TIMEX sinclair 2040™

Personal Printer Operating Manual



INTRODUCTION

The T/S 2040 Personal Printer gives a permanent record of anything your Timex Sinclair Computer can display on the TV screen.

Supplied with the printer are 1) these instructions, 2) one roll of paper and 3) a power supply unit.

DESCRIPTION

Your printer is enclosed in an extremely tough ABS plastic molded case which is highly resistant to impact damage. The transparent paper cover is also made of ABS. The fine matte case finish requires no special care, and should be cleaned, if necessary, by wiping it with a slightly damp cloth. Do not use any type of wax cleaner.

Figure 1 illustrates the major components of the printer. The paper cover (1) is hinged to permit a roll of paper to be loaded and positioned.



See back cover for important FCC information

The ON/ADVANCE switch (2) turns on the power to the printer and advances the paper as long as the button is pressed. The OFF switch (3) turns off the power to the printer.

Ventilation slots are provided in the top and bottom covers for convection cooling of the internal components. The printer should always be placed on a hard surface so the cooling vents will not be obstructed in any way.

CONNECTING TO YOUR COMPUTER

Before connecting anything to your computer, PULL THE COMPUTER'S POWER PLUG OUT. If you are using a RAM pack, disconnect it from the computer. The edge socket on the end of the printer's cable snaps into the rectangular slot in the back of the computer. If you are using a RAM pack, snap it into the rectangular slot in back of the printer connector. Now plug the power connector into the back of your printer and press the ON/ADVANCE button once. You are now ready to load the paper.

LOADING PRINTING PAPER

The printer is designed to use standard thermographic printing paper in roll form. Included with your printer is a roll of Timex Sinclair Printer paper which has a 1.9″ diameter. Replacement rolls of this paper are available at outlets carrying the Timex Sinclair Printer.

Make sure that the correct paper is always used, for sensitivity and smoothness of the paper is important for correct operation of the printer. Incorrect, or low-quality paper may result in poor heat transfer, smearing, and poor print contrast. IMPORTANT: Avoid use of abrasive papers, which can cause severe head damage in less than two hours of printing. For quality printing and longer head life, use only the recommended grades of paper listed in the Appendix.

WARNING

This product contains no user serviceable parts inside, and the user should not open the protective plastic case. All normal operations can be conducted without opening the case. If the plastic cover is damaged through breakage, discontinue use of the appliance until the unit can be examined and repaired by the factory service center.

LOADING ROLL PAPER INTO THE PRINTER

Paper loading may be easily accomplished by following the steps shown in **Figures 1, 2** and **3.**

STEP 1: Open the paper receptacle cover.

STEP 2: For convenience in paper insertion, it is suggested that the paper roll be placed in the fully opened paper receptacle cover with about 6″ of paper coming from underneath the roll. Insert the leading edge of the paper below the rubber platen, and press the ON/ADVANCE button. The paper will feed automatically.

STEP 3: To close the transparent cover roll the paper supply roll forward into the receptacle. Grasp the leading edge of the paper and hold it toward the front of the printing unit, then close the transparent cover. IMPORTANT: The leading edge of the paper must remain outside of the cover.

Confirm that the paper is feeding correctly by pressing the ON/ADVANCE switch. Check that the paper remains properly centered within the thermal head area. When you are satisfied that the threading is correct, the excess paper may be removed by using the built-in paper tearing edge.

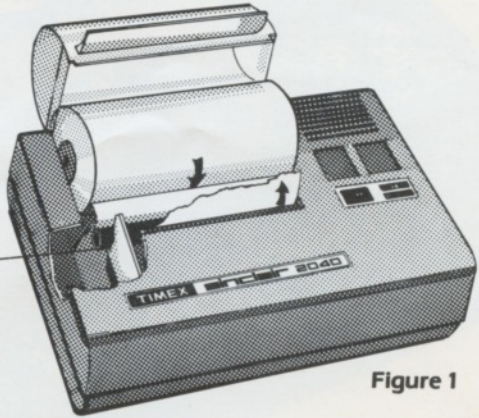


Figure 1

REMOVING A PARTIAL ROLL OF PAPER

In the event that a partially used roll of paper requires removal, follow these simple steps:

STEP 1: Tear off any excess paper protruding from the print head, using the built-in paper tearing edge.

STEP 2: Open the paper receptacle cover. Cut the paper web with scissors behind the lead-in slot to the printer. The partially used roll may then be lifted out, and the paper in the print head area ejected by activating the manual ON/ADVANCE switch until all of the paper has passed through the print head area.

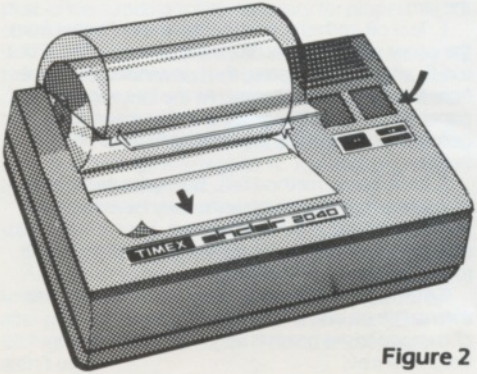


Figure 2

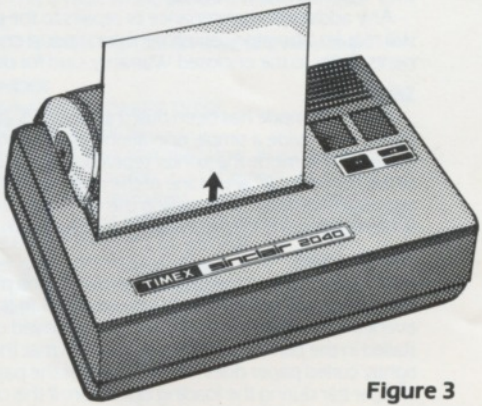


Figure 3

CUSTOMER SERVICING OPERATIONS

With normal use, your printer should operate properly for an extended period without requiring any service. The following service operations are described because they might eventually be required and we want you to know how to perform them correctly if they should become necessary.

Any additional maintenance or repairs to the printer will require laboratory equipment and special components. Refer to the enclosed Warranty card for details.

SELF TEST

A self-test mode has been built into your T/S 2040 Printer to provide a simple operational check. When placed in this mode the printer repeatedly prints a line of the numeral "8" and a line of the numeral "1". The test mode is entered by pressing the OFF button once while holding the ON/ADVANCE button down.

PAPER JAMS

Under normal operation there should be no problem with paper jamming in the mechanism. In the event that small roll-ends of paper are removed or reinstalled in the printer, care should be taken that the tightly curled paper does not wrap under the paper stripper bar during the loading operation. If this occurs, the paper may begin to wrap around the platen, until a thick roll of paper builds up between the pressure plate and the platen, thereby stalling the printer. This is a difficult situation to remedy, since the platen will not readily rotate backwards. It is best avoided by careful loading practices.

If a paper jam does occur, disconnect the power to the printer and try the following techniques to clear the jam:

1. Tear off and remove the supply roll of paper from the paper compartment. Press the ON/ADVANCE button to advance the platen, thus unwinding the paper from the outside of the spiral. As the free edge of the paper becomes visible, grasp with fingers and pull gently as you continue to press the ON/ADVANCE button.

2. If the above method fails, slicing the paper layer-by-layer with a very sharp knife, may have to be attempted. Do not cut into the platen, but cut only enough layers of paper to allow the remaining paper to be more easily unwound.

CAUTION: Never use or place tools between the thermal heads and the platen. The probability of damage to the heads is very high under these circumstances.

3. The best cure for paper jamming, naturally, is PREVENTION — by careful loading of the printer, and checking for correct paper feeding at the start of printing, most jamming situations can be avoided.

THE INTERFACE

This information is provided for those who are interested in the technical operation of the printer. A complete understanding is not necessary for proper operation of the printer.

The printer is wired as a Z80 I/O port, selected by A2 being at a low level and A7 being at a high level, no other address lines are recognized. So to send information to the printer, use the Z80 command:

OUT (FB), A — opcode D3 FB

assuming the data is in register A. The data bits have the following meanings:

(D2) High level means stop the motor, low means start it.

(D7) High level applies power to the print head.

All these lines remain in the state they were at last, until new data is sent to the printer. At switch on, or after pressing the feed button, D7 is set low; D2 is left high once feed is finished. The other data lines aren't used.

To fetch information from the printer, the Z80 instruction: IN A, (FB) — opcode DB FB; will put the data into the accumulator. These bits are used:

(D6) Will be read as low if the printer is there, high if it isn't, and is used solely to check if the printer is connected.

(D0) This is high when printer is ready for next data bit.

(D7) This line is high for the start of a new line.

APPENDIX

RECOMMENDED PAPER TYPES

TIMEX SPECIFICATION

Paper type:	Timex thermal paper, black printing	
Roll size:	Roll width:	110mm (4.33 inches)
	Roll diameter:	48mm (1.9 inches)
	Paper length:	25 meters max. (82 feet)

JAPAN PAPER & PULP CO. (JUJO)

Paper type:	TP50CM-A (Blue)
	TP50KM-A (Black)
Roll size:	Same as above.

WARNING

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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:

a. Reorient the receiving antenna.
b. Relocate the printer with respect to the receiver.
c. Move the printer away from the receiver.
d. Plug the printer power supply into a different outlet so that printer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio-television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

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Part No. 332-095000