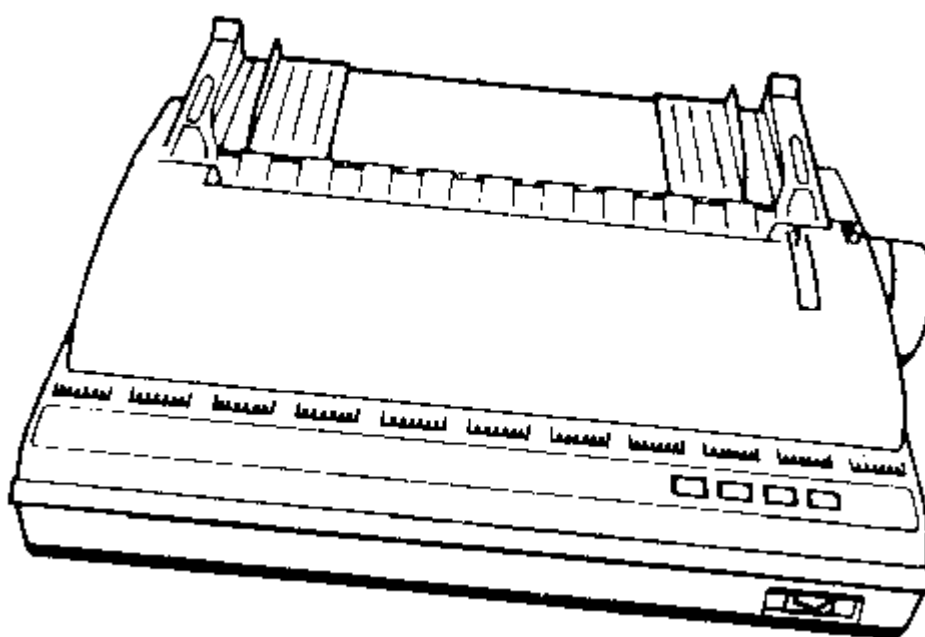


SEIKO Precision

SL-300



Owner's Manual

Benutzerhandbuch

Version 1.0

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English Version

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CHAPTER 1

SETTING UP THE PRINTER

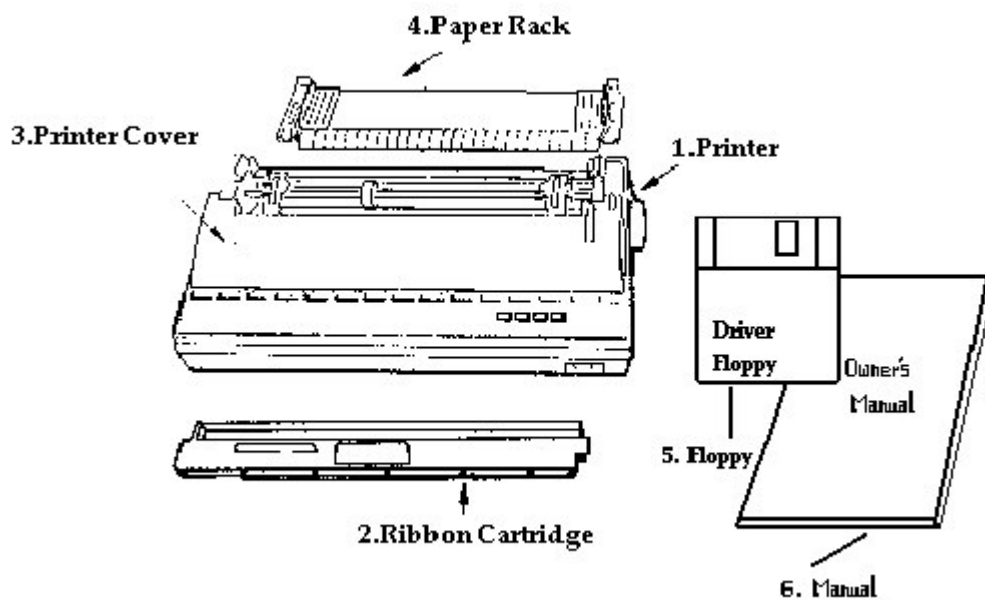
- * Unpacking the printer
- * Finding a suitable location
- * Assembling the printer
- * Testing the printer
- * Connecting the printer to your computer

UNPACKING THE PRINTER

Checking the parts

As you unpack the printer, check that you have all the parts shown below and that none have been damaged during transportation

1. Printer
2. Ribbon cartridge
3. Printer cover
4. Paper rack (guide)
5. Floppy (Driver software)
6. Owner's Manual



After removing the parts, save the packing materials in case you need to transport your printer.

Removing the protective materials

The printer is protected during shipping by locking the bail lever with the platen by using a twist cable tie. Also the two paper sprockets and the printer cover are prevented from vibration by using paper tape. These protective items must be removed before you turn the printer on.

FINDING A SUITABLE LOCATION

When selecting a place to set up your printer, keep the following in mind.

- * Place the printer on a flat surface.
- * Place the printer close enough to the computer for the printer cable to reach
- * Leave adequate room around the printer for easy operation, maintenance and proper Ventilation.
- * Avoid locations that are subject to direct sunlight, excessive heat, moisture and dust.
- * Use a grounded outlet. Do not use an adapter plug.
- * Place the printer where you can easily unplug the power cord.
- * Avoid outlets on the same circuit with large AC motors or other appliances that might cause fluctuations in line voltage.
- * Keep the entire computer system away from potential causes of electromagnetic interference such as loudspeakers or the base units of cordless telephones.
- * Place the printer where the dust level is minimum. (Humidity in temperature is maintained within the specified norms).
(Ref. Printer specifications for details – page 23)

If you plan to use a printer stand, follow these guidelines:

- * Use a stand that supports at least twice the weight of the printer
- * Never use a stand that tilts the printer at an angle of more than 15 degrees from horizontal. If you install a cut-sheet feeder, keep your printer absolutely horizontal.
- * Make sure you provide enough clearance below the stand and between its legs so that continuous paper feeds smoothly.
- * Position your printer's power cord and interface cable so that they do not interfere with feeding. If possible, secure the cables to the printer stand
- * Align the stack of paper so that the paper has a straight path into the printer

Selection of Power conditioning equipment:

Depending on the power supply condition at your site, you may choose an appropriate voltage stabilizer, to ensure that the input supply to your printer will not cross the specified limits even during adverse power supply conditions.

- | | | |
|-----------------------------|---|------------------|
| a. Voltage range | : | 220 to 240 Vac. |
| b. Frequency | : | 47 to 53 Hz |
| c. Earth to Neutral voltage | : | Less than 3 Vac. |

In case of your site condition not meeting the above limits, you must go for a voltage stabilizing equipment, which will ensure regulated supply of voltage to your printer.

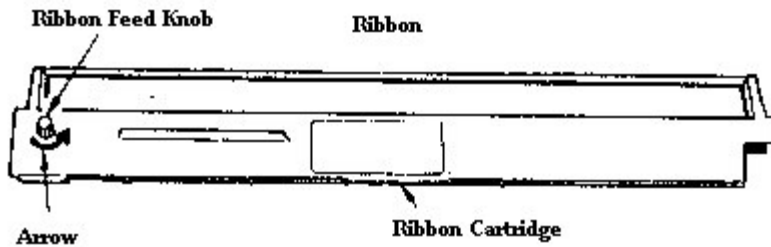
You may install

- i. Servo voltage stabilizer with high/low trip unit.
- ii. CVT (Constant Voltage Transformer)/Line conditioner.
- iii. UPS (Uninterrupted Power Supply).

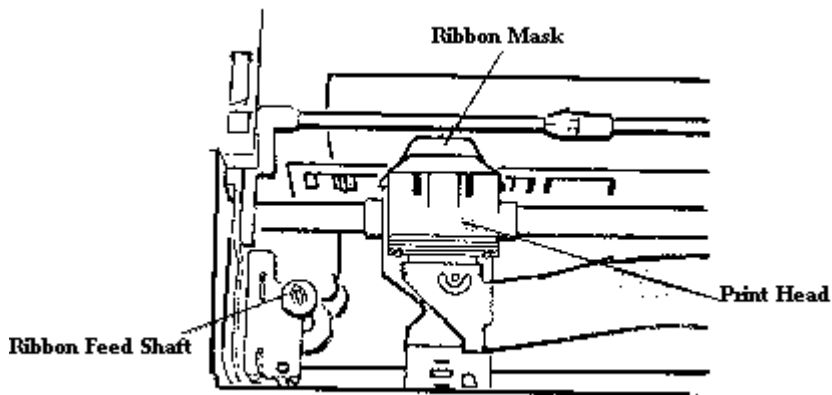
ASSEMBLING THE PRINTER

Installing the ribbon cartridge

1. Make sure the printer is turned off.
2. Turn the ribbon feed knob in the direction of the arrow to remove excess slack in the ribbon.



3. Insert the ribbon between the ribbon mask and the print head and position the cassette so that the ribbon feed shaft is inserted into the hole under the ribbon feed knob.



4. Press on both sides of the cassette.



5. Turn the ribbon feed knob of the cassette to tighten the ribbon. Manually move the printhead back and forth across the carriage bar to make sure that the ribbon is properly positioned in front of the print-head.

Attaching the paper guide

When you use single sheets, the paper guide functions to feed the paper smoothly and efficiently into the printer. Attach the paper guide using the following procedure.

1. Place the paper guide on the printer.
2. Raise the paper guide and push the projections on the lower part of the guide into the holes on the right and left side frames.

See using single Sheets

NOTE: You can load continuous paper comfortably even with the paper guide in place. Attach and close the printer cover unit.

TESTING THE PRINTER

Performing the self test

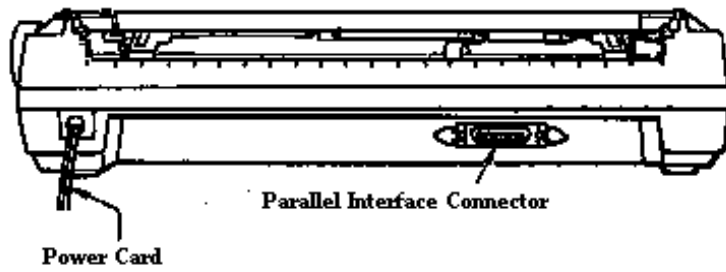
1. Ensure that the paper release lever is pushed to the TRACTOR position. Load continuous paper by pulling the paper bail lever forward and pushing it back against the platen. Turn OFF the printer.
2. While holding down the LF/FF button, turn on the printer. The printer starts printing the ASCII characters. The self-test continues until the paper runs out or till you turn off the printer.

CONNECTING THE PRINTER TO THE COMPUTER

Connecting the printer to your computer. Your SL-300 printer has a Centronics compatible parallel interface.

To connect the printer to the parallel port use a standard parallel cable.

Connect the parallel interface cable as follows:



1. Turn off both your printer and computer. Then plug the connector of the cable securely into the printer.
2. Squeeze the wire clips together until they lock in place on both sides of the connector.
3. Plug the other end of the cable to a 25 pin parallel port in your PC.

CHAPTER 2

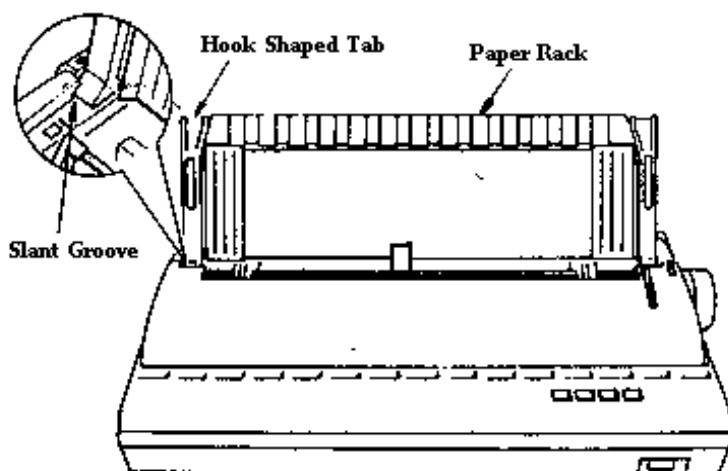
PAPER HANDLING

- * Using single sheets (Friction mode)
- * Using continuous sheets (Tractor mode)
- * Switching between continuous and single sheets
- * Printing on special paper

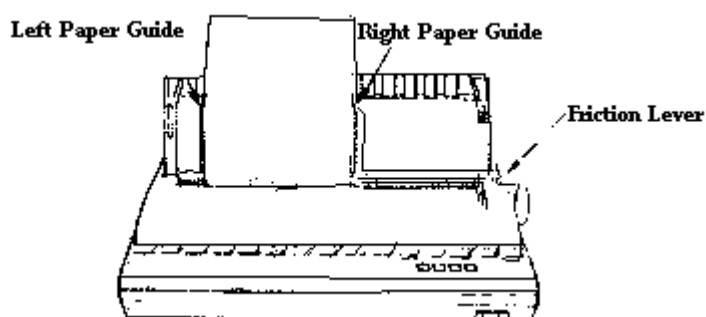
USING SINGLE SHEETS (Friction mode)

Loading a sheet

1. Turn on the Printer
2. Hold the paper rack upright and insert the rack into the slant grooves on both sides of the printer so the hook-shaped tabs face upward. Then place it in the slant position.

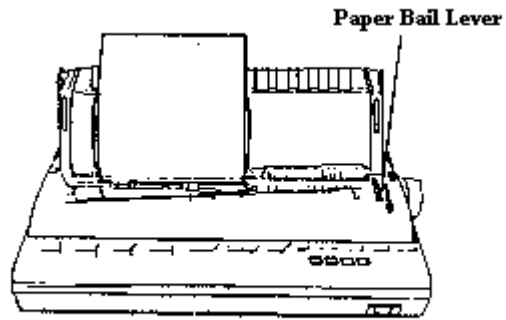


3. Move the friction lever to the cut sheet position (toward the back of the printer).
4. Slide the left and right paper guides to their extremes.
5. Position the cut sheet paper such that it leans against the paper rack.



6. Slide and position the left and right paper guides to match the paper width.

7. The paper automatically advances to the TOF (Top of Form) position when the paper bail lever is pulled away from the platen (toward the front of the printer).



8. Push the paper bail lever against the paper

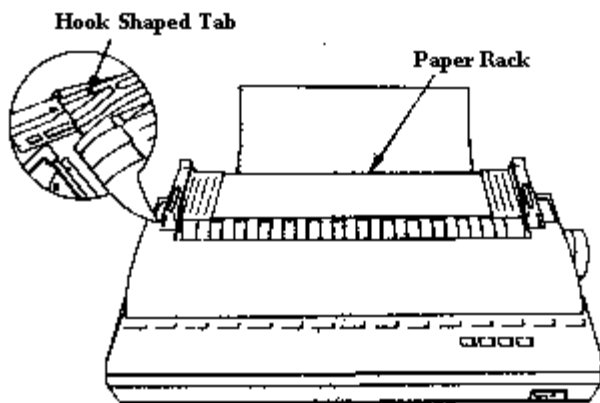
USING CONTINUOUS PAPER (Tractor mode)

Positioning your continuous paper supply

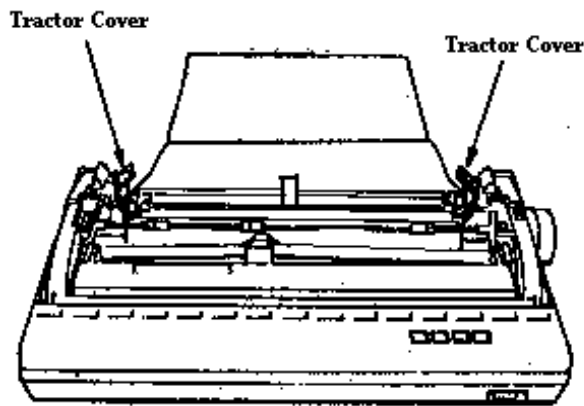
Note: Its important to keep your paper supply aligned with the tractor so that the paper feeds smoothly into the printer.

Loading continuous paper

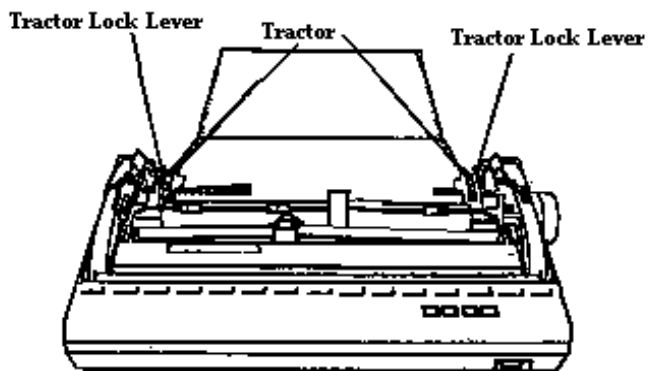
1. Remove the printer cover. Place the paper rack in its horizontal position. Slide the rack toward the front of the printer to lock the printer cover and allow for easy tear off of forms. Slide the paper rack toward the back of the printer to open the cover



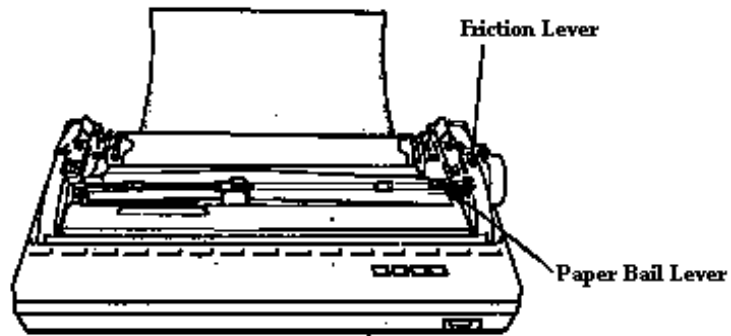
2. Open the tractor cover.
3. Align the holes in the paper with the tractor paper feed pins.



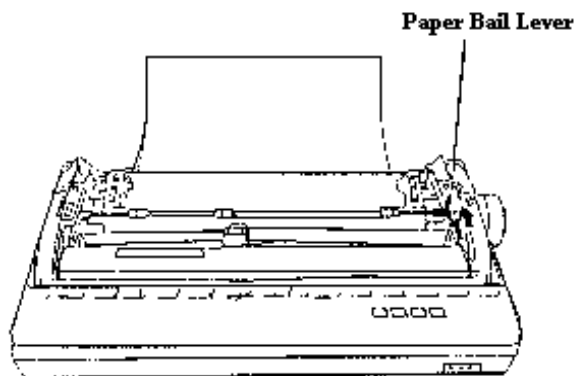
4. If necessary, pull the tractor lock lever to release the tractor and adjust the tractor positions for the width of the paper being used.
5. Close the tractor covers and adjust the position of the paper. Gently push the two tractors outward to remove any slack in the paper.



6. Move the friction lever to the tractor feed position (toward the front of the printer).
7. Make sure the power is turned on.
8. Pull the paper bail lever toward you. The paper advances to the TOF position.



9. Push the paper bail lever against the paper.



10. Set the printer cover.

You can move the paper forward/backward in minute steps called Micro Adjustment by using LF/FF and FONT button.

WARNING:

Never advance the paper using the platen knob except in the case of a paper jam or other paper feed problem. Using the platen knob while the printer is ON may damage the paper feeding mechanism and affect the loading position.

NOTE:

1. If the paper is not loaded or skewed after loading, completely remove the paper and reinsert it more firmly.

2. Now ONLINE light blinks indicating that the Top of Form adjustment is enabled. You may press the LF/FF button to move the paper forward and FONT to move the paper backward in minute steps. Once you adjust this, the value (TOF) is stored till the next change.
3. To eject the paper, press the ON LINE button to make the printer off line and then pull the paper bail lever forward and then push it back.
4. The left edge of a cut sheet paper should be always less than 5.5 cm from the printer starting position to avoid the paper out indication.

SWITCHING BETWEEN CONTINUOUS AND SINGLE SHEETS

Switching to single sheets

1. Remove the printed document.
2. Press the ON LINE button to set the printer offline and pull the paper bail lever forward and push it back to advance the continuous paper backward automatically to a standby position. The paper is still attached to the tractor, but no longer in the paper path. The PAPER OUT light comes on when the paper is completely out of the paper path.
3. Push the paper release lever back to the FRICTION (single sheet) position. See the section on Using Single Sheets for loading single sheets.

Switching back to continuous paper

It is easy to switch back to printing with continuous paper. Before switching back to continuous paper ensure that the single sheet has been ejected and the printer is offline.

1. Pull the paper release lever forward to the TRACTOR (continuous paper) position.
2. Pull the paper bail lever forward and then push it back to load continuous paper. Press the ON LINE button to set the printer on line.

PRINTING ON SPECIAL PAPER

The different varieties of papers are: multipart forms, labels and envelopes. Before printing on these papers, the print head gap needs to be adjusted through head adjustment lever.

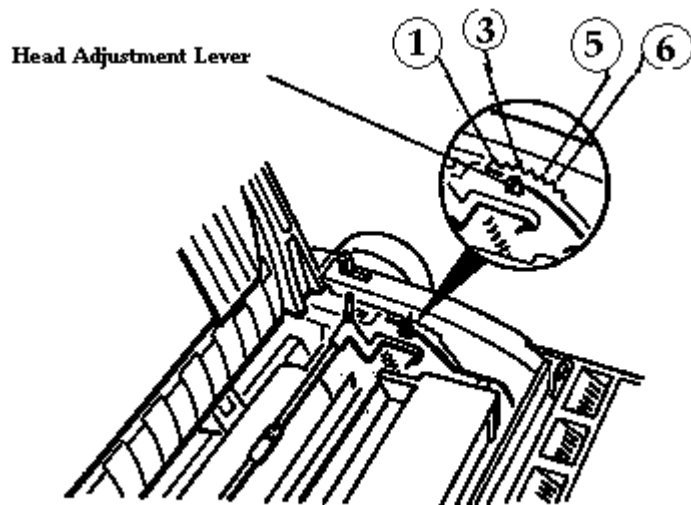
To accommodate the various thickness of paper, the printer is equipped with print head gap lever that can be set to one of the 7 positions. For normal use, it should be set to position 3.

The following table gives you general guidelines for selecting the right gap for paper thickness by LEVER Position:

Paper Type	Lever Position
Thin paper	1 or 2
Paper (single sheets or continuous) Paper with standard ribbon installed	3
24 lb paper (single sheets)	3
Paper Type	Lever Position
Multi-part forms	
2-sheets	4
3-sheets	5
Labels	4
Envelopes	
Air-mail	4 or 5
Plain	6
Bond (20 lb.)	6
Bond (24 lb.)	7

To get the proper printing, make sure that the print head gap (through head adjustment lever) position should be selected as shown above.

Always return the bail lever to position 3 when you go back to printing on ordinary paper. Continuous printing with lever set at a position higher than 3 can shorten the life of the print-head.



WARNING: *Printing past the edges of envelopes, multi-part forms, and labels or thicker than normal paper can damage the print head.*

Multi-part forms

With the built-in tractor unit, your printer can print continuous multi-part forms (four parts including the original). You can load the multi-part paper in the same way as you load continuous paper. The only difference is that the paper thickness lever is to be adjusted before loading.

NOTE : Multi-part forms should not be used without adjust the print head gap position.

Labels

If you need to print labels, choose the type of label that is mounted on a continuous backing sheet with sprocket holes for use with the tractor. Do not use single sheet labels on a shiny backing sheet because they almost always slip a little if fed by friction alone. Load the labels the same way as you load continuous paper, just adjust the paper thickness lever before loading.

WARNING:

- *Never feed labels backward through the printer. Labels can easily come off the backing and jam the printer. Also, never use the sheet load lever to eject labels or to feed labels backward to the standby position.*
- *Since labels are especially sensitive to temperature and humidity, always use them under normal operating conditions.*

Envelopes

You can feed envelopes individually using the single sheet-loading feature. Adjust the paper thickness lever before loading.

CAUTION:

- Always keep the longer side of the envelope horizontal.
- Envelope printing is only available at normal operating conditions.
- If you use No.6 envelopes, make sure that the left edge guide is aligned with the arrow on the paper guide.

CHAPTER 3

USING THE PRINTER

- * Operating the control panel
- * Printer setting through the front panel
- * Adjusting the TOF position
- * Online microfeed
- * Buffer clear / Panel Reset
- * Selecting type styles
- * Data dump mode
- * BL_D Vertical line adjustment

OPERATING THE CONTROL PANEL

LEDs

POWER -ON (green)

ON - when the power switch is on and power is supplied to the printer.

PAPER OUT (red)

ON - when the paper is not present or when continuous paper is in the standby position.

ONLINE / TOF (green)

ON - when the printer is on line and ready to receive data. Flashes when the micro adjustment feature is enabled as soon as paper is loaded to set top of form.

PITCH (Tricolour)

The LED colour shows the present pitch (Character Per Inch) selected. Press the PITCH button to change the LED colour. The following table shows the LED colour Vs PITCH setting.

LED Colour	PITCH (cpi)
RED	10
GREEN	12
ORANGE	15
No Colour (One Beep)	17
No Colour (Two Beep)	20

FONT (Tricolour)

The LED colour shows the present font selected. Press the FONT button to change the LED colour. The following table shows the LED colour Vs FONT setting.

LED Colour	FONT
------------	------

RED	DRAFT
GREEN	ROMAN
ORANGE	SCRIPT
No Colour (One Beep)	PRESTIGE
No Colour (Two Beep)	COURIER
No Colour (Three Beep)	SANS SERIF

BUTTONS

ONLINE

This button controls the printer status. When the printer is in ON-LINE mode, the printer can receive data and prints. When the printer is in OFF-LINE mode, the printer cannot receive data.

LF/FF

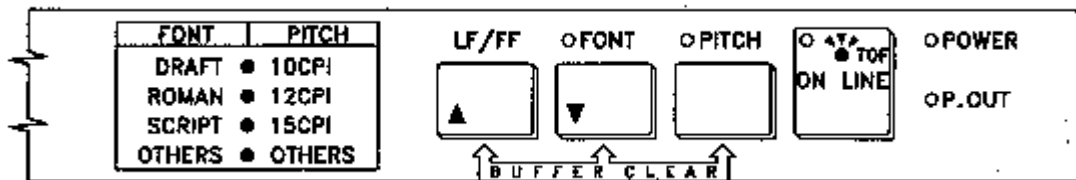
When the printer is off line, press this button to feed forward the paper by one line, or hold it down to feed the paper to the top of the next page. When the printer is online, press this button to move paper forward in micro steps.

FONT

Press this button to select a character font. 5 LQ fonts - Roman, Sans Serif, Courier, Script, Prestige and 1 Draft font are available. The status of the Font LED shows which font has been selected (As explained LEDs operation).

PITCH

Press this button to select a character spacing. 5 types of Character per inch (dpi) 10,12,15,17 and 20 are available. The status of the Pitch LED shows the selected pitch (As explained LED's operation).



PRINTER SETTING THROUGH THE FRONT PANEL

Keep ONLINE pressed, switch ON the power. Present Settings are printed as follows.

Sl.No.	Setting			
1.	Print direction	BI-D		UNI-D
2.	Character table	Italics	Graphics	Optional language
3.	Skip-over-perf	OFF		1 inch
4.	Auto tear off	Enabled		Disabled
5.	Auto Tear off time	3 sec		1 sec
6.	Auto Line Feed	Depends on I/F		Enabled
7.	Page Length			

Available Page Lengths 3, 3.5, 4, 5.5, 6, 7, 8, 8.5, 11, 11.66, **12**, 14, 17

Note: Bold indicates printer default setting.

Printer Setting Format

FONT LED	PITCH LED	SETTINGS
RED	-	Print Direction
GREEN	-	Character Table
ORANGE	-	Skip Over Perf
-	RED	Auto Tear Off
-	GREEN	Auto Tear Off Time
-	ORANGE	Auto Line Feed
RED	RED	Page Length

Press FONT to go to next setting

Press LF/FF to go to previous setting

Press ONLINE to change setting

Press PITCH to save and proceeding to next setting

- For page length setting, select FONT LED(RED) & PITCH LED(RED). Press LF/FF to change the current setting. To execute the change press ONLINE. Printer prints out the changed setting.
- To skip remaining printer settings at any time through the process, just **POWER OFF** the printer.

You may also use Setup Utility for the above Printer Settings.

ADJUSTING THE TOF POSITION

The loading position is the position of the paper when the printer has automatically loaded it. The loading position is important because it determines where the printer begins to print on each page. If the printing is too high or too low on the page, change the loading position using the micro-adjustment feature.

The micro-adjustment feature moves the paper 1/72 inch at a time to make fine adjustments to the loading position. Once you have used micro-adjustment to change the

loading position of single sheet or continuous paper, the printer saves this position till the next change.

Using micro-adjustment

The following steps show how to adjust the loading position:

1. Turn on the printer and load the paper by pulling the paper bail lever forward and then pushing it back.
2. Press the ONLINE button to set the printer on line. The ONLINE LED starts flashing. Note: For single sheet loading, the ONLINE LED comes on automatically as soon as the paper is loaded.
3. Press the LF/FF button to feed the paper forward and the FONT button to feed the paper backward.

Note: When the paper reaches the factory-set loading position, the printer beeps and micro-adjustment feed pauses for a moment before continuing. You can use this factory setting as a reference point when adjusting the printer's loading position.

When the paper reaches either minimum or maximum top margin, the printer beeps and the paper stops moving.

4. Once you have adjusted the loading position for the paper, the printer remembers this new loading position, and loads paper at this new position, till the next change

BUFFER CLEAR / PANEL RESET

Hold down the LF/FF, FONT and PITCH buttons together till printer gives BEEP sound. The printer buffer gets cleared and the default printer settings are loaded.

SELECTING TYPE STYLES

The printer can produce several type styles by using different fonts, character spacing and other print enhancement features. You can select typestyles in 2 different ways: by using software commands or by using the control panel.

This section describes how to select a typestyle using the FONT, PITCH buttons on the control panel.

- **Character Fonts**

FONT

The LED colour shows the present font selected. Press the FONT button to change the LED colour. The following table shows the LED colour Vs FONT setting.

LED Colour	FONT
------------	------

RED	DRAFT
GREEN	ROMAN
ORANGE	SCRIPT
No Colour (One Beep)	PRESTIGE
No Colour (Two Beep)	COURIER
No Colour (Three Beep)	SANS SERIF

- **Character Spacing**

PITCH

The LED colour shows the present pitch (Character Per Inch) selected of the printing. Press the PITCH button to change the LED colour. The following table shows the LED colour Vs PITCH setting.

LED Colour	PITCH (cpi)
RED	10
GREEN	12
ORANGE	15
No Colour (One Beep)	17
No Colour (Two Beep)	20

DATA DUMP MODE

Press FONT and POWER ON, to enter data dump mode. This mode prints printable test in ASCII format, which can be used for debugging. This mode will stay till switch OFF the printer.

BI_D VERTICAL LINE ADJUSTMENT PROCEDURE

This BI_D adjustment is useful to make the vertical line alignment. The following steps show you how to do the BI_D adjustment.

1. Press PITCH and Power on, to enter into BI_D adjustment mode.
2. Press LF/FF to decrement the and FONT to increment the value.
3. Press ONLINE to execute the changes.
4. Press PITCH to select different SPEEDS.
 - a. SPEED 0 for DRAFT.
 - b. SPEED 3 for LQ (fonts) .
5. Switch Off the printer to save the changes.

CHAPTER 4

SOFTWARE UTILITIES:

Your SL-300 Printer comes with the following utilities.

The floppy diskette contains the relevant files and install programmes.

1. Set-up utilities (DOS based)
2. Instant Reference Manual (Windows based)
3. Printer Drivers for
 - Windows 3.11
 - Windows 9X
 - Windows 2K
 - Windows NT 4.0
 - Various DOS Applications

For application programmes, which do not have drivers, you may select the following printer drivers, which may be available in your application software. They are in the order of preference.

EPSON LQ 1050+

LQ Series printer drivers

24 Pin Printer Driver

Set-up Utility (In DOS)

System requirement: Any IBM compatible PC with hard disk and MS DOS, 1.44 MB Floppy drive.

Hard disk space: 300K Bytes.

Features:

- Selection of various printer settings from PC through ESC command.
- Storing the personalised setting in macros.
- Executing the macros from batch file.

Type **INSTALL** at ' A ' prompt. For more information read ' Readme.txt '.

SOFTWARE UTILITIES

Features: Easy user friendly interface with keyboard and mouse support.

WINDOWS 3.11 Driver

You can install the driver through the ' Control Panel '.

Please see the 'Readme.txt' for more information.

Other Drivers:

Depending on requirements you can selectively install any of the above drivers by executing install.

CHAPTER 5

TECHNICAL SPECIFICATIONS

- * Printer specifications
- * Interface specifications
- * Initialization

PRINTER SPECIFICATIONS

Printing method: 24-pin impact dot matrix.

Printing speed:

Quality	Characters / inch (cpi)	Characters / second (cps)
Draft	10	200
	12	240
	15	300
Letter Quality	10	66
	12	80
	15	100

Printing direction : Bi-directional logic-seeking for text and graphics

Line spacing : 1/6 and 1/8 inch or programmable in increments of 1/360 inch

Printable columns :

Character width	Maximum characters / line
10 cpi	80
17 cpi	136
12 cpi	96
20 cpi	160

Buffer: 32 k bytes

Character fonts:

Font	Available sizes (cpi)
Draft	10,12,15,17,20
Roman	10,12,15,17,20
Script	10,12,15,17,20
Other FONTS	
Prestige	10,12,15,17,20
Courier	10,12,15,17,20
Sans Serif	10,12,15,17,20

Characters: 96 standard ASCII and italic character set
14 International character set
1 Legal character set
EPSON Extended graphics character set

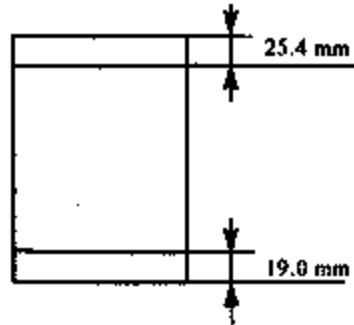
Paper

Paper feed methods: Friction (top) and built -in push feed (rear) tractor with paper tension unit.

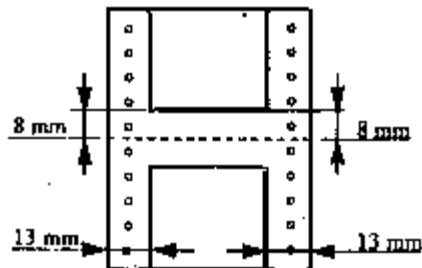
Paper width and length:

Single sheet	A4, B5, Letter, Legal
Continuous paper	114 mm to 254 mm (4.5 to 10.0 inches)
Envelopes	No.6 166 x 92 mm (6.54 x 3.62 inches) No.10 240 x 104 mm (9.45 x 4.09 inches)
Labels	63.5 (min) x 23.8 (min)

Cut Sheet Paper (Manual Feed)



Fanfold Paper



Print Margins:

Paper type	Top Margin	Bottom Margin	L/R Margin
Single sheets	25.4 mm	19 mm	-
Fanfold	8.0 mm	8 mm	13 mm

Paper weight:

Single sheets	14 to 24 lb
Continuous	14 to 22 lb
Multi-part forms	12 to 24 lb x N

Paper thickness:

Single sheet	0.065 to 0.22mm
Continuous	0.065 to 0.22 mm
Envelope	0.16 to 0.22 mm
Labels	0.19 mm max. (incl. base paper)

Number of copies:

One original plus upto 3 copies (with self carbon)
 One original plus upto 2 copies (with carbon)
 Total thickness must not exceed 0.22 mm

- The use of 24 lb paper is only available at normal temperature.
 - The temperature range is between 5 to 35 degree centigrade
 - The relative humidity is between 20 to 80%

MECHANICAL

Ribbon: Black ribbon cartridge (High Density fabric, maker: SEIKO Precision)

Life expectancy 2 million characters in LQ mode.

Print head life: 150 million strokes / pin

Printer physical details:

Height	112 mm
Width	400 mm
Depth	280 mm
Weight	approx.3.5 kg (Net)

ELECTRICAL:

Operating voltage: 220 to 240 VAC

Power consumption:

Mode	Max. Watts
Self test (10 cpi)	50 W
Idle mode	15 W

Frequency: 47 to 53 Hz

Noise : 60 dBA

ENVIRONMENTAL:

Temperature:

Operation	: 5 to 35 deg centigrade
Storage	: -40 to 65 deg centigrade

Humidity (without condensation) :

Operation	: 20% to 80%
Storage	: 5% to 90%

Operation angle: Less than 15 deg