTER**
OPT:NVRAM SV>Y	↓
OPT:NVRAM SV:N	↓

Clear Margin

Clears (Y) or preserves (N) top and bottom margins on form length changes.

OPT: CLEAR MARGIN	**ENTER**
OPT:CLR MRGN>Y	↓
OPT:CLR MRGN:N	↓

2 Box Option

This function will be displayed only if the optional Front2 Push tractor assembly has been installed, see The Front2 Push Tractor Assembly in this *User's Manual*.

Whenever the current continuous forms push paper path becomes empty, the printer will (Y) or will not (N) automatically switch to and load the other continuous forms push paper path and resume printing, based upon your selection.

OPT: 2 BOX OPTION	**ENTER**
OPT:2 BOX OP>N	↓
OPT:2 BOX OP:Y	↓

Cancel Code

If the printer receives the CAN (cancel) code from the host, then the printer will (Y) or will not (N) respond to the CAN code based upon your selection.

OPT: CAN CODE	**ENTER**
OPT:CAN CODE>Y	↓
OPT:CAN CODE:N	↓

Backup Option

BC/OS/BOTH: The printer will return the print head to the vertical position established before turning on Barcode/Oversize/Both modes at the completion of printing of the current barcode symbol.
NONE: The print head will remain in the vertical and horizontal position active at the completion of printing of the selected symbol.

OPT: BACKUP	**ENTER**
OPT:BACKUP>NONE	↓
OPT:BACKUP:BC	↓
OPT:BACKUP:OS	↓
OPT:BACKUP:BOTH	↓

Barcode Guard Bar Enable

The printer will (Y) or will not (N) include left, right and center Guard bars of the barcode styles which use Guard bars based upon your selection. The Guard bars extend into the human readable line of the barcode symbol when it is enabled.

```
OPT:  GUARD BAR      ENTER
OPT:GUARD BR>N       ↓
OPT:GUARD BR:Y       ↓
```

Slash Zero Enable

The printer will print a zero character with (Y) or without (N) a diagonal slash through the character based upon your selection.

```
OPT:  SLASH ZERO     ENTER
OPT:SLASH 0>N        ↓
OPT:SLASH 0:Y        ↓
```

Bell Control

The printer will (Y) or will not (N) sound the bell whenever a key is pressed, paper out occurs or other printer errors occur based upon your selection.

```
OPT:  BELL ENABLE    ENTER
OPT:BELL ENBL>Y      ↓
OPT:BELL ENBL:N      ↓
```

Epson OGM

Y: Enables line spacing multiples of n/216 (ESC 3 and ESC J) or n/72 (ESC A) in Epson emulation.
N: Enables line spacing multiples of n/180 (ESC 3 and ESC J) or n/60 (ESC A) in Epson emulation.

```
OPT:  EPSON OGM        ENTER
OPT:EPSON OGM>N        ↓
OPT:EPSON OGM:Y        ↓
```

Native Extension Escape Sequence

Based upon your selection, the printer will (Y) or will not (N) respond to the following escape sequences: <ESC> [[3 n, <ESC> [[G n m, <ESC> [[x n, <ESC> [[y n, and //n//.

```
OPT:  NATIVE COMND     ENTER
OPT:NATIVE COM>Y       ↓
OPT:NATIVE COM:N       ↓
```

On line Default

OFLN: The printer will remain offline at completion of power-up routine.
ONLN: The printer will go online at completion of power-up routine.
PRIO: The printer will resume active state prior to power-off.

```
OPT:  ONLIN DFAULT     ENTER
OPT:ONLIN>OFLN         ↓
OPT:ONLIN:ONLN         ↓
OPT:ONLIN:PRIO         ↓
```

On Line after Paper Load Sequence

The printer will enter the online (Y) or offline (N) condition following a paper load sequence based upon your selection.

OPT: ONLIN AT LOD	**ENTER**
OPT:ONLIN LOAD>N	↓
OPT:ONLIN LOAD:Y	↓

Ribbon Type Selection

Informs the firmware which type of ribbon is installed (not affected by ISU).
If PROCESS (process ribbon) or RED/BLK (red/black ribbon) are selected, then the printer will respond to receive color select commands.
If BLACK (black ribbon) is selected, then an automatic ribbon shift will occur if the color kit option is installed.

OPT: RIBBON TYPE	**ENTER**
OPT:RBN>BLACK	↓
OPT:RBN:PROCESS	↓
OPT:RBN:RED/BLK	↓

Printhead Gap to Path or Format Assignment

Based upon your selection the printer will save a print head gap value either to the current paper path or to the format during the print head gap setting routine in the *Operational Menu*. (see **Adjusting for the Thickness of Your Forms** section).
If you select PATH, then the printer will establish a new gap whenever you load a new paper path.
If you select FORM, then the printer will establish a new gap whenever you select a new format or whenever you load a paper path to which a format has been assigned.

OPT: GAP ASSIGN	**ENTER**
OPT:GAP TO>PATH	↓
OPT:GAP TO:FORM	↓

Euro Currency Symbol Substitution in the ISO Code Pages and Page Code 850

This function allows selection of the alternate access to the Euro Currency symbol (€) in the ISO Code Pages and in the Code Page 850.

Y: This setting enables the Euro symbol substitution. The Euro symbol will appear as designated in the appropriate sets: the location is A4 in all ISO 8859 character sets other than ISO 8859-15 and ISO 8859-5 (Cyrillic), for the PC Code Page 850, the location is CF.

N: This setting disables the Euro symbol substitution.

OPT:EURO SUBST.	**ENTER**
OPT:EURO SUB.>N	↓
OPT:EURO SUB.:Y	↓

Euro Currency Symbol Substitution in the PC Code Pages

This function allows selection of the alternate access to the Euro Currency symbol (€) in the PC Code Pages.

Y: This setting enables the Euro symbol substitution. The Euro symbol will appear as designated in the appropriate sets: the location is FE in all PC Code Pages other than CP 858.

N: This setting disables the Euro symbol substitution.

OPT:EURO WIN	**ENTER**
OPT:EURO WIN>N	↓
OPT:EURO WIN:Y	↓

The character set tables that contain the Euro currency symbol (CP858 and ISO 8859/15) are shown in the *Tables* section in the *Programmer's Manual* on the CD-Rom.

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (BUFFER SETUP displays).

Select input buffer options as shown below.

BUFFER SETUP

To change the input buffer options, press the ENTER key to go from the top level to the second level as shown below. There are 4 options that can be specified:

Download Buffer

Based upon the selection, the printer will (Y) or will not (N) reserve space in memory for characters downloaded from the host in the Epson and IBM emulations.

If Y is selected, the download characters are accepted and 16 Kbytes decrease the amount of input buffer.
If N is selected, the download characters will be printed as normal data and the input buffer will be according to the Input Buffer size selection (see BUFF SIZE function below).

BUFFER SETUP	**ENTER**
BUFF: DOWNLOAD	**ENTER**
BUFF:DOWNLD>N	↓
BUFF:DOWNLD:Y	↓

Input Buffer

Data received from the host is stored in the input buffer memory. Based upon your selection, the amount of space reserved for the input buffer is determined.
The maximum input buffer size is 32 Kbytes.
The increment is 1 byte for the range 256-1Kbyte and 1Kbyte for the range 1Kbyte-32 Kbytes.

BUFF: BUFF SIZE	**ENTER**
BUFF:SIZE>32K	↓

High Trip

The default buffer full trip point will be 95% of currently selected size.
The range is from 2 % to 99% (default 95%).

BUFF: HIGH TRIP	**ENTER**
BUFF:HITRIP>95%	↓

Low Trip

The default buffer empty trip point will be 90% of currently selected size.
The range is from 1% to 98% (default 90%).

BUFF: LOW TRIP	**ENTER**
BUFF:LOTRIP>90%	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (INTERFACE displays).

Selecting the Interfaces

Select the parallel and the serial interface as shown below.

INTERFACE

Press the ENTER key to go from the top level to the second level.

Selecting the Interface Types

This function allows selection of the interface types:
PARALLEL: Actives parallel interface.
SERIAL: Activates both RS232 and RS422 signals,
BOTH: The printer will respond to data on either interface.

See *Interface* section for interface pin and signal definitions in the *Programmer's Manual* on the CD-Rom.

INTERFACE	**ENTER**
I/F: TYPE	**ENTER**
I/F:TYPE>BOTH	↓
I/F:TYPE:PARALL	↓
I/F:TYPE:SERIAL	↓

Selecting the Interface Switching Time

This function allows selection of the automatic interface switching time.
The range is from 5 to 99 seconds.

I/F: SWITCH TIME	**ENTER**
I/F:SWIT TIME>10	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (PARALLEL OPTIONS displays).

Select the parallel interface options as shown below.

PARALLEL OPTIONS

To change the parallel interface options, press the ENTER key to go from the top level to the second level as shown below. There are 10 options that can be specified:

Auto Feed External (AFXT) Signal

The printer will or will not respond to the AFXT signal on the parallel interface.
If AFXT is enabled response (Y), then upon receipt of a CR from the host, the printer will also execute a line feed provided the AFXT signal is low.
If AFXT is not enabled response (N), then the printer will only execute a carriage return upon receipt of a CR code.

PARALLEL OPTIONS	**ENTER**
PAR: AFXT	**ENTER**
PAR:AFXT>N	↓
PAR:AFXT:Y	↓

Select-in Signal

The printer will or will not respond to the Select-in signal of the parallel interface.
If response to the Select-in signal (Y) is enabled and the Select-in signal is high at power on, then the printer will receive data normally. Conversely, if the signal is low at power on, then the printer will ignore received data.
If response to the Select-in signal (N) is not enabled, then the printer will receive data normally regardless of the condition of the signal.

PAR: SLCT-IN	**ENTER**
PAR:SLCT-IN>N	↓
PAR:SLCT-IN:Y	↓

DC1/DC3 Control

Y: The printer will respond to a received DC1/DC3, which causes the printer to be selected/deselected. If the printer is deselected, the LCD will show STAND BY until DC1 is received or until you put the printer ON LINE by depressing the ON LINE key once.
N: Received DC1/DC3 ignored.

PAR: RCV DC1/DC3	**ENTER**
PAR:DC1/DC3>Y	↓
PAR:DC1/DC3:N	↓

Init Signal

Y: Enables parallel interface INIT signal to reset printer.
N: Disables parallel interface INIT signal.

PAR: INIT ENABLE	**ENTER**
PAR:INIT ENBL>N	↓
PAR:INIT ENBL:Y	↓

Fault Lead

NONE: Printer does not indicate activity on Fault lead
ONLN: Printer indicates ON LINE status on Fault lead.
FAUL: Printer indicates fault status on Fault lead.

PAR: FAULT LEAD	**ENTER**
PAR:FAULT>NONE	↓
PAR:FAULT:ONLN	↓
PAR:FAULT:FAUL	↓

ACK Timing

BEF and AFT: ACK leading edge occurs before trailing edge of BUSY. ACK trailing edge occurs after trailing edge of BUSY.
AFT: ACK leading and trailing edges occur after trailing edge of BUSY.
DUR: ACK leading edge occurs before and trailing edge occurs at trailing edge of BUSY.

PAR: ACK TIMING	**ENTER**
PAR:ACK TIME>BEF	↓
PAR:ACK TIME:AFT	↓
PAR:ACK TIME:DUR	↓

STROBE Polarity

-: Printer latches data on falling edge of strobe signal.
+: Printer latches data on rising edge of strobe signal.

PAR: STRB POLARIT	**ENTER**
PAR:STROBE POL>-	↓
PAR:STROBE POL:+	↓

FAULT Polarity

-: When a printer fault exists, the FAULT signal is low.
+: When a printer fault exists, the FAULT signal is high.

PAR: FLT POLARITY	**ENTER**
PAR:FAULT POL>-	↓
PAR:FAULT POL:+	↓

SELECT Polarity

+: When the printer is selected, the SELECT signal is high.
-: When the printer is selected, the SELECT signal is low.

PAR: SLCT POLARIT	**ENTER**
PAR:SELECT POL>+	↓
PAR:SELECT POL:-	↓

PE Polarity

+: When a paper out condition exists, then the PE signal is high.
-: When a paper out condition exists, then the PE signal is low.

PAR: PE POLARITY	**ENTER**
PAR:PE POL>+	↓
PAR:PE POL:-	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (SERIAL OPTIONS displays).

Selecting Serial Interface Options

Select the serial interface options as shown below.

SERIAL OPTIONS

To change the serial interface options, press the ENTER key to go from the top level to the second level as shown below. There are 12 options that can be specified:

Baud Rate

The data transmission rate (in bits per second) of the serial interface between the printer and the host computer is determined by this parameter.

After making your selection from the list below, please make certain the host computer is set for the same baud rate.

SERIAL OPTIONS	**ENTER**
SER: BAUD RATE	**ENTER**
SER:BAUD>9600	↓
SER:BAUD:4800	↓
SER:BAUD:2400	↓
SER:BAUD:1200	↓
SER:BAUD:600	↓
SER:BAUD:300	↓
SER:BAUD:38400	↓
SER:BAUD:19200	↓

Number of Data Bits

The number of data bits per character used in data transmission on the serial interface between the printer and the host computer is determined by this parameter.

After making your selection from the list below, please make certain the host computer is set for the same baud rate.

SER: DATA BITS	**ENTER**
SER:DATA BITS>8	↓
SER:DATA BITS:7	↓

Parity Enable and Type

The type of parity used in data transmission on the serial interface between the printer and the host computer is determined by this parameter.

After making your selection from the list below, please make certain the host computer is set for the same baud rate.

SER: PARITY TYPE	**ENTER**
SER:PARITY>NONE	↓
SER:PARITY:ODD	↓
SER:PARITY:EVEN	↓
SER:PARITY:MARK	↓
SER:PARITY:SPACE	↓

ETX/ACK Protocol

When set to Y, the EXT/ACK protocol is enabled. This protocol is used to verify the receipt of blocks of data sent from the host to the computer.

SER: ETX/ACK	**ENTER**
SER:EXT/ACK>N	↓
SER:EXT/ACK:Y	↓

Robust Xon

Y: When enabled, the printer will output DC1 when buffer is empty and printer is on line.
N: Disables this function.

SER: ROBUST XON	**ENTER**
SER:ROBST XON>Y	↓
SER:ROBST XON:N	↓

XON/XOFF Status

BUFF: Reflects buffer status only.
FAULT: Reflects fault status only.
ON/BU: Reflects online and buffer status.
FA/BU: Reflects fault and buffer status.
NONE: Never output or never change from static state
ONLN: Reflects online status only.

SER: XON/XOF STAT	**ENTER**
SER:XONXOF>BUFF	↓
SER:XONXOF:FAULT	↓
SER:XONXOF:ON/BU	↓
SER:XONXOF:FA/BU	↓
SER:XONXOF: NONE	↓
SER:XONXOF: ONLN	↓

DTR (Data Terminal Ready) Signal Status

FA/BU: Reflects fault and buffer status.
NONE: Never change from static state.
ONLN: Reflects online status only.
BUFF: Reflects buffer status only.
FAULT: Reflects fault status only.
ON/BU: Reflects online and buffer status.

SER: DTR STATUS	**ENTER**
SER:DTR>FA/BU	↓
SER:DTR:NONE	↓
SER:DTR:ONLN	↓
SER:DTR:BUFF	↓
SER:DTR:FAULT	↓
SER:DTR:ON/BU	↓

RTS (Request to Send Signal) Signal Status

FA/BU: Reflects fault and buffer status.
NONE: Never change from static state.
ONLN: Reflects online status only.
BUFF: Reflects buffer status only.
FAULT: Reflects fault status only.
ON/BUF: Reflects online and buffer status.

SER: RTS STATUS	**ENTER**
SER:RTS>FA/BU	↓
SER:RTS:NONE	↓
SER:RTS:ONLN	↓
SER:RTS:BUFF	↓
SER:RTS:FAULT	↓
SER:RTS:ON/BU	↓

SRTS (Second Request to Send Signal) Status

FA/BU: Reflects fault and buffer status.
NONE: Never change from static state.
ONLN: Reflects online status only.
BUFF: Reflects buffer status only.
FAULT: Reflects fault status only.
ON/BU: Reflects online and buffer status.

SER: SRTS STATUS	**ENTER**
SER:SRTS>FA/BU	↓
SER:SRTS:NONE	↓
SER:SRTS:ONLN	↓
SER:SRTS:BUFF	↓
SER:SRTS:FAULT	↓
SER:SRTS:ON/BU	↓

DTR (Data Terminal Ready) Polarity

HI: (HIGH) actives > + 3V.
LO: (LOW) actives < - 3V.

SER: DTR POLARITY	**ENTER**
SER:DTR POL>HI	↓
SER:DTR POL:LO	↓

RTS (Request to Send Signal) Polarity

HI: (HIGH) actives > + 3V.
LO: (LOW) actives < - 3V.

SER: RTS POLARITY	**ENTER**
SER:RTS POL>HI	↓
SER:RTS POL:LO	↓

SRTS (Second Request to Send Signal) Polarity

HI: (HIGH) actives > + 3V.
LO: (LOW) actives < - 3V.

SER: SRTS POLARIT	**ENTER**
SER:SRTS POL>HI	↓
SER:SRTS POL:LO	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (KEY LOCKOUT displays).

Selecting Key Lockout

Select any key to be locked-out as shown below.

KEY LOCKOUT

Key lockout controls which operator panel keys (see **Key Functions** in this *User's Manual*) are active in order to prevent inadvertent operator key depression from interrupting normal printer function. To select keys for lockout, press the ENTER key to go from the top level to the second level.

ON (Online): Prevents key response only while printer is online.
ALW (Always): Prevents key response while printer is online or offline or during power-on.
NEV (Never): Printer always acknowledges key response.

If a locked key is pressed, then the printer will give an alarm BEEP (approx. 25 sec.) and the LCD will temporarily display KEY LOCKED (approx. 5 sec).

ON LINE key

If the ON LINE key is locked-out in ONL pressing the ON LINE key does not take the printer offline. However you can always put the printer back On line in the event that the printer was deselected (by host) or a Fault is detected such as Paper out.
If this key is locked-out in ALW, then this key will not permit to put the printer on line or off line.

KEY LOCKOUT	**ENTER**
KEYLOCK: ON LINE	**ENTER**
KEY:ONLINE>NEV	↓
KEY:ONLINE:ONL	↓
KEY:ONLINE:ALW	↓

FF/LOAD key

```
KEYLOCK:   FF/LOAD    ENTER
KEY:FF/LOAD>NEV       ↓
KEY:FF/LOAD:ONL       ↓
KEY:FF/LOAD:ALW       ↓
```

LF key

```
KEYLOCK:   LINEFEED   ENTER
KEY:LINEFEED>ONL      ↓
KEY:LINEFEED:ALW      ↓
KEY:LINEFEED:NEV      ↓
```

MENU key

The MENU key cannot be locked out during power on.

```
KEYLOCK:   MENU       ENTER
KEY:MENU>NEV          ↓
KEY:MENU:ONL          ↓
KEY:MENU:ALW          ↓
```

PAPER UP key

```
KEYLOCK:   PAPER UP   ENTER
KEY:PAPER UP>ONL      ↓
KEY:PAPER UP:ALW      ↓
KEY:PAPER UP:NEV      ↓
```

PAPER DOWN key

```
KEYLOCK:   PAPER DN   ENTER
KEY:PAPER DN>ONL      ↓
KEY:PAPER DN:ALW      ↓
KEY:PAPER DN:NEV      ↓
```

TEAR OFF key

```
KEYLOCK:   TEAROFF    ENTER
KEY:TEAROFF>NEV       ↓
KEY:TEAROFF:ONL       ↓
KEY:TEAROFF:ALW       ↓
```

PARK/PATH key

```
KEYLOCK:   PRK/PATH   ENTER
KEY:PRK/PATH>NEV      ↓
KEY:PRK/PATH:ONL      ↓
KEY:PRK/PATH:ALW      ↓
```

FORMAT key

```
KEYLOCK:   FORMAT     ENTER
KEY:FORMAT>ONL        ↓
KEY:FORMAT:ALW        ↓
KEY:FORMAT:NEV        ↓
```

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (`PATH OPTIONS` displays).

Select paper path options as shown below.

PATH OPTIONS

This function will be displayed only if the optional Rear Pull tractor assembly or the optional automatic sheet feeder (ASF) has been installed.

To change the path options, press the ENTER key to go from the top level to the second level as shown below. There are five path-feeding modes: Push, Push-Pull, ASF1(1BIN), ASF2 (2BIN), ASF3 (3BIN).

PULL/PUSH Paths

PUSH: Enables Front push path.
PSHPL: Enables Rear Pull path together with Front Push path (displayed if the optional Rear Pull tractor assembly is installed).

PATH OPTIONS	**ENTER**
PATH: TRACTOR	**ENTER**
PATH:TRACT>PUSH	↓
PATH:TRACT:PSHPL	↓

ASF Types

Informs firmware of which type of optional automatic sheet feeder bin is installed.
Not affected by the *Initial Set Up Menu*.

PATH: ASF TYPE	**ENTER**
PATH:ASF>NONE	↓
PATH:ASF:1BIN	↓
PATH:ASF:2BIN	↓
PATH:ASF:3BIN	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (PATH/FORMAT displays).

Assigning a Format to a Paper Path

Any of the four formats may be assigned to any of the six paper paths as shown below.

PATH/FORMAT

This function assigns the Format indicated to the Paper Path. The same Format may be assigned to all Paper Paths. The Format changes:

a) if the paper path changes.

or

b) if another Format is selected from the menu or from the host.

To change format-to-path selections, press the ENTER key as shown above to move from the top level to the second level.

Each path below will only be displayed if it has been enabled by the PATH OPTION selection.

FRONT1 Path/Format

P/F: FRONT 1	**ENTER**
P/F:FRNT1>CURRNT	↓
P/F:FRNT1:FORM#1	↓
P/F:FRNT1:FORM#2	↓
P/F:FRNT1:FORM#3	↓
P/F:FRNT1:FORM#4	↓

FRONT2 Path/Format (displayed if the optional Front2 Push tractor is installed)

P/F: FRONT 2	**ENTER**
P/F:FRNT2>CURRNT	↓
P/F:FRNT2:FORM#1	↓
P/F:FRNT2:FORM#2	↓
P/F:FRNT2:FORM#3	↓
P/F:FRNT2:FORM#4	↓

PSHPL Path/Format (displayed if the optional Rear Pull tractor is installed)

P/F: PSHPL	ENTER
P/F:PSHPL>CURRNT	↓
P/F:PSHPL:FORM#1	↓
P/F:PSHPL:FORM#2	↓
P/F:PSHPL:FORM#3	↓
P/F:PSHPL:FORM#4	↓

ASF1 Path/Format (displayed if the optional ASF bin 1 is installed)

P/F: ASF1	ENTER
P/F:ASF1>CURRNT	↓
P/F:ASF1:FORM#1	↓
P/F:ASF1:FORM#2	↓
P/F:ASF1:FORM#3	↓
P/F:ASF1:FORM#4	↓

ASF2 Path/Format (displayed if the optional ASF bin 2 is installed)

P/F: ASF2	ENTER
P/F:ASF2>CURRNT	↓
P/F:ASF2:FORM#1	↓
P/F:ASF2:FORM#2	↓
P/F:ASF2:FORM#3	↓
P/F:ASF2:FORM#4	↓

ASF3 Path/Format (displayed if the optional ASF bin 3 is installed)

P/F: ASF3	ENTER
P/F:ASF3>CURRNT	↓
P/F:ASF3:FORM#1	↓
P/F:ASF3:FORM#2	↓
P/F:ASF3:FORM#3	↓
P/F:ASF3:FORM#4	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (PROGRAM UNITS displays).

Select the Program units as shown below.

PROGRAM UNITS

To change the Program units, press the ENTER key to go from the top level to the second level as shown below:

Program Units

Choose the type of Program units for menu selection of the following parameters:

- *Top reference*: Form Length
- *Left print reference*: Top/Bottom/Left/Right margins.

FIXED: The menu items listed will be input in "columns at the current cpi" or in "lines at the current lpi" as applicable.
NUMERIC: The menu items will be input in "inches" via the "watch style" numeric entry technique using the ↓,→,↑,← keys.

PROGRAM UNITS	**ENTER**
PROG>FIXED	↓
PROG:NUMERIC	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (PRINT STATUS displays).

Changes to the *System Menu* can be listed using the print status feature. The printer displays the message below when this item is on the top level:

PRINT STATUS

There are three different menu listings that can be obtained: SYSTEM, CONFIG and FORMATS.

Print Status

CONFIG: This selection prints the contents of the current configuration.
FORMATS: This selection prints the contents of the current configuration and the four formats.
SYSTEM: This selection prints the contents of the System configuration.

PRINT STATUS	**ENTER**
PRINT>CONFIG	↓
PRINT:FORMATS	↓
PRINT:SYSTEM	↓

Select the value and press the ENTER key. The printer will begin print the listing you have selected as shown on the following pages.

CURRENT CONFIGURATION PRINTOUT

	CURRENT
FONT STYLE	DRAFT
CHARS PER INCH	10
TOP REF	0/90
LINES/INCH	6
FORM LENGTH	66
TOP MARGIN	0
BOT MARGIN	0
LEFT MARGIN	0
RGHT MARGIN	136
LEFT REF	0/120
BOLD	NO
UNDERLINE	NO
FWIDTH UL	YES
DOUBLE HI	NO
OVERSCORE	NO
PROPORT	NO
IMPACT MODE	HIGH
QUIET MODE	NO
REDUCE SLEW	NO
LABELS	NO
TEXT DIRECT	BI
GRAPH DIRCT	BI
EMULATION	EPSON LQ

	FORMAT	GAP
FRONT1	CURRENT	AUTO 0
FRONT2	CURRENT	AUTO 0

- CURRENT CONFIGURATION AND FORMAT PRINTOUT

	CURRENT	FORMAT 1	FORMAT 2	FORMAT 3	FORMAT 4
FONT STYLE	DRAFT	COURIER	COURIER	COURIER	COURIER
CHARS PER INCH	10	10	10	10	10
TOP REF	0/90	0/90	0/90	0/90	0/90
LINES/INCH	6	6	6	6	6
FORM LENGTH	66	66	66	66	66
TOP MARGIN	0	0	0	0	0
BOT MARGIN	0	0	0	0	0
LEFT MARGIN	0	0	0	0	0
RGHT MARGIN	136	136	136	136	136
LEFT REF	0/120	0/120	0/120	0/120	0/120
BOLD	NO	NO	NO	NO	NO
UNDERLINE	NO	NO	NO	NO	NO
FWIDTH UL	YES	YES	YES	YES	YES
DOUBLE HI	NO	NO	NO	NO	NO
OVERSCORE	NO	NO	NO	NO	NO
PROPORT	NO	NO	NO	NO	NO
IMPACT MODE	HIG	HIG	HIG	HIG	HIG
QUIET MODE	NO	NO	NO	NO	NO
REDUCE SLEW	NO	NO	NO	NO	NO
LABELS	NO	NO	NO	NO	NO
TEXT DIRECT	BI	BI	BI	BI	BI
GRAPH DIRCT	BI	BI	BI	BI	BI
EMULATION	EPSON LQ	EPSON LQ	EPSON LQ	EPSON LQ	EPSON LQ

	FORMAT	GAP
FRONT1	CURRENT	AUTO 0
FRONT2	CURRENT	AUTO 0

- SYSTEM CONFIGURATION PRINTOUT

FIRMWARE CODE: Ver. 1.00 78409777 500 CPS MODEL

SYSTEM PARAMETERS

CHARACTER SET	EPSON	ITALIC
	IBM	CS1
	ANSI	CS1
NATIONAL SET	EPSON	USA
	ANSI	USA
CHARACTER TABLE	EPSON	CODE437
	IBM	CODE437
	ANSI	CODE437
LCD LANGUAGE	ENGLISH	
IBM OPTIONS	COMP CHR	17
	AUTO CR	NO
	AGM MODE	NO
ANSI OPTIONS	RIS ENABLE	YES
	SI/SO CTL	NO
	AUTO CR	NO
	PRIME ON DEL	NO
	CONTRL IN DG	YES
	EXPAND UP	YES
	ALT GRAPHICS	NO
	8 BIT CTRL	NO
	ENQ CODE	NO
	S/SUB SCRIPT	NO
	ESC+CTRLCODE	NO
	VT NOT SET	YES

OTHER OPTIONS	AUTO LF	NO
	DOUBLE LF	NO
	AUTO WRAP	YES
	AUTO TEAR	NO
	RETRACT TIME	10
	CONFIRM PARK	NO
	INTERLOCK	YES
	NVRAM SAVE	YES
	CLEAR MARGIN	YES
	2 BOX OPTION	NO
	CAN CODE	YES
	BACKUP	NONE
	GUARD BAR	NO
	SLASH ZERO	NO
	BELL ENABLE	YES
	EPSON OGM	NO
	NATIVE COMND	YES
	ONLIN DFAULT	OFLN
	ONLIN AT LOD	NO
	RIBBON TYPE	BLACK
	GAP ASSIGN	PATH
	EURO SUBST.	NO
	EURO WIN	NO
BUFFER SETUP	DOWNLOAD	NO
	BUFF SIZE	32K
	HIGH TRIP	95%
	LOW TRIP	90%
INTERFACE	TYPE	BOTH
	SWITCH TIME	10
PARALLEL OPTIONS	AFXT	NO
	SLCT-IN	NO
	RCV DC1/DC3	YES
	INIT ENABLE	NO
	FAULT LEAD	NONE
	ACK TIMING	BEF
	STRB POLARIT	-

	FLT POLARITY	-
	SLCT POLARIT	+
	PE POLARITY	+
SERIAL OPTIONS	BAUD RATE	9600
	DATA BITS	8
	PARITY TYPE	NONE
	ETX/ACK	NO
	ROBUST XON	YES
	XON/XOF STAT	BUFF
	DTR STATUS	FA/BU
	RTS STATUS	FA/BU
	SRTS STATUS	FA/BU
	DTR POLARITY	HI
	RTS POLARITY	HI
	SRTS POLARIT	HI
KEY LOCKOUT	ONLINE	NEV
	FF/LOAD	NEV
	LINEFEED	ONL
	MENU	NEV
	PAPER UP	ONL
	PAPER DN	ONL
	TEAROFF	NEV
	PRK/PATH	NEV
	FORMAT	ONL
PATH OPTIONS	TRACTOR	PUSH
	ASF TYPE	NONE
PATH/FORMAT	FRONT1	CURRENT
	FRONT2	CURRENT
PROGRAM UNIT ALIGNMENT	FIXED O	

RESIDENT FONT STYLES & CODE PAGES

FONT STYLE	COURIER
	GOTHIC
	PRESTIGE
	SCRIPT
	ORATOR
	OCRA-EXT
	OCRB-EXT
	DRAFT
CODE PAGE	CODE437
	CODE850
	CODE851
	CODE852
	CODE853
	CODE855
	CODE858
	CODE860
	CODE863
	CODE864
	CODE865
	CODE866
	CODE867
	ISO-1
	ISO-2
	ISO-3
	ISO-4
	ISO-5
	ISO-6
	ISO-7
	ISO-8
	ISO-9
	ISO-15
	MAZOWIA
	TURKISH
	GREEK
	ROMAN-8
	KAMENICKY
	CWI
	IN2
	CODE864E

The Operational Menu

There are 13 primary headings in the *Operational Menu* as shown below. Each primary heading has one or two levels below it:

1. FONT STYLE
2. CPI
3. PAGE SETUP
4. LINE SETUP
5. PRINT MODES
6. SPECIAL MODES
7. FORM THICKNESS
8. EMULATION
9. SAVE TO FORMAT
10. PRINT STATUS
11. CLEAR BUFFER
12. TEST MODE
13. SELECT FORMAT

Entering Operational Menu

To enter the *Operational Menu*, proceed as follows:

1. Hold the MENU key down in the off line state. The LCD displays the following message:

   OPERATIONAL MENU

2. Then, the first menu item:

   FONT STYLE

Moving within the Operational Menu

1. Press the ENTER key to go into the next lower level of the menu.
2. Use ↑ or ↓ keys to scroll within a level as well as to change parameter value display at the selection level.
3. Press the ENTER key to save selections at the selection level, the LCD displays:

   SAVING CHANGE

   The selection level is apparent whenever the LCD is flashing on and off.
4. Use the PRIOR key to go to the next higher level as well as to NOT save a selection at the selection level.

Selecting the Font Style

Select the font styles as shown below.

The font styles stored in Font card will be displayed after the `FONT:DRAFT` function.

FONT STYLE

To change the font styles, press the ENTER key to go from the top level to the second level as shown below:

FONT STYLE	**ENTER**
FONT>COURIER	↓
FONT:GOTHIC	↓
FONT:PRESTIGE	↓
FONT:SCRIPT	↓
FONT:ORATOR	↓
FONT:OCRA-EXT	↓
FONT:OCRB-EXT	↓
FONT:DRAFT	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (CHARS PER INCH displays).

Select the character spacing in characters per inch.

CHARS PER INCH

To change the character spacing, press the ENTER key to go from the top level to the second level as shown below.

CHARS PER INCH	**ENTER**		**CPI:24**	↓	
CPI>10	↓		**CPI:20**	↓	
CPI:8.5	↓		**CPI:17.1**	↓	
CPI:8.3	↓	(ANSI mode only)	**CPI:16.7**	↓	(ANSI mode only)
CPI:7.5	↓		**CPI:15**	↓	
CPI:6	↓		**CPI:12**	↓	
CPI:5	↓				

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (PAGE SETUP displays).

Selecting the Page Setup

Select page setup as shown below.

```
PAGE SETUP
```

To change the page setup, press the ENTER key to go from the top level to the second level as shown below. There are five page setup selections:

Top Print Reference

When using pre-printed forms, it may be desirable to begin printing at a particular position on the first form and at the same position on successive forms. To do so, adjust the top print reference (also known as load offset).
The range is from -90/90 to +180/90 inch or from -1/+2 inches depending upon *System Menu* (PROGRAM UNITS).

This value affects only the currently selected paper paths.

PAGE SETUP	**ENTER**
PAGE: TOP REF	**ENTER**
PAGE:TREF>0/90	↓ or ↑

Line Spacing

Select the line spacing in lines per inch (lpi).

PAGE: LINES/INCH	**ENTER**
PAGE:LPI>6	↓
PAGE:LPI:4	↓
PAGE:LPI:3	↓
PAGE:LPI:2	↓
PAGE:LPI:12	↓
PAGE:LPI:8	↓

Form Length

Select the form length in 1 line increments at the currently selected lpi or in inches depending upon *System Menu* (PROGRAM UNITS).
The maximum form length is 24 inches.

PAGE: FORM LENGTH	**ENTER**
PAGE:LNGTH:1-144	↓ or ↑ (66 lpi default)
PAGE:LNGTH:A4	↓

Top Margin

Select the top margin in 1 line increments at the currently selected lpi or in inches depending upon *System Menu* (PROGRAM UNITS).
The maximum top margin value is FL-BM-1 (Form Length-Bottom Margin-1).

PAGE: TOP MARGIN	**ENTER**
PAGE:TM>0	↓ or ↑

Bottom Margin

Select the bottom margin length from bottom of form, in 1 line increments at the currently selected lpi or in inches depending upon *System Menu* (PROGRAM UNITS).
The maximum bottom margin value is FL-TM-1 (Form Length-Top Margin-1).

PAGE: BOT MARGIN	**ENTER**
PAGE:BM>0	↓ or ↑

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (LINE SETUP displays).

Selecting the Line Setup

Select line setup as shown below.

LINE SETUP

To change the line setup, press the ENTER key to go from the top level to the second level as shown below. There are three line setup selections:

Left Margin

Select the left margin (up to 13.4 inches) in CPI or in inches depending upon *System Menu* (PROGRAM UNITS). The maximum left margin value is RM-1.

LINE SETUP	**ENTER**
LINE: LEFT MARGIN	↓
LINE:LM>0	↓ or ↑

Right Margin

Select the right margin (no less than 2 inches) in CPI or in inches depending upon *System Menu* (PROGRAM UNITS). The minimum right margin value is LM+1.

LINE: RGHT MARGIN	**ENTER**
LINE:RM>136	↓ or ↑

Left Reference

Select the left print reference (up to 0.5 inch) in CPI (unit: 1/120 inch. Range 0-60) or in inches depending upon *System Menu* (PROGRAM UNITS). Max. = 0.5 inch

LINE: LEFT REF	**ENTER**
LINE:LREF>0/120	↓ or ↑

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (PRINT MODES displays).

Select the print modes as shown below.

PRINT MODES

To change the print mode parameters, press the ENTER key to go from the top level to the second level as shown below. There are six print mode selections:

Bold Mode

Y: Enables bold print mode.
N: Disables bold print mode.

```
PRINT MODES          ENTER
PRINT:     BOLD      ENTER
PRINT:BOLD>N         ↓
PRINT:BOLD:Y         ↓
```

Underline Mode

Y: Enables underline print mode.
N: Disables underline print mode.

```
PRINT:     UNDERLINE ENTER
PRINT:UL>N           ↓
PRINT:UL:Y           ↓
```

Full Width Underline Mode

Y: Enables full width underline print mode.
N: Disables full width underline print mode.

```
PRINT:     FWIDTH UL ENTER
PRINT:FW UL>Y        ↓
PRINT:FW UL:N        ↓
```

Double High Mode

Y: Enables double high print mode.
N: Disables double high print mode.

```
PRINT:     DOUBLE HI  ENTER
PRINT:DBLHI>N         ↓
PRINT:DBLHI:Y         ↓
```

Overscore Mode

Y: Enables overscore print mode.
N: Disables overscore print mode.

```
PRINT:     OVERSCORE  ENTER
PRINT:O-SCORE>N       ↓
PRINT:O-SCORE:Y       ↓
```

Proportional Mode

Y: Enables proportional print mode. If enabled and the draft font is selected, then subsequent printing will be in proportional Courier Letter Quality. If another LQ font is selected, then subsequent printing will be in the same font style in proportional mode.
N: Disables proportional print mode.

```
PRINT:     PROPORT    ENTER
PRINT:PROPORT>N       ↓
PRINT:PROPORT:Y       ↓
```

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (SPECIAL MODES displays).

Selecting the Special Modes

Select the special modes as shown below.

SPECIAL MODES

To change the special mode parameters, press the ENTER key to go from the top level to the second level as shown below. There are six print mode selections:

Impact Mode

HIG: increases print wire drive pulse width. For heavier multi-part forms you may choose to select HIGH (print wire) impact mode.
LOW: decreases print wire drive pulse width. For lighter forms or for quieter printing, you may choose to select LOW impact.

SPECIAL MODES	**ENTER**
SPEC: IMPACT MODE	**ENTER**
SPEC:IMPACT>HIG	↓
SPEC:IMPACT:LOW	↓

Quiet Printing Mode

Y: Printing occurs in two passes of print head. For quieter printing (at reduced print speed) you may choose this mode (QUIET mode).
N: Printing occurs in one pass of print head.

SPEC: QUIET MODE	**ENTER**
SPEC:QUIET>N	↓
SPEC:QUIET:Y	↓

Reduce Vertical Slew

N: Forward and reverse vertical slew occurs at full speed.
Y: Forward and reverse vertical slew occurs at half speed.

For heavier multipart forms or for label stock, you may select REDUCE SLEW (Y).

```
SPEC: REDUCE SLEW      ENTER
SPEC:RED SLEW>N        ↓
SPEC:RED SLEW:Y        ↓
```

Labels

Y: Inhibits a backward motion, inhibits tear off and parks in forward direction. In order to prevent reverse feeding (and thus reduce chance of label peeling), you may select LABELS:Y.
N: Sets normal operation.

```
SPEC: LABELS           ENTER
SPEC:LABELS>N          ↓
SPEC:LABELS:Y          ↓
```

Text Direction

BI: All text print modes are printed in bid-directional mode.
UNI: All text print modes are printed uni-directional mode. In order to obtain even higher line-to-line character alignment, you may select uni-directional (UNI) text mode.

```
SPEC: TEXT DIRECT      ENTER
SPEC:TEXT>BI           ↓
SPEC:TEXT:UNI          ↓
```

Graphic Direction

BI: All graphics modes are printed in bi-directional mode.
UNI: All graphics modes are printed in uni-directional mode. In order to obtain even higher line-to-line column alignment, you may select uni-directional (UNI) graphics mode.

SPEC: GRAPH DIRCT	**ENTER**
SPEC:GRAPH>BI	↓
SPEC:GRAPH:UNI	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (FORM THICKNESS displays).

Adjusting for the Thickness of Your Forms

You can select three mutually independent methods of making the adjustment for the thickness (also known as the print head-to-paper gap) of the forms you plan to use.

FORM THICKNESS

To change the methods, press the ENTER key to go from the top level to the second level as shown below:

Manual Gap Adjust

This method allows you to override the automatic and fixed gap adjust routines. When enabled (Y) you must set the gap by means of the gap adjust wheel. This wheel is located to the left of the ribbon cartridge. The marks of the wheel (1...2...3) correspond to the number of parts in your form set.

FORM THICKNESS	**ENTER**
FORM: MANUAL	**ENTER**
FORM:MANUAL>N	↓
FORM:MANUAL:Y	↓

Automatic Gap Adjust

This, the easiest method, causes the printer to automatically make the adjustment based upon the form thickness selected. This is the recommended method. An "offset" to this automatic adjustment may be selected in order to fine-tune the gap to your forms. The range of the offset is from -3/+5. With or without an offset, the printer will automatically make the adjustment each time you load a new set of forms. Please note that for forms of varying thickness, this method may or may not make an appropriate adjustment depending upon which area of the form was used during the adjust procedure.

The automatic gap value will be stored as a "path" parameter or as a "format" parameter based upon the GAP ASSIGN selection in the *System Menu*.

If GAP ASSIGN:PATH is selected in the *System Menu*, then the offset value will be stored for the currently selected path and will be recalled the next time paper is loaded in the current path.

If GAP ASSIGN:FORMAT is selected in the *System Menu* then the offset value will be stored in the current format. The current format must be saved to a numbered (1-4) format. Then, the next time that particular format number is selected, the offset gap value will be recalled.

FORM: AUTO	**ENTER**
FORM:AUTO>0	↓ or ↑

Fixed Print Adjust

This method sets the gap and fine tunes it at the same time. This method is recommended for forms of varying thickness such as shipping notices and envelopes. The range of the fixed gap is from 0.3 to 8.6. A selection of 1.0 is the best for single part 20lbs. (75 g/m^2). A selection of 6.0 is the best lightweight 6-part forms. Higher selections should be used for heavier or higher part count forms.

FORM: FIXED	**ENTER**
FORM:FIXED>0.6	↓ or ↑

This fixed gap value will be stored as a "path" parameter or as a "format" parameter based upon the GAP ASSIGN selection in the *System Menu*.

If GAP ASSIGN:PATH is selected in the *System Menu*, then the fixed gap value will be stored for the currently selected path and will be recalled the next time paper is loaded in the current path.

If GAP ASSIGN:FORMAT is selected in the *System Menu*, then the fixed gap value will be stored in the current format. You must then save the current format to a numbered (1-4) format. Then, the next time that particular format number is selected, the offset gap value will be recalled.

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (EMULATION displays).

Selecting the Emulation

Select the emulation as shown below.

EMULATION

To change the emulation, press the ENTER key to go from the top level to the second level as shown below.

EMULATION	**ENTER**
EMUL>EPSON LQ	↓
EMUL:IBMXL24e	↓
EMUL:1220ANSI	↓
EMUL:3850ANSI	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (SAVE TO FORMAT displays).

Saving Current Format Settings to a Stored Format

Select the Save to Format function as shown below.

SAVE TO FORMAT

The selections for the current configuration are saved to a "format" that is a repository for the *Operational Menu* parameters that customized for a particular application.

Up to four formats can be defined and the format parameters stored in NVRAM:

- FORM#1
- FORM#2
- FORM#3
- FORM#4

SAVE TO FORMAT	**ENTER**
SAVE TO>NONE	↓
SAVE TO:FORM#1	↓
SAVE TO:FORM#2	↓
SAVE TO:FORM#3	↓
SAVE TO:FORM#4	↓

The savable parameters are:

Font Style, Character per inch, Lines per inch, Print Modes, Special Modes, Form Length, Left Margin, Right Margin, Top Margin, Bottom Margin, Top Print Reference, Left Reference, Form Thickness, Emulation.

The information stored in one of the four formats can be recalled later via **SELECT FORMAT** function in the *Operational Menu*.

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (PRINT STATUS displays).

Changes to the *Operational Menu* can be listed using the print status feature below.

The printer displays the message below when this item is on the top level:

PRINT STATUS

There are three different menu listings that you can obtain: SYSTEM, CONFIG and FORMATS:

CONFIG: This selection prints the contents of the current configuration.
SYSTEM: This selection prints the contents of the System configuration.
FORMATS: This selection prints the contents of the current configuration and the four formats.

PRINT STATUS	**ENTER**
PRINT:CONFIG	↓
PRINT:FORMATS	↓
PRINT:SYSTEM	↓

Select the value and press the ENTER key. The printer will begin printing the listing you have selected (see **Printing the Contents of the Menus** before in this *User's Manual*)

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (CLEAR BUFFER displays).

Clearing Contents of the Input Buffer

Select the clear buffer function as shown below.

CLEAR BUFFER

Data received from the host and as yet unprinted will be erased (Y) or not (N) based upon your selection. Press the ENTER key to go from the top level to the second level as shown below.

CLEAR BUFFER	**ENTER**
CLEAR BUFFER>N	↓
CLEAR BUFFER:Y	↓

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (TEST MODE displays).

Selecting the Test Mode

Select the test modes as shown below.

TEST MODE

To select one of the three test mode selections, press the ENTER key to go from the top level to the second level as shown below:

Test Pattern Width Selection

Selects between an 8.0-inch width and a 13.6-inch width.

TEST MODE	**ENTER**
TEST: PAPER WIDTH	**ENTER**
TEST:WIDTH>8.0	↓
TEST:WIDTH:13.6	↓

Test Mode

Y: Enabling this mode causes the printer to print a rolling ASCII pattern (with the right margin value established by the PAPER WIDTH setting or user established value).

The LCD displays:

TEST MODE

and the Menu is exited.

The printer will be in the off line state while the test pattern is printing.

- Pressing the MENU key and going back into the menu can interrupt printing.
- Printing parameters can be changed at this time and printing will resume when the MENU key is pressed.
- Test pattern printing will cease and test mode is exited when ON LINE key is pressed.

N: The test pattern stops printing.

TEST: START TEST	**ENTER**
TEST:START>N	↓
TEST:START:Y	↓

Hexadecimal Dump Mode

Y: Enabling this mode causes the printer to print the hexadecimal value of each character received.
When finished using the Hex Dump feature, it is necessary to disable it by selecting N or by turning power off.

While in the Hex Dump mode, the printer will not respond to any control or escape codes since it will print out the value of those codes instead.

```
TEST:      HEX DUMP   ENTER
TEST:HEXDUMP>N        ↓
TEST:HEXDUMP:Y        ↓
```

Go back to the top level of the menu with the PRIOR key and press the ↓ key to select the next menu item (SELECT FORMAT displays).

Selecting a Stored Format

Recalls one of the formats stored by the SAVE TO FORMAT section of the *Operational Menu*. All current configuration parameters will be over-written with the values from the format selected.

You can also use the FORMAT key to achieve the same result.

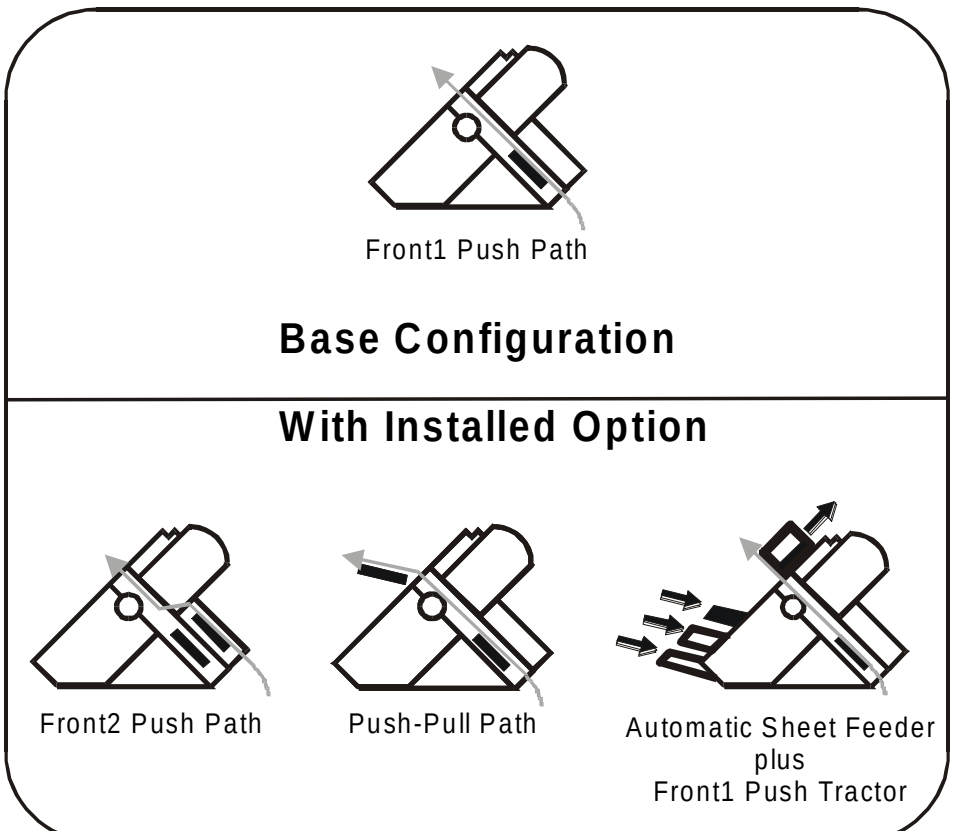
SELECT FORMAT	**ENTER**
SELECT:FORM#1	↓
SELECT:FORM#2	↓
SELECT:FORM#3	↓
SELECT:FORM#4	↓

The selected format will remain in effect until one of the following occurs:

- Another format is selected from the Menu,
- A path is loaded that has a format assigned to it,
- The host sends a command that modifies one of the parameter values (e.g. changes font style),
- The host sends a command to select a new format (ANSI mode only).

Paper Handling

Paper Paths



Paper Specifications

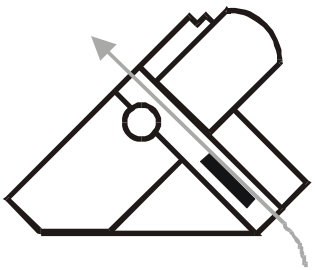
It is important to use the correct paper for obtaining the best performance. See the information table below:

Fanfold Paper

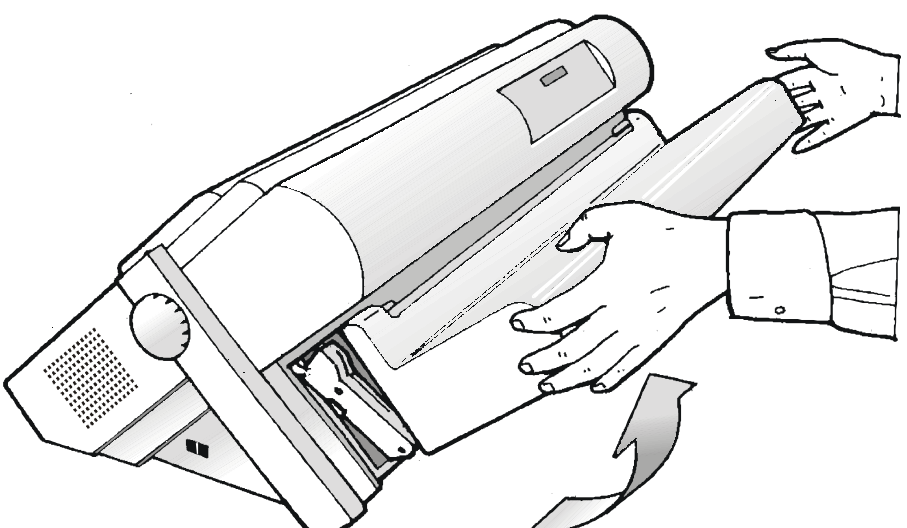
Loading Mode	Front1 Tractor	Front2 Tractor (option)	Push-Pull (option)
Width	76 to 432 mm 3 to 17 inches	76 to 432 mm 3 to 17 inches	76 to 432 mm 3 to 17 inches
Length	76 to 609 mm 3 to 24 inches	76 to 609 mm 3 to 24 inches	76 to 609 mm 3 to 24 inches
Thickness	max. 0.635 mm 0.025 inches	max. 0.635 mm 0.025 inches	max. 0.635 mm 0.025 inches
Copies	1 + 5	1 + 5	1 + 5
Weight (g/m^2):			
- Original	55 to 150	55 to 150	55 to 150
- Other sheets	45 to 75	45 to 75	45 to 75
- Carbon Paper	35	35	35

Paper Loading

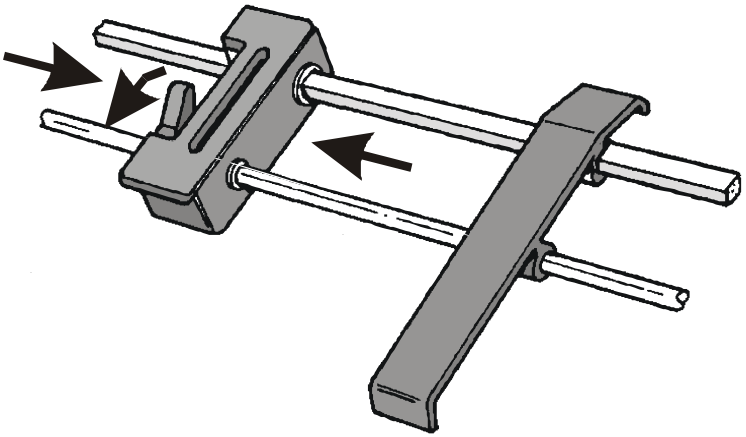
Loading Paper Using the Front1 Push Tractor Assembly



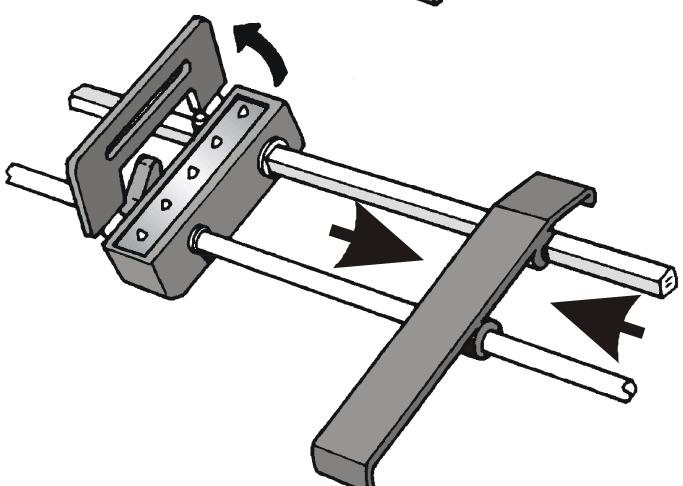
1. Open the Front tractor assemblies cover turning is upwards and lay it on the top of the printer.



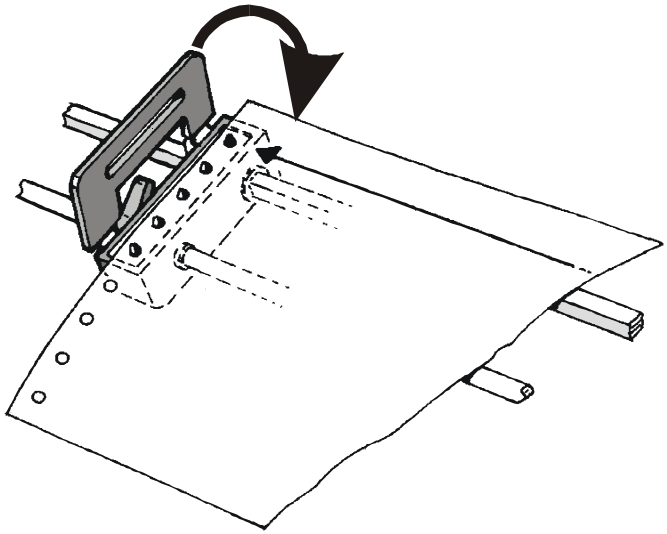
2. Unlock the tractor sets of the Front1 Push tractor assembly moving the levers down. Slide the left tractor set to the first printing column.



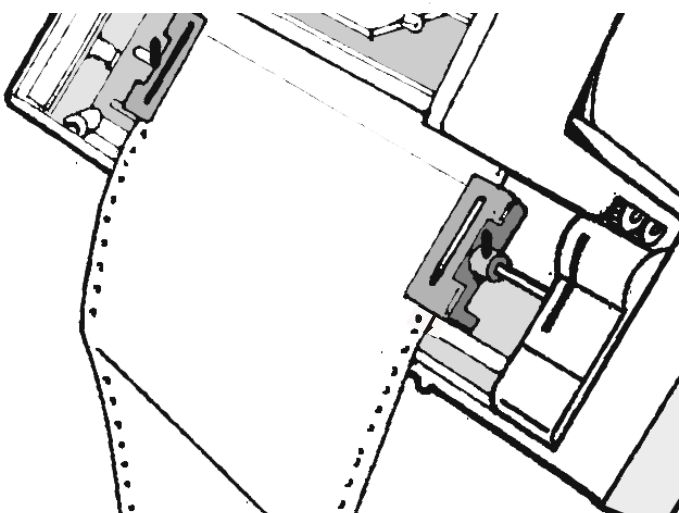
3. Space the paper guides along the tractor bar. Open the left and right tractor set covers.



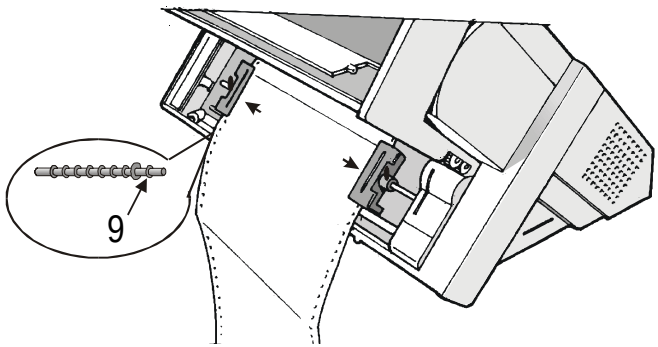
4. Hold the fanfold paper in front of the tractor sets and insert the paper perforation on the left tractor set pins and close the left tractor set cover.



5. Insert the paper on the right tractor set pins. Close the right tractor set cover.



6. Match the left tractor set with the ninth mark on the support and lock it in place moving the lever up. Adjust the right tractor set gently to remove slack from the paper and lock it in place moving the lever up.

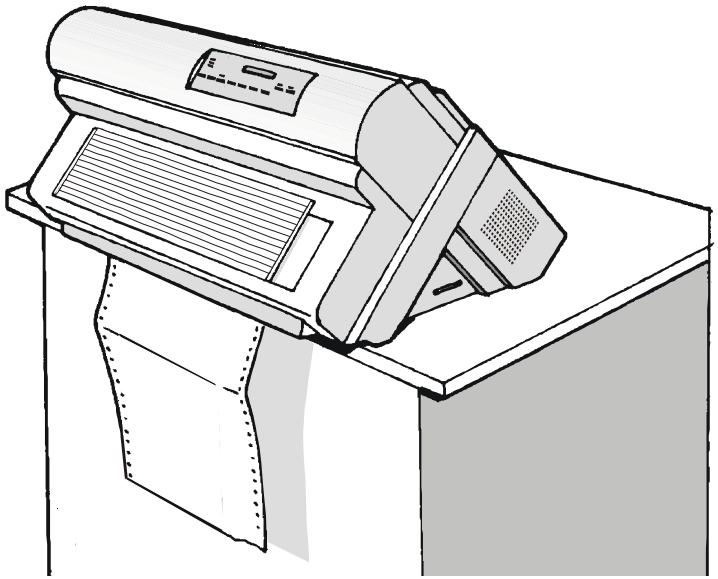


Make sure the paper is not taut.

7. Close the Front tractor assemblies cover.
   To select the Front1 Push paper path, press the PATH key until the Front 1 led is turned on. The paper will load automatically to the first print line position.
   If paper does not load automatically, then press the LOAD/FF key and the LCD displays:

```
LOAD PAPR: FRONT1
```

8. The paper must be loaded as shown in figure.



If paper starts to load but is not successful, and the error message `PAPER OUT: FRONT1` is displayed, then the paper sensor may require 'tuning' to the ambient lighting conditions in your office (the paper sensors used are light sensitive devices and improve paper loading accuracy).

Please refer to Tuning the Paper Sensors in the *Initial Set-Up Menu.*

Printer Maintenance and Troubleshooting

Cleaning the Printer

Make sure the printer has been turned off for at least 15 minutes before starting any cleaning operations.

Periodic cleaning will help keep the printer in top condition so that it will always provide optimal performance.

- Use a neutral detergent or water solution on a soft cloth to clean dirt and grease from the cabinet of the printer.
- Do not use an abrasive cloth, alcohol, paint thinner or similar agents because they may cause discoloration and scratching.
- Vacuum the inside of the printer in order to remove paper dust and other particles.
- Wipe the carriage rail with a soft dry cloth.

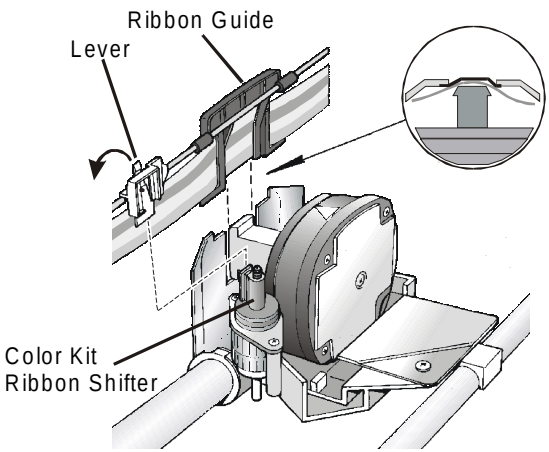
Replacing the Ribbon Cartridge

1. Make sure that the printer is turned off for at least 15 minutes.

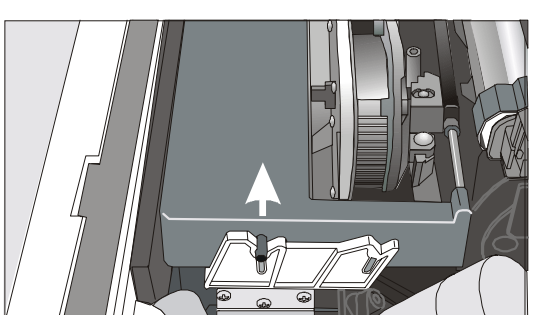
Pay attention to the print head because it becomes hot during operation.

2. Open the top printer cover.
3. Slide the ribbon guide out of the print head.

   If the color kit option is installed in the printer, unlock the white plastic snap arm pressing and holding its lever towards the back of the printer and contemporaneously lifting the white plastic snap arm off the color kit ribbon shifter.



4. Remove the used ribbon cartridge by lifting it up.



The printer is now ready to install the new ribbon cartridge. See "**Ribbon Cartridge Installation**" for details.

Printing the Self Test

To determine any printer setting, and to check if the printer is working well, print the self-test. Proceed as follows:

1. Press the ON LINE key to disable the printer. The ON LINE led should go out and the LCD displays:

   OFF LINE

2. Press the MENU key to enter the *Operational Menu*. The LCD displays:

   OPERATIONAL MENU

3. After a time out of a few seconds, the first menu item is displayed:

   FONT STYLE

4. Now, press the ↑ key until the LCD displays:

   TEST MODE

5. Press the ENTER key. The display shows:

   TEST:PAPER WIDTH

6. Press the ENTER key and then use the ↓ key to select the desired print width based upon the type of paper which you loaded. Push the ENTER key to save your selection. The LCD displays:

   TEST:START TEST

7. Press the ENTER key, then the ↓ key. The display shows:

   TEST:START:N

8. Press ↓ to change LCD display to read:

   TEST:START:Y

9. Press the ENTER key and the test pattern will begin printing.

10. To stop the test printing and to exit test mode, press the ON LINE key.

Error Handling

When an error condition occurs:

- the printer enters in WAIT state.
- the display will show the first message indication the error. Then, another second message will be displayed giving more specific information about the error condition.

After you have alleviated the error condition, press always the ON LINE key to reset the error condition.

Error Message Description

Messages	Indication	Solution
A.G.A NOT OPER ADJUST THE GAP	The automatic gap adjustment (A.G.A) is not enabled.	Adjust the print head gap manually. Press the ON LINE key to reset the error condition.
BUFFER OVERFLOW CHARACTER LOST	A buffer overflow condition occurred (if serial interface is selected).	Turn the printer off to clear the buffer. Press the ON LINE key to reset the error condition.
DATA SET OFF	The printer detects a remote connection serial interface error. The DST or DCD signal was not sensed.	Press the ON LINE key to clear the error condition.
FRAMING ERROR WRONG CHARACTER	The stop bit is not detected on complexion of the next reception.	Press the ON LINE key to clear the error condition.

Messages	Indication	Solution
INTERLOCK ERROR CHECK INSERTION	At power on, the rear pull tractor assembly or the rear cover has not been correctly inserted.	Press the ON LINE key to clear the error condition.
OVERRUN ERROR CHARACTER LOST	An overflow condition has occurred in the buffer and the data has been lost.	Press the ON LINE key to clear the error condition.
PAPER JAM CHECK ALL PATHS	A paper jam error condition occurs in Front1 and/or Front2 or ASF paper paths.	Check all the paper paths and remove the jammed paper. Press the ON LINE key to clear the error condition. If this error is displayed during the parking procedure of fanfold paper, first press the ON LINE key to cancel the jam message and then the PARK key again, to complete the park procedure.
PARITY ERROR WRONG CHARACTER	The parity condition and receive data parity do not match.	Press the ON LINE key to clear the error condition.
PRINT INTEGRITY	Abnormal printout because of a possible print carriage blockage.	*Do not move the platen knob.* Press the ON LINE key to clear the error condition.

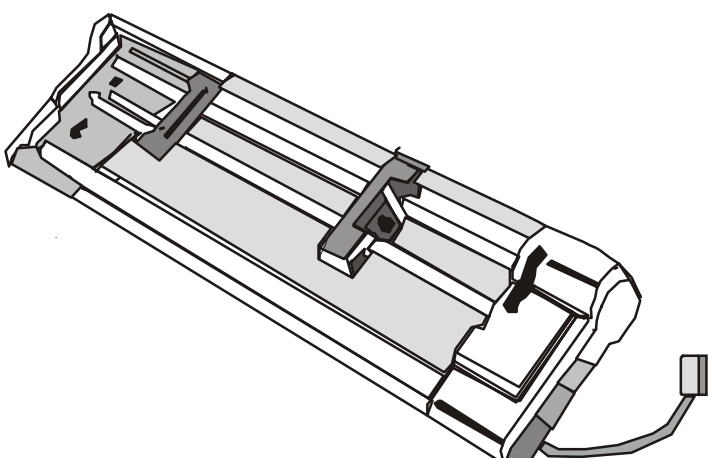
Messages	Indication	Solution
RIBBON BLOCKED CHECK RIBBON	The ribbon is blocked.	Check that the ribbon is correctly inserted. Turn the tension knob to make sure that the ribbon is not jammed. Check for proper installation of the ribbon guide on the print head. See "Ribbon Cartridge Installation" for details. Press the ON LINE key to clear the error condition.

The Front2 Push Tractor Assembly

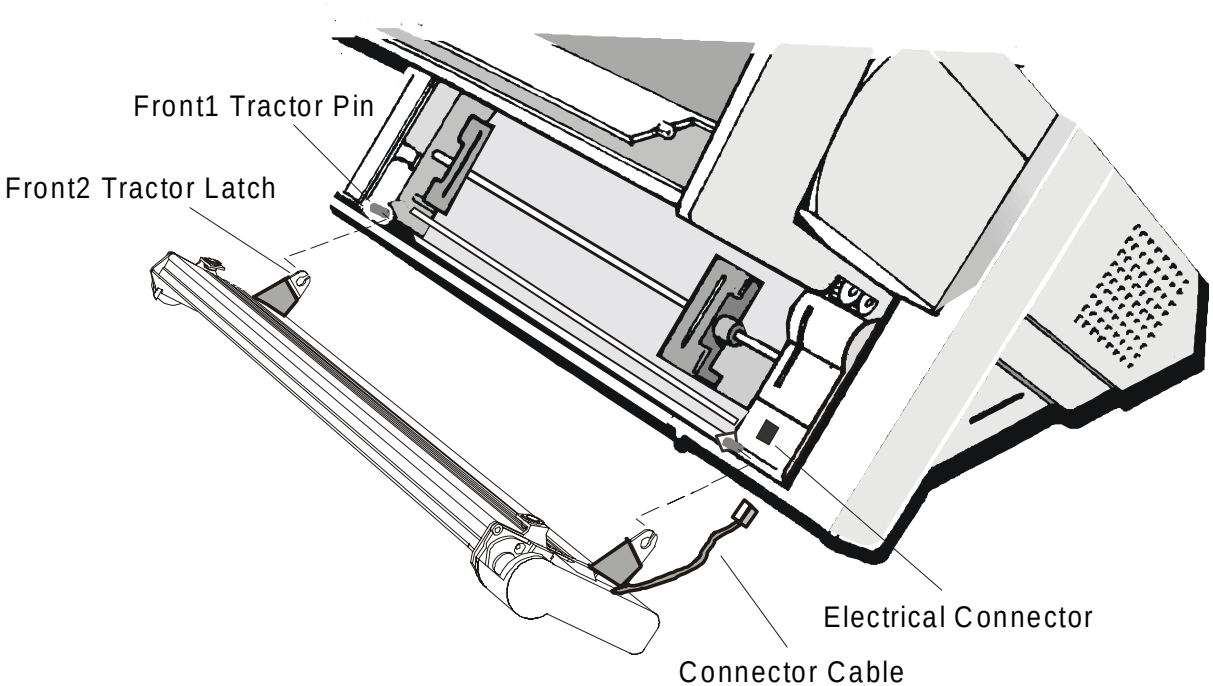
An optional second front push tractor assembly can be installed on the printer. This tractor assembly allows the handling of a second fanfold paper.

Installing/Removing the Front2 Push Tractor Assembly

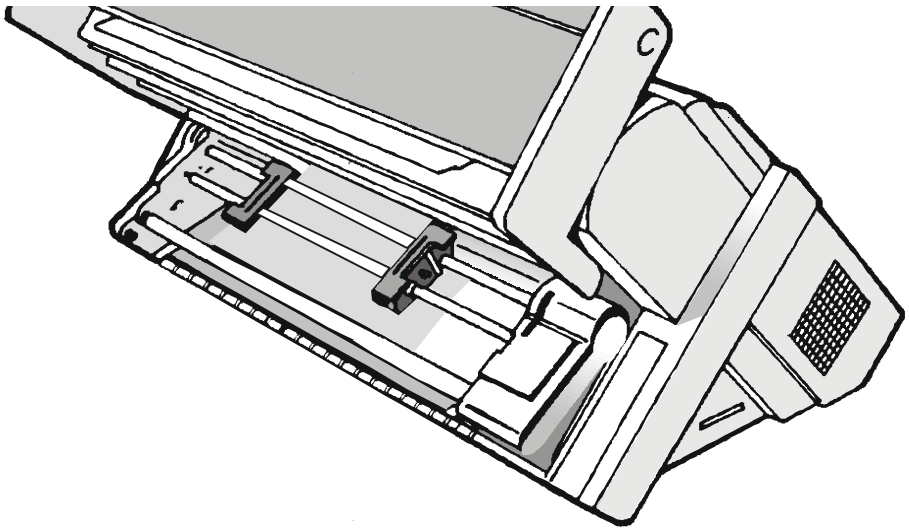
This second push tractor assembly can be installed in front position on the Front1 Push tractor assembly.



1. Install the Front2 Push tractor assembly aligning both its latches with the Front1 Push tractor pins and inserting them into the corresponding pins. Push the Front2 tractor assembly until it is fully engaged.
   Insert the connector cable in the electrical connector, located in the Front1 Push tractor.



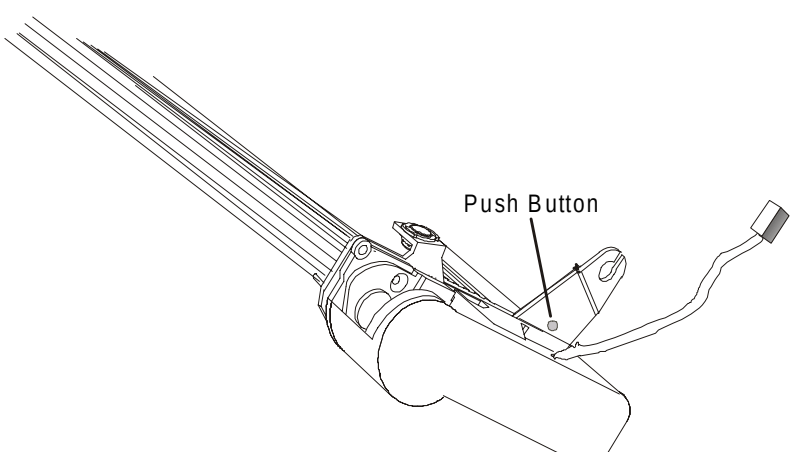
2. The Front2 Push tractor assembly must be installed as shown in figure.



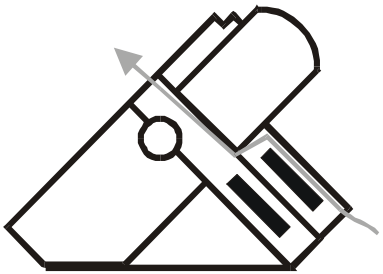
To select the Front2 Push paper path, press the PATH key until the Front 2 led is turned on.

1. To remove the Front2 Push tractor assembly, turn the printer off.

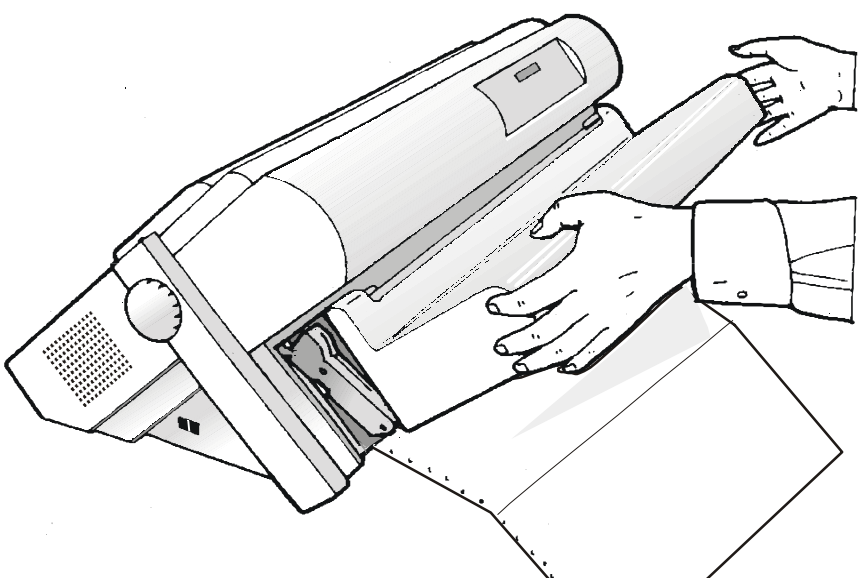
2. Take the connector cable off and press on the push buttons (located in the Front2 Push tractor latches) to disengage the tractor assembly.



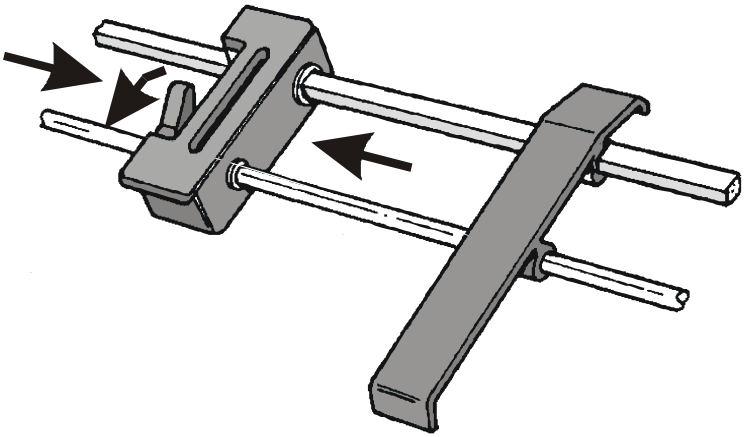
Loading Paper Using the Front2 Push Tractor Assembly (Option)



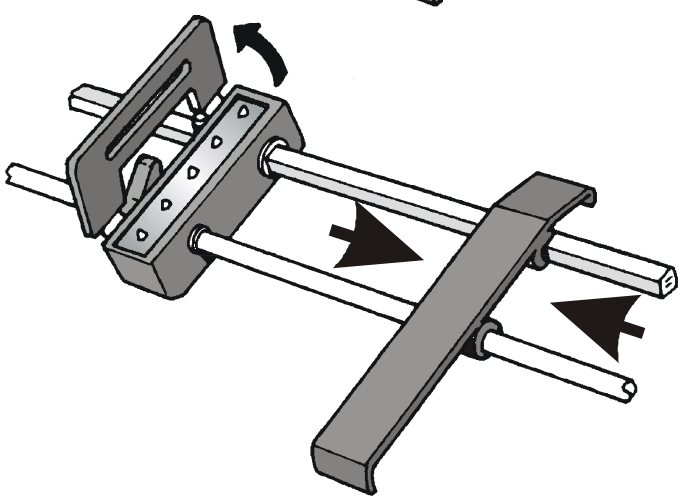
1. Open the Front tractor assemblies cover turning is upwards and lay it on the top of the printer.



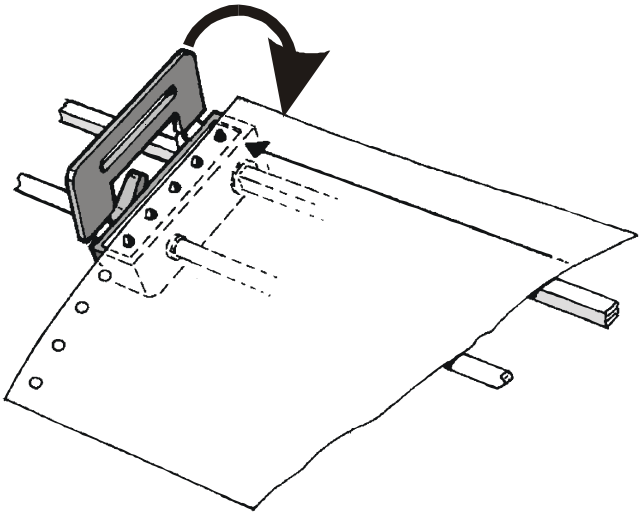
2. Unlock the tractor sets of the Front2 tractor assembly moving the levers down. Slide the left tractor set to the first printing column.



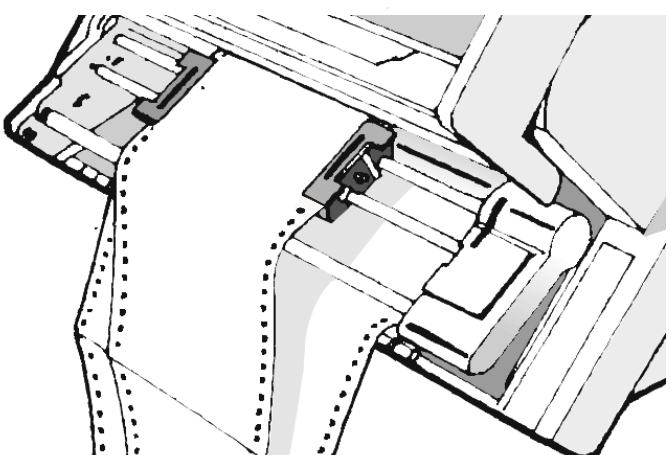
3. Space the paper guides along the tractor bar. Open the left and right tractor set covers.



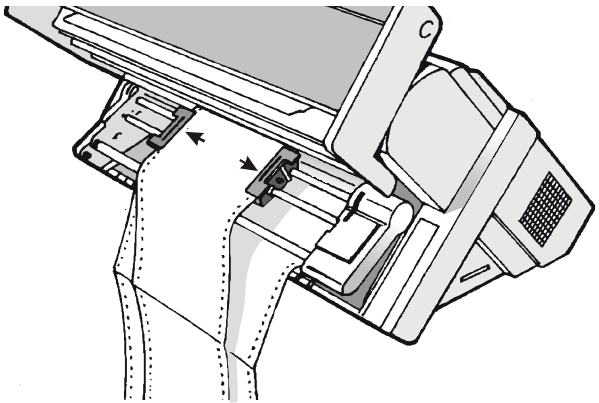
4. Hold the fanfold paper in front of the tractor sets and insert the paper perforation on the left tractor set pins and close the left tractor set cover.



5. Insert the paper on the right tractor set pins. Close the right tractor set cover.



6. Position the left tractor set for the printing and lock it in place moving the lever up. Adjust gently the right tractor set to remove slack from the paper and lock it in place moving the lever up.

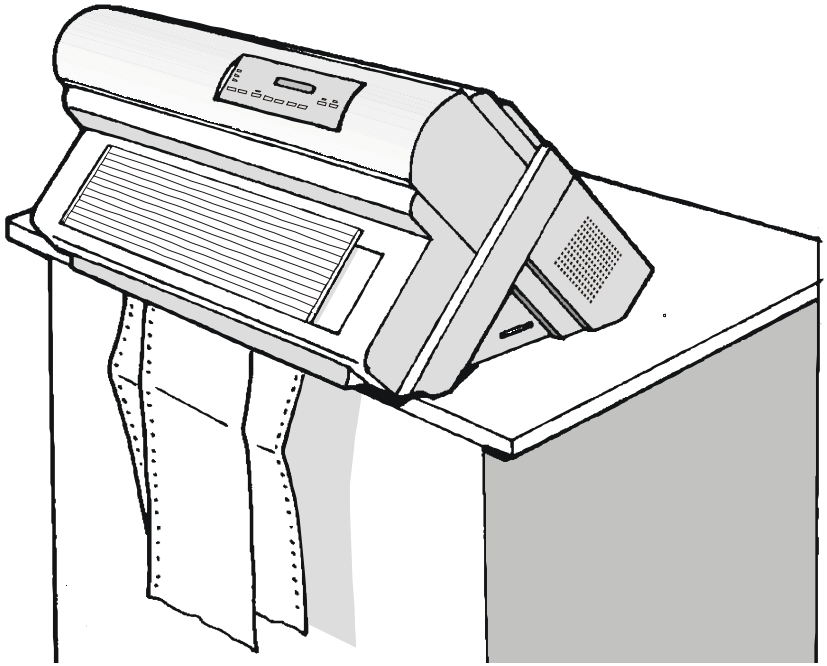


Make sure the paper is not taut.

7. Close the Front tractor assemblies cover.
   To select the Front2 Push paper path, press the PATH key until the Front 2 led is turned on.
   If paper does not load automatically, then press the LOAD/FF key and the LCD displays:

```
LOAD PAPR: FRONT2
```

8. The paper must be loaded as shown in figure.



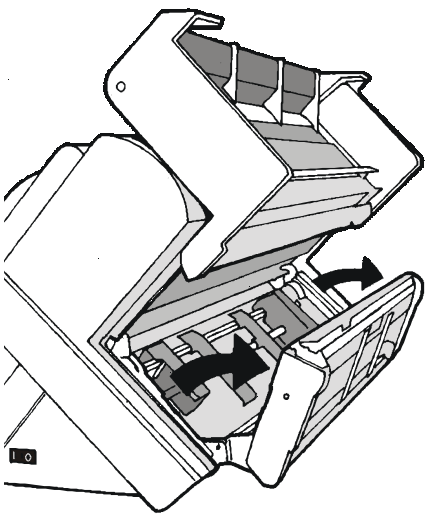
If paper starts to load but is not successful, and the error message `PAPER OUT: FRONT2` is displayed, then the paper sensor may require 'tuning' to the ambient lighting conditions in your office (the paper sensors used are light sensitive devices and improve paper loading accuracy).

Please refer to Tuning the Paper Sensors in the *Initial Set-Up Menu*.

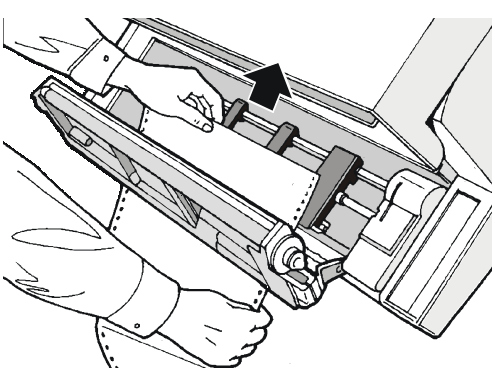
Loading Paper Using the Front1 Push Tractor Assembly when the Front2 Push Tractor Assembly (Option) is Installed

When the Front2 Push tractor assembly is installed and you need load paper on the Front1 Push tractor assembly follow this paper loading procedure:

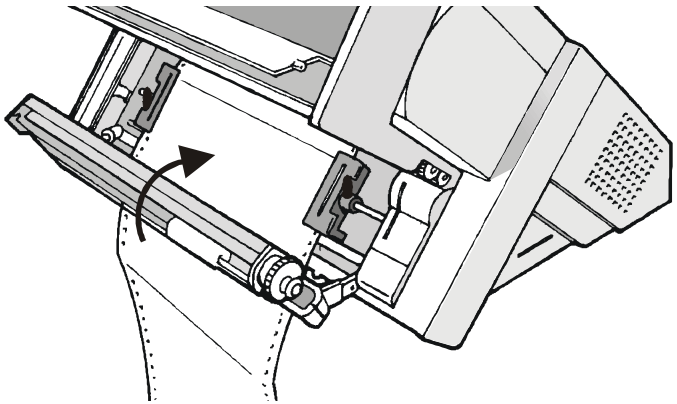
1. Open the Front tractor assemblies cover turning is upwards and lay it on the top of the printer.
2. Rotate the Front2 Push tractor assembly outside the printer.



3. Insert the fanfold paper between the Front1 and the Front2 Push tractor assemblies, then proceed to load the paper as described in the **Loading Paper Using the Front1 Push Tractor Assembly**, follow steps 2 through 6.



4. When the fanfold paper has been loaded on the Front1 Push tractor assembly, reposition the Front2 Push tractor assembly in its initial position before closing the Front tractor assemblies cover.



5. To select the Front1 Push paper path, press the PATH key until the Front 1 led is turned on (the Front 2 led turns off). The paper will load automatically in the Front1 Push paper path.
   If paper does not load automatically, then press the LOAD/FF key and the LCD displays:

```
LOAD PAPR: FRONT1
```

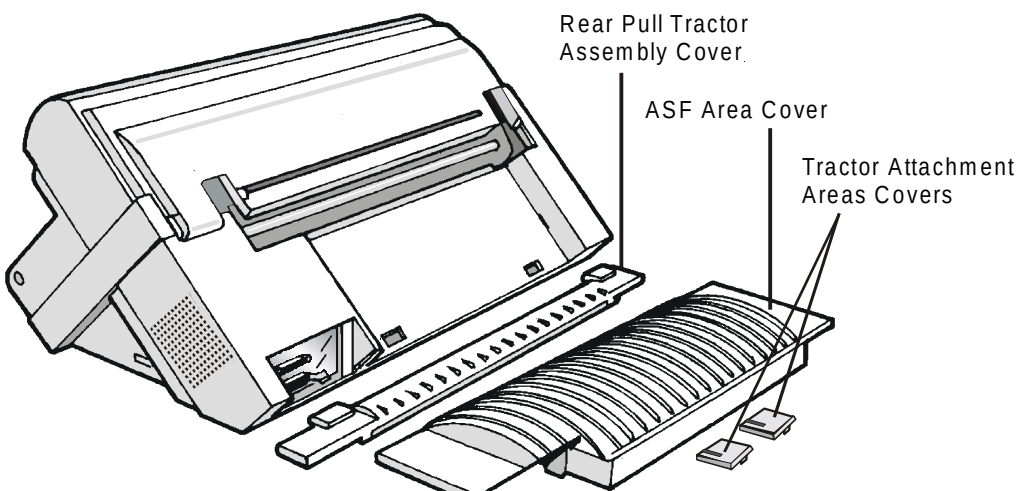
The Rear Pull Tractor

An optional rear pull tractor assembly can be installed on the printer. This tractor assembly s useful to handle particularly heavy paper.

Installing/Removing the Rear Pull Tractor Assembly

This tractor assembly can be installed in rear pull position for Push-Pull path paper loading.

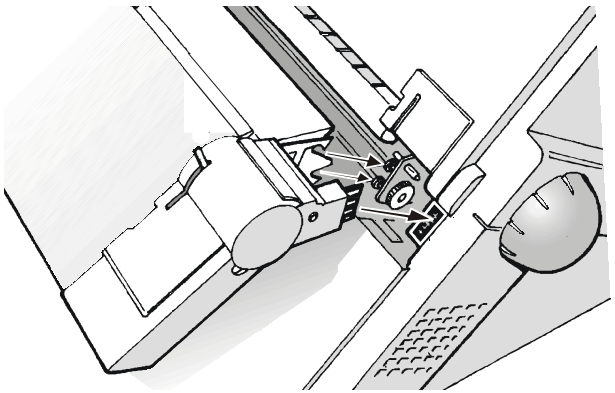
1. Turn the printer off.
2. Remove the ASF area cover, the rear pull tractor assembly cover and the two small tractor attachment area covers.



Keep the covers in a safe place, as they must be reinstalled if the rear pull tractor assembly is removed.

3. Replace the ASF area cover.

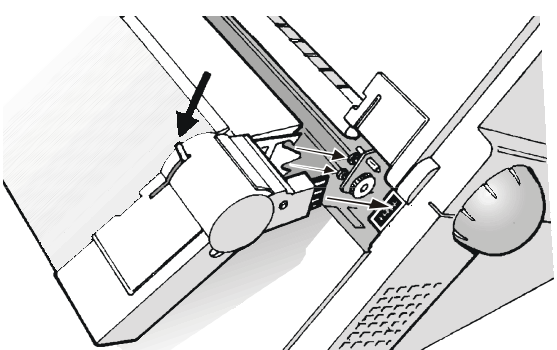
4. Insert the Rear Pull tractor assembly and the corresponding attachment area covers (with the slot) as shown in figure.



5. Turn the printer on.
6. To select the Push-Pull paper path, press the PATH key until the Front 1 led is turned on.

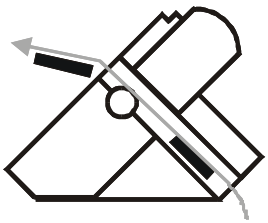
To remove the Rear Pull tractor assembly:

1. Turn the printer off.
2. Push the lever on the Rear Pull tractor down and lift the tractor assembly out of the printer.
3. Insert the Rear Pull tractor assembly cover and make sure that the interlock connector is correctly inserted.



If the cover is not inserted, the printer is blocked.

Loading Paper Using the Front1 Push Tractor Assembly and the Rear Pull Tractor Assembly (Option)

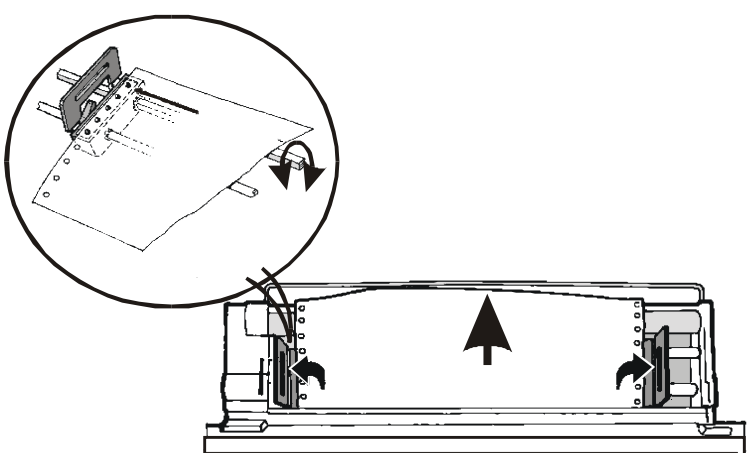


Once the Rear Pull tractor assembly is installed, the fanfold paper can be loaded only in Push-Pull mode using the Front1 Push tractor and the Rear Pull tractor assemblies (the Front 1 led is turned on.)

1. Load the fanfold paper on the Front1 Push tractor assembly following the sequence **Loading Paper Using the Front1 Tractor Assembly** described before.

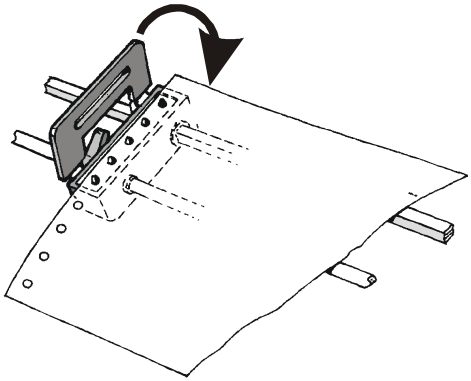
2. Take up the slack of the paper exiting from the rear paper slot and open the left and right tractor set covers. Unlock the tractor sets moving the levers up.

3. Rotate the tractor bar to align the tractor set pins with the paper perforation. Insert the paper perforation on the left and right tractor set pins.

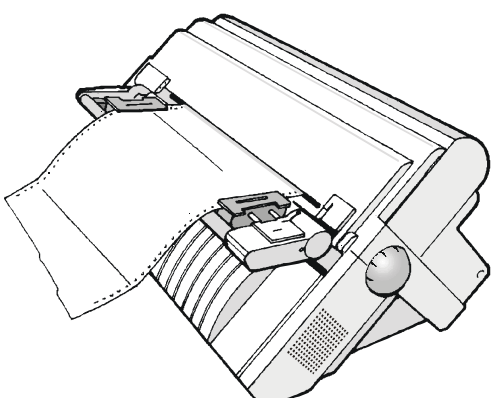


4. Close the tractor set covers and lock the tractor sets moving the levers down.

5. Press the ON LINE key to confirm that the paper loading is finished. The Rear Pull tractor assembly engages.



6. The figure shows the correct paper loading.



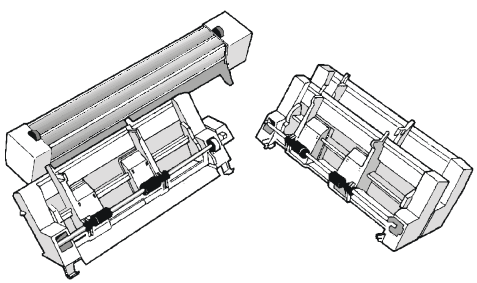
8. To select the Push-Pull paper path, press the PATH key until the Front1 led is turned on ,then select the PATH:TRACT:PSHPL parameter in the **PATH OPTIONS** function in the *System Menu*. If paper does not load automatically, then press the LOAD/FF key and the LCD displays:

```
LOAD PAPR: PSHPL
```

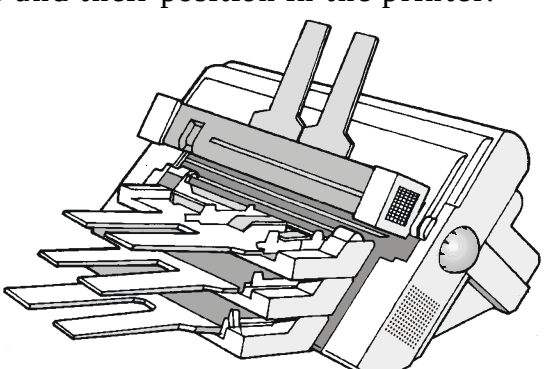
Automatic Sheet Feeder (ASF)

The optional Automatic Sheet Feeder (ASF), located in the rear of the printer, provides fast and automatic single sheet and envelopes loading. The ASF includes:

- A *paper stacker*, which automatically collects the output paper.
- A *single bin* for single sheets (A5, A4, Letter, Legal. Executive) and envelopes.
- A 2nd and 3rd optional bins are also available.



Please find the installation instructions for the ASF on the corresponding manual. The following picture shows the ASF options and their position in the printer.

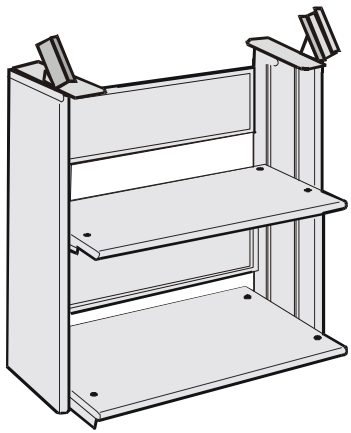


To select the ASF paper path, press the PATH key until the ASF led is turned on , then select the `PATH:ASF TYPE` parameter in the **PATH OPTIONS** function in the *System Menu*.

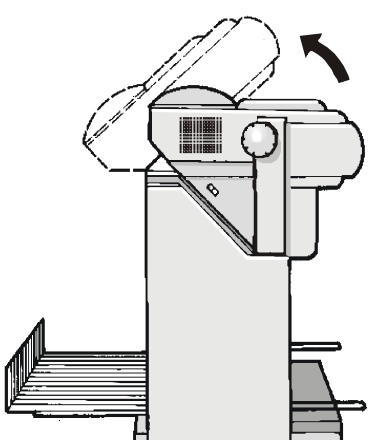
Pedestals

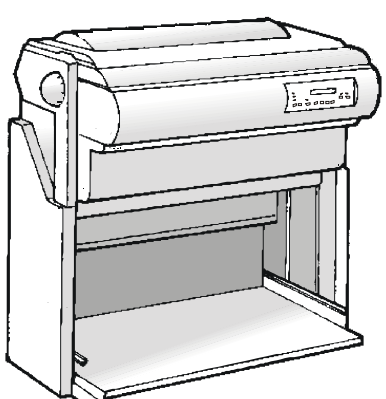
For better paper handling, use the printer pedestal. Two printer floor pedestals are available:

Three Levels Floor Pedestal for large paper quantity and dual fanfold handling.



Two Levels Floor Pedestal with inclining printer level for document on demand application.





Printer Specifications

Printing Characteristics

Print Head	
Matrix	24 pins
Print Head Life	500 mil characters (draft)

Print Speed (cps)		
	Draft	LQ Quality
10 cpi	500	133
12 cpi	600	160
15 cpi	600	200

Throughput ECMA 132 (pages/hour)	
	Fanfold Form
Letter Draft	440
Letter Quality	215
Graphic (90/180)	85
Spread 17	235
Spread 10	290

Character Matrix (dots per inch)		
	Draft	LQ
10 cpi	12 x 24	36 x 24
12 cpi	10 x 24	30 x 24
15 cpi	8 x 16	24 x 16

Character Pitch (characters per inch)	
Basic (**)	10 - 12 - 15
Compressed (**)	16.7 – 17.1 – 20 - 24
Double-Wide (**)	5 - 6 - 7.5 - 8.3 - 8.5
Other	Proportional
Intercharacter Spacing	n/720, n/360, n/180, n/120
(**) Emulation dependent	

Vertical Spacing (lines per inch)	
Basic	2, 3, 4, 6, 8,12
Incremental (inch) (**)	n/60, n/72, n/180, n/216, n/360
(**) Emulation dependent	

Bit Image Density (dot per inch)	
Horizontal (**)	360, 240, 180, 120, 90, 80, 60
Vertical (**)	180, 144, 72, 60
(**) Emulation dependent	

Print Styles
Draft – Courier - Gothic - Prestige - Script – Orator - OCR A - OCR B

Bar Codes
UPC-A, UPC-E, EAN-8, EAN-13, UPC-EAN 2, UPC-EAN 5, MSI Plessey, Code 128, Code 11, Code 3/9, Code 93, Codabar, 2/5 Bidirectional, 2/5 Interleaved, 2/5 Industrial, 2/5 Matrix, Postnet

Emulations		
- EPSON LQ 1050	- IBM XL24E-XL24	GENICOM ANSI

Characters Sets	
Standard PC IBM Character Sets	CS1 and CS2
IBM All Character Sets	
ANSI Emulation	
EPSON Italic Character Set	
EPSON National Variations	USA, France, Germany, United Kingdom, Denmark-1, Sweden, Italy, Spain-1, Japan, Norway, Denmark-2, Spain-2, Latin America, Korea, Legal, Netherlands, Anglo-Universal, Spanish-America, Portugal, Africa, Switzerland, Turkey, Greece, Yugoslavia, Cyrillic
Character Codes Tables	USA/Western Europe (CP437), Multilingual (CP850), Greek (CP851), Eastern Europe (CP852), Turkish (CP853), Russian (CP855), Euro PC Multilingual (CP858), Portugal (CP860), Canada/France (CP863), Arabic (CP864), Arabic (CP864E) Denmark/Norway (CP865), Cyrillic (CP866), Turkish2 (CP867), Mazowia (Polish), Turkish, Greek, Kamenicky, CWI, Roman-8, IN2, ISO 8859/1 (USA/Western Europe), ISO 8859/2 (Eastern Europe), ISO 8859/3 (Southern Europe), ISO 8859/4 (Northern Europe), ISO 8859/5 (Cyrillic), ISO 8859/6 (Arabic), ISO 8859/7 (Greek), ISO 8859/8 (Hebrew), ISO 8859/9 (Western Europe2), ISO 8859/15 (USA/Western Europe)
ANSI National Variations	USA, German, French A, French B, French/Canadian, Netherlands, Italian, United Kingdom, Spanish, Danish/Norwegian A, Danish/Norwegian B, Danish/Norwegian C, Danish/Norwegian D, Swedish/Finnish A, Swedish/Finnish B, Swedish/Finnish C, Swedish/Finnish D, Switzerland, USA (ISO), Yugoslavia, United Kingdom, Turkey, Greece, Cyrillic

Paper Handling

Base Configuration				
1	FRONT1 PUSH TRACTOR			
	Fanfold Width:	76 to 432 mm (3 to 17 inches)	Fanfold Length:	76 to 609 mm (3 to 24 inches)
	Copies:	1 original + 5 copies	Max. Thickness:	0,635 mm (0.025 inches)
	Weight (g/m^2)	Original: 55 to150 Other Sheets: 45 to 75 Carbon Paper: 35		

With Installed Options				
1	FRONT2 PUSH TRACTOR (option)			
	Fanfold Width:	76 to 432 mm (3 to 17 inches)	Fanfold Length:	76 to 609 mm (3 to 24 inches)
	Copies:	1 original + 5 copies	Max. Thickness:	0,635 mm (0.025 inches)
	Weight (g/m^2)	Original: 55 to150 Other Sheets: 45 to 75 Carbon Paper: 35		
1	REAR PULL TRACTOR (option)			
	Push-Pull Feeding: Front fanfold insertion with Front1 tractor in front push mode and rear tractor in pull mode			
	Fanfold Width:	76 to 432 mm (3 to 17 inches)	Fanfold Length:	76 to 609 mm (3 to 24 inches)
	Copies:	1 original + 5 copies	Max. Thickness:	0.635 mm (0.025 inches)
	Weight (g/m^2)	Original: 55 to150 Other Sheets: 45 to 75 Carbon Paper: 35		

Standard Functions
• Automatic print head gap adjustment (AGA)
• Automatic paper path switching via operator panel or S/W commands
• Paper parking
• Plug & Play capability
• Bar Code printing
• Automatic fanfold positioning for tear-off
• Setting and storage of paper format and print conditions for each paper path in the non volatile memory

Physical and Electrical Characteristics

Interfaces	
Parallel	Centronics Compatible Bi-directional (IEEE-1284) nibble and byte modes - 36 pin Amphenol connector, 7/8 data bits
	Receive Buffer: max. 32 Kbytes
Serial	RS-232/C and RS-422/A - dB 25 connector
	Baud Rate: 300 to 38400 bps, 7/8 data bits, DTR & XonXoff flow
	Receive Buffer: max. 32 Kbytes
Automatic interface switching	

Reliability Requirements	
MTBF	Mean Time between failure: 10000 hours at 25% DC
MTTR	Mean Time To Repair: 30 minutes
Workload	35,000 pages/month (ECMA 132 - 4 hours for 20 days)
Printer Life	5 years or 10000 hours @25%

Power Supply	
UNIVERSAL	From 100 to 230 VAC -10 ÷ +15% 50/60 Hz ± 1 Hz
Power Output	Max. 215 W
Power Consumption	Standby: 28W ---- Average Printing: 116W

Noise Level
54 dBA

Environment Conditions		
Storage Conditions		
	Temperature	-35° to 65° C
	Relative Humidity	5%t o 95% RH (non condensing)
Operating Conditions		
	Temperature	10° to 40° C
	Relative Humidity	10 % to 90 % RH (non condensing)
Paper Conditions		
	Temperature	16° to 24° C
	Relative Humidity	40% to 60% RH (non condensing)

Physical dimensions	
Height	320 mm (12,6 inches)
Width	670 mm (26,38 inches)
Depth	460 mm (18,11 inches)
Weight	21 kg (46,35 lbs)

Consumables

Black Ribbon	1A3000B01
Use with color kit option:	
4 Color Process Ribbon	1A3000B02
Red/Black Ribbon	1A3000B03
Extended Life Black	1A3000B04

Options

Auto Sheet Feeder (ASF)	1A3003B01
ASF Extension Modules	1A3003B02
Additional 4 Pin Front Push Tractor Assembly	1A3003B10
Additional 4 Pin Rear Pull Tractor Assembly	1A3003B12
Stationary Pedestal	1A3003B06
Tilt Pedestal	1A3003B05
Color Kit	1A3003B04

Compliance Statements

FCC Compliance Statement (USA)

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver in connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Warning
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note the following:

- The use of a non-shielded interface cable with the referenced device is prohibited.
- The length of the parallel interface cable must be 3 meters (10 feet) or less.
- The length of the serial interface cable must be 15 meters (50 feet) or less.
- The length of the power cord must be 3 meters (10 feet) or less.

Compliance Statement (Canada)

This digital apparatus is in conformity with standard NMB-003 of Canada.
Cet appareil numérique est conforme à la norme NMB-003 du Canada.

Übereinstimmungserklärung (Deutschland)

Bescheinigung des Herstellers/Importeurs:
Hiermit wird bescheinigt, dass der Drucker der Maschinenlärminformationsverordnung 3. GSGV, 18.01.1991 entspricht: Der höchste Schalldruckpegel beträgt 70 dB (A) oder weniger gemäß EN27779-1991.

Compliance Statement (Europe)

Warning
This product meets the interference requirements of EN55022. In a domestic environment, this product may cause radio interference in which case, the user may be required to take adequate measures.

Energy Star

As an ENERGY STAR® Partner, GENICOM has determined that this product meets the ENERGY STAR® guidelines for energy efficiency. The International ENERGY STAR® Office Equipment Program is an international program that promotes energy saving through the use of computers and other office equipment. The program backs the development and dissemination of the products with functions that effectively reduce energy consumption. It is an open system in which business proprietors can participate voluntarily. The targeted products are office equipment such as computers, displays, printers, facsimiles and copiers. Their standards and logos are uniform among participating nations.

International Compliance

EN55022:1998	Emissions Series	
EN 61000-3-2:1995	Power line harmonics	
EN 61000-3-3:1995	Power line flicker	
EN55024:1998	Immunity Characteristics	
	EN61000-4-2:1995	E.S.D.
	EN61000-4-3:1995	Radiated Susceptibility
	EN61000-4-4:1995	E.F.T
	EN61000-4-5:1995	Surge
	EN61000-4-6:1996	R.F. Common mode
	EN61000-4-11:1994	Voltage dips and interruptions

Trademark Acknowledgements

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GENICOM L.L.C.: Centronics
International Business Machines Corporation: IBM