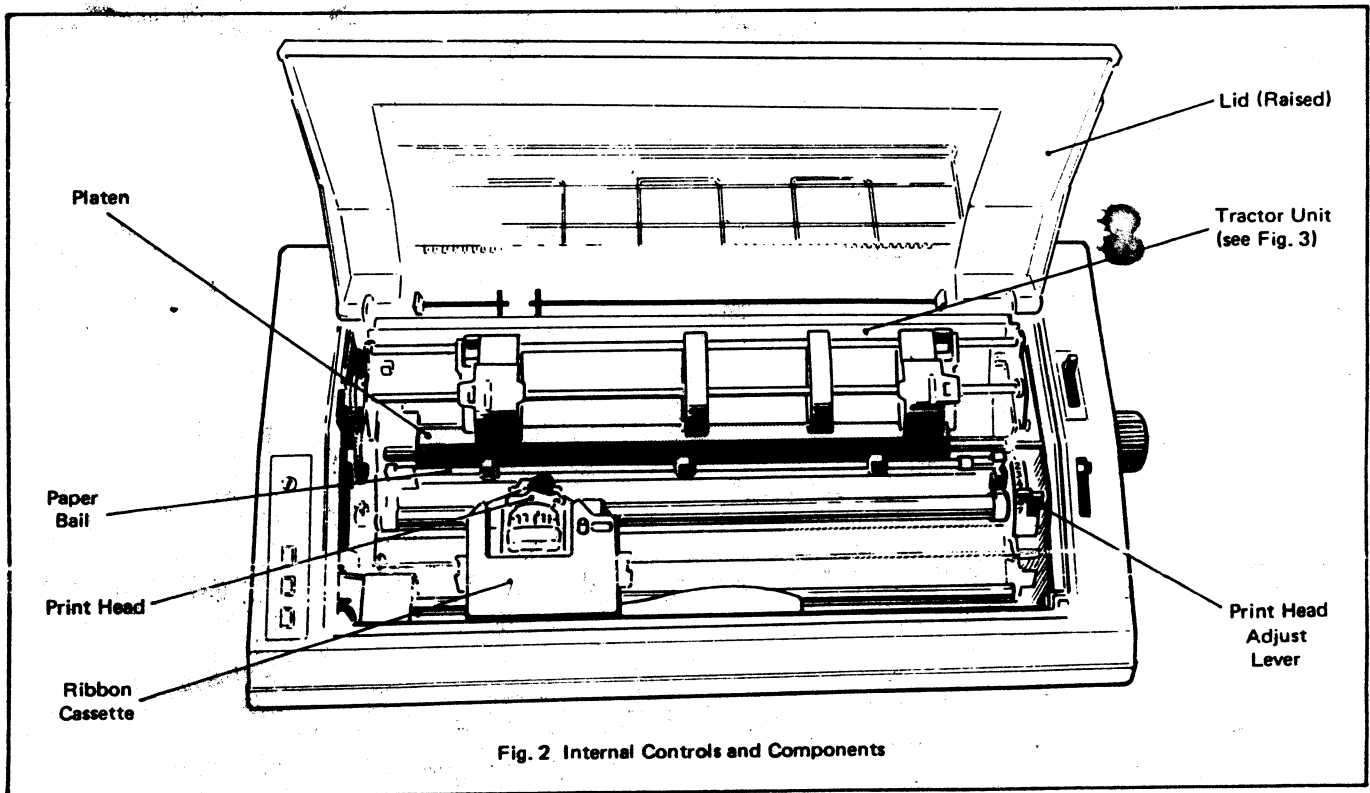
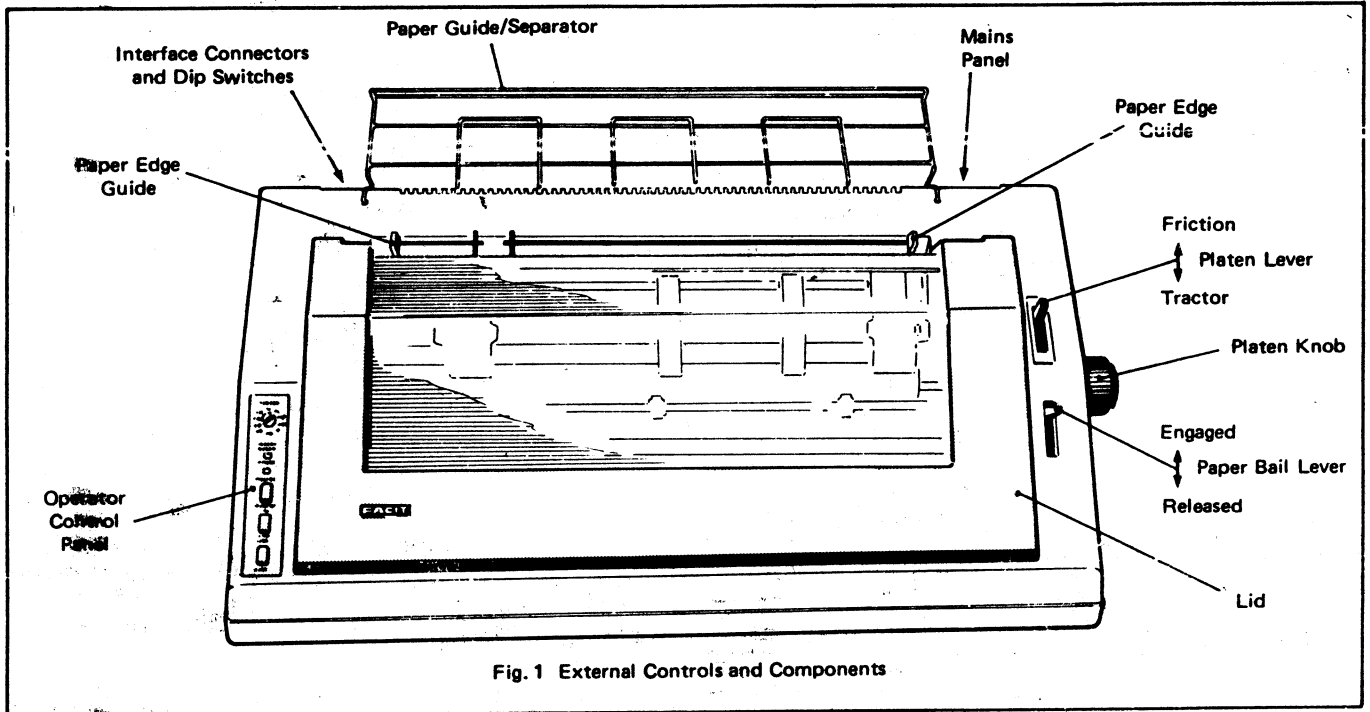
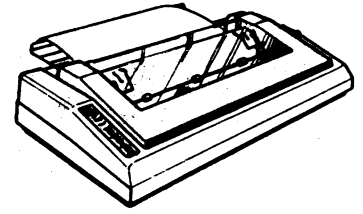


Facit 4512

Serial matrix printer

Operator guide



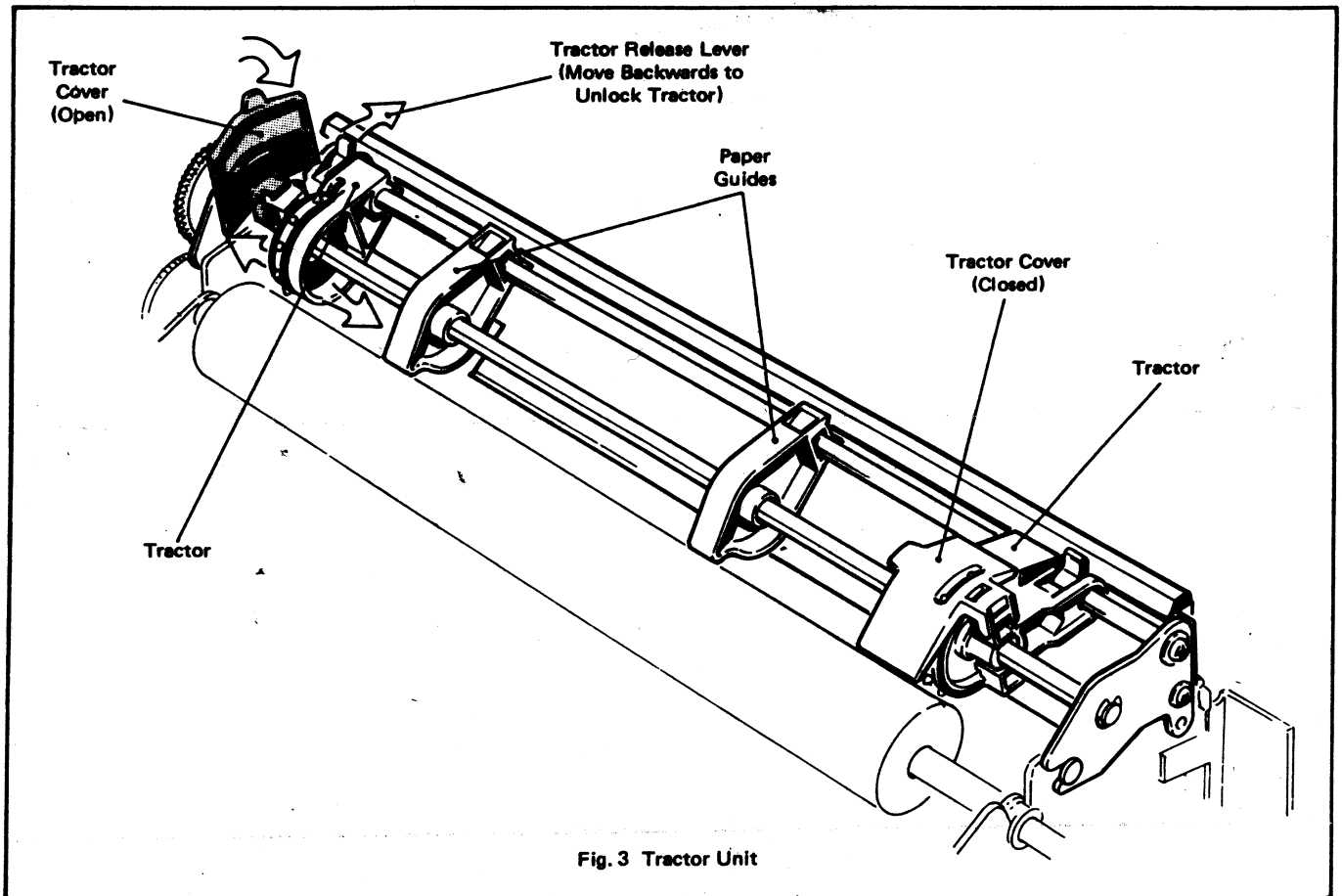


Fig. 3 Tractor Unit

*Lars Sandmark, Veleeröd
046/81462*

REMOVE/REPLACE LID

If required, the lid may be removed by opening it to approximately 30°, then pulling the back up and out of the hinges. To replace it, hold the lid at the same angle and push the back onto the hinges.

INSTALLATION OF PAPER GUIDE/SEPARATOR

The Paper Guide/Separator is a wire framework which is used to guide fan-fold paper into and out of the printer, to assist separation of multi-part stationery and to act as a collector tray for printed cut sheets. To fit it:

1. Holding the frame vertically, locate the bent wire ends in the two holes at the top rear of the printer.
2. Swing the frame back and down until it rests on the top rear of the printer (see fig. 1).

USING FAN-FOLD PAPER

INITIAL SETTING UP (see fig. 4)

1. Check that the tractor unit and paper guide/separator are both in position and that the printer is set Off-line.
2. Set the platen lever to the 'Tractor' position (1).

3. Slide the paper edge guides (2) outwards.
 4. Unlock and open the tractors (3) and (4) and slide them outwards.
 5. Pull the paper bail lever forwards (5).
 6. Feed in the paper as shown in fig. 5, for bottom or rear entry as required.
 7. Use the platen knob (6) to feed paper around the platen.
 8. Slide the tractors inwards, engage the sprockets with the paper feed holes, and close the tractors (7).
 9. Carefully slide the paper and tractors to align with the required left margin (8).
 10. Lock the tractors (9) and spread the paper bails (10) evenly over the paper.
 11. Move the paper bail lever (11) backwards.
 12. Slide the paper edge guides inwards (12) to just touch the paper.
- The printer is ready for use when the Top of Form is set (see SETTING TOF).

RENEWEL OF FAN-FOLD PAPER

1. Set the printer Off-line and move the paper bail lever forward and remove any old paper.
2. Feed paper through the bottom or rear and around the platen. Move the paper bail lever back.
3. Open the tractor covers, engage the tractor pins with the paper and close the covers.
4. Feed the paper under the back edge of the lid and through the paper guide separator.
5. Set TOF if necessary and put the printer On-line.

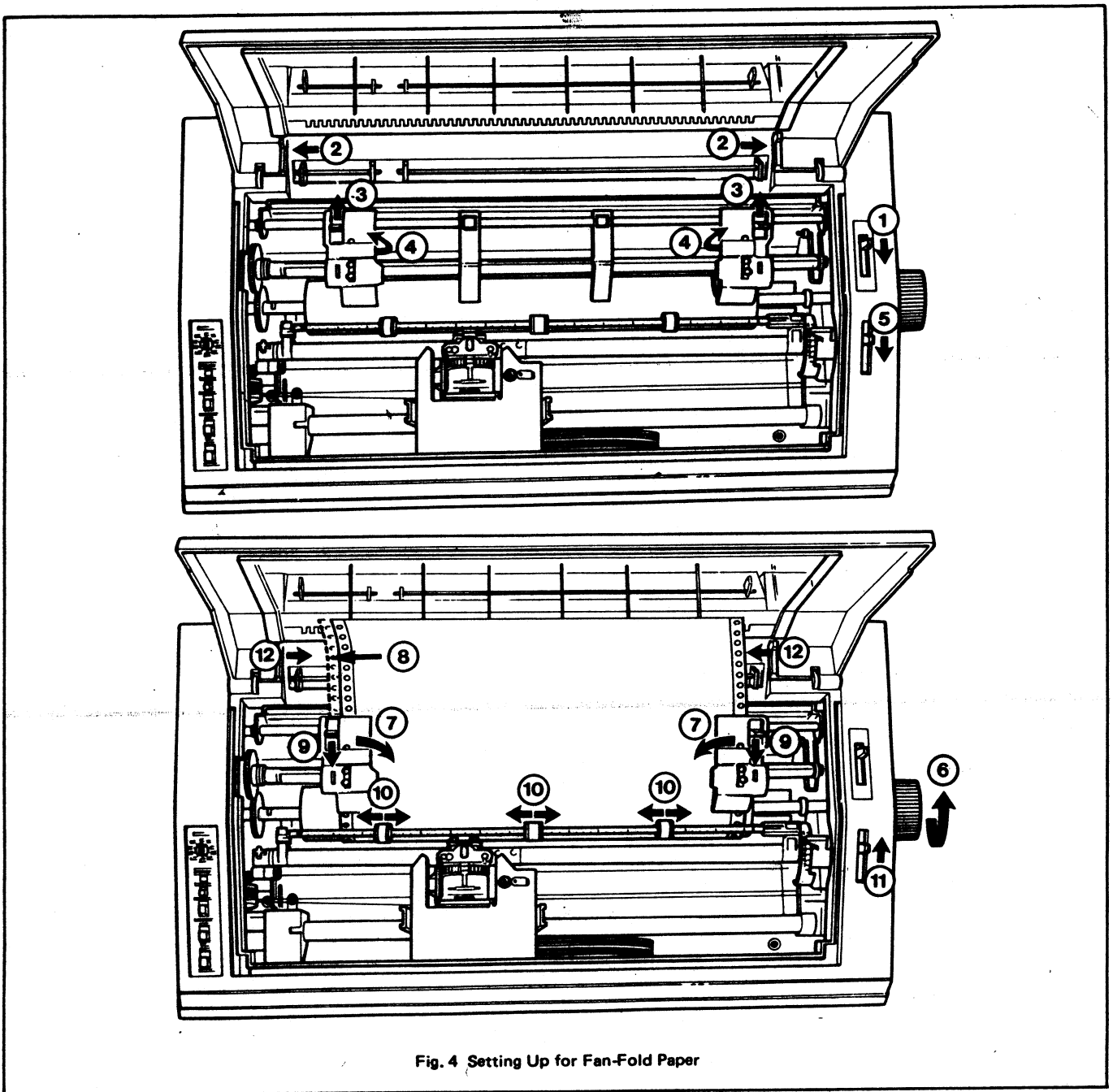


Fig. 4 Setting Up for Fan-Fold Paper

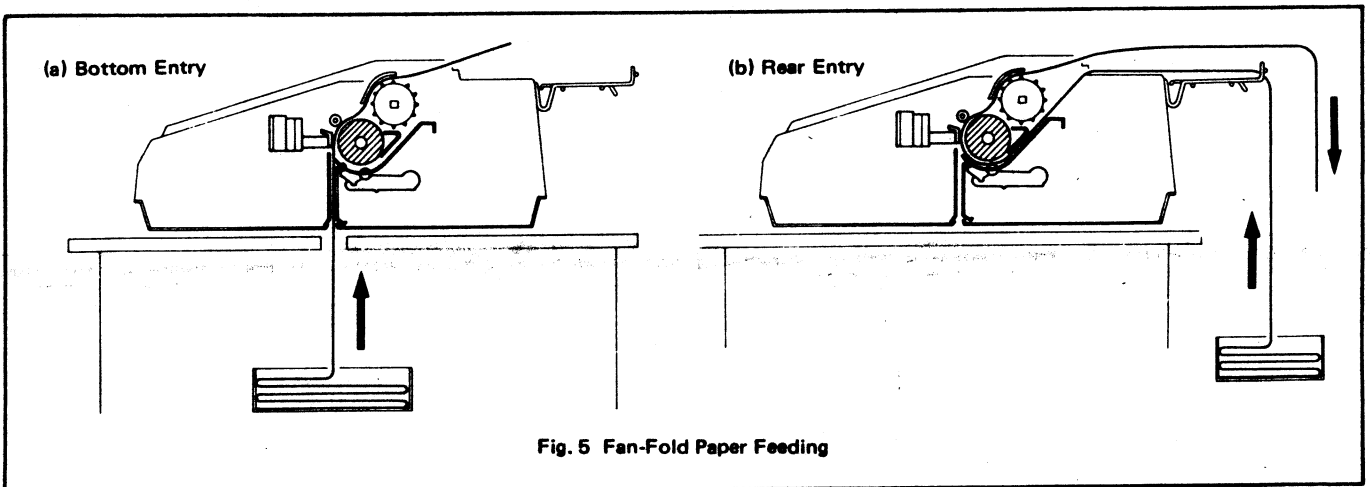
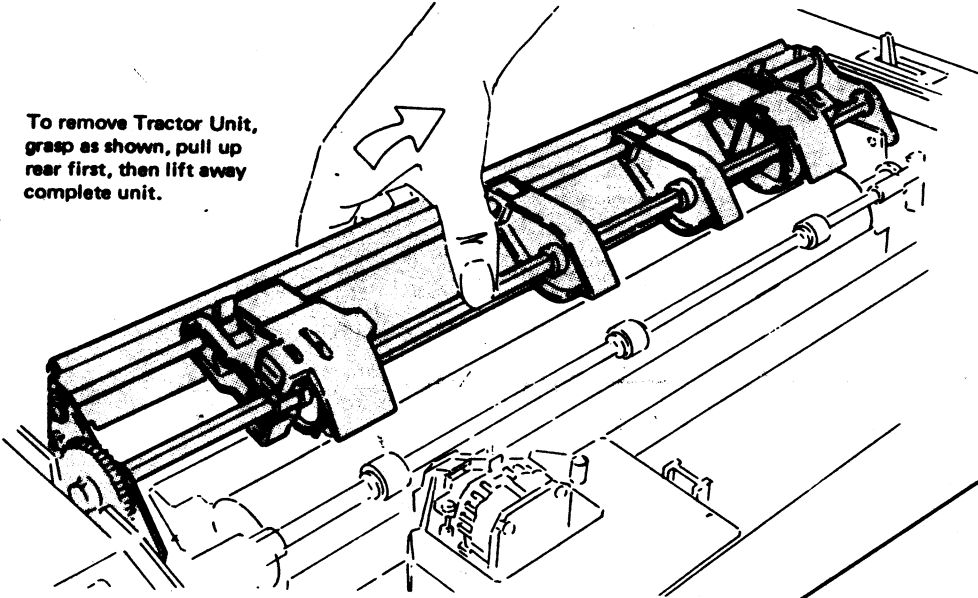


Fig. 5 Fan-Fold Paper Feeding

To remove Tractor Unit, grasp as shown, pull up rear first, then lift away complete unit.



To mount Tractor Unit, insert front slots onto pins A, then press down rear pins B.

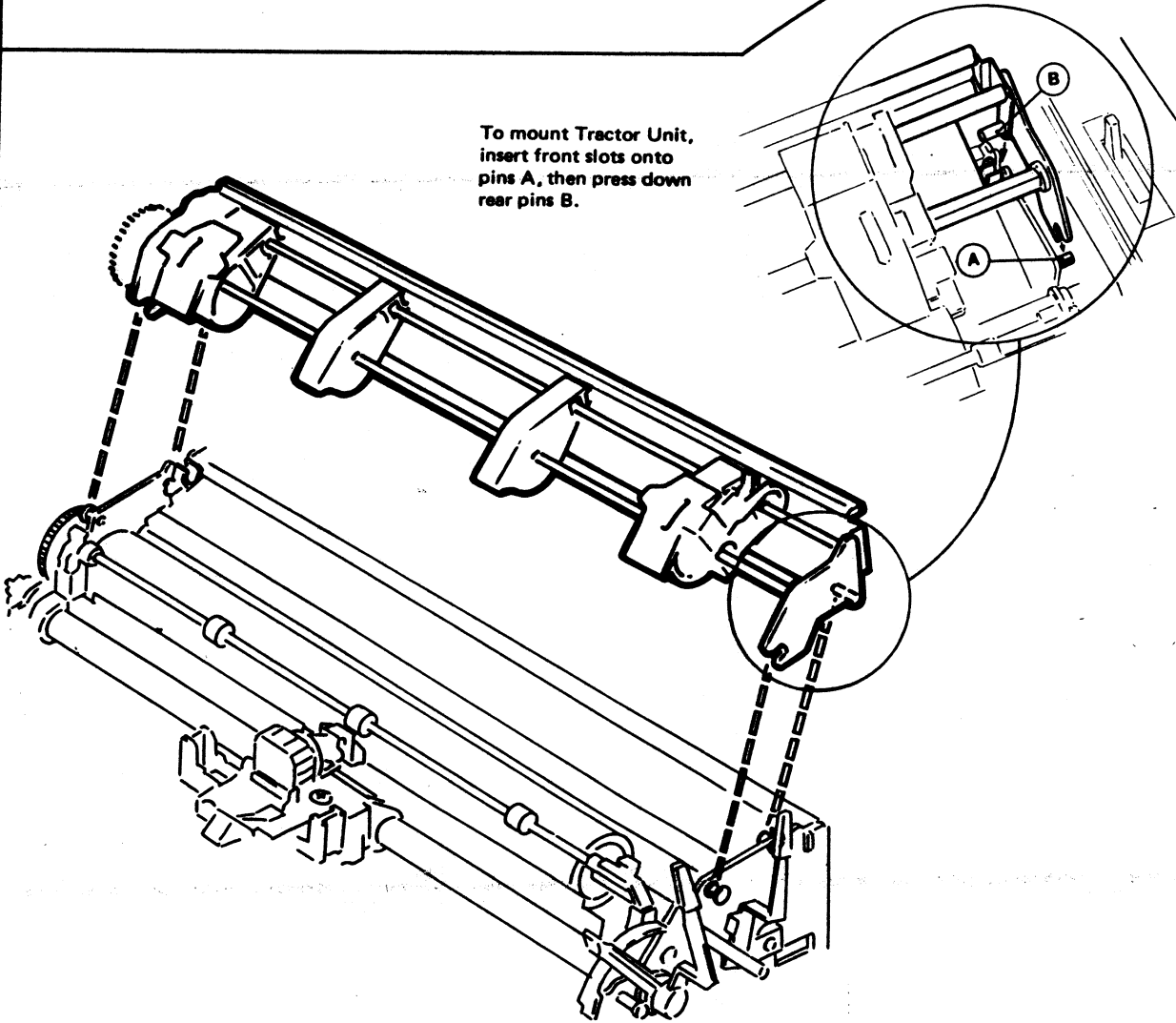


Fig. 6 Tractor Unit Removal and Replacement

USING CUT SHEET PAPER (see figs. 6 & 7)

1. Set the printer Off-line.
2. Remove the Tractor Unit as shown in fig. 6 (when fan-fold paper is to be used again, the Tractor unit must be replaced).
3. Engage the friction feed mechanism by moving the platen lever to 'Friction'.
4. Load cut sheet paper using the bottom or the rear entry (see fig. 7), temporarily setting the platen release lever to 'Tractor' to allow paper alignment.

The printer is ready for use when the Top of Form is set (see SETTING TOF).

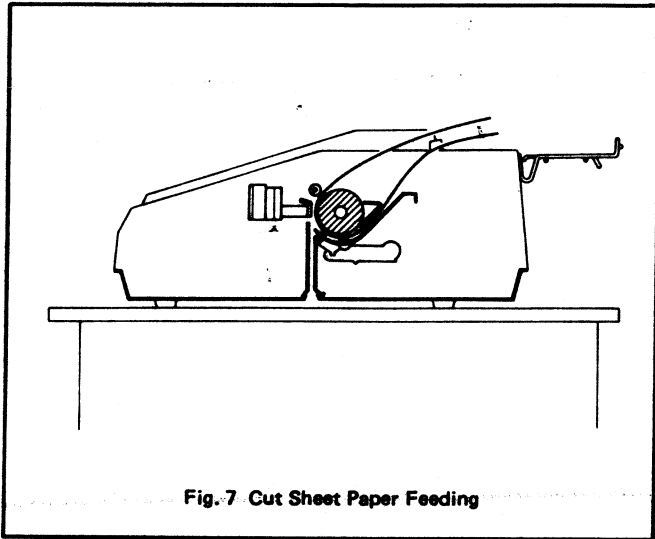


Fig. 7 Cut Sheet Paper Feeding

Set Paper and Printer to TOF position

If the TOF position is not registered in the printer, use any means (including the LF key) to set the paper to the required TOF position, then depress the [TOF] switch to register that position as the TOF.

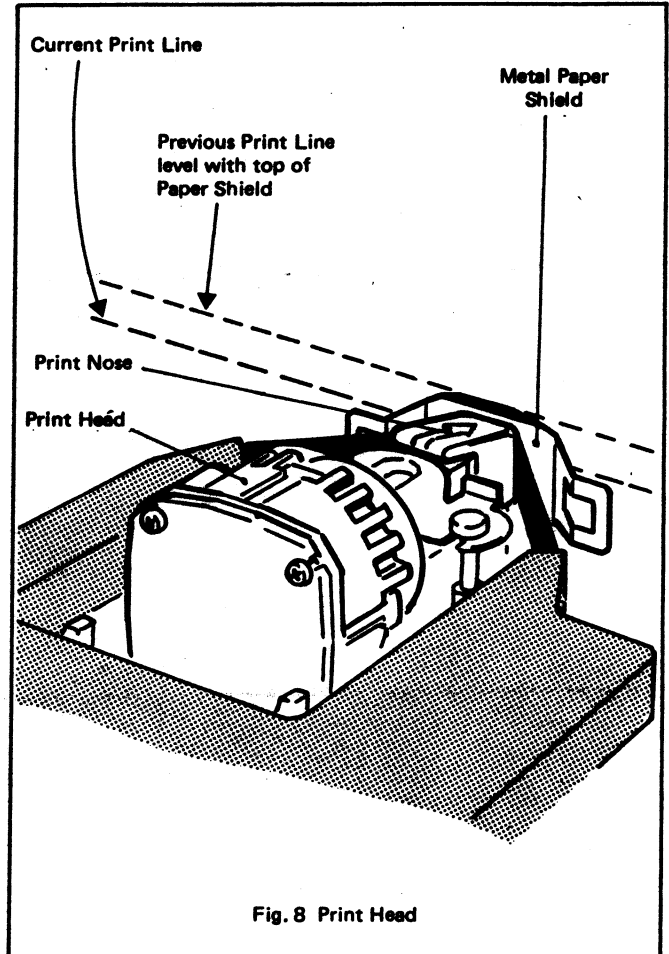


Fig. 8 Print Head

SETTING TOF

This procedure is the same whichever type of paper is used.

The current printing position is visible through the footline indicator notches on either side of the metal paper shield over the print head nose (see fig. 8). Depressing the FF switch always sets the printer to the TOF position. A new TOF position can be registered by pressing the TOF switch; this sets the current position as the TOF position.

Set Paper to TOF position

If the TOF position is already registered in the printer, move the paper to its TOF position using one or more of the following (with the printer Off-line).

- a) Rotate the platen knob.
- b) Press [OVR.R], then [LF], holding both depressed to feed paper in microline steps forward.
- c) Press [OVR.R], then [FF], holding both depressed to feed paper in microline steps backward.

Do not use the [LF] key; this will change the TOF position registered in the printer.

SETTING PRINT HEAD-TO-PLATEN DISTANCE

The print head adjust lever (see fig. 2) allows the print head-to-platen distance to be varied to optimise print quality and to allow different paper thicknesses (including multi-part) to be used. It also allows maximum room when changing the ribbon cassette or freeing jammed paper. The lever is set against a number scale which acts as a reference. The numbers are arbitrary and do not relate to numbers of copies.

To optimize print quality, load the required paper and start the printer in Self-test mode (hold the OVR.R switch down whilst switching on until printing starts). Move the lever in small steps, observing the quality of printing for each step until optimum quality is achieved.

CHANGE RIBBON CASSETTE (see fig. 9)

1. Set the printer to Off-line and ensure that the buffer contents are printed out. Set the power switch to Off.
2. Open the printer lid; note the position of the print head adjust lever (1) against the scale for future reference, and move the lever fully towards the front of the machine (position 7).
3. Pull each end of the paper bail upwards until it locks in the raised position (2).
4. Grasp the ribbon cassette at the corners nearest the platen, and pull straight upwards. Discard the used cassette.
5. Unwrap the new cassette and, if necessary, take up the ribbon slack by turning the knob clockwise (3).
6. Press the cassette down until it locks in position (4) turning the knob slightly if required to engage it with the driveshaft. Do not force the cassette into place!
7. Carefully slide the ribbon between the print head and the cover (5). Move the complete print carriage back and forth by hand to tighten the ribbon and to check that the ribbon advances correctly.
8. Return the print head adjust lever to its original position on the scale.
9. Push down each end of the paper bail until it locks in the down position.
10. Close the lid, set the power switch to On, and set the printer On-line.

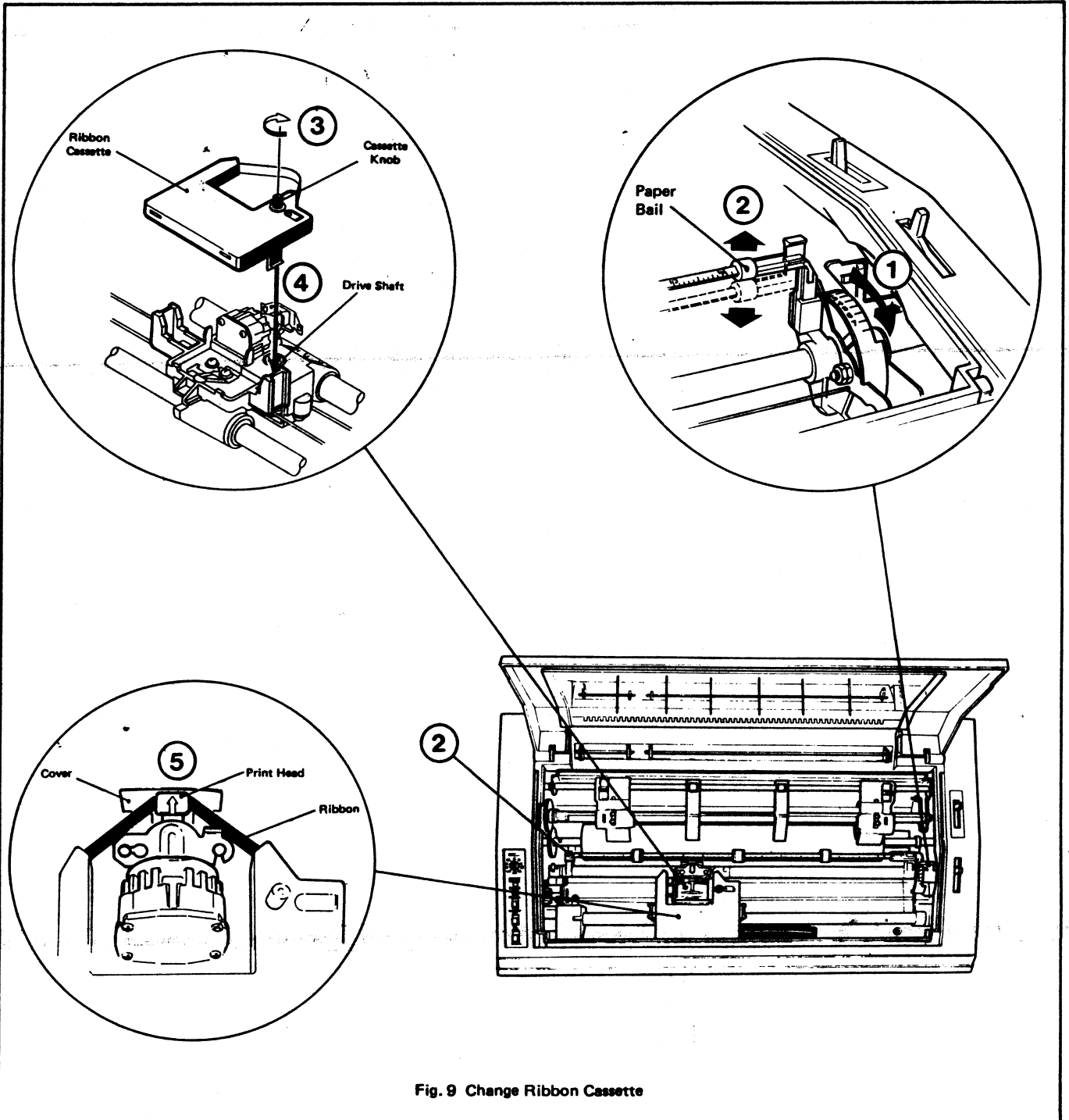


Fig. 9 Change Ribbon Cassette

SWITCHING ON

The power On/Off switch is on the mains panel at the rear of the printer (see fig. 10). When switching on, the operator can select the Normal Operating mode, Self-testing mode, Transparency mode or Hex trace mode as follows:

Normal Operation. Set On/Off switch On – the red POWER indicator will light and the printer will be Off-line. The printer can also be set Off-line by the operator or automatically by the printer during printer operation. The table below indicates how to regain On-line operation from the various Off-line conditions.

Self-testing. Hold the OVR.R switch depressed and set On/Off switch On. Keep OVR.R switch down until carriage movement commences. The printer will perform self-testing, the print head will move across, ribbon will be moved and the platen will perform regular line feeds. If paper is loaded, test printing will also occur. If an error is detected the ERROR/ON LINE indicator will flash.

If no error occurs, the operator may commence normal operation (Off-line state) by holding the OVR.R switch down until the end of the current line. Full details of self-testing are given in the Technical Description.

Transparency Mode 1. Set the rotary MODE switch to TM1 and set the On/Off switch On. The printer will ignore all control codes received except CR and LF, and will also ignore the first character after each ESC code. Thus when printing the printer will print only printable characters in Normal character and will ignore all commands except new line commands. To exit this mode switch Off and reset the MODE switch.

Transparency Mode 2. Set the MODE switch to TM2 and set the On/Off switch On. The printer operates as described for Transparency Mode 1 but in addition compresses strings of CR/LF (new line) commands to one CR/LF command only. (All empty lines will disappear and leave one line space only.)

Hex Trace. This mode is entered by keeping the TOF switch pressed while setting the power On/Off switch to On. All character and control codes received by the printer are then printed as their Hex codes. To exit this mode, switch the printer Off and On again. The Hex trace mode is to assist during systems analysis, and is not for normal operator use.

Cause of Off-line Condition	Action to Switch On-line
Power-up, ERROR/ON LINE unlit	Press and release ON LINE switch
Power-up, ERROR/ON LINE flashing	Rectify fault
Paper End, ERROR/ON LINE flashing	(1) Replace paper, press and release ON LINE switch (2) Print to end of paper (on-line) – see Paper End section
Operator pressed OFF LINE switch, ERROR/ON LINE unlit	Press and release ON LINE switch
Fault condition, ERROR/ON LINE flashing	Rectify fault
Self-testing, ERROR/ON LINE unlit	Press OVR.R. To stop self-testing, keep OVR.R depressed until printing stops. Press and release ON LINE switch.
Self-testing ERROR/ON LINE flashing	Rectify fault

PAPER END

The printer will be set automatically to the Paper End state (ERROR/ON LINE indicator flashing) when the end of the paper is detected at about 20mm from the current printing position. The operator may use the remaining paper to print the next line of text or to print to the end of the paper with the printer Off-line (accepting no more data in the buffer) or On-line (receiving data from the data source up to the capacity of the buffer).

Print Next Line

Press and release the OVR.R switch. The ERROR/ON LINE indicator goes out until the line has been printed. The process may be repeated until the end of paper is reached or the printer's buffer is empty.

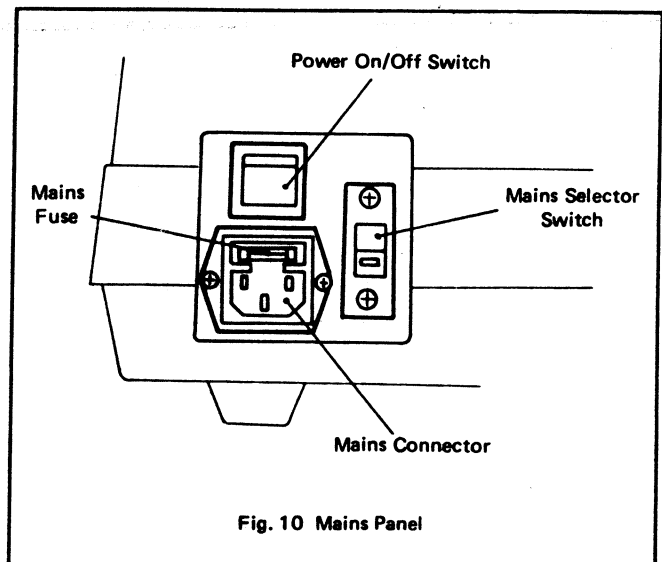
Print to End of Paper (Off-line)

Keep the OVR.R switch depressed. Lines of text are printed to the end of the paper, until the buffer is empty or until the switch is released. While printing, the ERROR/ON LINE indicator is extinguished.

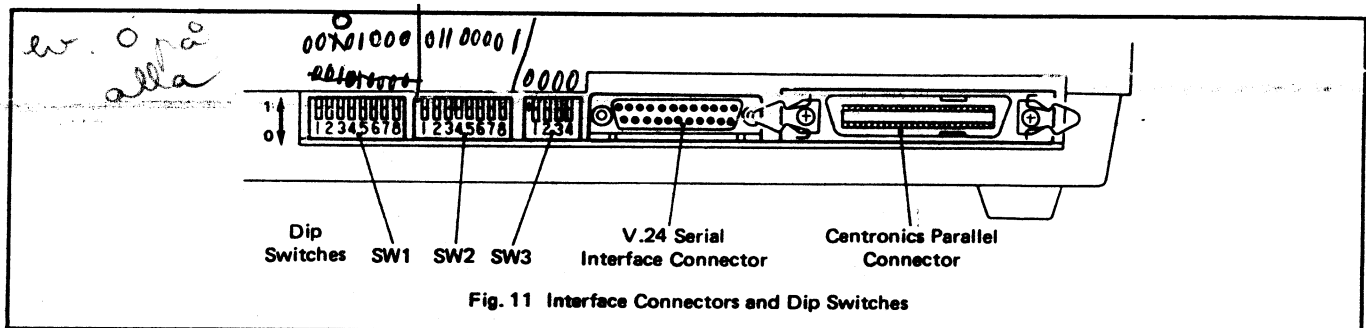
Print to End of Paper (On-line)

Keep both OVR.R and ON LINE switches depressed. Lines of text are printed to the end of the paper, until the buffer is empty or until the switches are released. During this process the printer will still accept data from the data source. The ERROR/ON LINE indicator is lit steadily during this process.

Note that where friction feeding is employed, alignment of the paper may need to be corrected manually once the bottom edge of the paper is released from under the platen. Printing always stops when the end of the paper passes the printing position; the printer will not print directly on the platen.



CONFIGURATION DIP SWITCHES



eticket SW1 SW2 SW3
00000000 01100001 0000

SW1 Settings

1	2	3	4	5	6	7	8	FUNCTION
0								Set character generator — 0
1								— 1
	0							Lines/inch — 6
	1							— 8
		0 0						Skip zone — 0
		0 1						— ½ inch
		1 0						— 1 inch
		1 1						— 1½ inch
			0					Line length — 132 characters
			1					— 80 characters
				0 0 0				Format length — 12 inch
				0 0 1				— 11.2/3 inch
				0 1 0				— 11 inch
				0 1 1				— 8.1/2 inch
				1 0 0				— 8.1/3 inch
				1 0 1				— 8 inch
				1 1 0				— 5.1/2 inch
				1 1 1				— 5 inch

SW3 Settings

1	2	3	4	FUNCTION
0	0			Mode — Facit mode: X ON/X OFF protocol*
0	1			— Facit mode: ETX(ENQ)/ACK protocol*
1	0			— IBM-Epson mode: X ON/X OFF protocol*
1	1			— Facit/Epson** mode: X ON/X OFF protocol*
		0		Parity — Off (parity bit not added)
		1		— On (parity bit added)
			0	Parity — Even
			1	— Odd

SW2 Settings

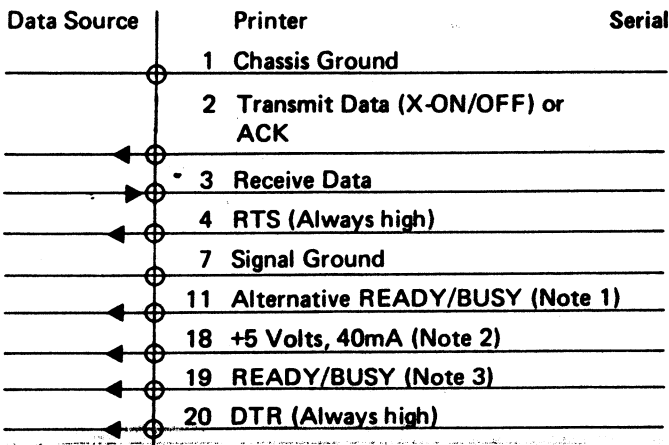
1	2	3	4	5	6	7	8	FUNCTION
0								CR = line terminator LF = new line
1								CR or LF = new line
	0							Word length — 7 bits
	1							— 8 bits
		0 0 0						Baud rate, — 110 bps (Auto 2 stop bits)
		0 0 1						serial interface — 300
		0 1 0						— 600
		0 1 1						— 1200
		1 0 0						— 2400
		1 0 1						— 4800
		1 1 0						— 9600
		1 1 1						Parallel interface
				0 0 0				National set — US
				0 0 1				— Swedish/Finnish
				0 1 0				— Danish/Norwegian
				0 1 1				— German
				1 0 0				— British
				1 0 1				— Italian
				1 1 0				— French/Belgian
				1 1 1				— Spanish

* Protocol relevant only for serial interface.

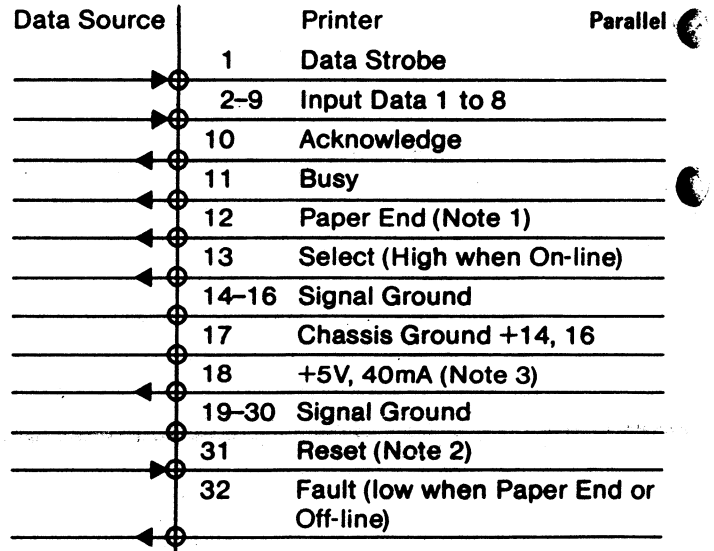
** Facit/Epson mode: the printer responds to Facit text commands and to Epson pin graphics commands.

Note: All current switch settings will be printed out in Self-test mode (see Technical Description for details).

INTERFACE CONNECTORS



- Notes: (1) READY/BUSY can be moved from pin 19 to pin 11 by linking a solder bubble (see Technical Description).
 (2) +5 volts can be supplied on pin 18 by linking a solder bubble (see Technical Description).
 (3) READY = High, BUSY = Low; can be inverted by solder bubble (see Technical Description).



- Notes: (1) High indicates Paper End.
 (2) Can be reset to power-up condition by data source setting this line low.
 (3) Not to be used with IBM PC.

FACIT 4512 - COMMAND SET FACIT MODE

CHARACTER MODE

SELECT COMMANDS

COMMAND	ASCII KEY SEQUENCE
SELECT NATIONAL VERSION - U.S. SWEDISH/FINNISH DANISH/NORWEGIAN GERMAN BRITISH ITALIAN FRENCH/BELGIAN SPANISH	ESC 8 @ * ESC 8 A ESC 8 B ESC 8 C ESC 8 D ESC 8 E ESC 8 F ESC 8 G
SELECT LINE SPACING - 6 lpi 8 lpi	ESC 4 ESC 5
SELECT PIN GRAPHICS RESOLUTION - 60 d/i 72 d/i 100 d/i	ESC . N ESC . M ESC . H
SELECT 7/8-PIN GRAPHICS - 7 PIN 8 PIN	ESC . 7 ESC . 8
SELECT CHARACTER GENERATOR - 0 1	ESC / @ * ESC / A

ORDER COMMANDS

COMMAND	ASCII KEY SEQUENCE
HORIZONTAL LOCATION BACKSPACE HORIZONTAL TAB SPACING INCREMENT ABSOLUTE CHARACTER POSITION ABSOLUTE DOT POSITION REPEAT DATA	[CTRL+H] [CTRL+I] [CTRL+X] ESC + (n) DEL ESC . (n) DEL ESC - (n) DEL
LOCAL LINE FEEDS HALF LINE FEED FORWARD FULL LINE FEED FORWARD HALF LINE FEED REVERSE FULL LINE FEED REVERSE MICRO LINE FEED FORWARD MICRO LINE FEED REVERSE	ESC U ESC N ESC O ESC [CTRL+P] [CTRL+W] [CTRL+Y]
LINE TERMINATORS CARRIAGE RETURN LINE FEED VERTICAL TAB FORM FEED RESET TO POWER UP ETX (depending on protocol)**	[CTRL+M] 13 [CTRL+J] 10 [CTRL+K] [CTRL+L] ESC O [CTRL+C]

**ETX has same function as LF if protocol permits.

SET COMMANDS

COMMAND	ASCII KEY SEQUENCE
SET VERTICAL TABS	ESC 1 (N ₁ -N ₃₂)DEL
SET FORMAT LENGTH	ESC 2 (N) DEL
SET HORIZONTAL TABS	ESC 3 (N ₁ -N ₃₂)DEL
SET RIGHT MARGIN	ESC) (N) DEL
SET SKIP ZONE	ESC * (N) DEL
SET SPACING INCREMENT - N 1/2 dots	ESC SP (N) DEL
SET MICRO LF N ₁₄₄ "	ESC I (N) DEL
SET S1 SEQUENCE	ESC[CTRL+0] [string] DEL
SET S0 SEQUENCE	ESC[CTRL+N] [string] DEL

PIN GRAPHICS MODE

FONT SELECTION COMMANDS

FONT SELECTION COMMANDS

COMMAND	ASCII KEY SEQUENCE
SELECT NORMAL TEXT FONT NORMAL CONDENSED COMPRESSED HIGH RESOLUTION - CONSTANT PROPORTIONAL	ESC 6 or [CTRL+B] ESC 9 ESC 7 ESC : ESC :
SELECT DOUBLE HEIGHT FONT NORMAL CONDENSED COMPRESSED HIGH RESOLUTION - CONSTANT PROPORTIONAL	ESC [CTRL+^]* 6 ESC [CTRL+^]* 9 ESC [CTRL+^]* 7 ESC [CTRL+^]* : ESC [CTRL+^]* :
SELECT MICRO FONT TOP PLACED NORMAL TOP PLACED CONDENSED TOP PLACED COMPRESSED BOTTOM PLACED NORMAL BOTTOM PLACED CONDENSED BOTTOM PLACED COMPRESSED	ESC & 6 ESC & 9 ESC & 7 ESC ' 6 ESC ' 9 ESC ' 7
SELECT BLOCK GRAPHICS CONDENSED NORMAL ENLARGED	ESC < ESC = ESC >
SELECT PIN GRAPHICS	[CTRL+V]
SHIFT IN	[CTRL+0]
SHIFT OUT	[CTRL+N]

COMMAND	ASCII KEY SEQUENCE
SELECT NORMAL TEXT FONT NORMAL CONDENSED COMPRESSED HIGH RESOLUTION - CONSTANT PROPORTIONAL	[CTRL+V] ESC 6 or [CTRL+B] [CTRL+V] ESC 9 [CTRL+V] ESC 7 [CTRL+V] ESC : [CTRL+V] ESC :
SELECT DOUBLE HEIGHT FONT NORMAL CONDENSED COMPRESSED HIGH RESOLUTION - CONSTANT PROPORTIONAL	[CTRL+V] ESC [CTRL+^]* 6 [CTRL+V] ESC [CTRL+^]* 9 [CTRL+V] ESC [CTRL+^]* 7 [CTRL+V] ESC [CTRL+^]* : [CTRL+V] ESC [CTRL+^]* :
SELECT MICRO FONT TOP PLACED NORMAL TOP PLACED CONDENSED TOP PLACED COMPRESSED BOTTOM PLACED NORMAL BOTTOM PLACED CONDENSED BOTTOM PLACED COMPRESSED	[CTRL+V] ESC & 6 [CTRL+V] ESC & 9 [CTRL+V] ESC & 7 [CTRL+V] ESC ' 6 [CTRL+V] ESC ' 9 [CTRL+V] ESC ' 7
SELECT BLOCK GRAPHICS CONDENSED NORMAL ENLARGED	[CTRL+V] ESC < [CTRL+V] ESC = [CTRL+V] ESC >
START ELONGATED END ELONGATED	[CTRL+V] [CTRL+^]* [CTRL+V] [CTRL+_]*
ABSOLUTE DOT POSITION	[CTRL+V] ESC . (n) DEL
REPEAT DATA	[CTRL+V] ESC - (n) DEL
CARRIAGE RETURN	[CTRL+V] [CTRL+M]
LINE FEED	[CTRL+V] [CTRL+J]
FORM FEED	[CTRL+V] [CTRL+L]
RESET TO POWER UP	[CTRL+V] ESC O
PRINT DOTS 2+3+6	[CTRL+V] [CTRL+V]
MICROLINE FEED FORWARD MICROLINE FEED REVERSE	[CTRL+V] [CTRL+W] [CTRL+V] [CTRL+Y]
SET MICROLINE FEED N ₁₄₄ "	[CTRL+V] ESC I (N) DEL

**Subject to National Variations

SUBMODE COMMANDS

COMMAND	ASCII KEY SEQUENCE
START ITALIC <i>IO</i>	[CTRL+P]
START UNDERLINED <u>ID.</u>	[CTRL+]] *
START ELONGATED <i>IE</i>	[CTRL+^]*
START BOLD IC	[CTRL+^]
END SUBMODE <i>IF</i>	[CTRL+_]

*Subject to National Variations

FACIT 4512 - COMMAND SET IBM/EPSON MODE

When this mode is selected the printer will only react to IBM/Epson Mode commands. To use the full IBM character set, set dipswitch SW1/1 to 1. This selects Char. Gen. 1 and thereby the full IBM Character Sets. (The IBM character generator is optional.)

Note: The parameter "n" shall be given in binary coded decimal (BCD). See 4512 Technical Description, Sect. 8.2.1 and Appendix 6, for further details.

SELECT COMMANDS

COMMAND	ASCII KEY SEQUENCE
SELECT LINE SPACING 1/4"	ESC 0
SELECT LINE SPACING 7/32"	ESC 1
SELECT LINE SPACING 1/8"	ESC 3 n
INVOKE SET LINE FEED*	ESC 2

* If no previous "ESC A n" "V s" line spacing is selected.

SUBMODE COMMANDS

COMMAND	ASCII KEY SEQUENCE
START UNDERLINE	ESC - 1 or ESC - [CTRL + A]
STOP UNDERLINE	ESC - 0 or ESC - [CTRL + @]
START ELONGATED TYPE A	[CTRL + N]
START ELONGATED TYPE B	ESC W 1 or ESC W [CTRL + A]
STOP ELONGATED TYPE A	[CTRL + T]
STOP ELONGATED TYPES A & B	ESC W 0 or ESC W [CTRL + @]
START BOLD	ESC E
STOP BOLD	ESC F
START VERTICAL BOLD (2-PASS)	ESC G
STOP VERTICAL BOLD	ESC H
PRINT UNI-DIRECTIONALLY	ESC U 1 or ESC U [CTRL + A]
PRINT BI-DIRECTIONALLY	ESC U 0 or ESC U [CTRL + @]

SET COMMANDS

COMMAND	ASCII KEY SEQUENCE
SET LINE FEED TO 7/32"	ESC A n
SET FORMAT LENGTH (LINES PER PAGE = n)	ESC C n
SET FORMAT LENGTH (INCHES PER PAGE = n)	ESC C [CTRL + @] n
SET HORIZONTAL TABS	ESC D n ₁ n ₂ ... n _k [CTRL + @]
SET SKIP ZONE	ESC N n
CANCEL SKIP ZONE	ESC O

ORDER COMMANDS

COMMAND	ASCII KEY SEQUENCE
DO HORIZONTAL TAB	HT
DO MICRO LINE FEED 7/32"	ESC J n
DO RETURN PRINT HEAD TO LEFT MARGIN	ESC <
DO FORM FEED	[CTRL + M]
DO CARRIAGE RETURN	CR
DO LINE FEED	LF
DO VERTICAL TAB (= Line feed)	[CTRL + K]

FONT SELECTION COMMANDS

COMMAND	ASCII KEY SEQUENCE
SELECT CHARACTER SET 1	ESC 7
SELECT CHARACTER SET 2	ESC 6
SELECT NORMAL FONT	CTRL + R
SELECT COMPRESSED FONT	CTRL + O
START SUBSCRIPT	ESC S 1 or ESC S [CTRL + A]
START SUPERSCRIPIT	ESC S 0 or ESC S [CTRL + @]
STOP SUB/SUPERSCRIPIT	ESC T

PIN GRAPHICS COMMANDS

INPUT	PRINT SPEED	OVERALL PRINT RESOLUTION	ASCII KEY SEQUENCE
60 dots/inch	Normal	Normal (60 dots/inch)	ESC K or ESC *0
120 dots/inch	Half	2 X	ESC L or ESC *1
120 dots/inch	Normal	2 X	ESC Y or ESC *2
240 dots/inch	Half	4 X	ESC Z or ESC *3
72 dots/inch	Normal	1 X (1:1 aspect ratio)	ESC *5

FACIT 4512 - FACIT/EPSON COMBINATION MODE

CHARACTER MODE

SELECT COMMANDS

COMMAND	ASCII KEY SEQUENCE
SELECT NATIONAL VERSION - U.S.	ESC 8 0 *
SWEDISH/FINNISH	ESC 8 A
DANISH/NORWEGIAN	ESC 8 B
GERMAN	ESC 8 C
BRITISH	ESC 8 D
ITALIAN	ESC 8 E
FRENCH/BELGIAN	ESC 8 F
SPANISH	ESC 8 G
SELECT LINE SPACING - 6 lpi	ESC 4
8 lpi	ESC 5
SELECT PIN GRAPHICS RESOLUTION - 60 d/i	ESC N
72 d/i	ESC M
100 d/i	ESC H
SELECT 7/8-PIN PIN GRAPHICS - 7 PIN	ESC 7
8 PIN	ESC 8
SELECT CHARACTER GENERATOR - 0	ESC / 0 *
1	ESC / A

SUBMODE COMMANDS

COMMAND	ASCII KEY SEQUENCE
START ITALIC	[CTRL+P]
START UNDERLINED	[CTRL+]] *
START ELONGATED	[CTRL+~] *
START BOLD	[CTRL+^]
END SUBMODE	[CTRL+_]

*Subject to National Variations

SET COMMANDS

COMMAND	ASCII KEY SEQUENCE
SET VERTICAL TABS	ESC 1 (N ₁ _N ₃₂)DEL
SET FORMAT LENGTH	ESC 2 (N) DEL
SET HORIZONTAL TABS	ESC 3 (N ₁ _N ₃₂)DEL
SET RIGHT MARGIN	ESC 1 (N) DEL
SET SKIP ZONE	ESC + (N) DEL
SET SPACING INCREMENT - N ½ dots	ESC SP (N) DEL
SET MICRO LF N ₁₄₄ "	ESC 1 (N) DEL
SET S1 SEQUENCE	ESC [CTRL+0] [string] DEL
SET S0 SEQUENCE	ESC [CTRL+N] [string] DEL

ORDER COMMANDS

COMMAND	ASCII KEY SEQUENCE
HORIZONTAL LOCATION	[CTRL+H]
BACKSPACE	[CTRL+I]
HORIZONTAL TAB	[CTRL+X]
SPACING INCREMENT	ESC + (n) DEL
ABSOLUTE CHARACTER POSITION	ESC , (n) DEL
ABSOLUTE DOT POSITION	ESC - (n) DEL
REPEAT DATA	ESC - (n) DEL
LOCAL LINE FEEDS	
HALF LINE FEED FORWARD	ESC U
FULL LINE FEED FORWARD	ESC N
HALF LINE FEED REVERSE	ESC D
FULL LINE FEED REVERSE	ESC [CTRL+P]
MICRO LINE FEED FORWARD	[CTRL+W]
MICRO LINE FEED REVERSE	[CTRL+Y]
LINE TERMINATORS	
CARRIAGE RETURN	[CTRL+M]
LINE FEED*	[CTRL+J]
VERTICAL TAB	[CTRL+K]
FORM FEED	[CTRL+L]
RESET TO POWER UP	ESC 0
ETX (depending on protocol)**	[CTRL+C]

**ETX has same function as LF if protocol permits.

FONT SELECTION COMMANDS

COMMAND	ASCII KEY SEQUENCE
SELECT NORMAL TEXT FONT	
NORMAL	ESC 6 or [CTRL+B]
CONDENSED	ESC 9
COMPRESSED	ESC 7
HIGH RESOLUTION - CONSTANT PROPORTIONAL	ESC :
SELECT DOUBLE HEIGHT FONT	
NORMAL	ESC [CTRL+~] * 6
CONDENSED	ESC [CTRL+~] * 9
COMPRESSED	ESC [CTRL+~] * 7
HIGH RESOLUTION - CONSTANT PROPORTIONAL	ESC [CTRL+~] * :
SELECT MICRO FONT	
TOP PLACED NORMAL	ESC 6
TOP PLACED CONDENSED	ESC 9
TOP PLACED COMPRESSED	ESC 7
BOTTOM PLACED NORMAL	ESC ' 6
BOTTOM PLACED CONDENSED	ESC ' 9
BOTTOM PLACED COMPRESSED	ESC ' 7
SELECT BLOCK GRAPHICS	
CONDENSED	ESC <
NORMAL	ESC =
ENLARGED	ESC >
SHIFT IN	[CTRL+0]
SHIFT OUT	[CTRL+N]

PIN GRAPHICS COMMANDS

INPUT	PRINT SPEED	OVERALL PRINT RESOLUTION	ASCII KEY SEQUENCE
60 dots/inch	Normal	Normal (60 dots/inch)	ESC K or ESC *0
120 dots/inch	Half	2 X	ESC L or ESC *1
120 dots/inch	Normal	2 X	ESC Y or ESC *2
240 dots/inch	Half	4 X	ESC Z or ESC *3
72 dots/inch	Normal	1 X (1:1 aspect ratio)	ESC *5

OPERATOR'S CONTROL PANEL

MODE rotary switch

This switch sets the default operating mode of the printer as follows:

- 10 = Normal chars (10 cpi)
- 12 = Condensed chars (12 cpi)
- 17 = Compressed chars (17 cpi)
- HR = High resolution, fixed pitch (10 cpi)
- PS = High resolution, proportional pitch (10-20 cpi)
- BG = Block graphics (1:1 aspect ratio)
- 7PG = Pin Graphics (1:1 aspect ratio)
- 8PG = 8 Pin Graphics (1:1 aspect ratio)
- TM1 = Transparency Mode 1
- TM2 = Transparency Mode 2

This switch is sensed only at Power-up or after a Reset command. To change the operation mode, set the switch to the desired position and turn the power off and then on again. The mode may also be changed at any time by the host.

ERROR/ON LINE indicator

When unlit: printer Off-line, no faults

When lit steady: printer On-line

When lit flashing:

- (a) Fault during power-up test or normal operation; switch off printer and call service personnel
- (b) Paper end condition, load new paper or use OVR.R switch
- (c) Print head has been moved. Press OVR.R to realign.

POWER ON indicator

When unlit: power off

When lit: power on

ON LINE/OFF LINE switch

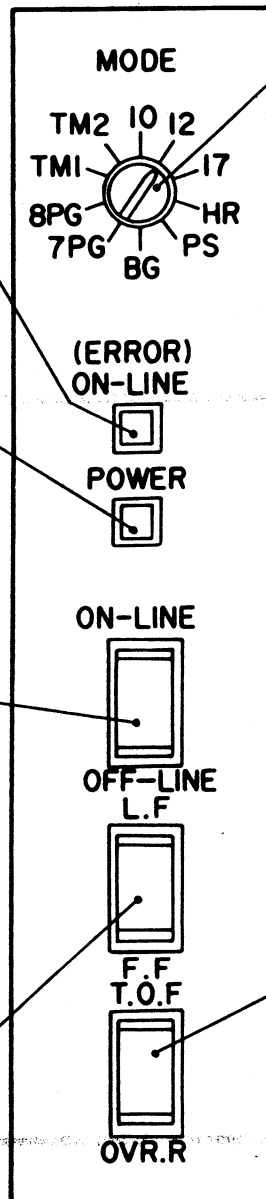
Depressing the upper half (ON LINE) turns the printer On-line provided there are no faults. The ERROR/ON LINE indicator lights to show that the printer is On-line. If the printer is On-line, depressing the lower half (OFF LINE) turns the printer Off-line. The ERROR/ON LINE indicator will be extinguished. The switch is also used in conjunction with the OVR.R switch during the Paper End state.

LF/FF switch

This two-function switch is biased to the central (off) position and is operative only when the printer is Off-line.

When the bottom half (FF) is depressed, the printer will feed paper to the next Top of Form position.

When the top half (LF) is depressed momentarily a single line feed will occur. If the switch is held depressed for more than 1/4 sec, further line feeds will be performed until the switch is released.



TOF/OVR.R switch

This two-function rocker switch is biased to the central (off) position and is operative only when the printer is Off-line.

When the top half (TOF) is depressed, the current line (indicated by the Footline Indicator) is registered as the new Top of Form position (overriding any previous TOF).

If (TOF) is pressed while switching on the printer, the printer enters the Hex trace mode.

The bottom half (OVR.R) is used in the Paper End state, and for Microstep feeding.

Paper End State

- (a) Momentary depression: print next line
- (b) Hold depressed: print to end of paper with printer Off-line.
- (c) Hold OVR.R and ON LINE switches depressed: print to end of paper with printer On-line.

Paper End is described overleaf.

Microstep Feeding

To align paper in the printer without affecting the line counter, press OVR.R with LF to give microstepping forward, and OVR.R with FF to give microstepping backwards.

The OVR.R switch can also be used to initiate self-testing (see Technical Description).

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