Memory Expansion Guide

Sr.Partner™
RAM Board

Panasonic

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INTRODUCTION

Your Sr. Partner™ system comes with 256K of built in RAM memory. This amount of memory allows you to perform many business and personal computing functions effectively and efficiently.

As you become familiar with your computer, you may find yourself using it for more and more operations. Then additional RAM memory can allow you to make full use of your computer's remarkable capabilities.

128K RAM is already inserted on the RAM Board. Thereafter you can increase your RAM capacity in increments of 64K byte (8 RAM chips) up to 384K byte on the RAM Board. (512K byte totaly).

In choosing to purchase additional RAM capability, you have entered an exciting world or computing possibilities.

NOTE: The use of the term "board" refers to the printed circuit board which contains the additional RAM memory.

INSTALLATION

NOTE: Unless you are experienced with computers, Panasonic recommends that your dealer insert and test the RAM chips before you take delivery of your Sr. Partner.

If you are doing the insertion yourself, you will need a Phillips screwdriver.

Removing the Case and Covers

To insert the RAM chips, you must first remove the printer cover of the computer.

Preparation

STEP 1 — BE SURE ALL POWER IS OFF. Disconnect the Sr. Partner from any electrical outlets. Unplug the AC cord from the rear panel.

STEP 2 — Attach the keyboard to the system unit for protection of the front panel.

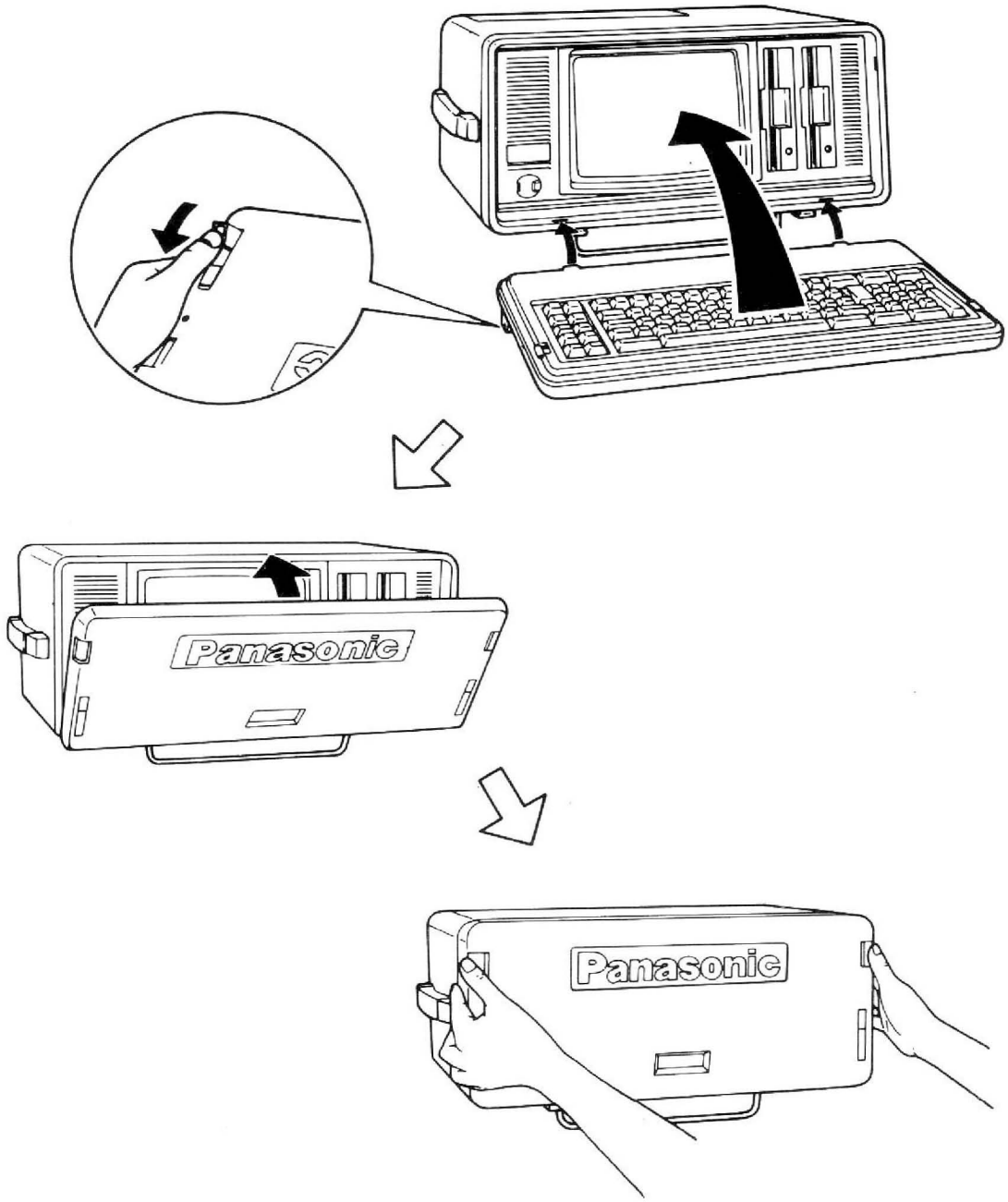

Fig. RAM-1. ATTACHING THE KEYBOARD

STPE 3 Fold the metal rod over the keyboard unit.

Removing the Printer Cover

STEP 4 The two ribbed tabs release the protective cover for the printer compartment. Push these tabs forward, then slide back the first section of the printer cover. Fold the cover all the way back and remove the plastic cover.

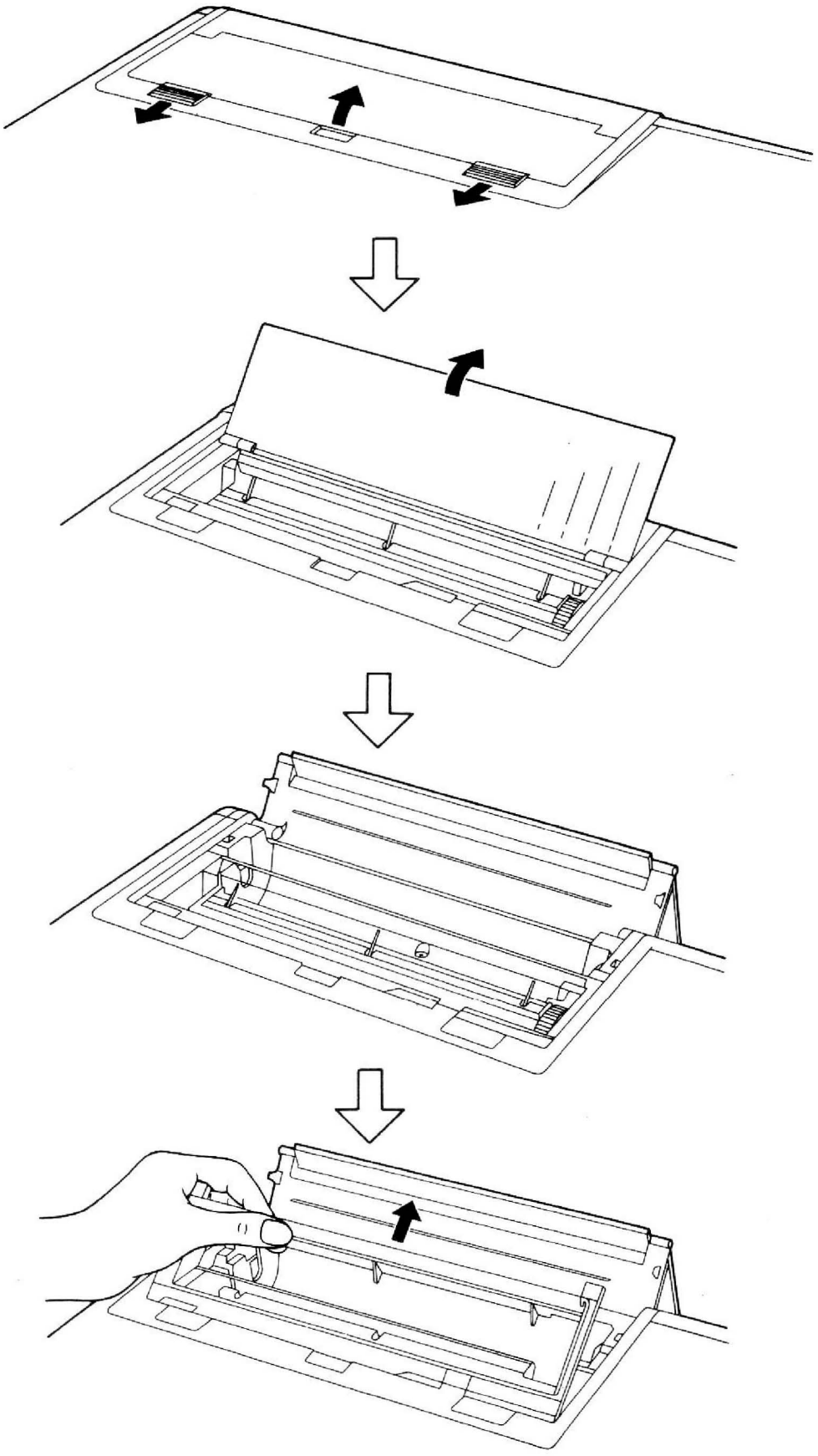

Fig. RAM-2. OPENING OF PRINTER COMPARTMENT

STEP 5 Remove a paper roll from the printer compartment. See page 3-30 in the Operations/DOS Reference Guide.

STEP 6 You will see four screws attaching the printer cover to the system unit.

STEP 7 Using a Phillips screwdriver, remove these four screws.

NOTE: You will be removing several sets of screws during this procedure. The screws are not interchangeable. Be sure to store the screws in a safe location and in an easily identifiable pattern.

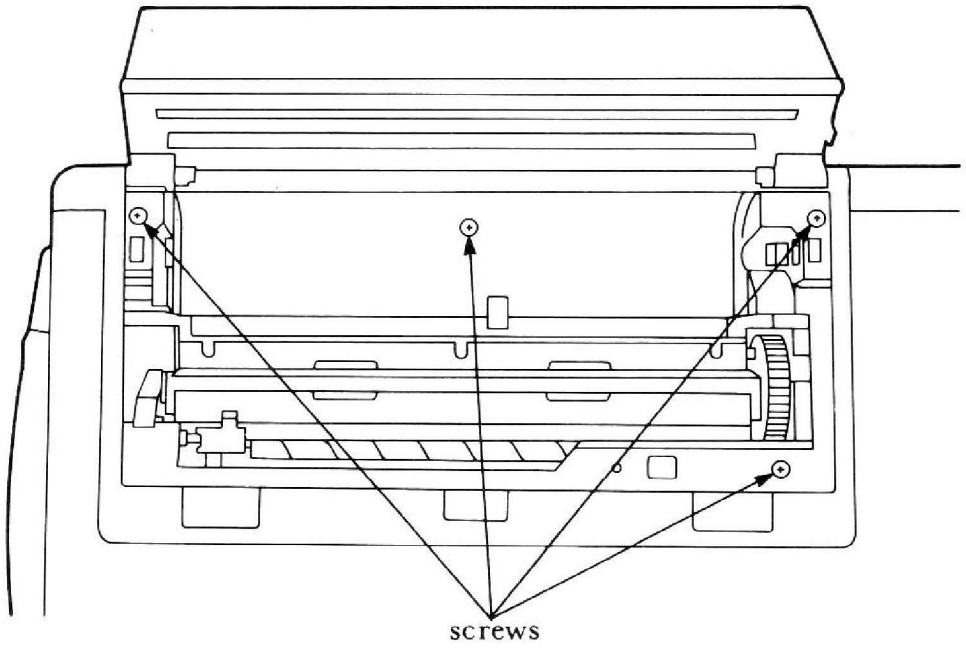

Fig. RAM-3. LOCATION OF SCREWS

STEP 8 Gently lift the printer cover. Be careful not to pull on the wires connected to the printed circuit board on the inside of the cover.

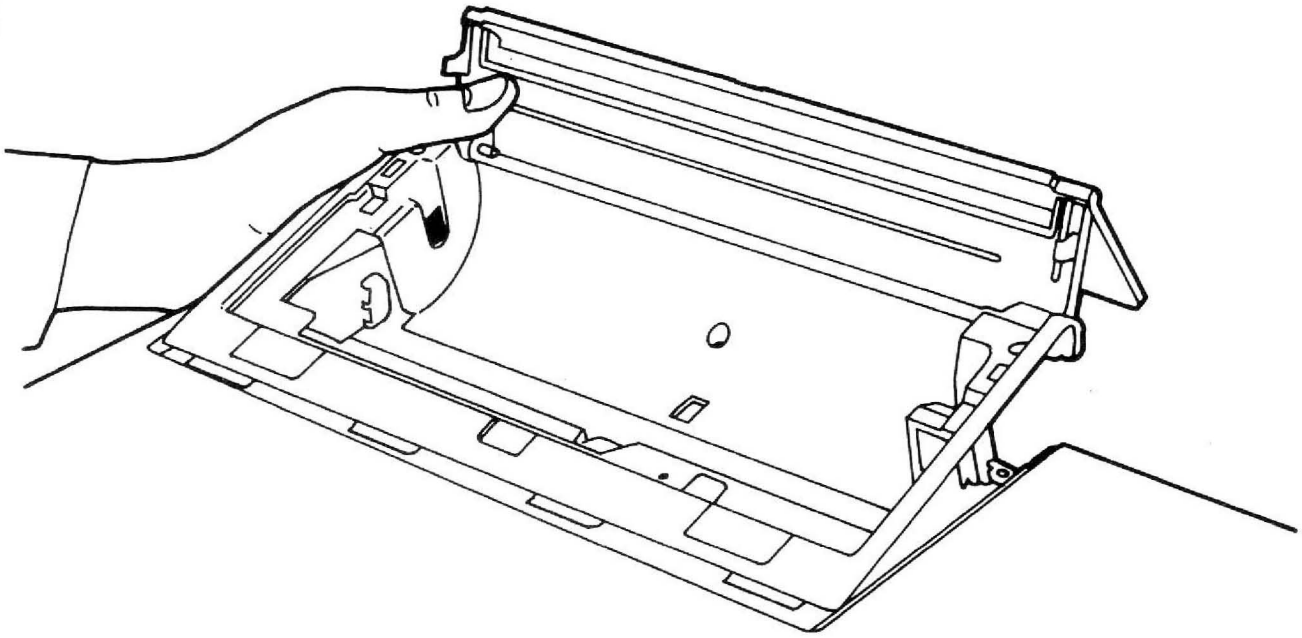

Fig. RAM-4. LIFT THE PRINTER COVER

STEP 9 Disconnect the cable from the printed circuit board. The printer cover will now lift free of the system unit.

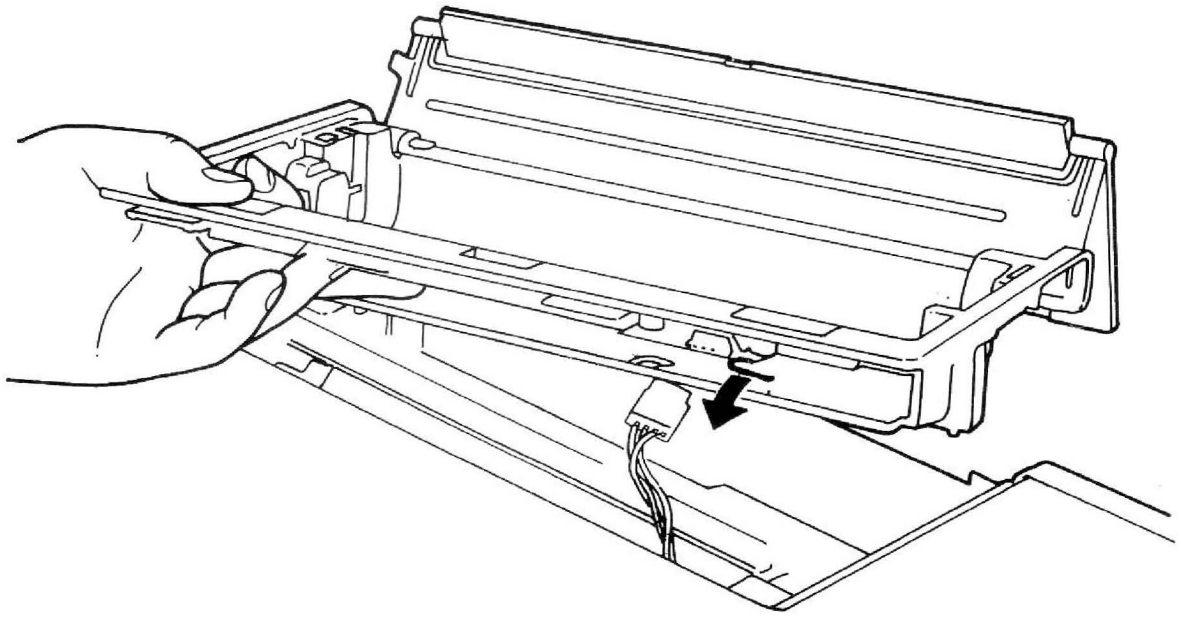

Fig. RAM-5. REMOVAL OF PCB CONNECTORS

Removing the Rear Panel Cover

STEP 10 Remove the six screws which secure the rear panel cover and remove the cover. This will expose the internal aluminum panel. (Don't remove this internal aluminum panel.)

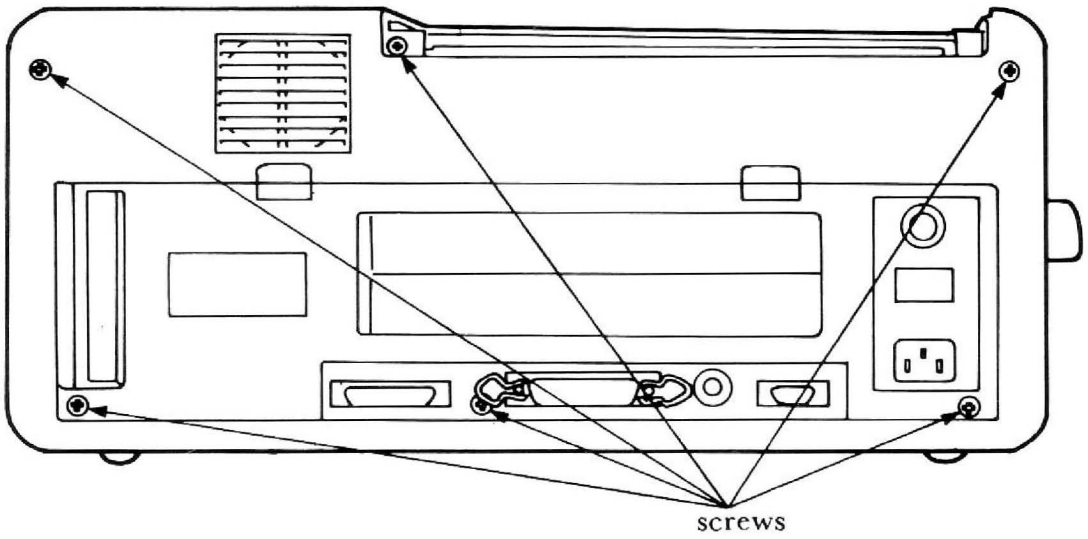

Fig. RAM-6. REAR PANEL'S SCREWS

Removing the Outer Case Cover

STEP 11 Turn over the machine so that the bottom panel is facing you.

STEP 12 Grasping the case at the sides, slide it up until it clears the internal section of the system unit.

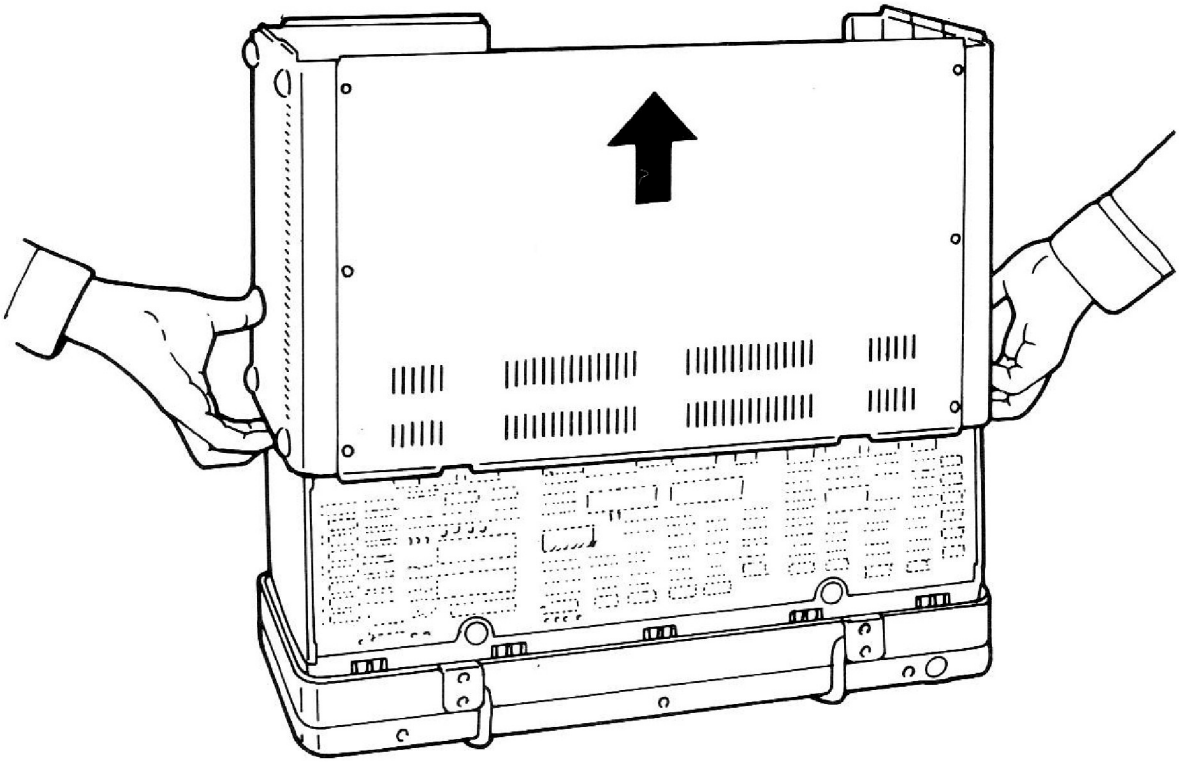

Fig. RAM-7. OUTER CASE BEING SLID UPWARDS

Inside the System Unit

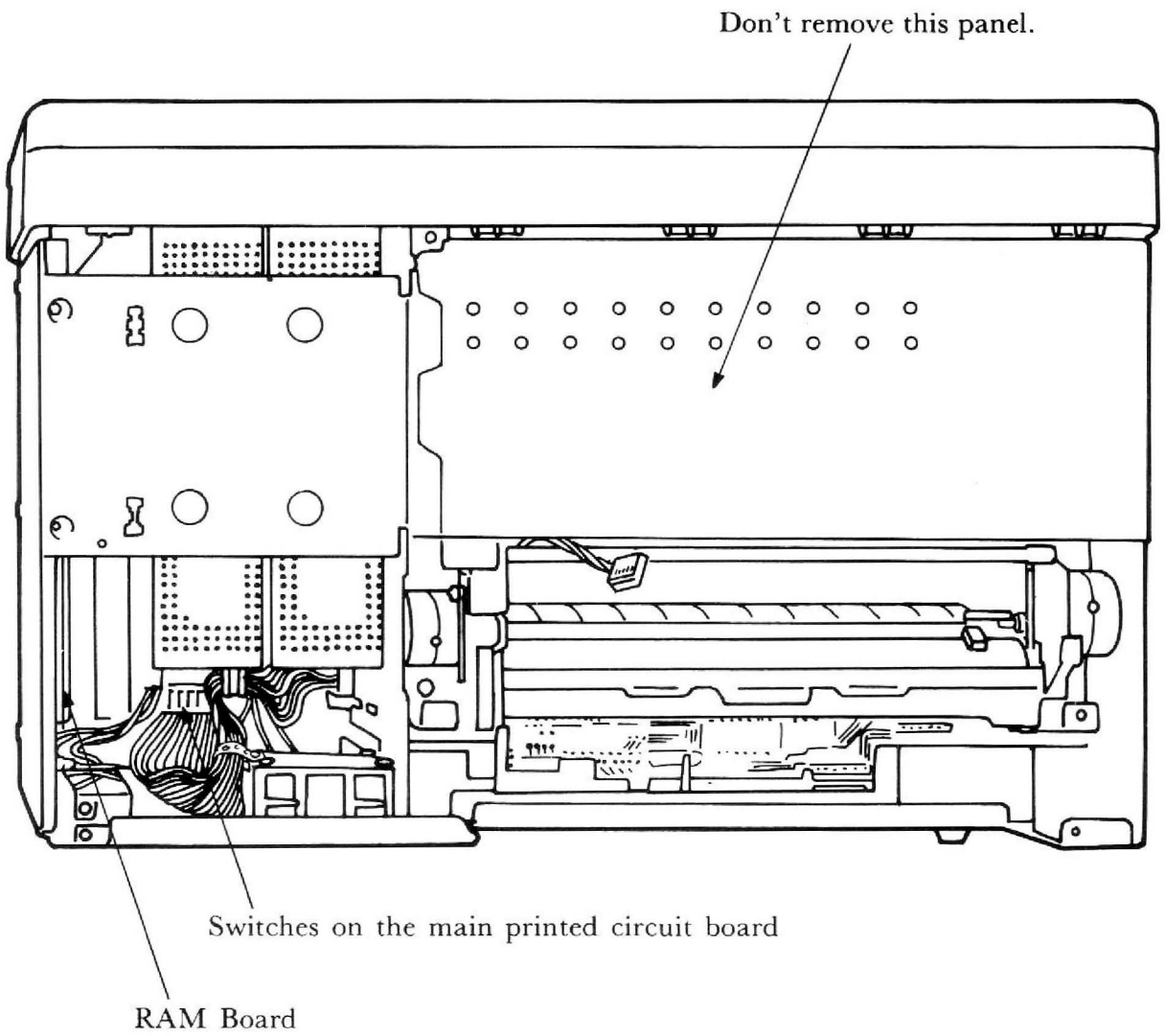

Fig. RAM-8. INSIDE OF THE SYSTEM UNIT

Removing the RAM Board

STEP 1 Remove the four corner screws and the two screws securing the top panel of the disk drive unit. (If you have installed a Drive B there are also two screws holding this unit.)

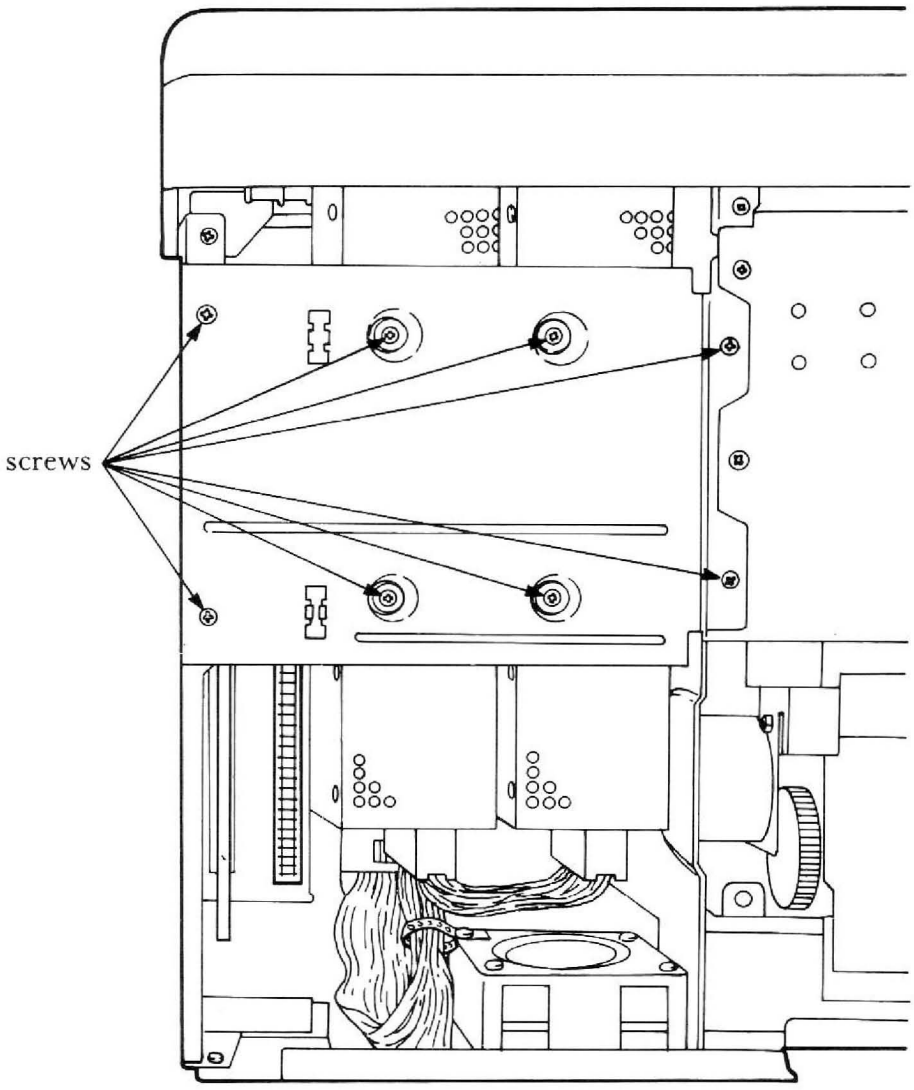

Fig. RAM-9. TOP VIEW OF DISK DRIVE AREA

STEP 2 You will remove your RAM Board from the connector near the side panel.

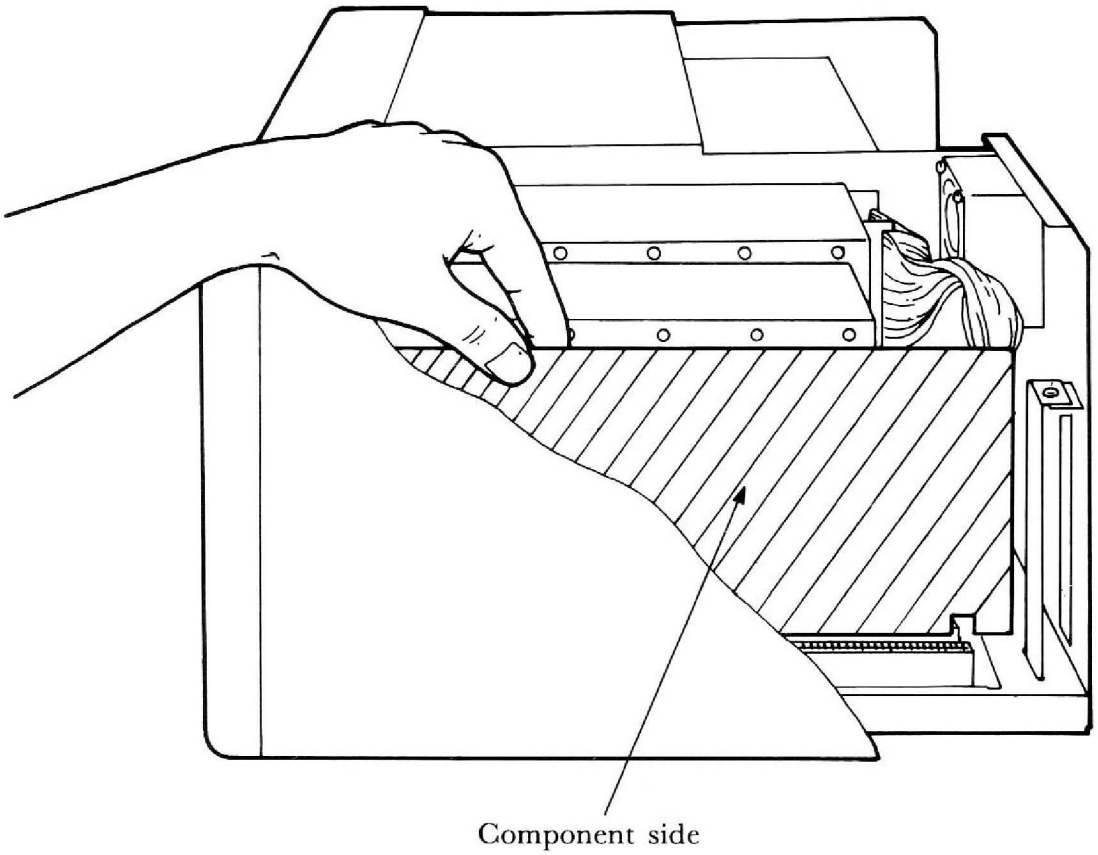

Fig. RAM-10. CORRECT ORIENTATION OF RAM BOARD

STEP 3 When you remove the RAM Board, you must make a head of the plastic holder thin by grasping it with pliers and push the RAM Board toward the disk drive.

STEP 4 Remove the RAM Board from the connector. Gently slide it out.

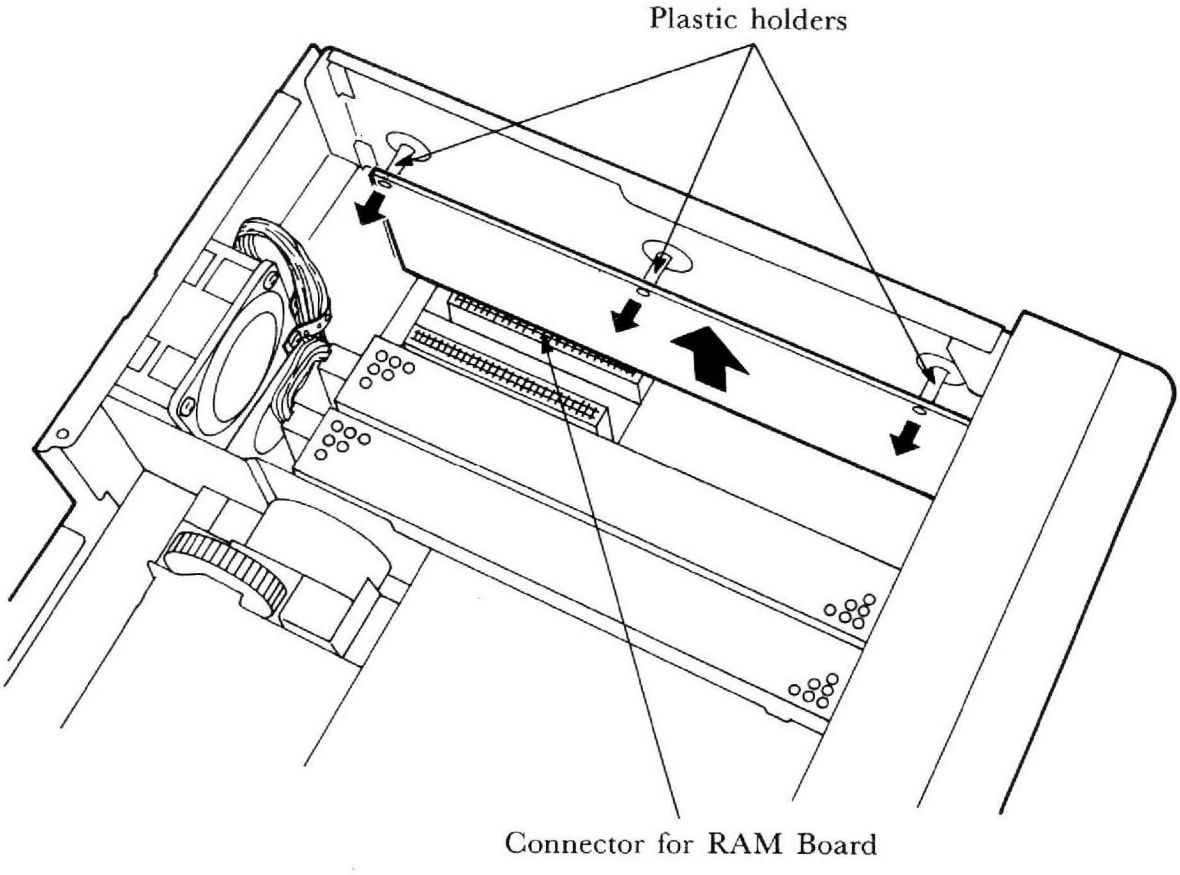

Fig. RAM-11. REMOVING THE RAM BOARD

Inserting RAM Chip

Specifications of 64K bit Dynamic RAM chip you can insert on the RAM board listed below.

- Industry Standard 16-pin DIP
- 65536-word by 1 bit (64K bit)
- Single +5 V Supply
- Access time must be less than 150 ns
- Pin configuration is:

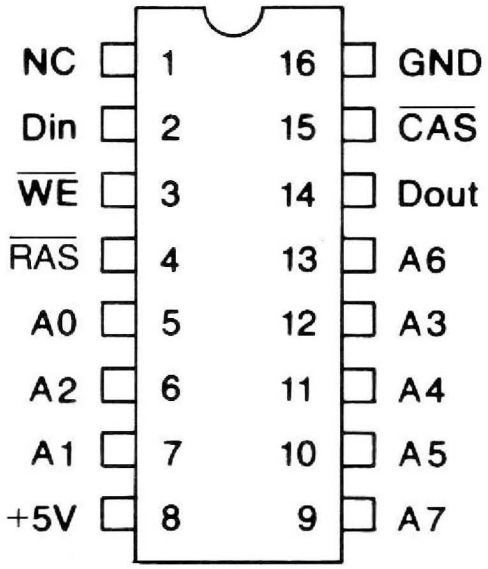

Fig. RAM-12. PIN CONFIGURATION OF 64K BIT DYNAMIC RAM CHIP

You must insert 8 RAM chips at the same time. When you increase first 64K byte (192K byte on the RAM Board), insert them on the location (1) in the figure below.
When you increase next 64K byte (256K byte on the RAM Board), insert them on the location (2). Same procedure is applied when you further increase RAM chips.

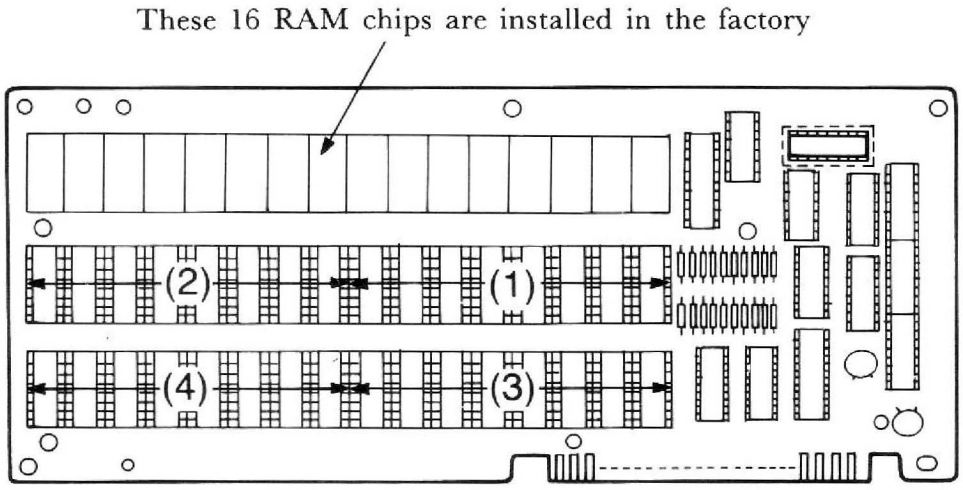

Fig. RAM-13. RAM BOARD

*** **WARNING** ***

Be careful with direction of a RAM chip when you insert it. If you insert it in the reverse direction, a RAM chip and/or the RAM board may be damaged.

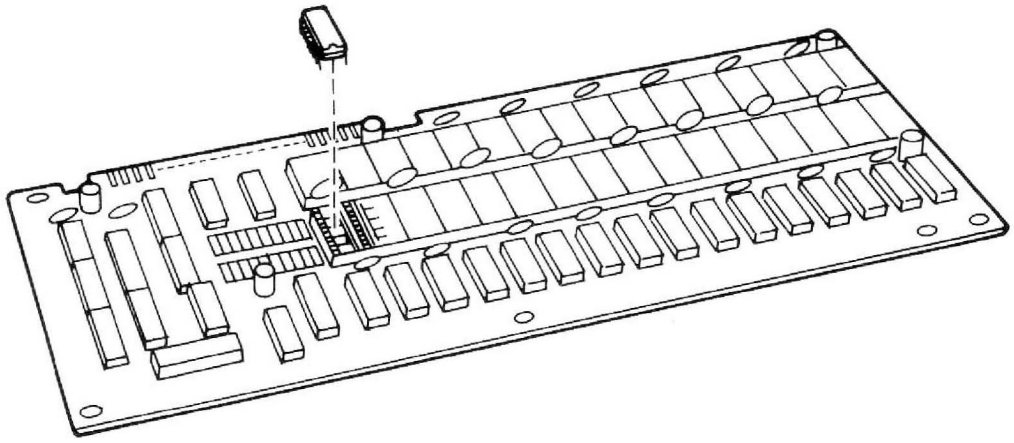

Fig. RAM-14. INSERTION OF RAM CHIP

Setting the Switches on the RAM Board

Before installing your RAM Board, you must set the switches on the board to indicate the amount of extra K being added to the system.

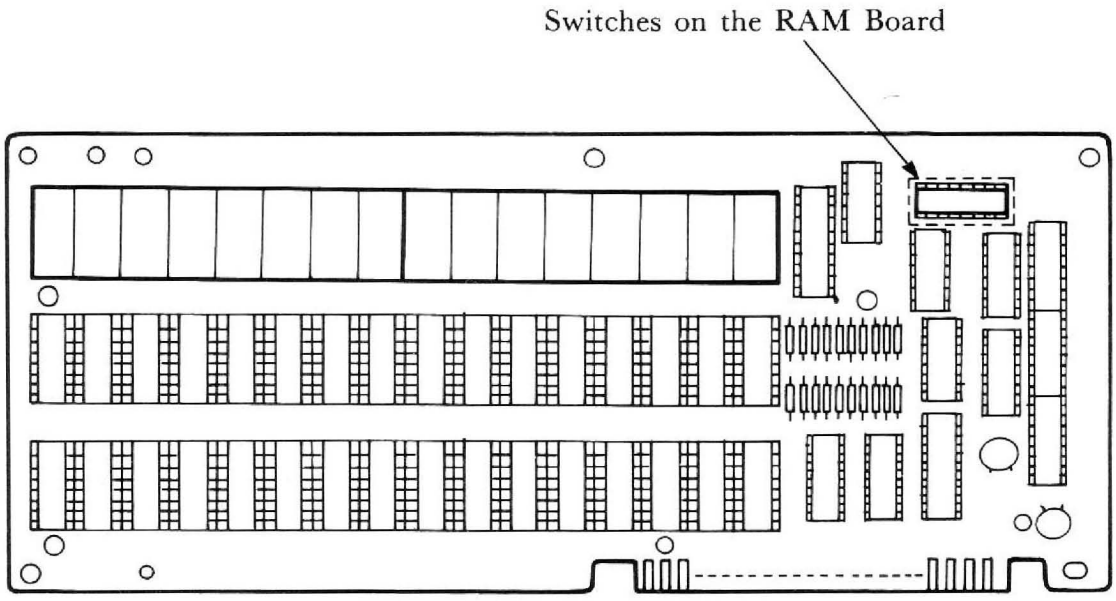

Fig. RAM-15. SWITCHES ON THE RAM BOARD

The switch settings on the RAM Board are in the upper right hand corner. Select the switch setting according to the following chart:

Memory on the RAM Board	Switch Settings							
	1	2	3	4	5	6	7	8
128K bytes (Initial Memory Size)	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
192K bytes	ON	ON	ON	OFF	OFF	OFF	OFF	ON
256K bytes	ON	ON	ON	ON	OFF	OFF	OFF	ON
320K bytes	ON	ON	ON	ON	ON	OFF	OFF	ON
384K bytes	ON	ON	ON	ON	ON	ON	OFF	ON

Setting the Switches on the Main Printed Circuit Board

You must also set the switches on the main printed circuit board so that they reflect the total amount on memory in the system.

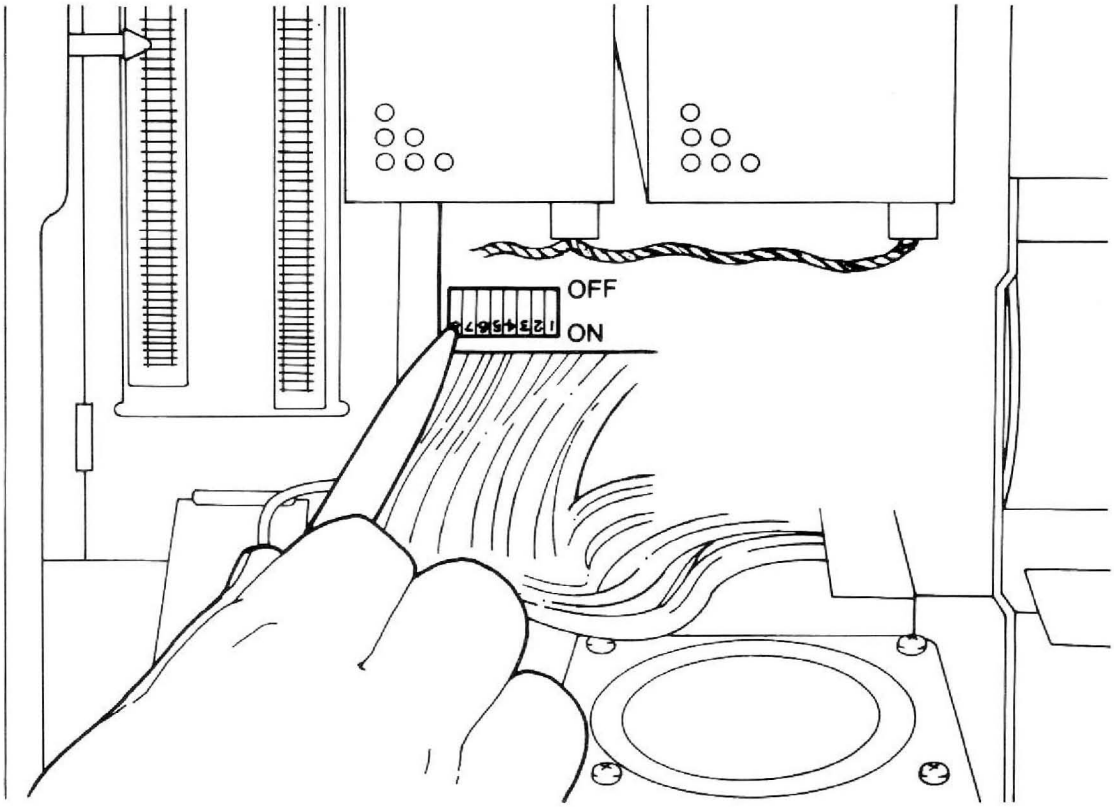

Fig. RAM-16. SETTING THE SWITCHS ON THE MAIN PRINTED CIRCUIT BOARD

The switch settings on the main board are set according to the following chart:

Total Memory	Memory on the RAM Board	Switch Settings			
		1	2	3	4
128K bytes	No RAM Board	ON	OFF	ON	ON
256K bytes	128K bytes	ON	OFF	OFF	ON
320K bytes	192K bytes	ON	ON	ON	OFF
384K bytes	256K bytes	ON	OFF	ON	OFF
448K bytes	320K bytes	ON	ON	OFF	OFF
512K bytes	384K bytes	ON	OFF	OFF	OFF

Inserting the RAM Board

STEP 1 You will insert your RAM Board into the connector near the side panel.

Hold the RAM Board so that the component side is to the left and the soldered side to the right.

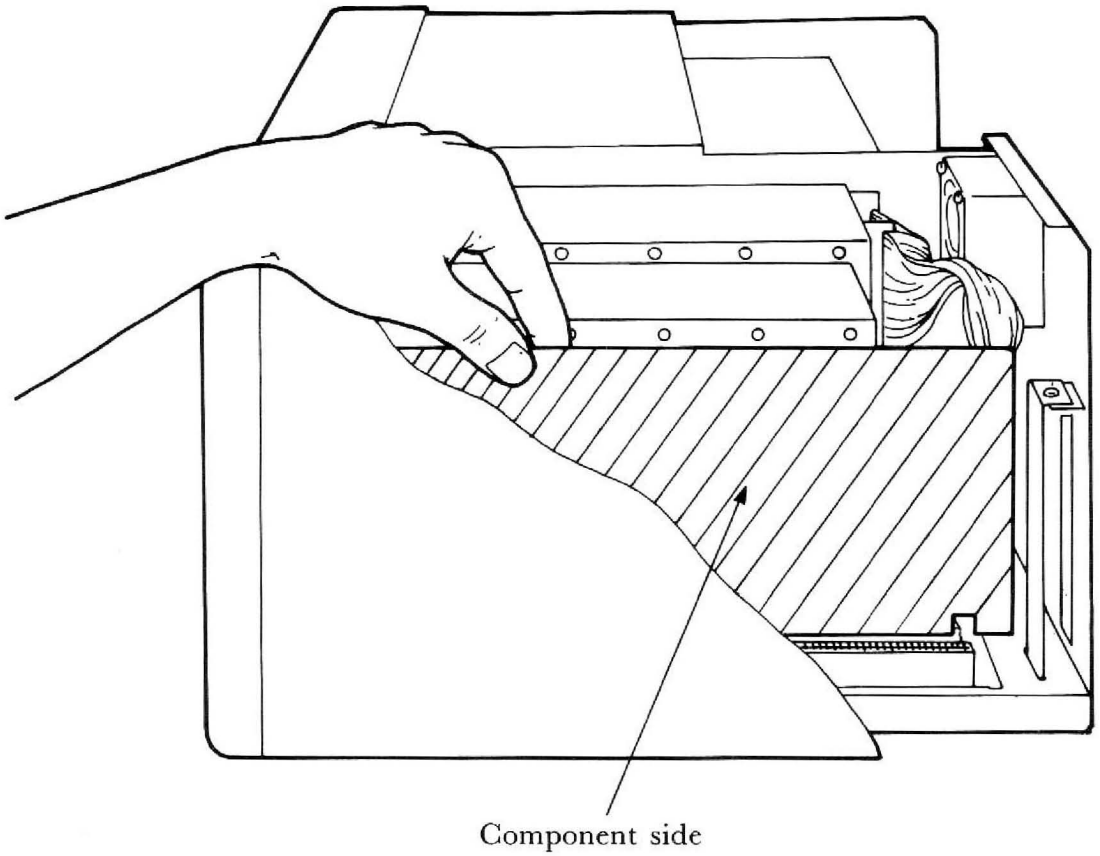

Fig. RAM-17. CORRECT ORIENTATION OF RAM BOARD

STEP 2 Insert the RAM Board in the connector. Gently slide in and push it into the connector on the floor.

STEP 3 Fix the RAM Board to the side panel with three plastic holders as shown below. (Push the RAM Board toward the side panel until it is firmly settled.)

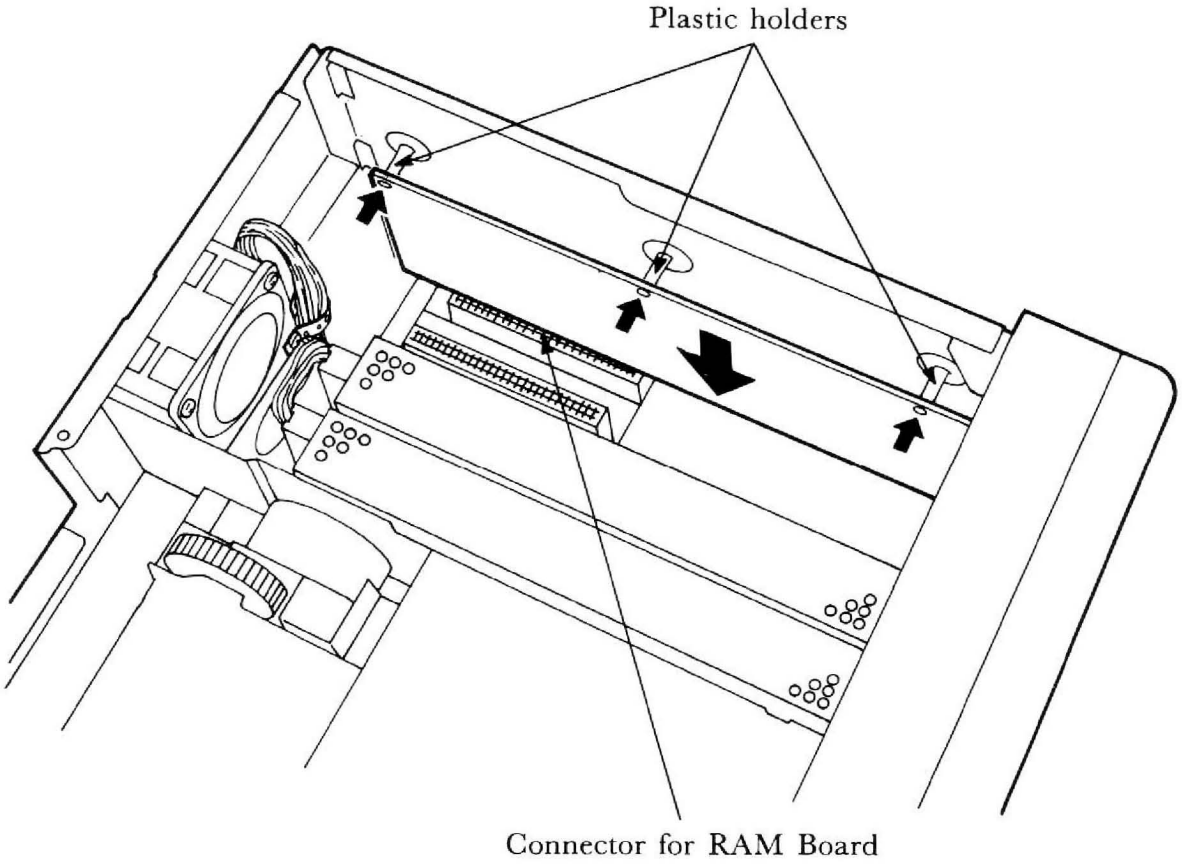

Fig. RAM-18. INSERTING RAM BOARD

STEP 4 Replace the screws which hold the disk drive and disk drive top plate in place.

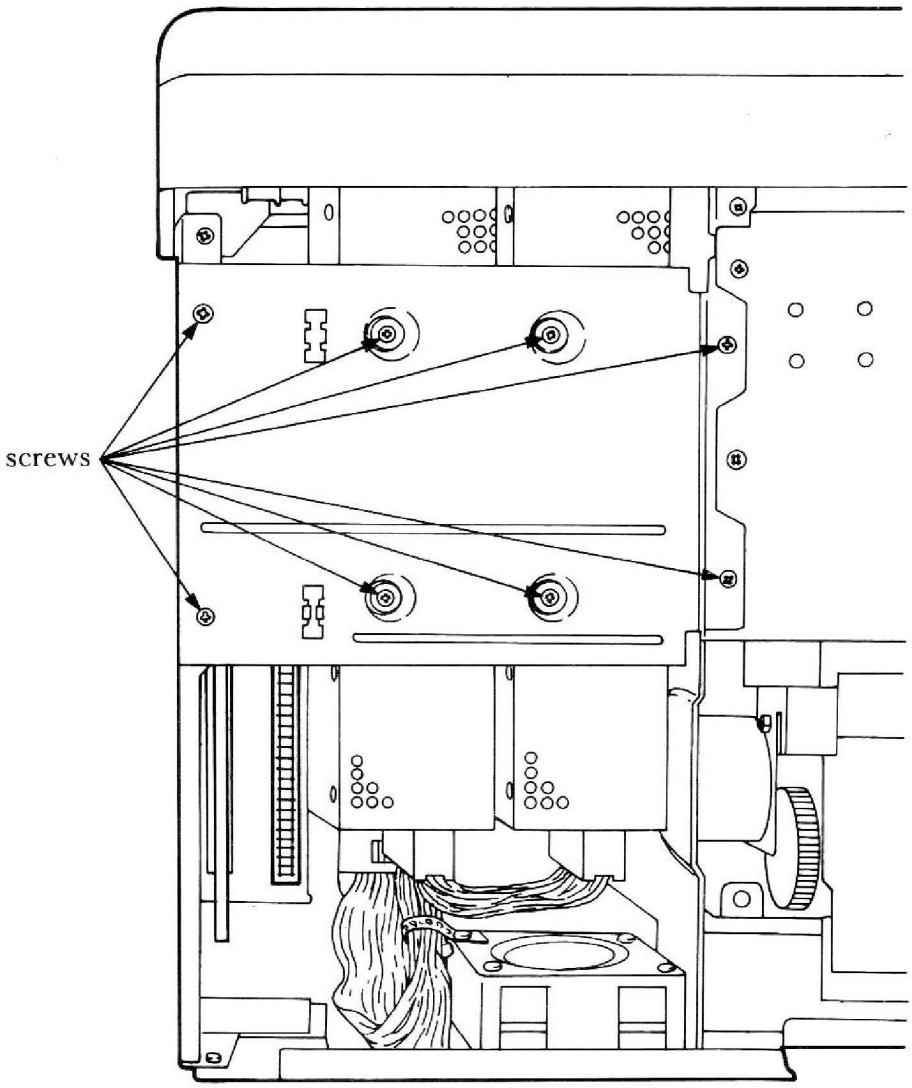

Fig. RAM-19. REPLACING THE TOP PANEL

Replacing the Case and Covers

STEP 1 Turn over the machine so that the bottom panel is facing you.

STEP 2 Replace the outer case. Slide the case down until it is firmly seated.

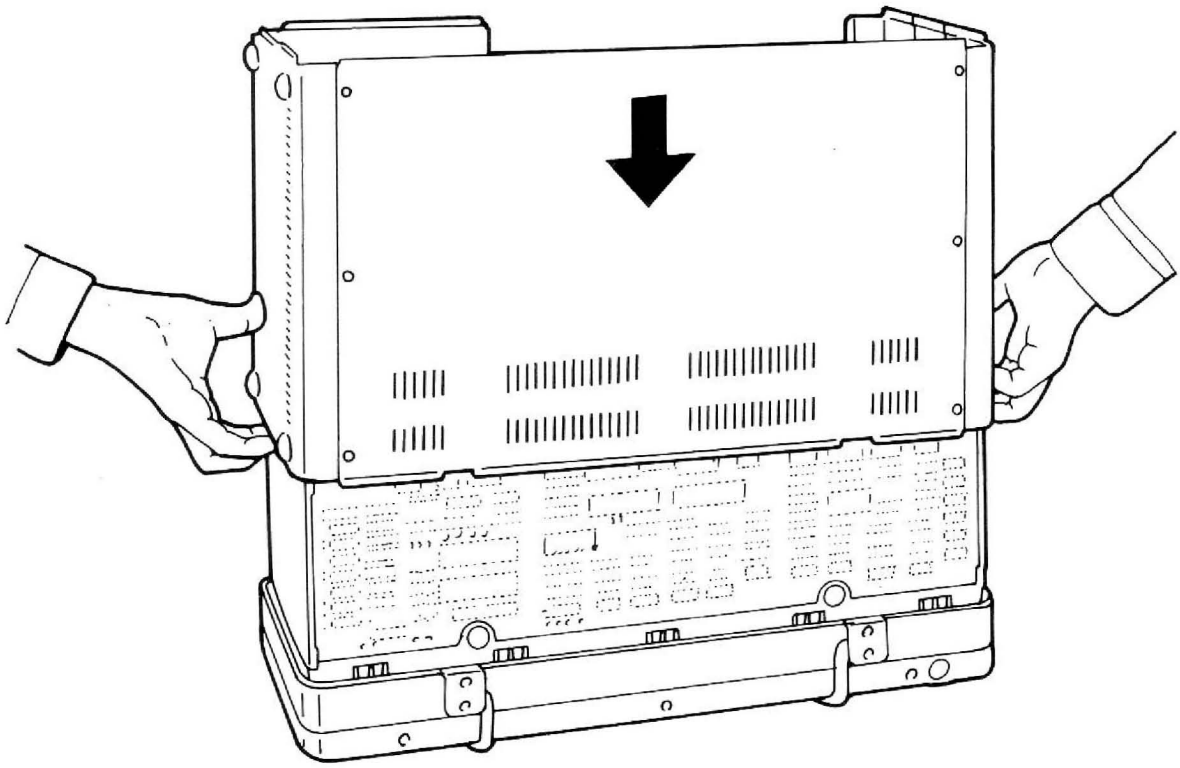

Fig. RAM-20. SLIDING OUTER CASE BACK ON

STEP 3 Reattach the rear panel. You will replace six screws.

*** **WARNING** ***

Before reattaching the rear panel, stand holders of the parallel port as shown.

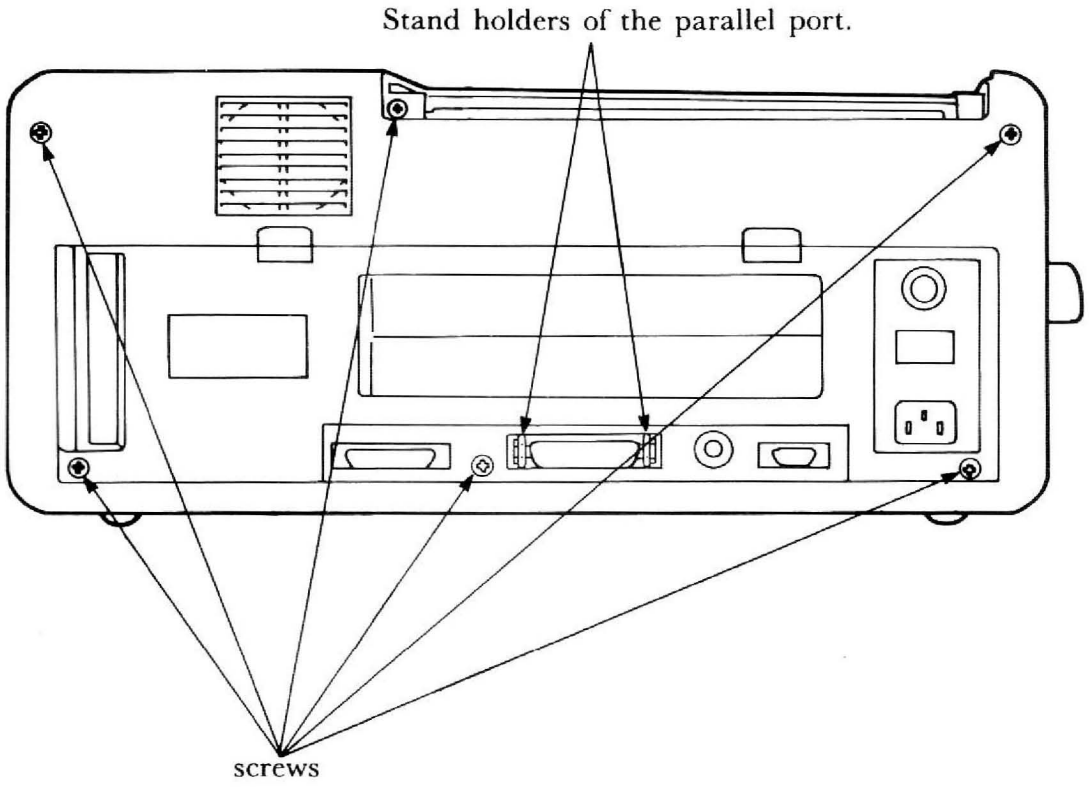

Fig. RAM-21. REPLACING REAR PANEL

STEP 4 Reconnect the printer cable to the printer cover.

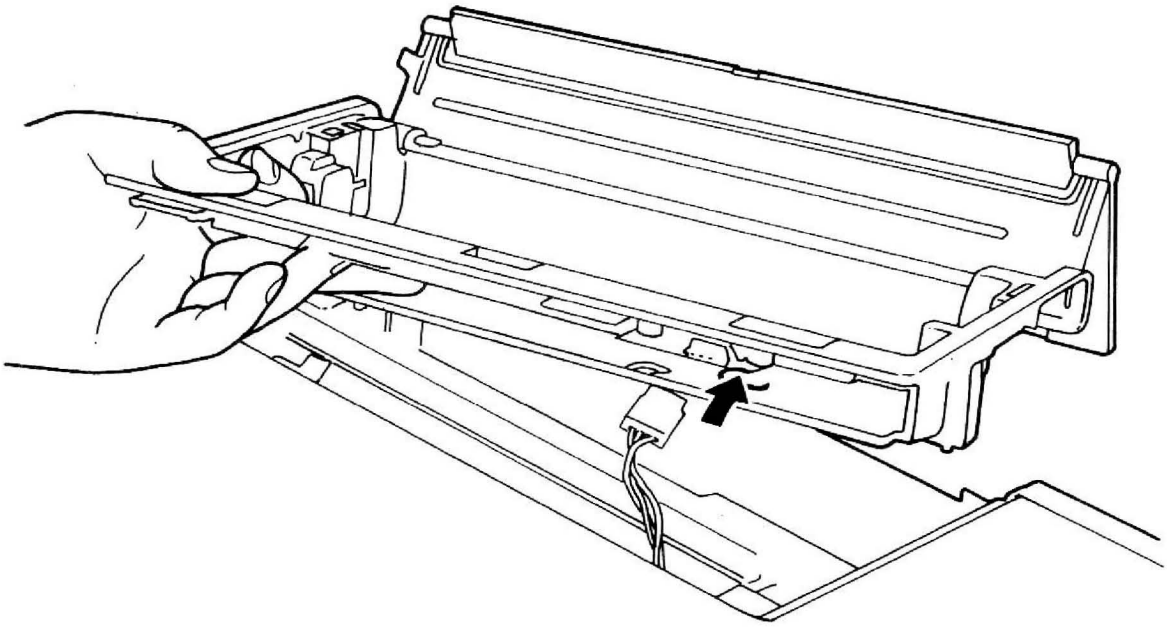

Fig. RAM-22. PRINTER PCB BOARD.

STEP 5

Replace the printer cover. Reinsert and replace four screws holding the printer cover in place. To insert paper into the printer, see page 3-24 in the Operations/DOS Reference Guide.

*** **WARNING** ***

Before replacing the printer cover, be sure the paper release knob is in open position.

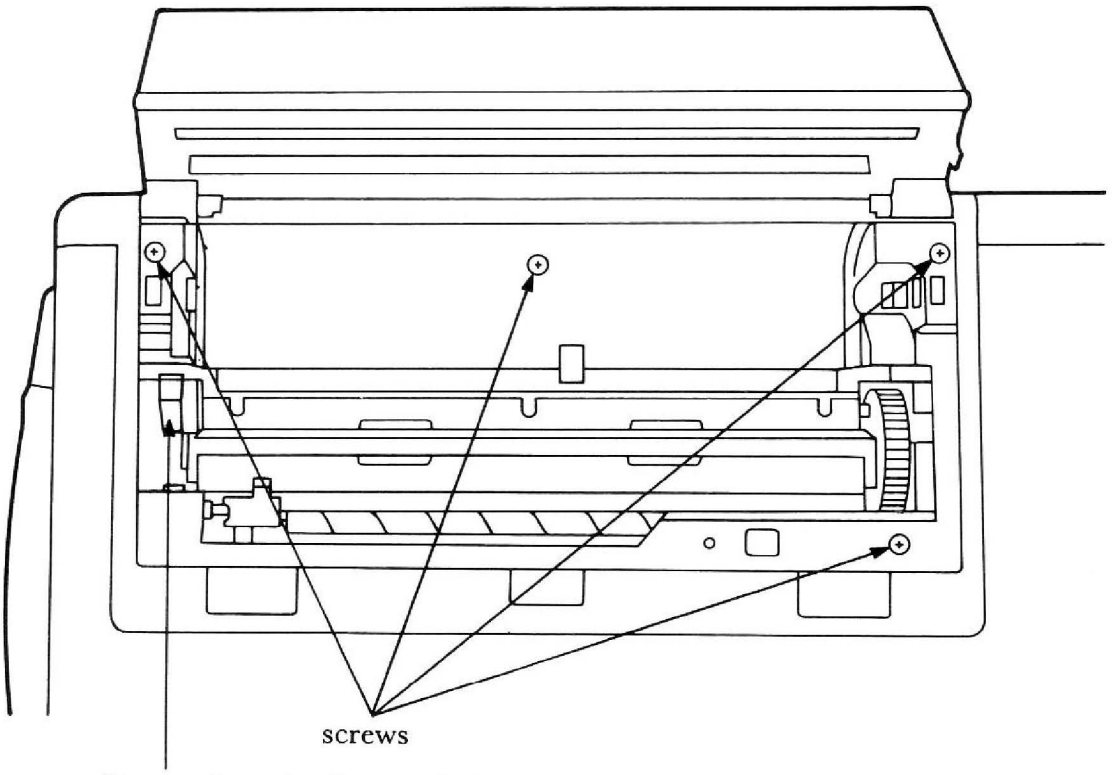

Fig. RAM-23. REPLACING PRINTER COVER.

Your upgraded Sr. Partner is now ready to use! Simply reattach the keyboard, plug in the power cord to the rear of the unit and the wall outlet. Switch On the Main Power Switch to begin computing.

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