"COMM-STOR*" II COMMUNICATIONS STORAGE UNIT

DISASSEMBLY AND REASSEMBLY AND PARTS

1. GENERAL

1.01 This section covers the COMM-STOR II Communications Storage Unit manufactured by Sykes Datatronics, Incorporated.

1.02 Whenever this section is reissued, the reason(s) for reissue will be listed in this paragraph.

1.03 Information covering the removal and replacement of various components of the COMM-STOR II Communications Storage Unit is contained in the attached reprint of the practice prepared by Sykes Datatronics, Incorporated.

1.04 This section also applies to COMM-STOR II Communications Storage Units equipped for 8A1/8B1 Protocol operation.

1.05 After disassembly and reassembly, the diagnostic test should be run as outlined in Section 578-400-200.

*Registered Trademark of Sykes Datatronics, Inc.

Comm-Stor II
COMMUNICATIONS STORAGE UNIT
DISASSEMBLY/REASSEMBLY
AND PARTS

CONTENTS PAGE

1. GENERAL 1
INTRODUCTION 1
TOOLS AND SUPPLIES 2
DANGER AND WARNINGS 2
2. DISASSEMBLY/REASSEMBLY 4
ENCLOSURE COMPONENTS 4
Top Cover 4
Front Panel Assembly 4
LED Assembly 4
Power Switch/Circuit Breaker 7
Restart Switch Assembly 7
Filter Cover, Air Filter 7
Interface Panel 7
Air Deflector 8
Fan Assembly 8
Restart Lamp Assembly 8
Power Cord Assembly 8
FLEXIBLE DISK DRIVE 9
FDD Removal/Replacement 9
Drive Belt 11
Drive Door 11
Head Load Pad 11
POWER SUPPLY 14
Model 8120A 14
Model 8220A 14

CONTENTS PAGE

CONTROLLER ASSEMBLY 18
Circuit Boards 18
Base Board Assembly 18
Battery 19
The Forms ROM 19
Mini-Thumbwheel Switch 19
3. PARTS 19

Figures

1. Enclosure Components 3
2. LED Harness—Model 8120A 5
3. LED Harness—Model 8220A 6
4. Power Switch/Circuit Breaker 7
5. Top View of FD 700 10
6. Bottom View of FDD 13
7. Model 8120A Power Supply 15
8. Model 8220A Power Supply 16
9. System Boards 17

Tables

A. Parts List 20

1. GENERAL

INTRODUCTION

1.01 This section contains necessary information for the removal and replacement of various components of the Comm-Stor® II Communications Storage Unit, hereafter referred to as Comm-Stor.

This section also includes locations of test switches and indicators used in trouble analysis and testing of the station.

1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

1.03 This section also applies to Comm-Stor II systems equipped for 8A1/8B1 Protocol operation.

1.04 After DISASSEMBLY/REASSEMBLY, be sure to run the Diagnostic Test (See Section 578-400-200, Part 7).

TOOLS AND SUPPLIES

1.05 To disassemble or reassemble Comm-Stor parts or units, the following tools and supplies are required.

Nut Driver 1/4"

Nut Driver 11/32"

Wrench, Hex Key 3/32"

Wrench, Hex Key 1/16"

Wrench, Hex Key 5/64"

Subminiature Long Nose Pliers

Flat Needle File or Fine Emery Board

Screwdriver, Phillips, 1/4", 4" blade, 2 point size

Screwdriver, Phillips, 1/8", 2" blade, 0 point size

Screwdriver, Slotted 1/4", 4" blade

Screwdriver, Slotted 1/8", 2 blade

Tweezers

Static Ground Strap (Simco Neutrostat, 3M Velostat, or equivalent)

Static Bag (Simco Neutrostat, 3M Velostat, or equivalent)

IC Removal & Insertion Tool

Lamp Puller

Contact Cement (Elmer's Professional)

Exacto Knife

Volt-ohm meter KS8455

Volt-ohm multi-meter KS14510

DANGER AND WARNINGS

1.06

Danger: Turn off all power and signal sources before removing or replacing any module or component.

Warning 1: To avoid possible internal damage to circuitry, wear a static discharge strap connected to ground to allow static discharge before handling circuit boards or components. Avoid touching circuit boards or components as much as possible.

Warning 2: Put the replaced board in a static bag immediately after removal from unit. Never handle the board outside the bag without being properly grounded.

Warning 3: Handle all diskettes with care:

- *Never touch the exposed diskette surface. Handle the diskette only near the label.*
- *Do not write on the diskette cover; write only on the label. If possible, write on the label before placing it on the diskette.*
- *Do not attempt to clean a dirty or dusty diskette, such a diskette should be discarded.*
- *Keep the diskette away from potentially magnetic materials (paper clips, etc.) or magnetic sources (unshielded power supplies, CRT monitors, etc.).*
- *Do not bend the diskette.*
- *Do not expose the diskette to extremes of heat or cold.*
- *Keep the diskette in its protective cover when not in use.*
- *Store diskettes vertically in boxes when not in use.*

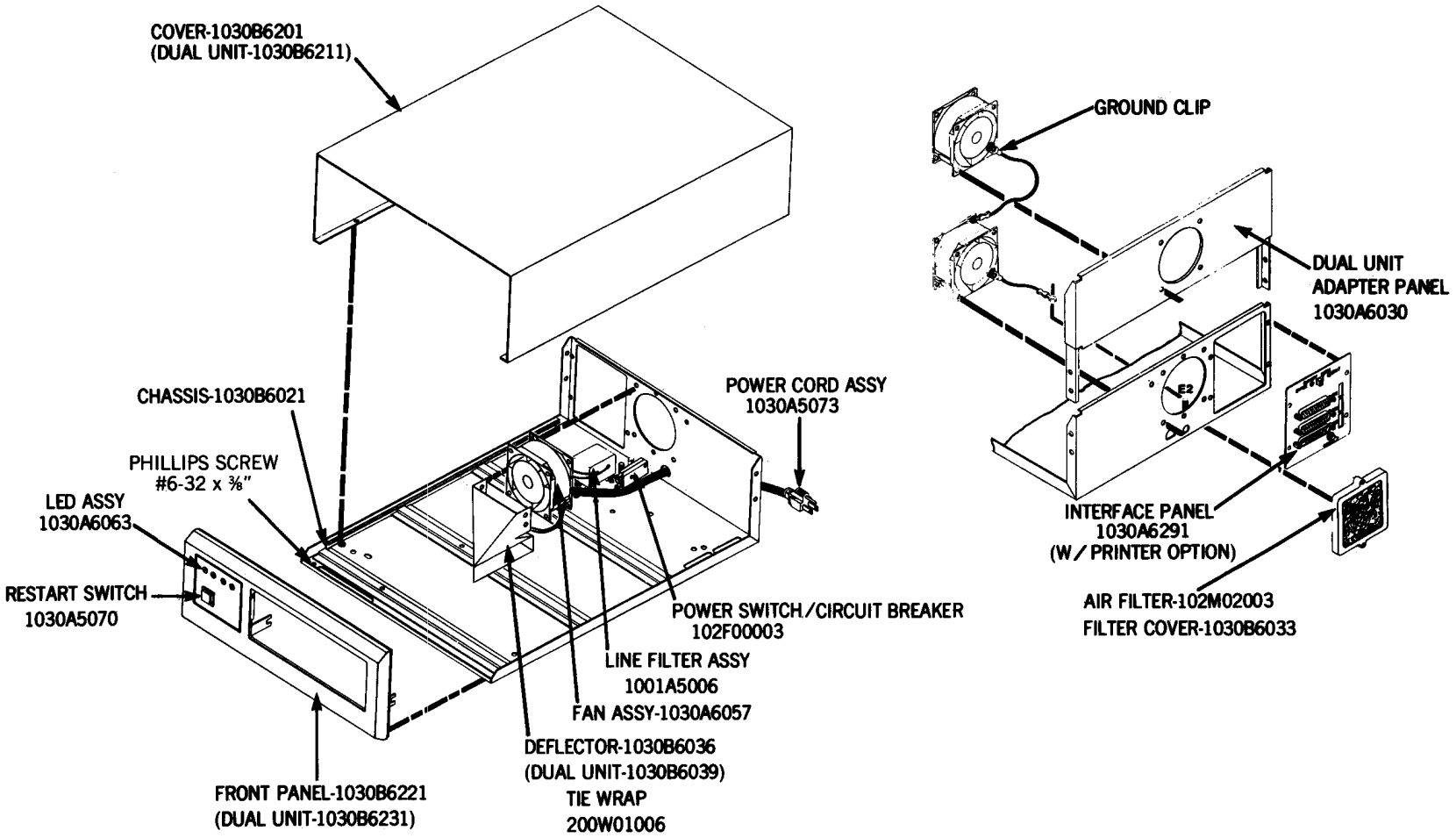


Fig. 1—Enclosure Components

2. DISASSEMBLY/REASSEMBLY

ENCLOSURE COMPONENTS

Top Cover

2.01 Perform the following steps to remove/replace the external top cover of the Comm-Stor unit.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the four mounting screws from the bottom of the cover on the underside of the unit.

(b) Slide the cover off from the back of the unit.

(c) Reverse the procedure to replace the top cover.

Front Panel Assembly

2.02 Perform the following steps to remove/replace the front panel assembly of the Comm-Stor unit. The procedures differ for 8120A and 8220A units.

Model 8120A

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover (Paragraph 2.01).

(b) Loosen the two screws which connect the front panel to the disk drive. These two screws are located on each side of the disk drive.

Note: It may be necessary to remove the circuit board nearest the disk drive in order to loosen the screw on the left side of the drive (Paragraph 2.27).

(c) Remove the third screw located on the bottom left side of the front panel. This screw is removed from the topside of the chassis.

(d) Disconnect the front panel wire harness from its corresponding connector.

(e) The front panel can now be removed by sliding it forward.

(f) Reverse the procedure to replace the front panel assembly.

Model 8220A

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover (Paragraph 2.01).

(b) Loosen the four screws which connect the front panel to the disk drives.

Note: It may be necessary to remove the circuit board nearest the disk drive in order to loosen the screw on the left side of the bottom drive (Paragraph 2.27).

(c) Remove the fifth screw located on the bottom left side of the front panel. This screw is removed from the topside of the chassis.

(d) Disconnect the front panel wire harness from its corresponding connector.

(e) The front panel can now be removed by sliding it forward.

(f) Reverse the procedure to replace the front panel assembly.

LED Assembly

2.03 Perform the following steps to remove/replace one or more of the LED assemblies (Figs. 2 and 3).

Danger: Disconnect the Comm-Stor unit from the power source.

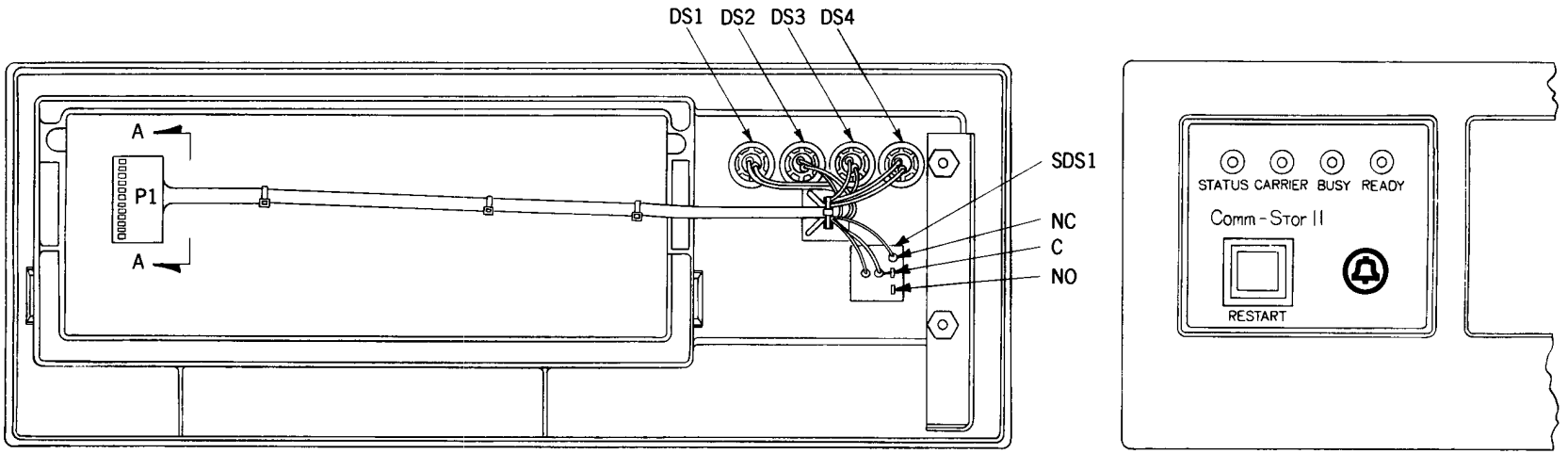
(a) Remove the front panel assembly (Paragraph 2.02).

(b) Locate the LED to be replaced. Carefully remove the metal retaining ring around the LED assembly.

Note: This is done by inserting a small screwdriver behind the ring and working each side out a little at a time. Be careful not to break the plastic enclosure.

(c) The LED assembly can now be pulled out of the front panel.

(d) To remove the LED wires cut the harness tie strap(s), isolate the wires (one black, one white) at connector P1. Insert a sharp object into



WIRE LIST		
DESCRIPTION	P1	FUNCTION
SDS1 WHITE	15	PWR IND, +5V
SDS1 BLACK	19	PWR IND, GRD
DS1 WHITE	5	+5V
DS1 BLACK	6	READY 1
DS2 WHITE	14	+5V
DS2 BLACK	2	BUSY 1
DS3 WHITE	18	+5V
DS3 BLACK	11	CARRIER
DS4 WHITE	16	+5V
DS4 BLACK	7	STATUS
——	20	KEY
SDS1 WHITE	8	RESTART

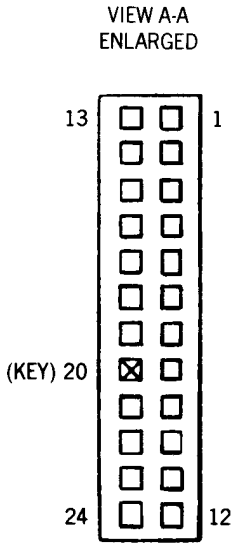
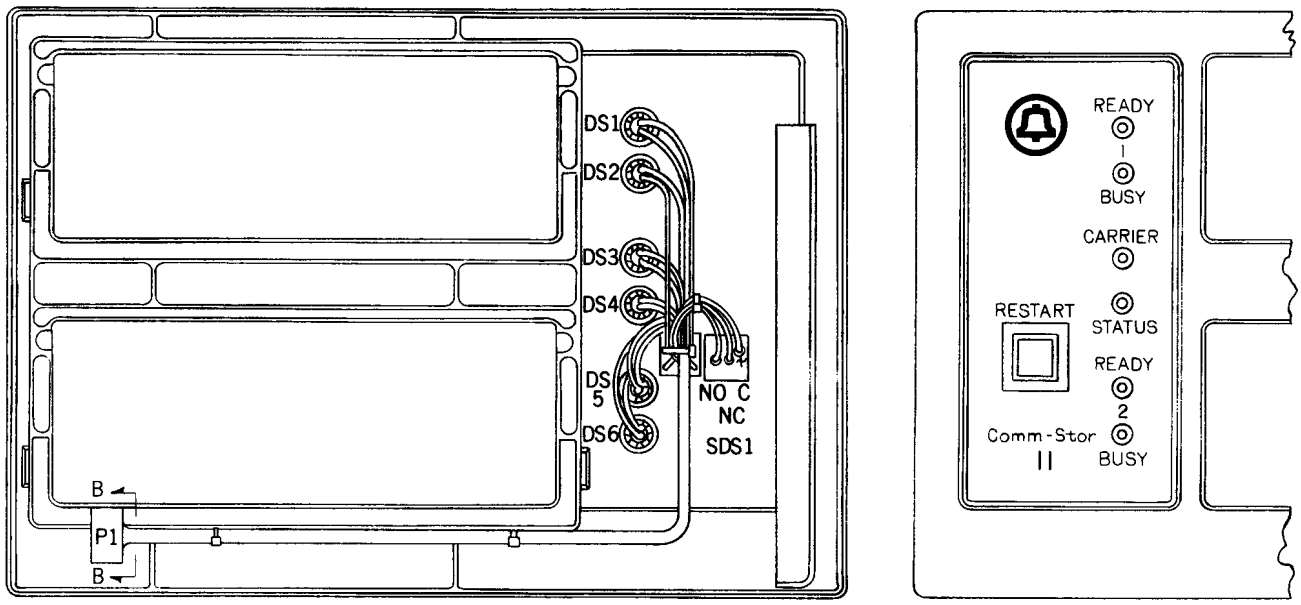


Fig. 2—LED Harness - Model 8120A



WIRE LIST		
DESCRIPTION	P1	FUNCTION
SDS1 WHITE	15	PWR IND, +5V
SDS1 BLACK	19	PWR IND, GRD
DS1 WHITE	5	+5V
DS1 BLACK	6	READY 1
DS2 WHITE	14	+5V
DS2 BLACK	2	BUSY 1
DS3 WHITE	18	+5V
DS3 BLACK	11	CARRIER
DS4 WHITE	16	+5V
DS4 BLACK	7	STATUS
DS5 WHITE	17	+5V
DS5 BLACK	9	READY 2
DS6 WHITE	3	+5V
DS6 BLACK	4	BUSY 2
——	20	KEY
SDS1 WHITE	8	RESTART

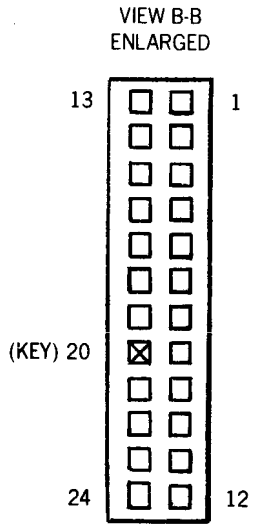


Fig. 3—LED Harness – Model 8220A

the side of the connector to release the wire terminator from the connector. Pull out the wires.

(e) Reverse the procedure to replace the LED assembly.

Power Switch/Circuit Breaker

2.04 The power switch/circuit breaker is located on the rear panel of the Comm-Stor unit (Fig. 4). Perform the following steps to remove/replace the power switch/circuit breaker.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the air deflector (Paragraph 2.08).

(b) Remove the nut which holds the power switch/circuit breaker to the back of the chassis.

(c) Disconnect the two wire lugs which are connected to the power switch/circuit breaker.

(d) Reverse the procedure to replace the power switch/circuit breaker.

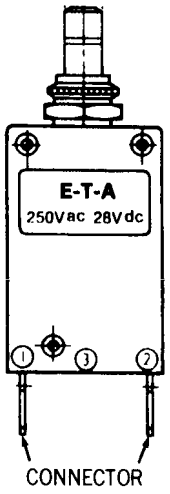


Fig. 4—Power Switch/Circuit Breaker

Restart Switch Assembly

2.05 The Restart switch assembly is located on the front panel of the Comm-Stor unit (Figs. 2 and 3). Perform the following steps to remove the Restart switch assembly.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove front panel assembly (Paragraph 2.02).

(b) Press the Restart switch out from the wire side of the front panel.

(c) To remove the Restart switch wires (2-black, 1-white) cut the harness tie strap(s). Isolate the wires at Connector P1. Insert a sharp object into the side of the connector to release the wire terminator from the connector. Pull out the wires.

(d) Reverse the procedure to replace the Restart switch assembly.

Filter Cover, Air Filter

2.06 The filter cover and air filter are located on the rear panel of the Comm-Stor unit. Perform the following steps to remove/replace these parts.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the two screws which fasten the filter cover to the rear panel.

(b) Remove the filter cover and air filter.

(c) Reverse the procedure to replace the filter cover and air filter.

Interface Panel

2.07 The Interface panel is located on the rear panel of the Comm-Stor unit. Perform the following steps to remove/replace the Interface panel.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover (Paragraph 2.01).

(b) Remove connector P1 from the EIA circuit board.

(c) Remove connector P2 from printer circuit board (printer option only).

(d) Remove the four screws from the back of the Interface panel.

(e) Reverse the procedure to replace the Interface panel.

Caution 1: When replacing cables, be sure cables are connected to the correct board.

Caution 2: Avoid bending pins when replacing connectors.

Air Deflector

2.08 Perform the following steps to remove/replace the air deflector from the Comm-Stor unit.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover (Paragraph 2.01).

(b) Remove the tie wrap which holds the deflector to the fan.

(c) Lift the deflector straight up and out of the unit.

(d) Reverse the procedure to replace the air deflector.

Fan Assembly

2.09 Perform the following steps to remove/replace the fan assembly.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the filter cover (Paragraph 2.06).

(b) Remove the air deflector (Paragraph 2.08).

(c) Remove the four screws which hold the fan in place.

(d) Disconnect the fan wire connector.

(e) Disconnect the ground wire from the chassis.

(f) Reverse the procedure to replace the fan assembly.

Restart Lamp Assembly

2.10 The Restart lamp assembly is located on the front panel of the Comm-Stor unit. Perform the following steps to remove/replace the Restart lamp.

Note: The Restart switch should not be removed to replace the lamp.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the lens cover from the Restart switch by pulling on the grooved edge.

(b) Using a lamp puller, remove the lamp from the switch.

(c) Insert the new lamp and restore the lens cap by pushing it squarely into the switch until it locks.

Power Cord Assembly

2.11 The power cord assembly is located on the rear panel of the Comm-Stor unit. Perform the following steps to remove/replace the power cord.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover (Paragraph 2.01).

(b) Locate the black, white, and green power cord wires at the rear of the chassis.

(c) Remove the white wire from the 1-wire connector.

(d) Remove the black wire from the circuit breaker.

(e) Remove the green wire from the chassis ground point.

(f) Remove the rubber grommet which holds the power cord in place at the rear of the chassis.

(g) Reverse the procedure to replace the power cord assembly.

FLEXIBLE DISK DRIVE

2.12 This section will discuss the FD 700 Flexible Disk Drive (FDD) (Sykes part #1030C3017), which is an integral part of the Sykes Comm-Stor system (Fig. 5).

2.13 The FD 700 is a small, portable, direct access, data storage device that interfaces to a host system via a control unit.

2.14 The FD 700 mechanism positions a read/write/erase head to discrete positions or tracks on the spinning diskette surface. Magnetic data is written on or read from the diskette surface by the read/write/erase head. The drive uses a single, oxide-coated Mylar disk enclosed in a sealed envelope to form a diskette.

2.15 Basically, the mechanism consists of a belt driven spindle, spindle motor, read/write/erase head mounted on a stepping motor drive mechanism for track accessing, indexing light emitting diode and phototransitor, and a printer circuit board to provide all required internal electronic functions.

2.16 The drive components are mounted in a base-enclosure with a front panel. The front panel contains a cam-operated door, mechanically linked to the disk mechanism. The door will remain stationary in the open or closed position.

FDD Removal/Replacement

2.17 Perform the following steps to remove/replace the FDD. The procedures differ for 8120A and 8220A units.

Danger: Disconnect the Comm-Stor unit from the power source.

Model 8120A

(a) Remove the top cover (Paragraph 2.01).

(b) Remove the front panel assembly (Paragraph 2.02).

(c) Remove the six retaining screws from the bottom of the chassis.

(d) Slide the drive forward approximately two inches and remove the power connector and disk drive interface cable from the rear of the drive.

(e) Remove drive from unit.

(f) Reverse the procedure for installation.

Model 8220A—Upper Drive

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover (Paragraph 2.01).

(b) Remove the front panel assembly (Paragraph 2.02).

(c) Remove the four drive mounting screws, two on each side of the drive.

(d) Slide the drive forward approximately two inches and remove the power connector.

(e) Disconnect the disk drive interface cable (J-1) from the drive board located on the rear of the drive.

(f) Remove drive from unit.

(g) Reverse the procedure for installation.

Model 8220A—Lower Drive

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the upper disk drive assembly.

(b) Remove the six retaining screws from the bottom of the chassis.

(c) Slide the drive forward approximately two inches and remove the power connector.

(d) Disconnect the disk drive interface cable and power supply connector from the drive board located on the rear of the drive.

(e) Remove drive from unit.

(f) Reverse the procedure for installation.

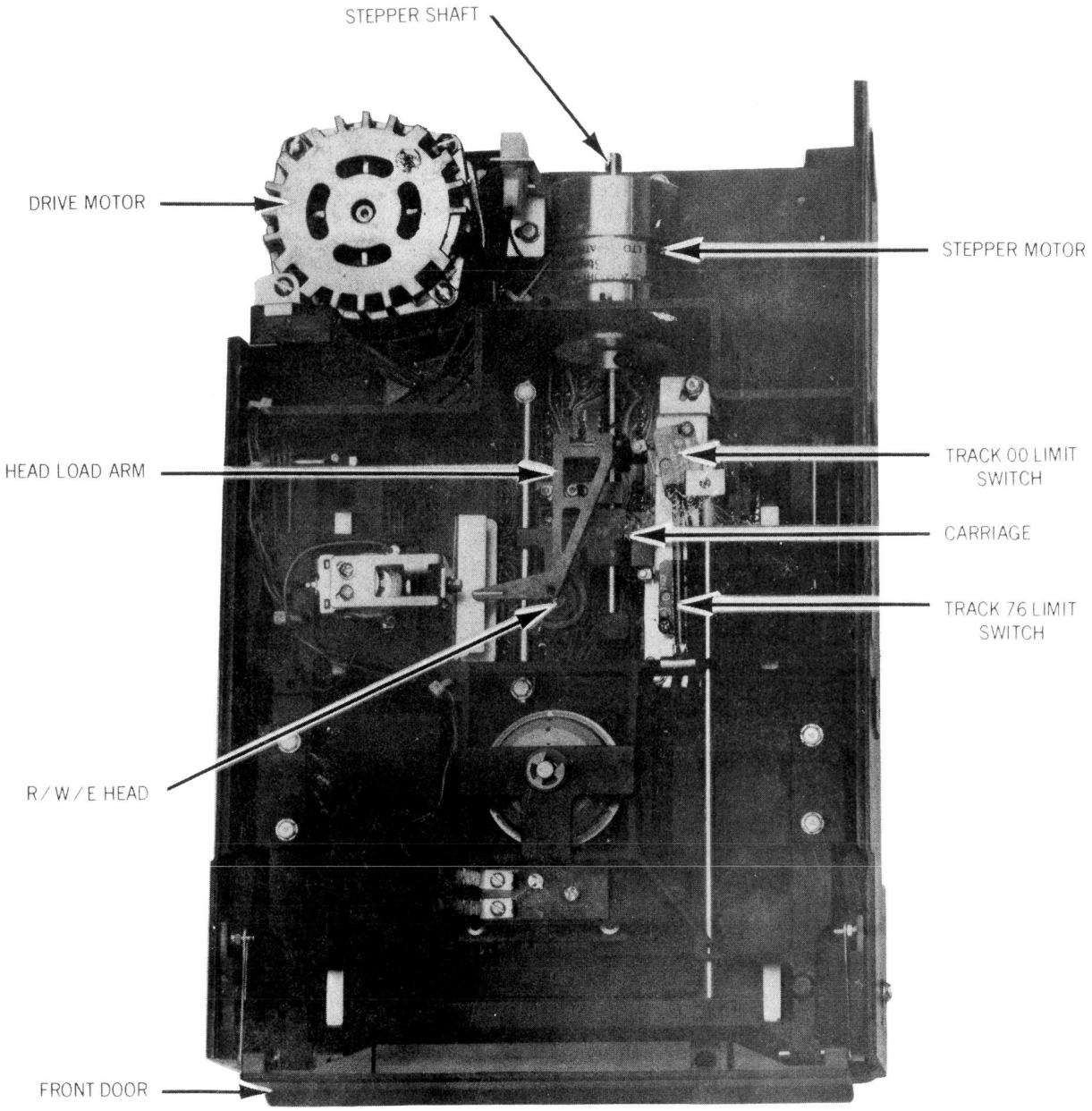


Fig. 5—Top View of FD 700

Drive Belt

2.18 Perform the following steps to remove/replace the drive belt.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the FDD from the unit (Paragraph 2.17).

(b) Remove the old drive belt by pulling it off the drive pulley.

(c) Place the new belt over the ***motor pulley*** first; then start the belt on the drive pulley, rotating the pulley by hand to work the belt into place.

(d) Reinstall the drive.

Drive Door

2.19 Perform the following steps to remove/replace the front drive door of the FDD.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover and front panel assembly (Paragraph 2.01 and 2.02, respectively).

(b) Position the head load arm to the approximate center of head load bail by turning the stepper shaft.

Caution: Do not manually force head load arm into position.

(c) Remove door stop arms from door stop pins by removing E-ring from each pin and sliding off.

(d) Swing carrier up by carefully closing front door and unlatching it from door guides.

Danger: The carrier is spring loaded; use extreme care when opening.

(e) Remove the door rollers and door stop arms.

(f) Remove the retaining rings located at the end of each door pin. Carefully remove the door and washers by sliding the door assembly to the right. Save the washers and tubing associated with the door assembly.

(g) Reverse the procedure for installation.

Head Load Pad

2.20 The head load pad is attached to the head load arm. Perform the following steps to remove/replace the head load pad.

Model 8120A

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover (Paragraph 2.01).

(b) Locate the head load pad (under head load arm) and carefully remove it by scraping it out with an Exacto knife. Be sure the entire pad is removed and the surface is clean to provide proper adhesion for the new pad.

(c) Carefully apply one drop of contact cement (Elmer's Professional) to the cleaned surface. Remove the green paper from the pad and press the white surface against the contact cement; hold in place until secure.

Caution: Take extreme care to place the pad in straight. Do not get contact cement on the surface or sides of the pad.

(d) Connect system to power source and turn power on. Insert a diskette into the drive; close the door. Using an alligator clip lead, load the head by jumping the black wire on the head load solenoid to the Comm-Stor chassis. Maintain this condition for approximately 10 minutes to allow the glue to dry.

(e) Turn the power off and disconnect the unit from the power source. Remove the jumper and diskette.

(f) From the bottom of the chassis, remove the six Phillips head screws which hold the FDD assembly to the chassis. Also remove screw located on the bottom left inside of the Front Panel assembly (Fig. 1).

(g) Without disconnecting the FDD cables, rotate the FDD on its left side so the top and bottom of the FDD are accessible.

(h) Connect a digital voltmeter or an oscilloscope between TP1 (Fig. 6) on the Drive Control circuit board and chassis ground. Set the meter to the 3 volt AC range.

(i) Turn on the power. All front panel LEDs should come on for 1 second and then go off.

(j) Load a diskette into the system.

(k) Load the head by jumpering the black wire on the head load solenoid to the chassis using an alligator clip lead.

(l) Observe the voltage at TP1; press down slightly on the head load arm. The amplitude at TP1 should not change by more than +10%. This condition can cause Read/Write errors and must be corrected as follows:

(1) Inspect the pad for any ridges. If necessary use a fine emery board and gently rub the surface of the pad to insure a flat surface.

(2) Repeat Step (1). If the condition is still not corrected, replace the head load pad and repeat the procedure.

(m) Remove the head load jumper and meter connection to TP1.

(n) Turn power off and disconnect the system from the power source.

(o) Reinstall the FDD.

(p) An alternate method of checking the pad after installation is to run the Disk Drive Verify Test (Section 578-400-500, Test and Troubleshooting) with a new diskette as follows:

(1) Set up for all tracks

(2) Set up for two attempts at reading and verifying sector identification fields.

If the drive passes this without a printout, the drive is working.

Note: An occasional READ/WRITE error may still occur because this method is not as accurate as using a voltmeter.

Model 8220—Upper Drive

(a) Remove the top cover (Paragraph 2.01).

(b) Locate the head load pad (under head load arm) and carefully remove it by scraping it out with an Exacto knife. Be sure the entire pad is removed and the surface is clean to provide proper adhesion for the new pad.

(c) Carefully apply one drop of contact cement (Elmer's Professional) to the cleaned surface. Remove the green paper from the pad and press the white surface against the contact cement; hold in place until secure.

Caution: Take extreme care to place the pad in straight. Do not get contact cement on the surface or sides of the pad.

(d) Connect system to power source and turn power on. Insert a diskette into the drive; close the door. Using an alligator clip lead load the head by jumping the black wire on the head load solenoid to the Comm-Stor chassis. Maintain this condition for approximately 10 minutes to allow the glue to dry.

(e) Turn the power off and disconnect the unit from the power source. Remove the jumper and disk.

(f) Remove front panel assembly (Paragraph 2.02). ***Do not*** disconnect the front panel wire harness.

(g) Remove 2 Phillips head screws and washers from each side of drive.

(h) Disconnect ribbon cable from connector J1 on ***lower*** drive. Rotate the FDD on its left side so that the top and bottom of the FDD are accessible.

(i) Follow steps (h)-(o) as described for Model 8120A units.

(j) Reconnect ribbon cable to connector J1 on lower drive.

(k) Install front panel assembly.

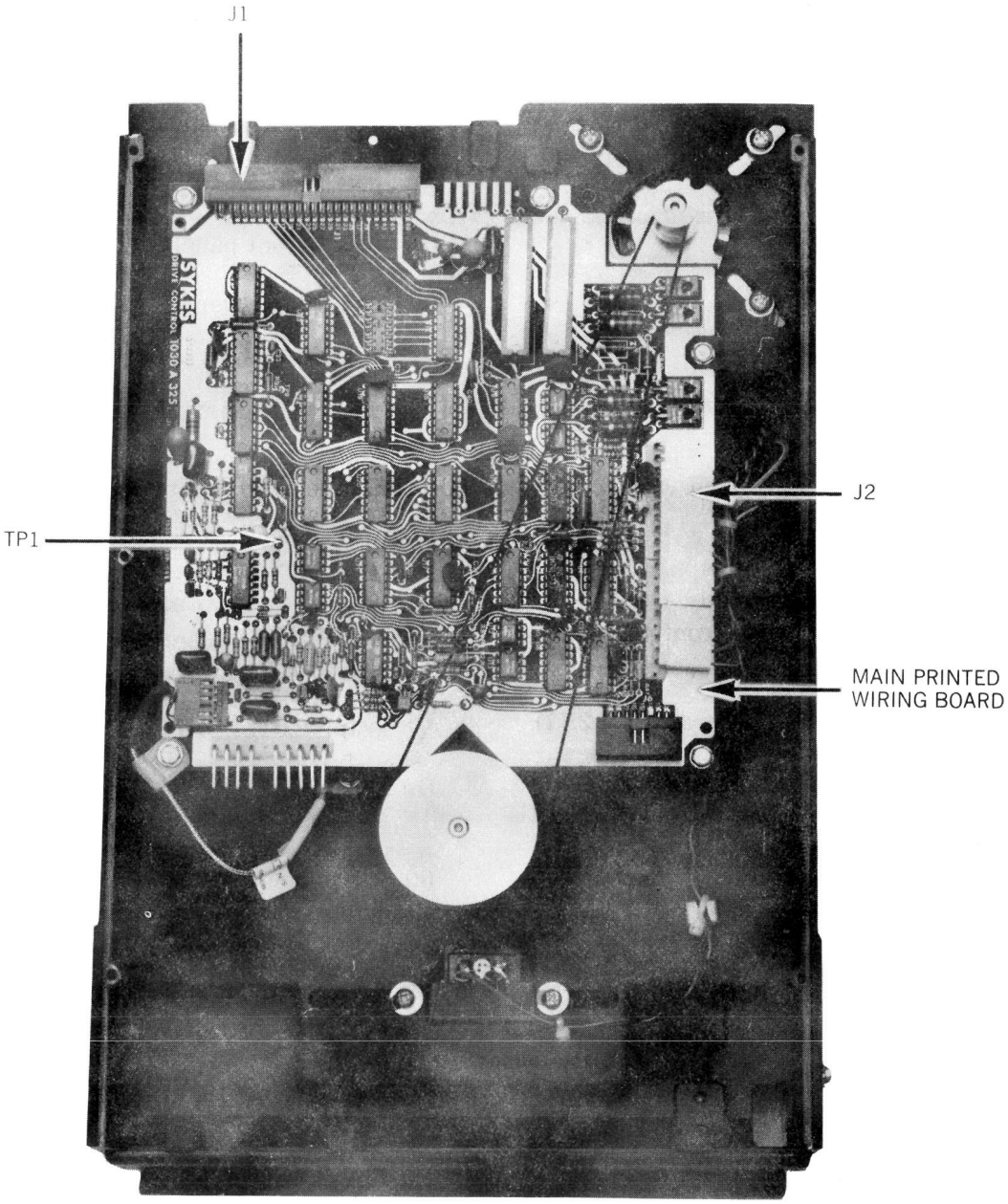


Fig. 6—Bottom View of FDD

(l) An alternate method of checking the pad after installation is to run the Disk Drive Verify Test (Section 578-400-500, Test and Troubleshooting) with a new diskette as follows:

(1) Set up for all tracks

(2) Set up for 2 attempts at reading and verifying sector identification fields.

If the drive passes this without a printout, the drive is working.

Note: An occasional READ/WRITE error may still occur because this method is not as accurate as using a voltmeter.

(m) Install top cover.

Model 8220A—Lower Drive

(a) Remove top cover.

(b) Remove front panel assembly (Paragraph 2.02). *Do not* disconnect the front panel wire harness.

(c) Remove the upper FDD (Paragraph 2.17).

(d) Locate the head load pad (under head load arm) and carefully remove it by scraping it out with an Exacto knife. Be sure the surface is clean to provide proper adhesion for the new pad.

(e) Carefully apply one drop of contact cement (Elmer's Professional) to the cleaned surface. Remove the green paper from the pad and press the white surface against the contact cement; hold in place until secure.

Caution: Take extreme care to place the pad in straight. Do not get contact cement on the surface or sides of the pad.

(f) Connect system to power source and turn power on. Insert a diskette into the drive; close the door. Using an alligator clip lead load the head by jumping the black wire on the head load solenoid to the Comm-Stor chassis. Maintain this condition for approximately 10 minutes allowing the glue to dry.

(g) Turn the power off and disconnect the unit from the power source. Remove the jumper and disk.

(h) From the bottom of the chassis, remove the six Phillips head screws which hold the FDD assembly to the chassis. Also remove screw located on the bottom left inside of the Front Panel assembly (Fig. 1).

(i) Follow steps (g)-(p) as described for Model 8120A units (page 12).

(j) Install upper FDD.

(k) Install front panel assembly.

(l) Install top cover.

POWER SUPPLY

2.21 Perform the following steps to remove/replace the power supply. The procedures differ for the 8120A and 8220A units.

Model 8120A (Fig. 7)

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover from the unit (Paragraph 2.01).

(b) Disconnect all red, black, and gray wires from the terminal block (TB1).

(c) Disconnect P1 from PS1J2 on the power supply.

(d) Remove the two power supply mounting screws accessible from the underside of the chassis.

(e) ***Very carefully*** lift the power supply out of the chassis.

(f) Reverse the procedure to replace the power supply.

Model 8220A (Fig. 8)

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover from the unit (Paragraph 2.01).

(b) Remove both the upper and lower drives (Paragraph 2.17).

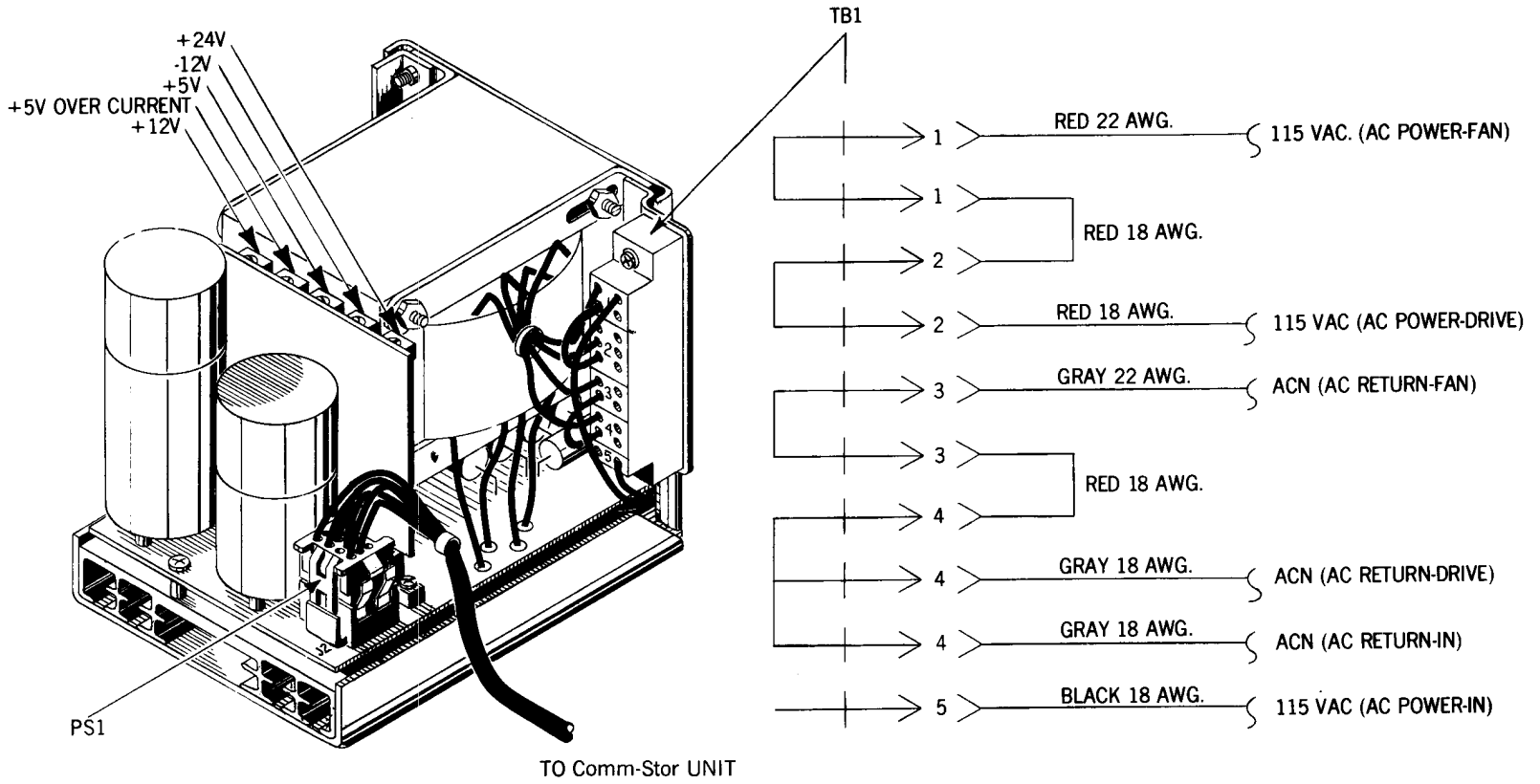


Fig. 7—Model 8120A Power Supply

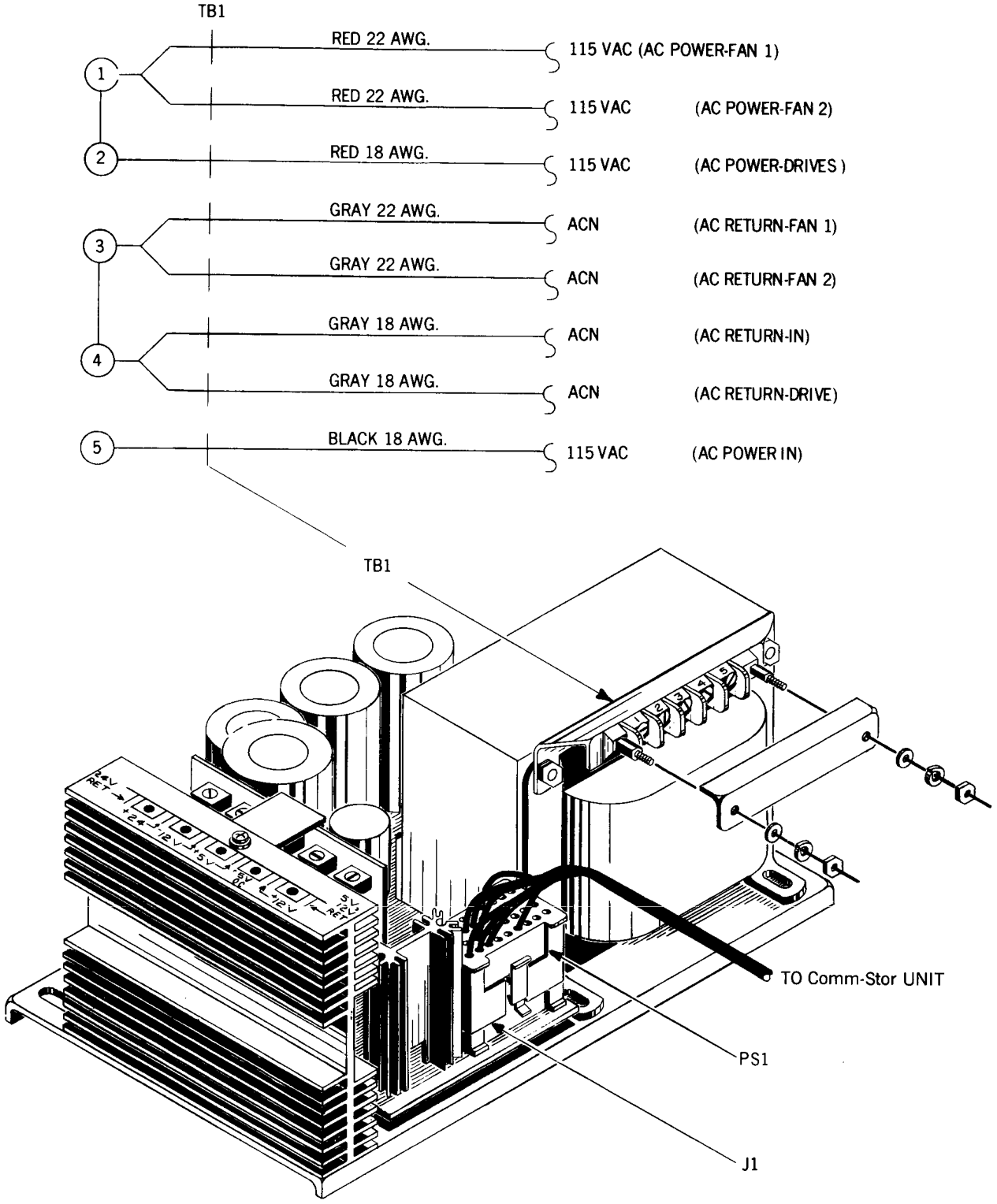


Fig. 8—Model 8220A Power Supply

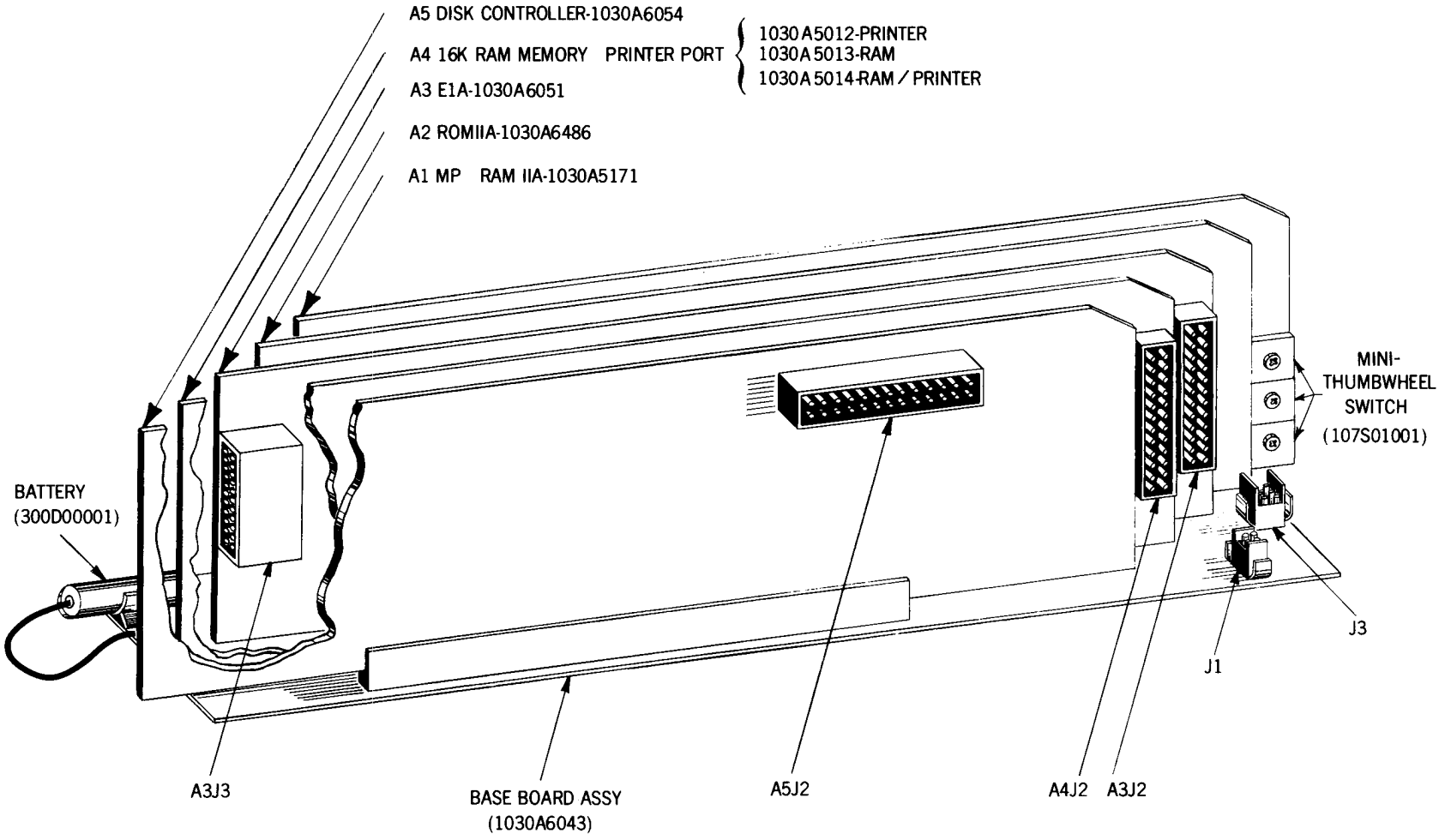


Fig. 9—System Boards

(c) Unscrew the following eight wires from the terminal block:

3 - red
4 - gray
1 - black

(d) Disconnect P1 from PS1J1 on the power supply.

(e) Remove the three nuts and washers which hold the power supply in place.

(f) ***Very carefully*** lift the power supply out of the chassis.

(g) Reverse the procedure to replace the power supply. Be careful not to pinch the AC wires of the fan motor located behind the supply.

CONTROLLER ASSEMBLY

2.22 The controller assembly for the Comm-Stor system consists of a base card and four logic boards residing in slots A1, A2, A3 and A5. Slot A4 is reserved for the Printer Port and/or Expanded RAM option.

2.23 Fig. 9 shows the base board assembly and board slot assignments for the four logic boards and the optional fifth board.

2.24 The base board assembly is a printed circuit card which utilizes five card connectors. Each card connector utilizes dual position connectors and is ***keyed*** to eliminate the possibility of inserting a card backwards.

2.25 The base board is wired to utilize a bus concept, meaning any board can be inserted into any connector for test purposes. However, because of physical clearances, it is recommended that the logic boards be inserted into their factory assigned slots.

2.26 A 4.5-volt alkaline battery and connector are also located on the base card.

Circuit Boards

2.27 Perform the following steps to remove/replace one or more of the circuit boards.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover (Paragraph 2.01).

(b) Remove the two screws which fasten the circuit board retainer.

(c) Remove the circuit board retainer.

(d) All circuit boards can be removed from the base board assembly. However, the following precautions must be observed:

(1) Microprocessor (MP-RAM) board removal requires moving the Interface Panel Assembly (Paragraph 2.07) on the rear of the unit to provide clearance for the baud rate switches as the MP-RAM board is removed from the base board.

(2) Disconnect on-board connectors before removing Printer board, EIA board, or Disk Control board.

Base Board Assembly

2.28 Perform the following steps to remove/replace the base board assembly.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove all circuit boards (Paragraph 2.27).

(b) Remove the front panel assembly (Paragraph 2.02).

(c) Remove the battery (Paragraph 2.27).

(d) Remove the nylon posts by removing corresponding screws on the bottomside of the chassis.

(e) Remove the power supply connector located on the rear of the base board.

(f) Remove the screw and spacer located near the power supply connector.

(g) The base board can be slid forward until it has been removed from its track.

(h) Reverse the procedure to replace the base board assembly.

Battery

2.29 The battery is attached to the base board assembly (Fig. 9). Perform the following steps to remove/replace the battery.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover (Paragraph 2.01).

(b) Remove the tape and battery connecting clips.

(c) Carefully pop the battery out of its holder.

(d) Reverse the procedure to replace the battery.

The Forms ROM

2.30 The Forms ROM IC is located on the ROM II circuit board. Perform the following steps to remove/replace the Forms ROM.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover (Paragraph 2.01).

(b) Remove the ROM II circuit board which is normally located in slot A2 (Paragraph 2.27).

(c) Using an IC removal and insertion tool, *carefully* remove the ROM located in position C3.

(d) Carefully insert the Forms ROM into position C3. Make certain that no pins are bent and the IC key is where the socket key indicates.

(e) Insert the ROM II board into the slot.

(f) Replace the board retainer and top cover.

Mini-Thumbwheel Switch

2.31 The mini-thumbwheel switches are located on the rear panel of the Comm-Stor unit. Perform the following steps to remove/replace one or more mini-thumbwheel switches.

Danger: Disconnect the Comm-Stor unit from the power source.

(a) Remove the top cover (Paragraph 2.01).

(b) Remove the MP/RAM board located in position A1 (Paragraph 2.27).

(c) Remove the nut, washer, and screw from the thumbwheel switch and pull off switch.

(d) Install the new thumbwheel switch, making sure the two plastic pins on the bottom of the switch fit into holes on the board. Secure with hardware.

(e) Replace the MP/RAM board into A1.

(f) Replace I/O panel, board retainer, and top cover.

3. PARTS

3.01 Table A lists all parts described in Part 2 of this document.

TABLE A

PARTS LIST

PART NUMBER	DESCRIPTION	PARAGRAPH NUMBER
100D21004	Lamp-wedge base	2.10
102F00003	Power Switch/Circuit Breaker Assembly	2.04
102M02003	Air Filter	2.06
1030A3241	Front Door Assembly	2.19
1030A5012	Printer Port Board Assembly	2.27
1030A5013	Expanded RAM Board Assembly	2.27
1030A5014	Printer Port/Expanded RAM Board Assembly	2.27
1030A5032	Front Panel Assembly, 8120A	2.02
1030A5052	Front Panel Assembly, 8220A	2.02
1030A5070	Restart Switch	2.05
1030A5073	Power Cord Assembly	2.11
1030A5171	IIA MP/RAM Board Assembly	2.27
1030A6022	Power Supply, 8120A	2.21
1030A6043	Base Card Assembly	2.28
1030A6051	EIA Interface Board Assembly	2.27
1030A6054	Disk Interface Board Assembly	2.27
1030A6057	Fan Assembly	2.09
1030A6063	LED Assembly, Front Panel	2.03
1030A6291	Interface Panel, 3 Port	2.07
1030A6486	ROM IIA Board Assembly	2.27
1030B3110	Head Load Pad	2.20
1030B3191	Drive Belt	2.18
1030B6202	Top Cover, 8120A	2.01
1030B6212	Top Cover, 8220A	2.01
1030B6470	Forms Option ROM	2.30
1030C3013	FD 700 Disk Drive Assembly	2.17
1050A0290	Power Supply, 8220A	2.21
107S01001	Mini-Thumbwheel Switch	2.31
300D00001	4.5-Volt Battery	2.29