

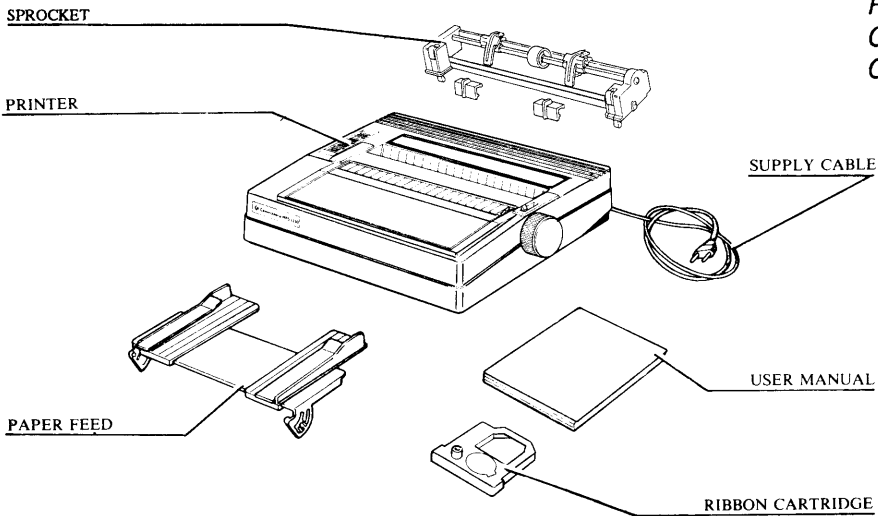
***FIRST PART***  
***Installation***



## Unpacking

**After unpacking the printer, save the carton and packing material for future re-use.**

**Make sure all items are present, checking them against the figure below. If something is missing or damaged, contact your dealer.**



*Fig. 1-1  
Carton  
Contents*

**The printer is protected by a plastic bag which must be removed before installation.**

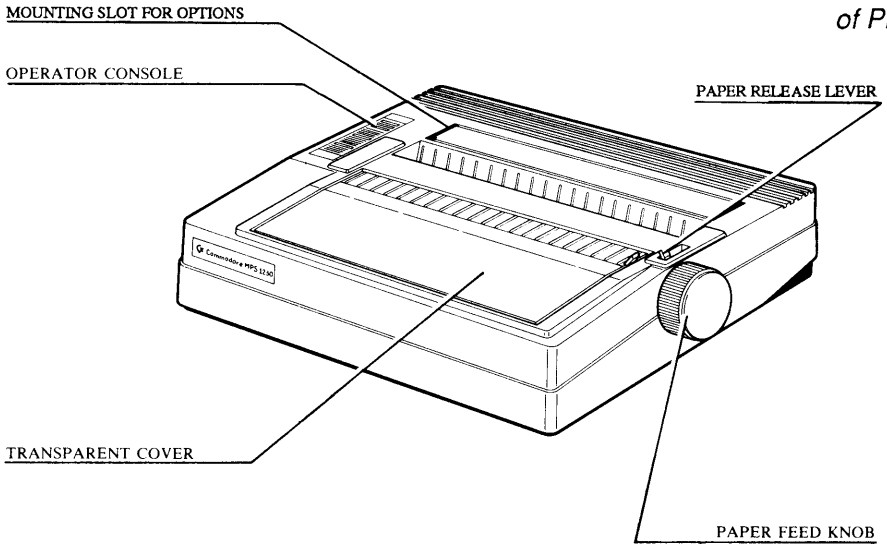


Printer  
Presentation

This chapter locates and presents all the printer parts used by the operator.

The figure below shows the main parts that can be accessed from the front of the printer.

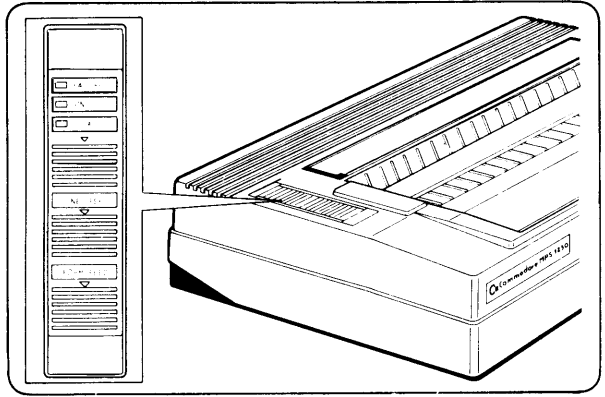
Fig. 2-1  
Front View  
of Printer



## OPERATING CONSOLE

On the operating console there are three membrane keys and three LED indicator lights.

Fig. 2-2  
Operating  
Console



## INDICATOR LIGHTS

ON

Lit: printer powered.

LOCAL

Lit: printer off-line (does not receive from host computer) or out of paper condition.

Off: printer on-line (under host computer control).

FAILURE

Lit: printer fault (hardware fault)

Flashing: minor fault (mechanical fault).

## KEYS

### LOCAL

Alternatively selects or deselects the printer.

### LINE FEED

Advances the paper one line feed: if held down, the paper feed is continuous.



**Enabled only when the printer is off-line.**

If pressed during printer programming phase (SET-UP), the parameter proposed is selected (see the chapter “Programming the machine settings”).

If pressed and held down at printer switch-on, the print test is performed (see the chapter “Diagnostics”).

### FORM FEED

If pressed, it advances the paper to the top of the next form.



**Enabled only when the printer is off-line.**

If pressed during printer programming phase (SET-UP), the parameter proposed is refused, and an alternative is proposed (see the chapter “Programming the machine settings”).

If pressed and held down at switch-on, the printer will operate in the DATA SCOPE print mode (see the chapter “Diagnostics”).

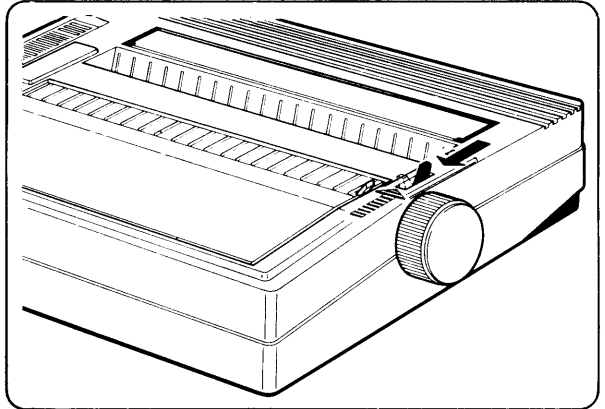
If the **LINE FEED** and **FORM FEED** keys are held down together at switch-on, the printer will operate in SET UP mode (see the chapter “Programming the machine settings”).

## PAPER RELEASE LEVER

Push the lever towards the rear of the printer to set the paper pressure rollers against the platen to allow printing of single sheets of paper.

Push the lever towards the front of the printer to raise the paper pressure rollers from the platen for printing on continuous stationery (fed by the sprocket).

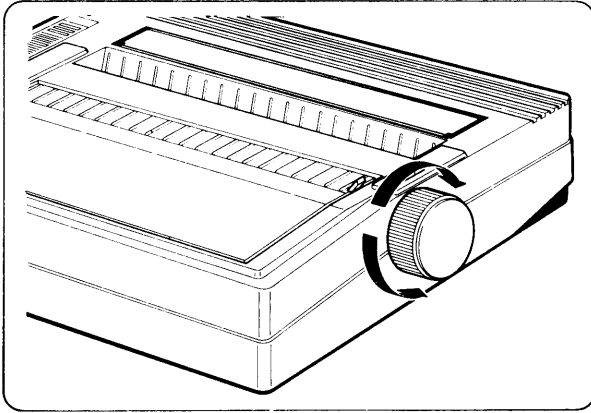
*Fig. 2-3  
Paper Release  
Lever*



## PAPER FEED KNOB

Allows manual forward and reverse paper feed.

**Functions only if the paper release lever is pushed towards the rear of the printer.**

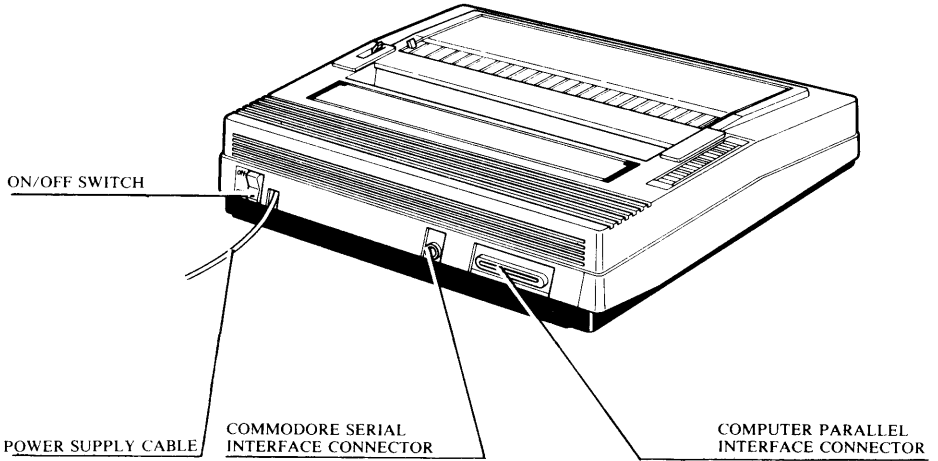


*Fig. 2-4  
Paper Feed Knob*

The following figure illustrates the machine main parts that can be accessed from the rear of the printer.

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*Fig. 2-5  
Rear View  
of Printer*



Place the printer on a flat surface with the operating console to your left and the paper feed knob to your right.



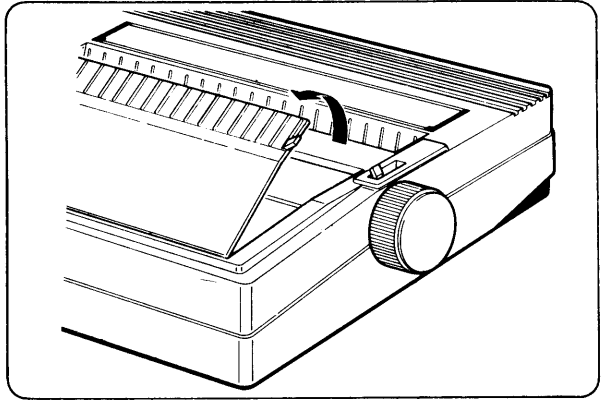
**Never expose the printer to direct sunlight.**

**Read this chapter carefully before connecting the printer to the mains power supply.**

## RIBBON CARTRIDGE INSERTION

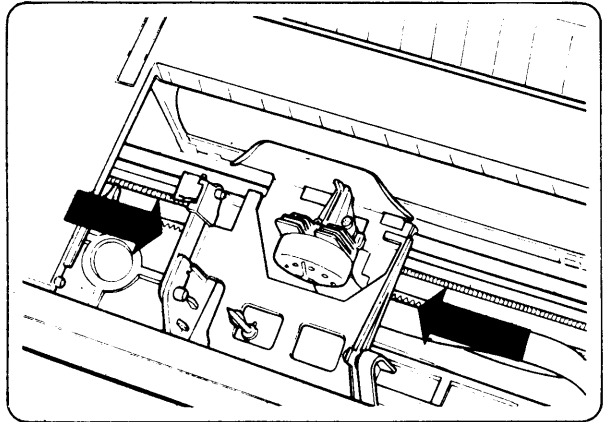
To insert the ribbon cartridge in the printer, raise the transparent cover to access the printer internal parts.

*Fig. 3-1  
Opening the  
Transparent  
Cover*

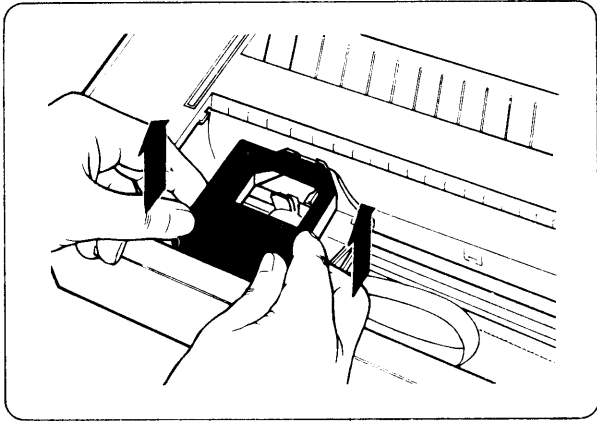


Position the print head at the physical left margin by sliding it gently along its horizontal guides.

*Fig. 3-2  
Positioning the  
Print Head*



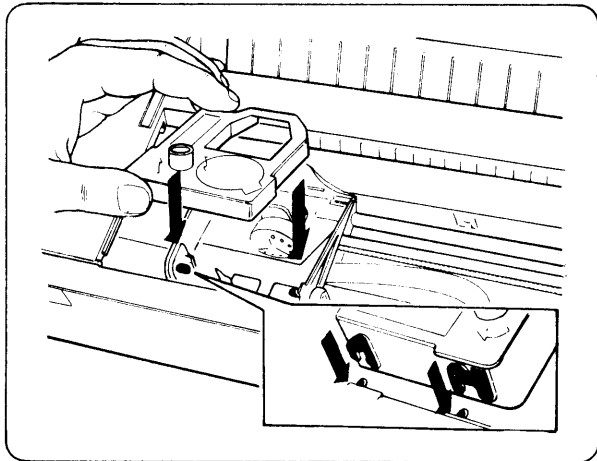
If you are replacing the ribbon cartridge, first remove the used cartridge, pulling it upwards.



*Fig. 3-3  
Removing the Used  
Cartridge*

Fit the new ribbon cartridge around the print head, making sure it is held firmly by three stops and that the ribbon feed pin is inserted correctly.

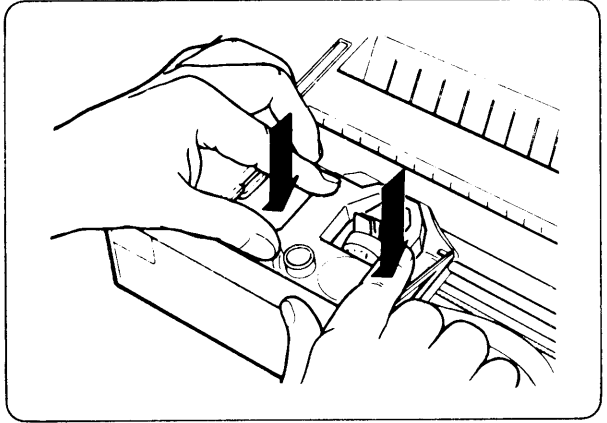
Make sure the inked ribbon is towards the platen, and threaded between the print head and the paper guide fixed to the platen.



*Fig. 3-4  
Positioning the  
Cartridge*

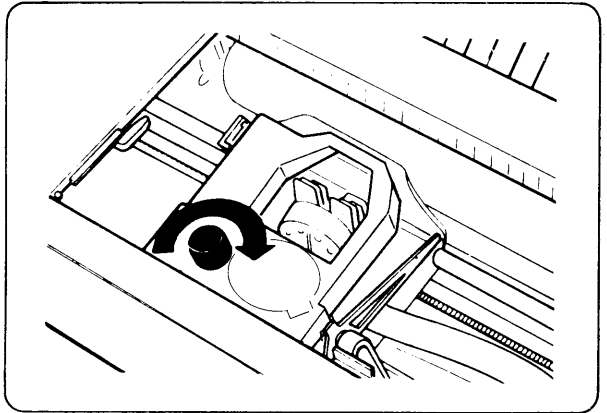
Insert the cartridge on the mounting pins, pressing it down gently but firmly. If there is excessive resistance, reposition the cartridge and try again.

*Fig. 3-5  
Fixing the  
Cartridge in  
Position*



Turn the ribbon tension adjustment wheel on the cartridge clockwise to take up any ribbon that has come out of the cartridge during insertion.

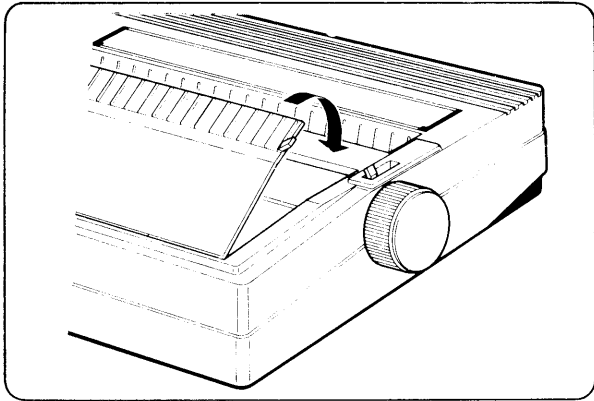
*Fig. 3-6  
Adjusting the  
Ribbon Tension*





**Check that the cartridge is correctly aligned and firmly locked in place on the pins and that the ribbon is taut (both horizontally and vertically).**

Close the transparent cover, putting the printer in the operating mode.



*Fig. 3-7  
Closing the  
Transparent  
Cover*

## PAPER LOADING

You can use for printing either single sheets or continuous forms.

**Single sheets** of paper should be 5 to 9 in (127 to 229 mm) wide and at least 100 mm long, with a minimum top of form of 35 mm and bottom of form area of 30 mm. The paper weight may vary between 60 and 80 g/m<sup>2</sup>.

**Continuous forms** should be 5 to 9.5 in (127 to 241.3 mm) wide. The paper weight (original only) may vary between 55 and 90 g/m<sup>2</sup>. If an original plus one copy is used, the weight of the original may vary between 50 and 60 g/m<sup>2</sup>, while that of the copy must be between 40 and 50 g/m<sup>2</sup>. If carbon paper is used, it should be between 20 and 30 g/m<sup>2</sup>.

The thickness of the form should not exceed 0.18 mm.

## SINGLE SHEETS

To use single sheets of paper, you must first mount the paper feed support on the printer.

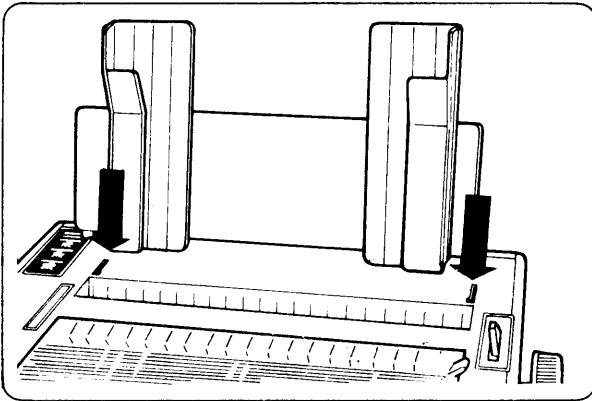
### Inserting the Paper Feed Device

Position the paper feed support vertically on the rear of the printer, inserting its pins in the appropriate slots in the printer casing, and pushing it down until it is against the stops.

Pressing the two flexible hooks on the paper feed support, insert them in the grooves and tip the paper feed back so that it is against them.

The paper feed has two working positions:

1. Horizontal; obtained by pressing the lips at the sides inward.
2. Sloping; obtained by positioning it horizontally, and then pulling forward until it clicks into place.



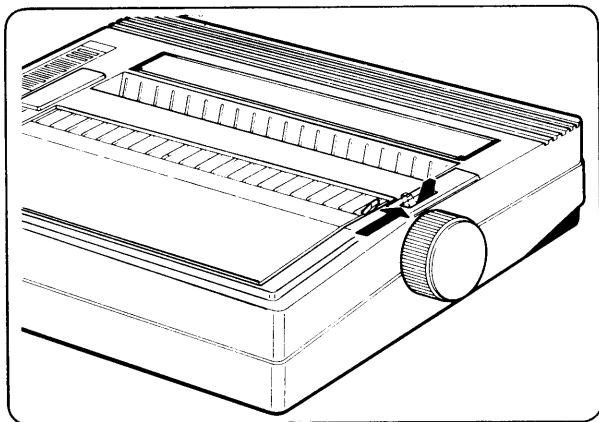
*Fig. 3-8  
Inserting the Paper  
Feed Support*



**Check that the paper feed support is fixed firmly and correctly to the printer (and is in its sloping position for single sheet loading).**

Set the paper release lever towards the rear of the printer, so that the paper is fed by the platen.

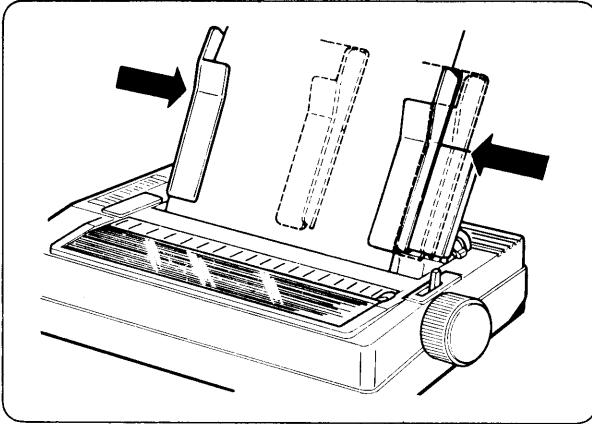
*Fig. 3-9  
Positioning the  
Paper Release  
Lever*



## Manual Insertion of Single Sheet

Adjust the left hand guide of the paper feed so that the left hand edge of the paper is to the left of the first character position on the print line.

Adjust the right hand guide according to the width of the sheet of paper, with respect to the left hand guide.



*Fig. 3-10  
Adjusting the  
Guides*

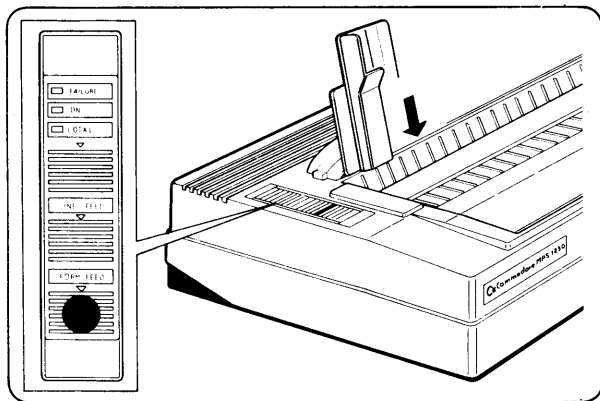
Insert the paper between the guides, pushing it into the slot that gives access to the platen. Turn the paper feed knob clockwise until the paper is in the print position, between the platen and the paper guide in front of it.

## Automatic Insertion of Single Sheets

With the printer switched on, you can insert single sheets of paper automatically.

The procedure is the same as that described for manual insertion except that the paper is fed in by pressing the **FORM FEED** key on the operating console.

*Fig. 3-11  
Automatic Insertion  
of Single Sheets*



**The FORM FEED key operates only if the printer is in Local (Off-line LOCAL indicator light ON). If this light is off, press the LOCAL key.**

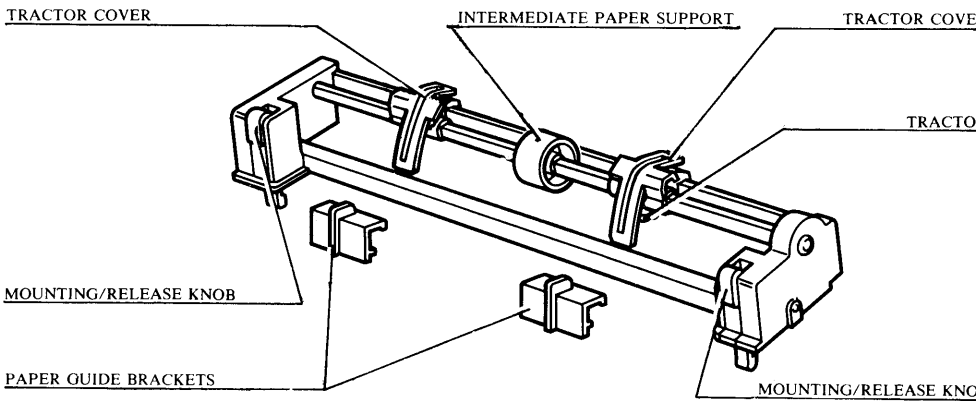
## CONTINUOUS STATIONERY

To use continuous stationery, you must first mount the **Sprocket** (paper feed device) on the printer.

### Mounting the Sprocket

The following figure shows the parts with which the operator should be familiar.

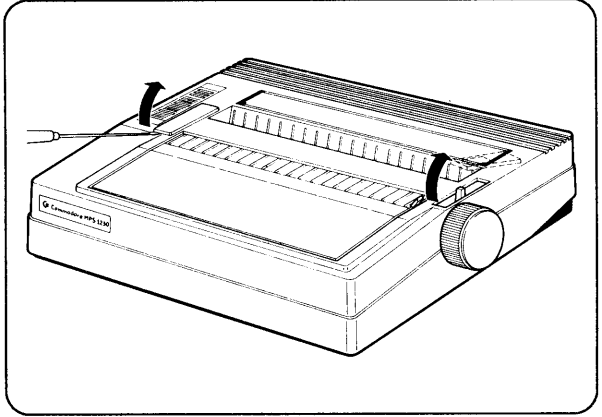
*Fig. 3-12  
Sprocket*



To mount the sprocket on the printer, proceed as follows:

Using a screwdriver, paper knife or similar tool, remove the precut parts of the printer casing to access the points in which the sprocket is to be fixed.

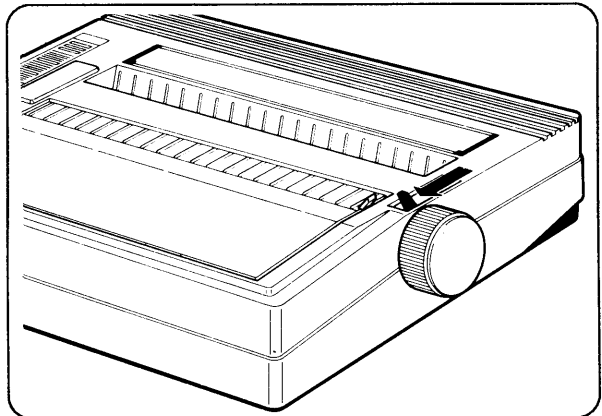
*Fig. 3-13  
Removing the  
Precut Parts*



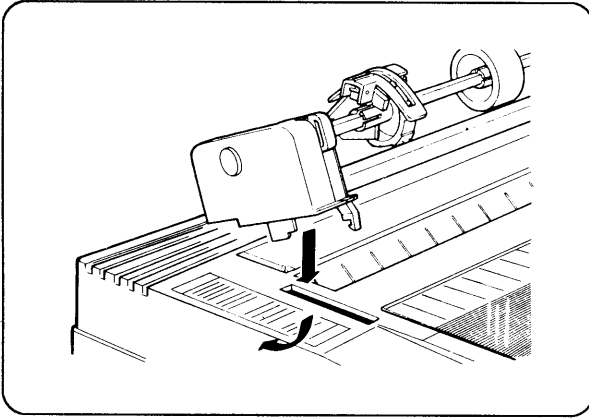
**Keep the precut parts to close the openings in the casing after Sprocket removal.**

Position the paper release lever towards the front of the printer so that the sprocket can be mounted.

*Fig. 3-14  
Positioning the Paper  
Release Lever*

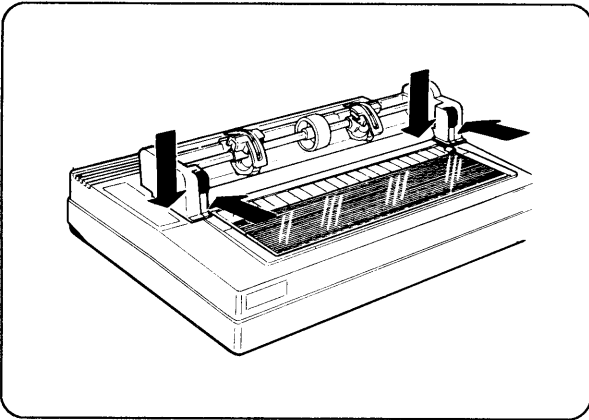


Insert the pins of the sprocket in the two rear slots, sliding them into the guides provided.



*Fig. 3-15  
Mounting the  
Sprocket*

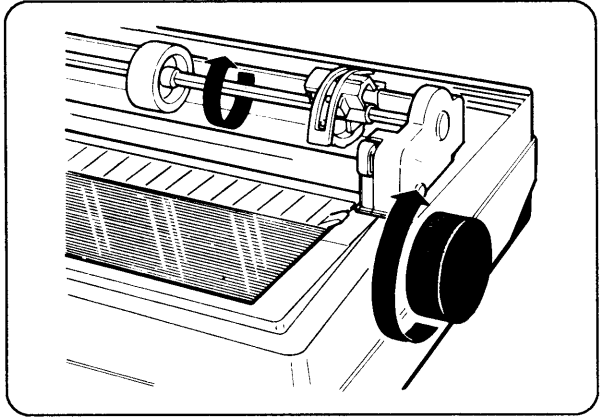
Pressing the knobs on either side of the front of the sprocket, pull it forward until it is against the front flexible stops.



*Fig. 3-16  
Fixing the  
Sprocket in Position*

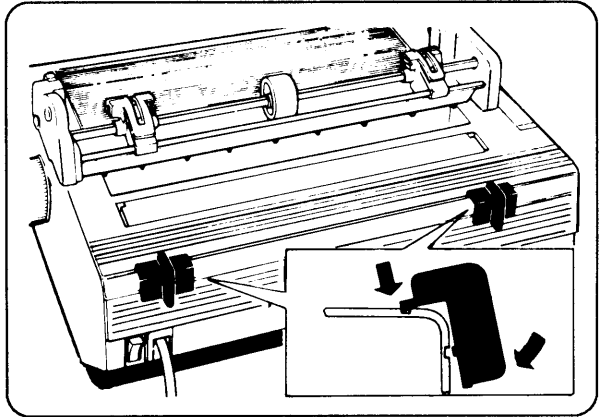
Check that the sprocket is mounted correctly: when you turn the paper feed knob, the metal shaft on which the feed tractors are mounted should rotate.

*Fig. 3-17  
Checking the  
Sprocket*



Press the two paper guide brackets into the groove on the rear of the printer casing.

*Fig. 3-18  
Inserting the Paper  
Guide Brackets*

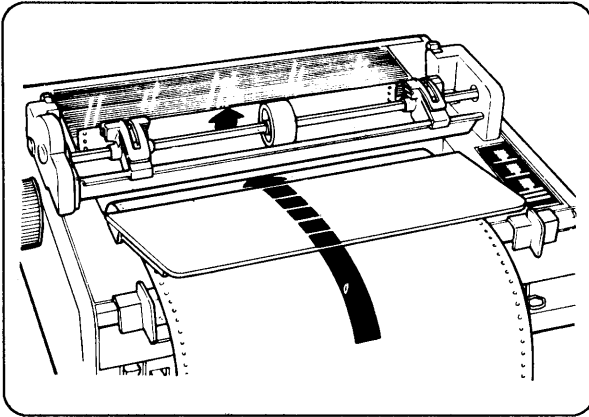


## Loading Continuous Stationery

To load continuous stationery, proceed as follows:

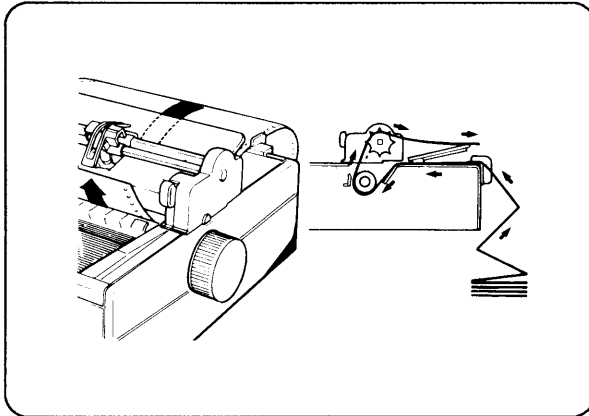
Insert the paper feed support (as described previously) and rotate it downwards to its horizontal position.

Inserting the paper in the slot behind the platen, feed it under the tractors.



*Fig. 3-19  
Inserting  
Continuous  
Stationery*

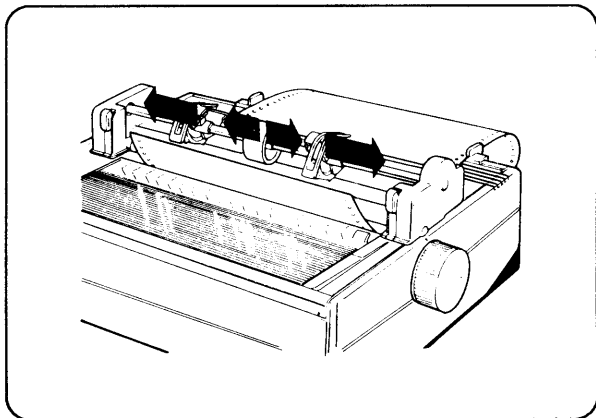
Guide the paper by hand until the leading edge feeds out between the platen and the paper guide.



*Fig. 3-20  
Feeding Continuous  
Stationery Round  
the Platen*

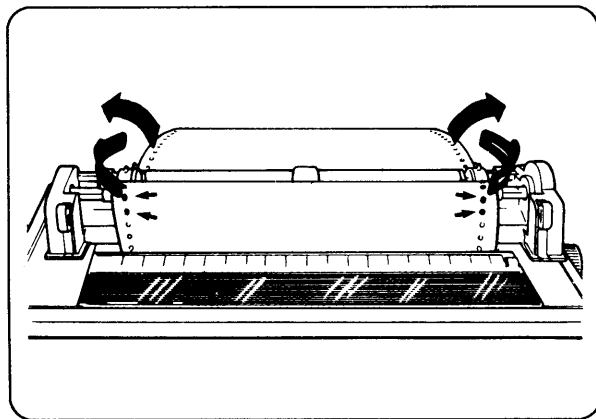
Adjust the two feed tractors and the intermediate paper supports according to the paper width.

*Fig. 3-21  
Adjusting the  
Sprocket*

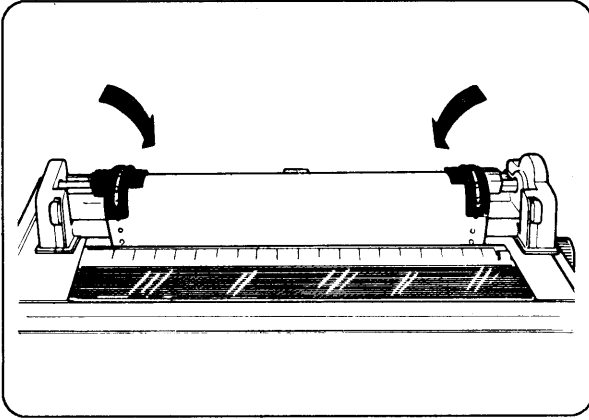


Open the two tractor covers and thread the paper on to the feed pins.

*Fig. 3-22  
Threading the Paper  
on to the Feed Pins*

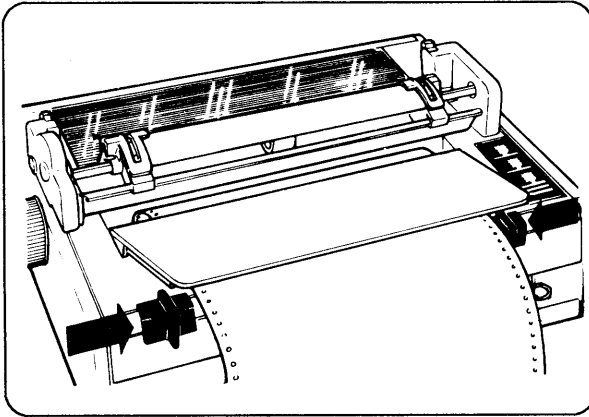


Close the tractor covers.



*Fig. 3-23  
Closing the  
Tractor Covers*

Position the paper guide brackets so that the paper feeds smoothly between them.



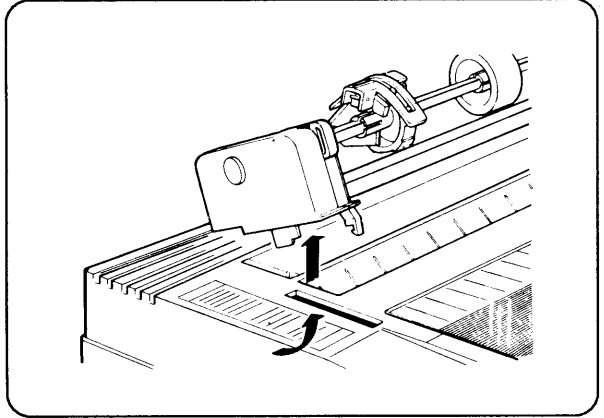
*Fig. 3-24  
Adjusting the Paper  
Guide Brackets*

Turn the paper feed knob to advance the paper and regulate the tension by adjusting the tractors horizontally. Make sure that the paper path is free of obstacles.

## Removing the Sprocket

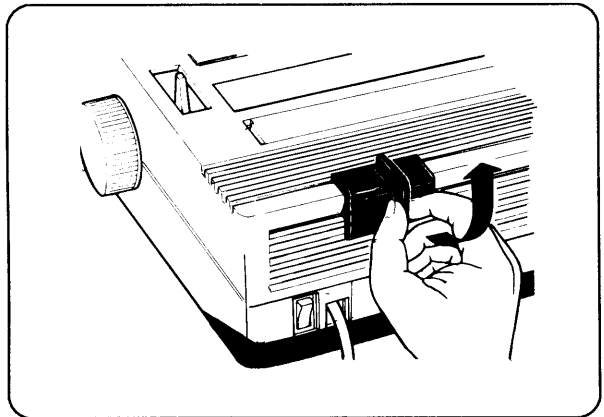
Pressing the knobs on either side of the front of the sprocket, pull it firmly, but carefully, upwards until it disengages first from the front and then from the rear mounting pins.


*Fig. 3-25  
Removing the  
Sprocket*



Pull the paper guide brackets upwards to remove them from the printer casing.

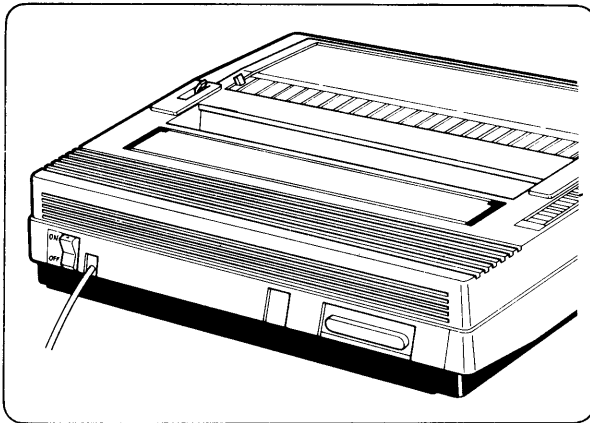
*Fig. 3-40  
Removing the Paper  
Guide Brackets*



  
Insert the two precut parts in the Sprocket openings of the casing.

Once all the operations described in the previous chapters have been performed correctly, you can connect the printer to the mains supply.

First of all, check the electrical data on the plate on the rear of the printer.



*Fig. 4-1  
Electrical Data  
Plate*

This plate indicates the required voltage; make sure that the power supply available corresponds to that on the data plate.

Check that the socket used is compatible with the printer plug and conforms to local electrical standards.

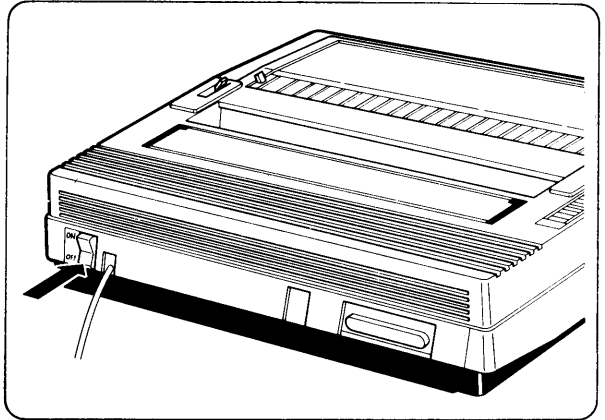


**If the voltage supplied or the mains socket are not those required, contact your dealer immediately.**

To connect the printer to the mains power supply, proceed as follows.

Check that the printer ON/OFF switch is in the "OFF" position.

*Fig. 4-2  
Switch in OFF  
Position*



Plug the printer power supply cable into a socket which guarantees the required voltage.

## SELF-TEST (AUTODIAGNOSTICS)

The printer recognizes automatically the “out of paper” (operator recoverable) and the failure conditions (recoverable by service technicians).

The data received from the computer can also be printed in hexadecimal code (DATA SCOPE) to check correct behaviour of the printer in response to the codes received.

The printing test allows the operator to check that the printer is working correctly.

## OUT OF PAPER

At approximately 30 mm from the end of the paper, the printer stops and the **LOCAL** indicator light comes on. To resume printing, load more paper, without switching off the printer, and press the **LOCAL** key.

## FAILURE CONDITION

The failure condition is indicated by the **FAILURE** light on the operating console, in two ways:

1. If ON, it indicates a failure that cannot be recovered by the operator; the service technician must be called.
2. If blinking, it indicates a non severe failure, that can, in some cases, be recovered by the operator (see the “Troubleshooting Guide”).

## TROUBLESHOOTING GUIDE

As the printer is composed of sophisticated devices and circuits, the operator intervention is obviously limited to some evident symptoms and corrective actions that are easily performed. Should any trouble occur, other than the ones listed below, the operator will contact the Technical Assistance Service or his dealer.

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>CORRECTIVE ACTION</b>
Does not print. ON indicator is OFF.	Power supply missing.	Insert the printer plug in a working mains socket and turn the printer on.
Does not print. FAILURE indicator is blinking.	Simple failure condition.	Turn the printer off. Check that the print head carriage is free to move and verify that no items not belonging to the printer are present. Rotate the paper knob and turn the printer on. If the trouble persists, call the Technical Assistance Service.
Does not print. FAILURE indicator is ON.	Failure condition.	Turn the printer off and call the Technical Assistance Service.

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>CORRECTIVE ACTION</b>
Printing does not start at top of form (Sprocket).	Improper setting of the form length. Improper position of the top of form.	Change the setting from line according to the length in inches of the used forms (see the chapter "Programming the machine settings"). Press the FORM FEED switch and reposition the form on the first print line.
Paper fed slopingly or wrinkled.	Improper position of the paper release lever.	Check the position of the paper release lever.
Faded printing.	Inked ribbon improperly mounted or needs being replaced.	Replace the ribbon cartridge and check it is positioned properly.
Does not print in "Condensed" mode.	The "Emphasized" or "Pica" print mode previously selected has not been cleared.	Clear the "Emphasized" or "Pica" print mode: both are not compatible with the "Condensed" mode.
Horizontal tab stops are not working.	Margins improperly set.	Set the margins before the horizontal tab stops.
Changing the print pitch causes the horizontal tab stops to be wrong.	The tab stops are to be repositioned whenever the print pitch is changed.	Clear the previous print pitch, select the new pitch and set the tab stops.

## PRINTING TEST

The printer executes the printing test if, keeping the LINE FEED switch pressed, the printer is simultaneously turned on. The complete character set is printed in the layout shown in the figure on the next page. The whole test covers about three forms 12" long. The test terminates automatically, the paper is positioned at top of form and the printer switches to "on line" mode ready to receive data from the host computer.

To abort the test printout, the printer must be turned off.



**The test is performed only if the paper is properly inserted.**

The printer can generate two different tests. The two tests can be printed in low (DRAFT) and high (NLQ) definition.

The figure on the next page shows a sample of printing test in DRAFT mode, IBM emulation.

The first line of test indicates printer emulation, while the second line Release n.nn (where n.nn varies in the range 0.00 - 9.99) indicates the firmware version present in the printer.

RELEASE R - 1.00 29/OCT/1987

```

♦♦♦#& "##%?'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j
♦#& "##%?'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k
♦#& "##%?'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l
# "##%?'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m
# "##%?'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n
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) +,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n o p q r s t u v w x
+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n o p q r s t u v w x y
+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n o p q r s t u v w x y z
-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n o p q r s t u v w x y z {
./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n o p q r s t u v w x y z { |
/0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n o p q r s t u v w x y z { | }
0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n o p q r s t u v w x y z { | } ~
123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n o p q r s t u v w x y z { | } ~ ª
23456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n o p q r s t u v w x y z { | } ~ ºCu
3456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n o p q r s t u v w x y z { | } ~ ºüëä
456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg h i j k l m n o p q r s t u v w x y z { | } ~ ºüëää

```

Fig. 5-1 IBM Draft Printing Test

## PRINTING IN EXADECIMAL CODE (DATA SCOPE)

To print the data received from the computer in exadecimal code, hold down the **FORM FEED** key and simultaneously turn the printer on (ON/OFF switch in the ON position).

Two printing samples in hexadecimal code and in the two operating modes, area shown below.

### 1. Commodore Mode

READY

```
10 OPEN 1,4
15 FOR A = 1 TO 2
20 PRINT#1, "1234567890      1234567890"
30 PRINT#1, "ABCDEFGHIL   ABCDEFGHIL"
35 NEXT A
40 CLOSE 1
```

```
1234567890
ABCDEFGHIL
1234567890
ABCDEFGHIL
```

```
1234567890
ABCDEFGHIL
1234567890
ABCDEFGHIL
```

```
24 31 32 33 34 35 36 37 38 39 30 20 20 20 20 20 20 20 31
32 33 34 35 36 37 38 39 30 0D 3F 24 41 42 43 44 45 46 47 48
49 4C 20 20 20 20 20 20 20 20 41 42 43 44 45 46 47 48 49 4C
0D 3F 24 31 32 33 34 35 36 37 38 39 30 20 20 20 20 20 20
20 31 32 33 34 35 36 37 38 39 30 0D 3F 24 41 42 43 44 45 46
47 48 49 4C 20 20 20 20 20 20 20 20 41 42 43 44 45 46 47 48
49 4C 0D 3F
```

## 2. IBM PC Mode (or compatible)

If the host computer transmits the following data:

```
LPRINT CHR$(27);"A",CHR$(1);
```

the following characters will be printed:

```
1B 41 01
```

Data are printed when the print line length is exceeded. Press the LOCAL switch to display any pending data.

To clear this setting, turn the printer OFF and then ON again.

