

# **DEC Datasystem Installation Manual**

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## PREFACE

This manual provides the information needed to install the H9500 series cabinet, either standalone or multi-cabinet systems. The appendix contains detailed drawings and part numbers for many of the cabinet sub-assemblies. For a list of the drawings, refer to page iv. The appendix had been published previously as the *DEC Datasystem Supplementary Installation Guide* (ED-DDSS-IN-001); it will no longer be published separately.

## PREFACE

This book is a preliminary and tentative attempt to present a survey of the present state of knowledge in the field of the history of the United States. It is not a history of the United States, but a survey of the present state of knowledge in the field of the history of the United States. It is not a history of the United States, but a survey of the present state of knowledge in the field of the history of the United States.

## CHAPTER 1 INTRODUCTION

### 1.1 HANDLING

The cabinet has shock-isolating casters, and therefore will arrive without a shipping skid. Because the cabinet is top heavy, a forklift should *not* be used when moving it. However, if it is absolutely necessary to use a forklift, insert it from the front or back of a double-width cabinet, or from the side of a single-width cabinet. Only one tine of a forklift will fit under a single-width cabinet; therefore, take care to support and balance the cabinet before moving it.

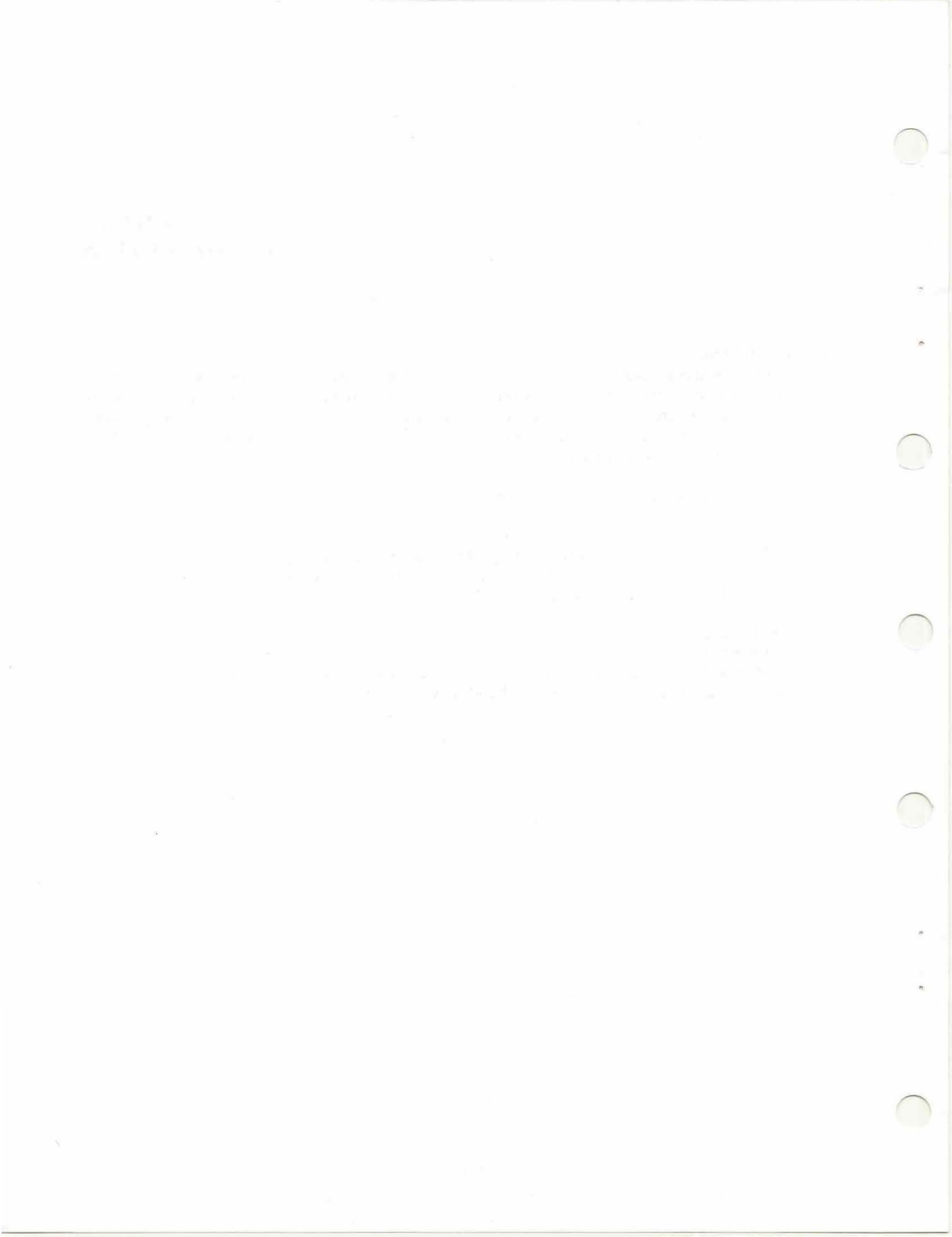
Do not remove the wheel locks unless absolutely necessary (refer to figure A-5).

#### CAUTION

The cabinet's high center of gravity must be kept in mind whenever moving it. It may become unstable when tilted more than 10 degrees.

### 1.2 INSPECTION

Visually inspect the cabinet carefully for possible shipping damage. Check the packing list enclosed with the cabinet for lost or missing items. Report any damaged items to the Field Service branch supervisor and to the local carrier. Report missing items to Field Service Logistics.





## CHAPTER 2 INSTALLATION

### 2.1 REQUIRED TOOLS

Tools required for installation are listed below.

1. 1.43 cm (9/16 in.) wrench or adjustable wrench
2. Phillips screwdriver
3. Thin-bladed tool, such as a metal ruler
4. Spirit level (optional)
5. Spanner wrench, i.e., rear door opening tool supplied with CPU cabinet (Figure 2-1) (DEC 12-13091)
6. Hex Key wrench (5/32 in.), rear door opening tool

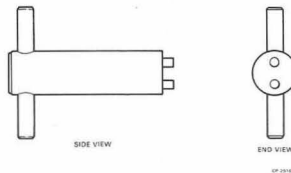


Figure 2-1 Rear Door Opening Tool  
(DEC 12-13091)

### 2.2 CABINET DISASSEMBLY

The following steps explain removing the cabinet's outer panels and how to install the interlock system. Steps one and two are necessary for all cabinets. Steps three through five, describing removal of the remainder of the cabinet's outer panels, are necessary when two (or more) cabinets are bolted together.

#### NOTE

Ground straps (10 gauge stranded wire) connect the front panel, end panels, and rear door to the frame of the cabinet. To remove a panel, separate the panel from the frame (see following procedure), disconnect the ground strap, then completely remove the panel.

## 1. Remove Front Panel.

There are two variations of the front panel. One is 85 cm (28 in) high and has an array of vertical slots across its front. Approximately 2.54 cm (1 in) behind the last slot at each end of the array is a quick release latch. Release the panel by inserting a thin-bladed tool, such as a thin ruler into one of the end slots, while pulling the corner of the panel away from the cabinet. Release the other top corner in the same manner and lift the front panel up and off the two tabs on the front of the cabinet.

The second variation is 30 cm (12 in) high and, instead of an array of slots, has two 1/4 inch diameter holes. In the same manner as above, insert a tool into each hole and lift the front panel off the two tabs on the front of the cabinet.

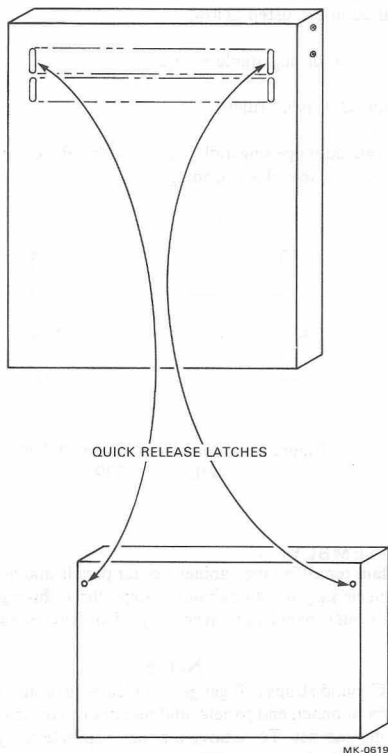


Figure 2-2 Quick Release Latches

## 2. Stabilizer Arm and Mechanical Interlocks.

Each cabinet has two mechanical interlock rods, one located in the middle of each front vertical upright, positioned over a stabilizer arm channel (Figure 2-3). To remove the stabilizer arm, untape it and, reaching into the cabinet, lift the interlock rod while sliding the arm completely out of its channel. Screw a leveler foot (shipped loose piece) into the end of each arm (Figure 2-4). Refer to figure A-2 for part numbers.

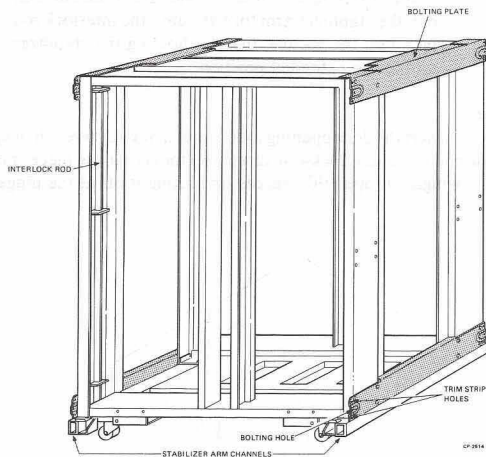


Figure 2-3 Cabinet Frame, Front View

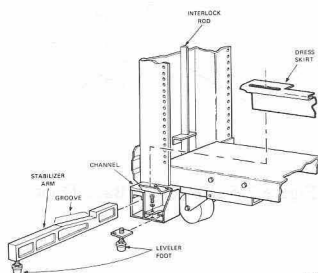


Figure 2-4 Leveler Foot and Stabilizer Arm

Install the stabilizer arm by lifting the interlock rod while sliding the arm into its channel until the rod is able to rest in the groove at the top of the arm. Now lower the leveler foot on each arm until it touches the floor, but still slides easily along the floor.

#### NOTE

Before extending a sliding device from the cabinet, pull the stabilizer arm forward until the interlock rod falls into the groove, thereby holding the stabilizer arm in the extended position.

### 3. Remove Rear Door.

To unlock the rear door, insert the door opening tool, either a hex key wrench or spanner wrench (Figure 2-1) and turn it 1/4 turn in a counterclockwise direction (tool is a loose piece shipped with the cabinet). Remove the door by swinging it open 90 degrees and lifting it off at the hinges (Figure 2-5).

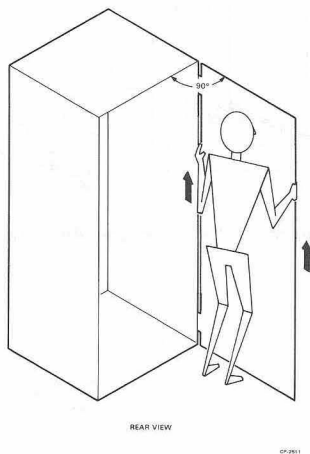


Figure 2-5 Removing Back Door

#### 4. Remove Top Cover.

Reach into the cabinet and find the fastener on the underside of the top cover. It is located as shown in Figure 2-6. If hard-mounted equipment is blocking access to the fastener, the fastener was not installed. If slide-mounted equipment is blocking access, pull the stabilizer arms out into the lock position, remove shipping brackets, and slide out the equipment.

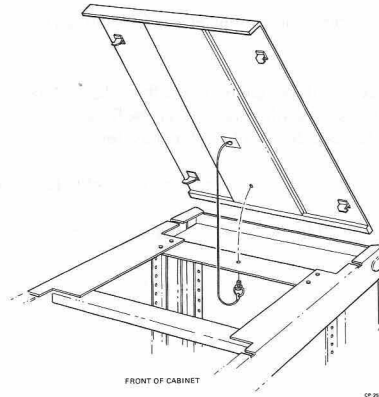


Figure 2-6 Top Cover Fastener

Release the top cover by turning the fastener  $1/4$  in a counterclockwise direction. When released, the fastener will hang from the cover support by a wire. Push the top cover forward about 1.27 cm ( $1/2$  in). Walk to the front of the cabinet and lift off the cover.

#### 5. Remove End Panels.

Remove each end panel by grasping it on both sides and lifting.

## 2.3 CABINET LEVELING

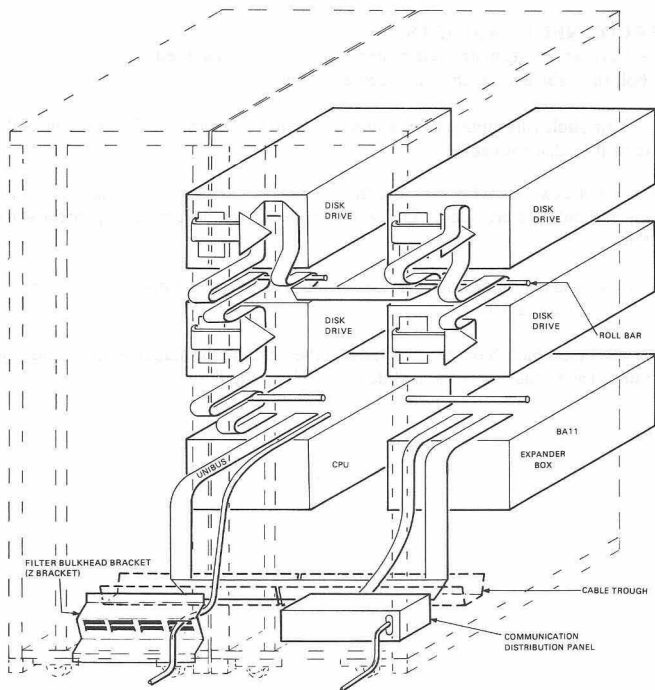
Due to weight differentials and a self-contained shock mount, the cabinets must be leveled at the time of installation. Proceed as follows to level them. (In a multi-cabinet system, push the cabinets into adjacent positions before leveling.)

1. Install the leveler feet (shipped loose piece) into the cabinet frame (Figure 2-4).
2. Using a 1.43 cm (9/16 in) wrench, lower the leveler feet until all four on each cabinet contact the floor.
3. Adjust the cabinet until most of its weight is shifted from the casters to the leveler feet. Due to the shock-isolating system, the casters will always touch the floor even when all of the cabinet's weight is transferred to the leveler feet. In a multi-cabinet system, adjust the highest cabinet first.
4. Using a spirit level, adjust the leveler feet until the cabinet is level (optional).
5. Adjust the adjacent cabinets to the level of the highest cabinet.

## 2.4 INTERCONNECT CABINETS

Each cabinet has four bolting plates: one on each upper and lower side edge (refer to Figure 2-3 and Figure A-10). To bolt the cabinets together, proceed as follows.

1. The bolting hole (the middle hole) at the end of each plate should align with the bolting hole on the plate of the adjacent cabinet.
2. Insert a 1/4-20x1/4 in. Lg. bolt into the lined-up bolting plate holes, add a kep nut, and tighten. (Bolts and nuts are provided.) This will provide a good horizontal alignment across the cabinet system.
3. Front, top, and rear filler strips are shipped loose piece with multi-cabinet systems. Attach them as shown in Figure A-10.
4. After all the cabinets have been bolted together, extend the stabilizer arms and adjust the leveler feet until each touches, but still slide easily along the floor.



MC-0255

Figure 2-7 Typical Datasystem Cabling Scheme

(Rear view of cabinets with components pushed out halfway; roll bar is at front of cabinet.)



## 2.5 CABLING

Many features of the H9500 series cabinet were designed for the efficient use of cabling techniques aimed at reducing the possibility of cable damage and improving serviceability and appearance (Figure 2-7). At the center bottom of each cabinet is a cable trough that holds cables running horizontally within and between cabinets. Another aid in the arrangement of cables is the rod and tube assembly known as a "roll bar." Cables running vertically between devices within the same cabinet should be draped around the roll bar. This ensures that the cable will be long enough when the device is extended for servicing. Signal cables exiting a cabinet containing a central processing unit (CPU) pass through a filter bulkhead bracket. If the system includes a communications multiplexer, cables to the terminals exit the cabinet through the communications distribution panel. (The connection of cables between components requires no special tools.)

### NOTE

All cables should exit the cabinet in the space between the frame and the back door. NOT through the bottom of the cabinet (Figure 2-8).

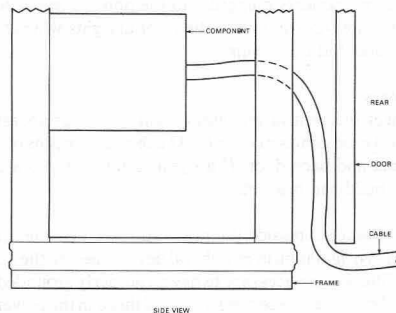


Figure 2-8 Cable Exit From Cabinet

### 2.5.1 Internal Signal Cables

Internal signal cables such as the RK05 disk drive bus, wrap around a roll bar as they run vertically between components. Figure 2-7 shows the position of the roll bars in a pair of single cabinets. This drawing also shows a cable trough containing internal signal cables that run horizontally across the bottom of the cabinet.

### 2.5.2 AC Power Cables

Three types of cables relating to ac power are used in these systems: external ac line cords, internal ac power cords, and power control signal cables. Each cabinet has an ac line cord that connects the power control to an outside ac power source. This cable exits the single and double cabinet from a specific location (Figure 2-9) and drops between the cabinet frame and the back door.

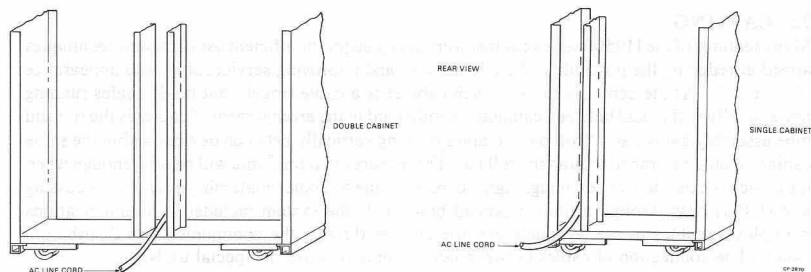


Figure 2-9 Exit of AC Line Cord

Each device in the cabinet that requires ac power plugs into an outlet on the power control box at the lower front of the cabinet. The power control signal cable starts at the power on/off switch on the initializer panel of the CPU cabinet and connects each power control box in the system in series. Therefore, when the system is powered up, all the components plugged into the power control boxes start at the same time. These round, thin, gray cables are tie-wrapped to the front uprights whenever possible in order to keep them out of the way of slide-mounted equipment.

### 2.5.3 External Signal Cables

External signal cables connect the central processing unit to its peripheral devices (i.e., line printers, teleprinters, video terminals). These cables exit the CPU cabinet by means of a filter bulkhead bracket and then drop between the cabinet and back door. If a signal cable includes a static suppression filter, the filter is attached to the filter bulkhead bracket.

**Static Suppression Filters** - Static suppression filters are attached to some external signal cables to divert and dissipate energy wavefronts originating in peripheral devices before they can disrupt the CPU or main memory. When using in-line filters, it is necessary to have a properly grounded system providing a path for the static energy to dissipate. The system receives its ground through the power cord, which is connected to a properly grounded receptacle. A good RF connection must be made between the power control and the cabinetry.

To install the filter bulkhead bracket properly, insert a screw through both surfaces and install the appropriate size keep nut (or lockwasher and regular nut) and tighten. (Refer to the appendix for part numbers.) Tinnerman nuts should NOT be used because they do not contain lockwashers and limit the mating conductive surface area to that of the nut itself. Use a Tinnerman nut, with a lockwasher under the head of the bolt, only if no other parts are available.

Good installation procedures are necessary in order to benefit from using in-line filters. Signal and power cables should be separated as much as possible. Cables connected to the in-bound side of a filter should be separated from cables connected to the out-bound side of the filter.

The Massbus connects the CPU to large disk drives. Because of the large diameter of the Massbus, a mounting panel and zero insertion force connector were designed to hold it at right angle as it exits the cabinet (Refer to figure A-21 for part numbers.) The Massbus connector mounting panel is in the lower portion of the rear uprights of the CPU cabinet (on the right side when in a double-width cabinet).

### 2.5.4 Typical Cabling Configurations

Figures 2-10 through 2-14 show typical system configurations and their cabling arrangements.

### 2.6 CABINET REASSEMBLY

To reassemble each cabinet (refer to the appendix for part numbers):

1. Add the front vertical trim strip.
2. Hook the dress skirt (shipped loose piece) over each tab at the lower front corners of the cabinet (Figure 2-4).
3. Remount the panels and doors in the same way as they were removed. Proceed in this order.
  - a. End Panels
  - b. Top Cover
  - c. Rear Door
  - d. Front Panel

#### NOTE

Reconnect all ground straps.

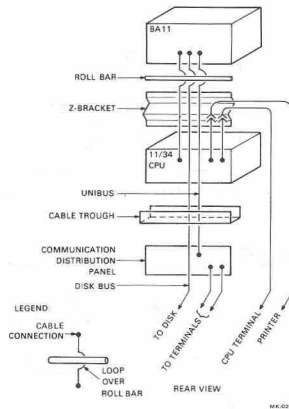


Figure 2-10 Datasystem 530 Cabling Diagram  
Free-Standing Disk, Basic Configuration

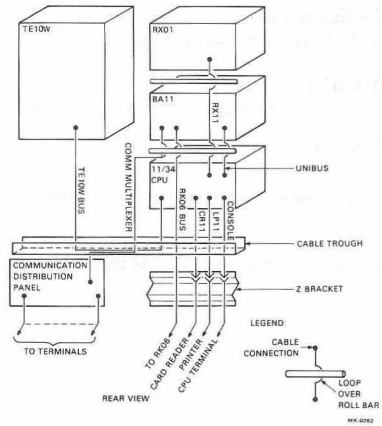


Figure 2-11 Datasystem 530 Cabling Diagram  
Free-Standing RK06 Disk with TE10W Configuration

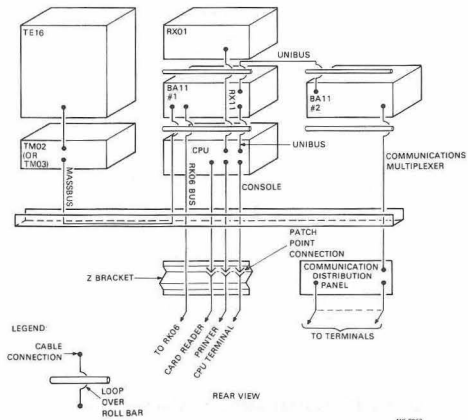


Figure 2-12 Datasystem 530 Cabling Diagram  
Free-Standing RK06 Disk with TE16 Configuration

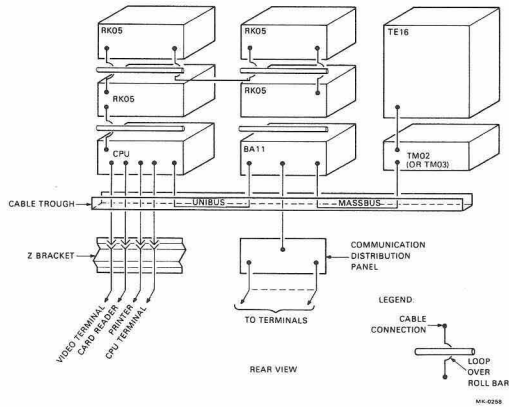


Figure 2-13 Datasystem 534 TE16 Configuration

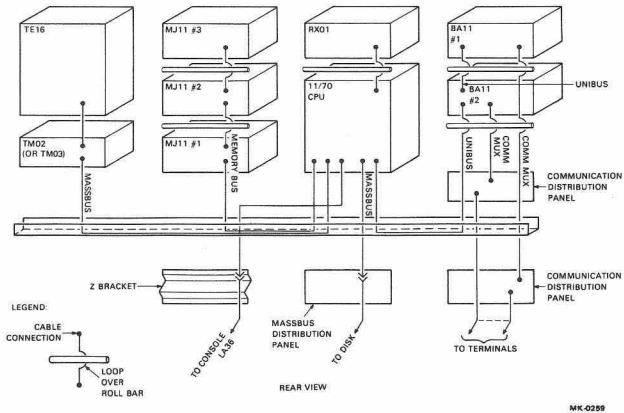


Figure 2-14 Datasystem 570 Cabling Diagram



Diagram of the engine mechanism (Fig. 1)



Diagram of the engine mechanism (Fig. 2)

## CHAPTER 3 ACCEPTANCE AND TEST PROCEDURES

It is the responsibility of DIGITAL's Field Service group to install the equipment at the customer's site and to see that it runs at an acceptable level (free from errors). Prior to installation, the salesman and the Field Service representative should call on the customer to ensure that the location, wiring, and air conditioning are adequate for the equipment to be installed.

After the system is installed, the Field service representative will run diagnostics for each component of the machine. Each will be tested according to the acceptance procedure specified in its installation manual. Individual diagnostics must run longer if there are any errors. Diagnostics are available for each of the following devices.

- Processors
- Memory
- Bootstrap loaders
- Card readers
- Communication devices
- Processor options
- Line printers
- Paper tape readers
- Disks
- DECTape
- Video devices

DECX11 is currently the Field Service exerciser that checks maximum system hardware throughput in a worst-case situation. However, it has been found that one of the best exercises for any given machine is to run the customer's operating system. These operating systems should be run substantially longer than the individual diagnostics; the minimum run time should be 2 to 3 hours.

### NOTE

These are recommendations only, and usage will vary depending on system, type, size, etc.

There is a continuing effort by DIGITAL to improve diagnostics and increase the reliability of our customer's machines. As new diagnostics are developed, the Field Service group will distribute them to the field organization.

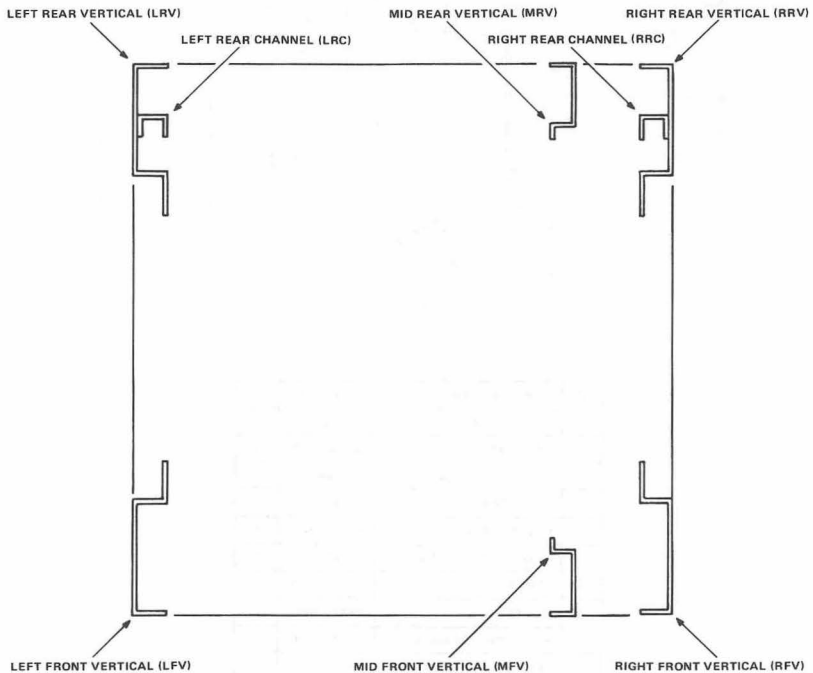
Once the field engineer and the customer are satisfied that the machine is working correctly, the customer is required to sign an acceptance form. It is recommended that some of the customer's software be run on the equipment before it is considered in good running condition.





## APPENDIX FIELD REPLACEABLE PARTS

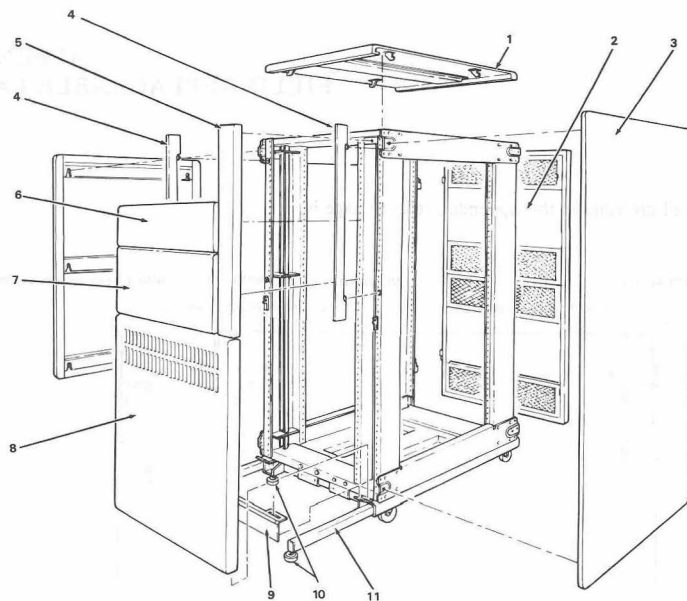
For a list of all drawings in this appendix, refer to page iv.



MA-0362

**NOTE** Use this drawing with the unit hole location charts.

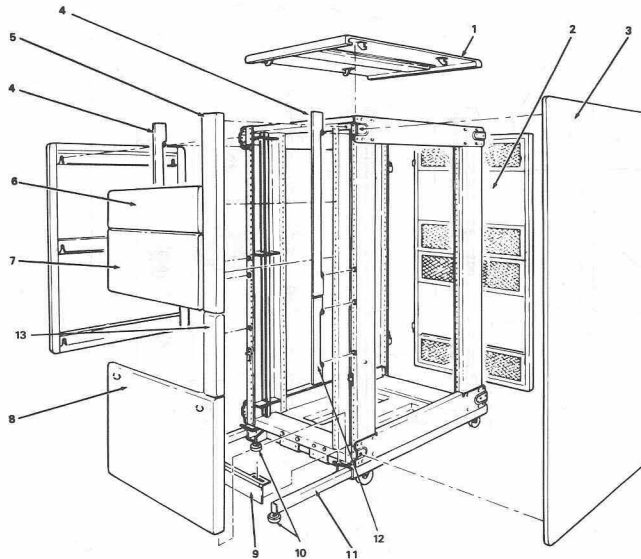
Figure A-1 H9500 Cabinet - Top View



11	STABILIZER ARM	74-14087-0-0	2
10	LEVELER FOOT	90-00022-01	6
9	DRESS SKIRT	12-14810-00	1
8	FRONT COVER, 28 in.	70-12249-01	1
7	FILLER PANEL, 10 1/2 in.	74-15314-00	1
6	FILLER PANEL, 5 1/4 in.	74-15313-00	1
5	FILLER PANEL, 26 1/2 in.	74-15771-03	1
4	TRIM STRIP	70-11638-00	2
3	END PANEL	70-11509-00	2
2	REAR DOOR, 16 louvers	70-14175-00	1
2	REAR DOOR, 8 louvers	70-12244-00	1
1	TOP COVER	70-11552-01	1
ITEM	DESCRIPTION	DWG. PART NO.	QTY.

MK-0578

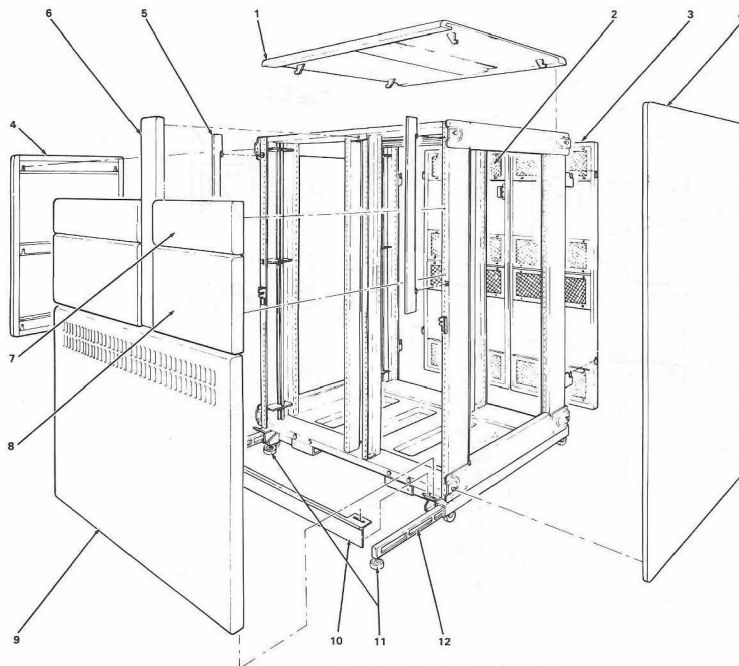
Figure A-2 H9502 Single-width Hiboy Cabinet with 28 Inch Front Cover



13	FILLER PANEL, 15 3/4 in.	74-15771-01	1
12	TRIM STRIP	1212964-00	2
11	STABILIZER ARM	74-14087-0-0	2
10	LEVELER FOOT	90-00022-01	6
9	DRESS SKIRT	12-14810-00	1
8	FRONT COVER, 12 in.	70-15709-00	1
7	FILLER PANEL, 10 1/2 in.	74-15314-00	1
6	FILLER PANEL, 5 1/4 in.	74-15313-00	1
5	FILLER PANEL, 26 1/2 in.	74-15771-03	1
4	TRIM STRIP	70-11638-00	2
3	END PANEL	70-11509-00	2
2	REAR DOOR, 16 louvers	70-14175-00	1
2	REAR DOOR, 8 louvers	70-12244-00	1
1	TOP COVER	70-11552-01	1
ITEM	DESCRIPTION	DWG PART NO.	QTY.

MK-0616

Figure A-3 H9502 Single-width Hiboy Cabinet with 12 Inch Front Cover



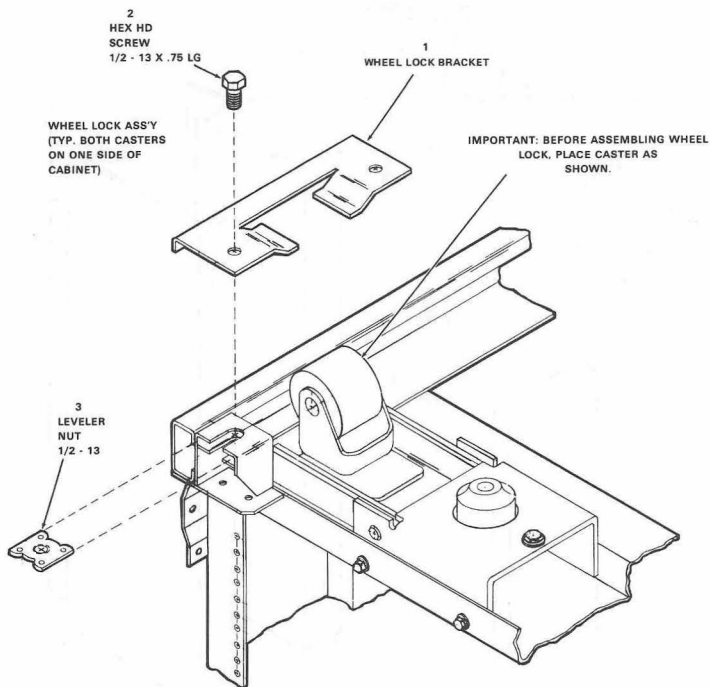
Replaceable Rear Door Filters

DOOR TYPE	FILTER PART #
8 LOUVER DOOR	12-13096-00
16 LOUVER DOOR	RT HD - BOTTOM
	12-12035-01
	TOP
	12-12035-02
LT HD - BOTTOM	12-12035-01
	TOP
	12-12035-03

12	STABILIZER ARM	74-14087-0-0	2
11	LEVELER FOOT	90-00022-01	6
10	DRESS SKIRT	12-14810-01	1
9	FRONT COVER, 28 in.	70-12221-01	1
8	FILLER PANEL, 10 1/2 in.	74-15314-00	2
7	FILLER PANEL, 5 1/4 in.	74-15313-00	2
6	FILLER PANEL, 26 1/2 in.	74-15771-03	1
5	TRIM STRIP	70-11638-00	2
4	END PANEL	70-11509-00	2
3	LEFT DOOR, LT HD, 16 louvers	70-14306-00	1
3	REAR DOOR, 8 louvers	70-12245-00	1
2	REAR DOOR, RT HD, 16 louvers	70-14346-00	1
2	REAR DOOR, 8 louvers	70-12246-00	1
1	TOP COVER	70-11552-00	1
ITEM	DESCRIPTION	DWG PART NO.	QTY

Figure A-4 H9500 Double-width Hiboy Cabinet

MK-0582



3	LEVELER NUT	9008878-00	1
2	HEX HD. SCREW	9000043-02	1
1	WHEEL LOCK BRACKET	7417593-0-0	1
ITEM	DESCRIPTION	DWG PART NO.	QTY

MK-0572

Figure A-5 Wheel Lock Assembly

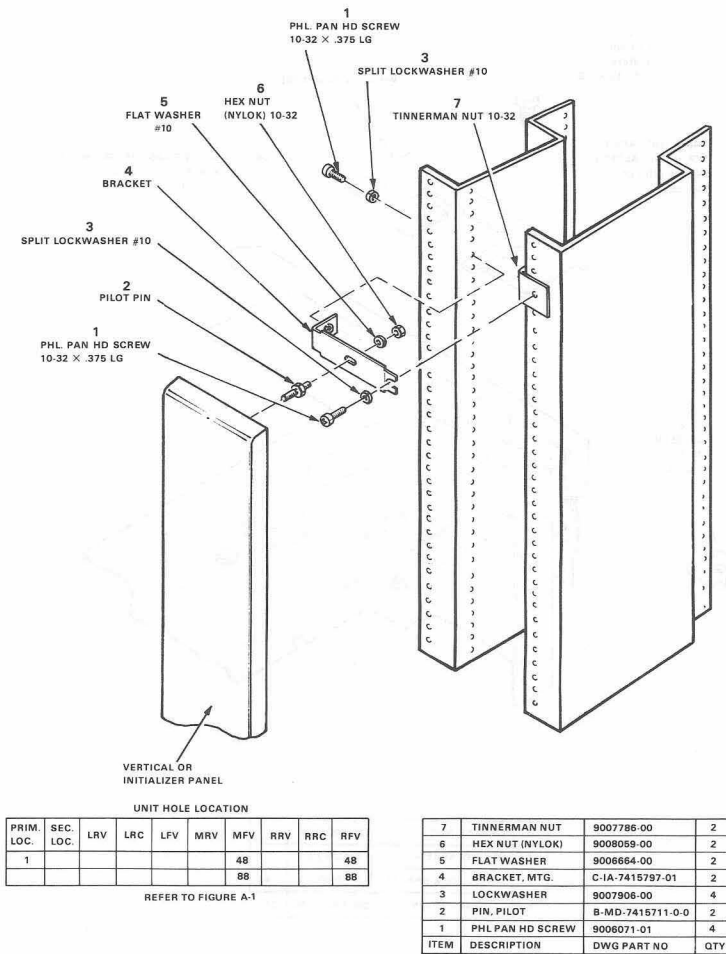
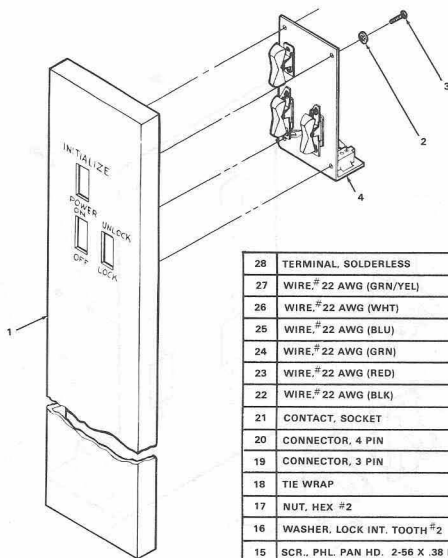


Figure A-6 Vertical Panel for Single-width Hiboy Cabinet (H9602)



NOTES:

1. INSTALL SWITCHES (ITEM 5) SO KNOB IS ACTIVATED DOWNWARD AGAINST MOMENTARY SPRING.
2. WIRE (ITEM 27) IS TO BE 12.0 INCHES LG.

28	TERMINAL, SOLDERLESS	9007930-00	1
27	WIRE, #22 AWG (GRN/YEL)	9107400-54	A/R
26	WIRE, #22 AWG (WHT)	9107350-98	A/R
25	WIRE, #22 AWG (BLU)	9107350-66	A/R
24	WIRE, #22 AWG (GRN)	9107350-55	A/R
23	WIRE, #22 AWG (RED)	9107350-22	A/R
22	WIRE, #22 AWG (BLK)	9107350-00	A/R
21	CONTACT, SOCKET	1209379-03	6
20	CONNECTOR, 4 PIN	1209350-04	1
19	CONNECTOR, 3 PIN	1209350-03	1
18	TIE WRAP	9007031-00	A/R
17	NUT, HEX #2	9006555-00	4
16	WASHER, LOCK INT. TOOTH #2	9006631-00	4
15	SCR., PHL. PAN HD. 2-56 X .38 LG	9006003-01	4
14	WASHER, FLAT #2	9008877-00	4
13	SPACER	B-MD-7414319-0-0	4
12	ROCKER	1205317-08	3
11	SWITCH, LATCH	C-MD-7414321-0-0	1
10	SWITCH, HASP	C-MD-7414322-0-0	2
9	WASHER, LOCK # 4	9006688-00	6
8	NUT, HEX 4-40	9009280-00	6
7	SCR., PHL. FLAT HD. 4-40 x .312 LG	9006010-02	6
6	SWITCH D.P.D.T.	B-MD-7411297-2-0	1
5	SWITCH S.P.S.T.	B-MD-7411299-1-0	2
4	BRACKET, SWITCH	D-MD-7417030-0-0	1
3	SCR., PHL. PAN HD. 6-32 X .25 LG	9006020-01	4
2	WASHER, SPRING LOCK #6	9007801-00	4
1	BEZEL, VERTICAL w/S.S.	D-IA-7417670-0-0	1
ITEM	DESCRIPTION	DWG/PART NO.	QTY

MK-0573

Figure A-7 Initializer Panel (1 of 3)

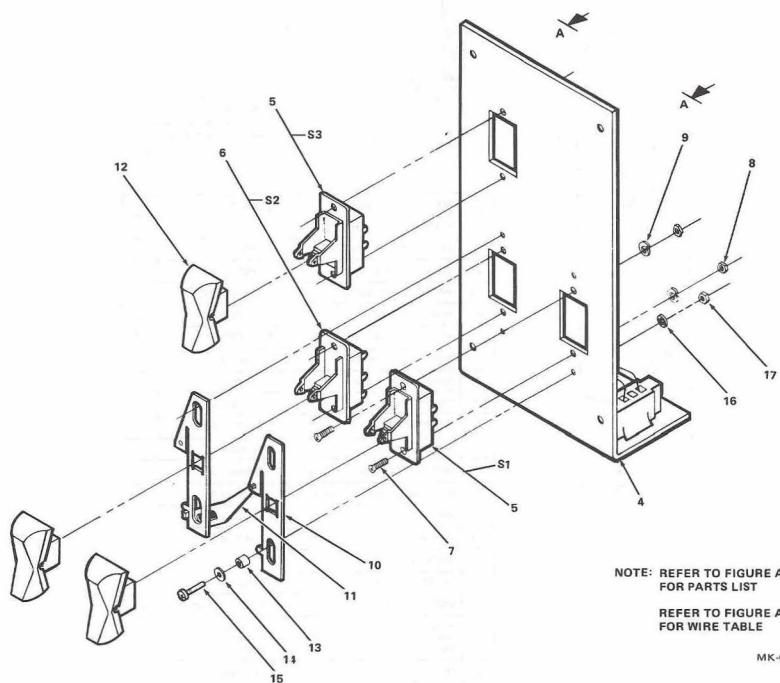
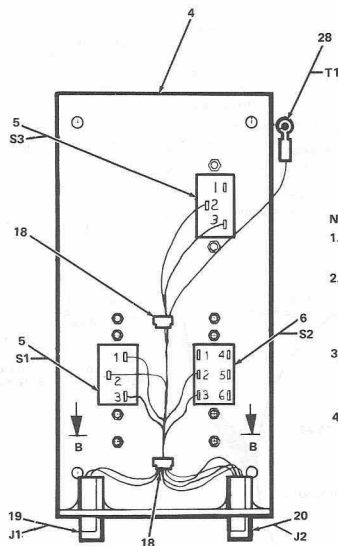


Figure A-8 Initializer Panel (2 of 3)



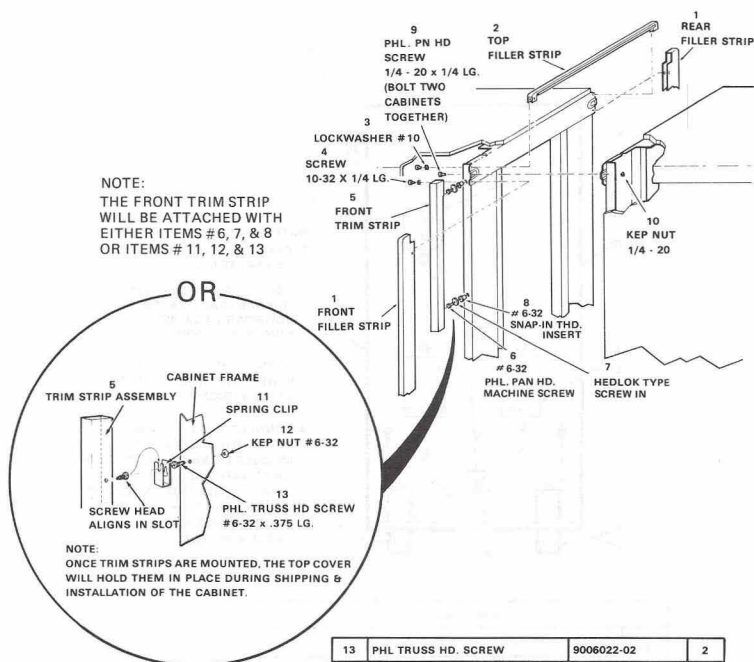


- NOTES:**
1. REFER TO FIGURE A-6 FOR PARTS LIST
  2. INSTALL SWITCHES (ITEM 5) SO KNOB IS ACTIVATED DOWNWARD AGAINST MOMENTARY SPRING.
  3. CONNECT J1 TO THE DEC POWER CONTROL BUS USING CABLE #7008288
  4. CONNECT J2 TO TP2 AND TP3 OF THE M9301 BOOT MODULE USING CABLE 7013519; OR CONNECT J2 TO TP1 (BLACK WIRE) AND TP2 (CLEAR GROUND WIRE) OF THE M9312 BOOT MODULE USING CABLE # 7013520

WIRE TABLE						
ITEM NO.	DESCRIPTION		FROM		TO	
	AWG	COLOR	CONN	WITH	CONN	WITH
22	22	BLK	J2-4	21	S1-1	SOLDER
25	22	BLU	J2-2	21	S3-3	
26	22	WHT	J2-1	21	S1-3	
24	22	GRN	J1-3	21	S2-2	
23	22	RED	J1-1	21	S2-3	
25	22	BLU	S1-2	SOLDER	S3-2	SOLDER
27	22	GRN/YEL	J2-3	21	T1	28

MK-0571

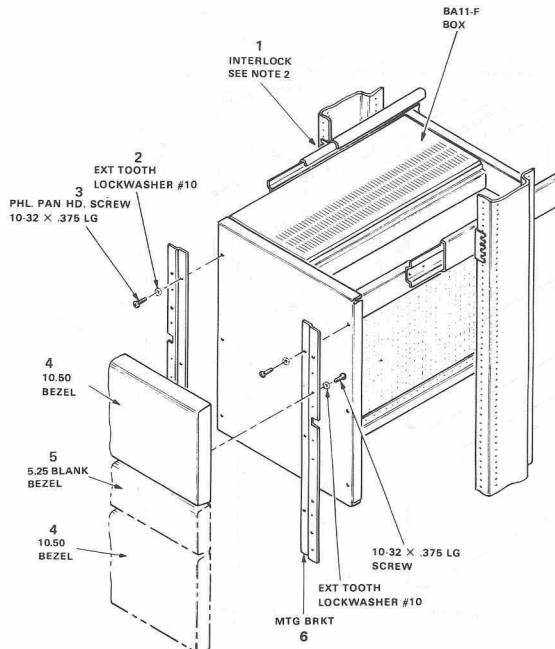
Figure A-9 Initializer Panel (3 of 3)



13	PHL TRUSS HD. SCREW	9006022-02	2
12	KEP NUT	9006560-00	2
11	SPRING CLIP	8-MD-7422258-0-0	2
10	KEP NUT	9008023-00	4
9	PHL PN HD SCREW	9009453-0	4
8	SNAP-IN THREADED INSERT	9009789-00	2
7	HEDLOK TYPE SCREW IN	9009712-00	2
6	PHL. PAN HD. MACHINE SCREW	9006023-1	2
5	TRIM STRIP ASSY.	D-IA-7011638-1-0	1
4	PHL. PAN HD. SCREW	9008007-01	8
3	EXT. TOOTH LOCKWASHER	9007651-00	8
2	TOP FILLER STRIP	D-MD-7414403-0-0	1
1	FILLER STRIP ASSY	D-IA-7011838-0-0	2
ITEM	DESCRIPTION	DWG. PART NO.	QTY

MK-0617

Figure A-10 Trim Strip and Intercabinet Filler Strips



**NOTE:**

1) WHEN BA11-F IS BEHIND FRONT COVER, ONLY ONE 10-1/2 BEZEL IS REQ'D; WHEN BA11-F IS MOUNTED ABOVE FRONT COVER AN ADDITIONAL 10-1/2 AND 5-1/4 BEZEL IS REQ'D.

2) FOR INTERLOCK ASS'Y SEE DRAWING 7013688. LOCATION OF CHURCH KEY = D62.

**UNIT HOLE LOCATION**

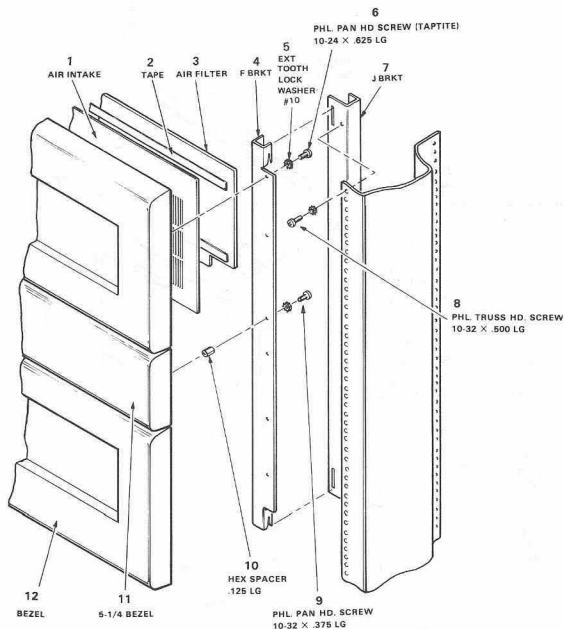
UNIT	PRIM. LOC.	SEC. LOC.	LRV	LRC	LRV	MRV	MFV	RRV	RCV	RFV
SLIDES	1			59	59	59	59			
				60	60	60	60			
				62	62	62	62			
POWER SUPPLY	1								39	39
									42	42
									48	48
									51	51

REFER TO FIGURE A-1

6	MOUNTING BRACKET	D-MD-7417164-0-0	2
5	BEZEL	E-MD-7415313-0-0	A/R
4	BEZEL	E-AD-7415314-0-0	1
3	PHL PAN HD SCREW	9006071-01	10
2	EXT TOOTH LOCKWASHER	9007649	10
1	INTERLOCK KIT	E-AD-7013688-0-0	1
ITEM	DESCRIPTION	DWG PART NO	QTY

MK-0342

**Figure A-11 BA11-F Front Covers**



#### NOTES

1. 3 PANEL FRONT COVER CAN BE REMOVED ONLY AFTER REMOVING CABINET TOP COVER.

2. USED TO COVER LOGIC PANELS IN TOP HALF OF CABINET. USED ON RP11.

#### UNIT HOLE LOCATION

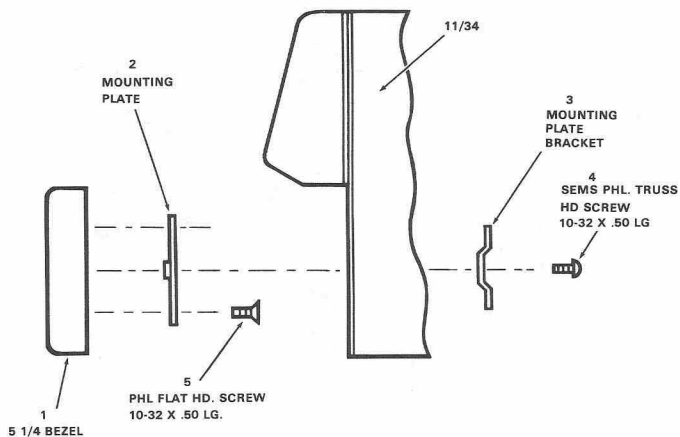
PRIM. LOC.	SEC. LOC.	LRV	LRC	LFV	MRV	MFV	RRV	RRC	RFV
1				48		48			
				61		61			
				75		75			
				88		88			

REFER TO FIGURE A-1

12	BEZEL RX01, (DIE CASTING)	E-MD-7414506-0-0	2
11	5-1/4 BEZEL	E-MD-7415313-0-0	1
10	SPACER, HEX	9008825-00	4
9	PHL PAN HD SCR	9006071-01	4
8	PHL TRUSS HD SCR	9006073-03	4
7	J BRACKET	D-IA-7416936-0-0	2
6	PHL PAN HD SCREW (TAPTITE)	9009813-00	8
5	EXT TOOTH LOCKWASHER	9007851-00	20
4	BRACKET, F. (R.H.)	D-IA-7416937-1-0	1
4	BRACKET F. (L.H.)	D-IA-7416937-0-0	1
3	AIR FILTER BEZEL	C-PS-1213246-0-0	2
2	TAPE AIR FILTER	1211336-02	A/R
1	AIR INTAKE	D-IA-7415743-0-0	2
ITEM	DESCRIPTION	DWG PART NO	QTY

MK-0343

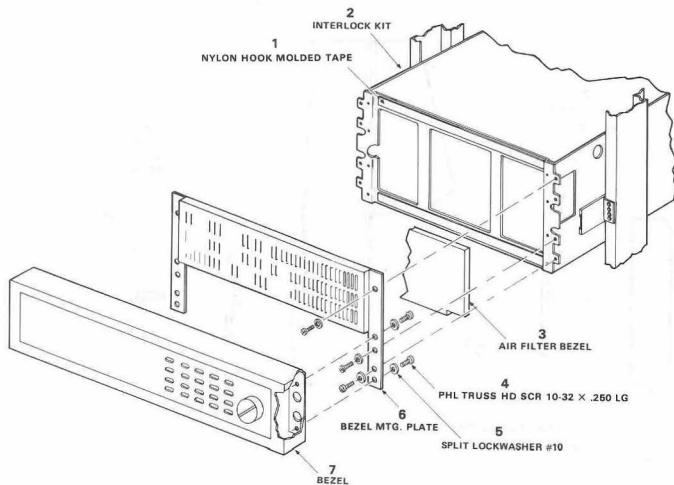
Figure A-12 3-Panel Front Cover



5	PHL. FLAT HD. SCREW	9006073-02	4
4	SEMS PHL. TRUSS HD. SCREW	9009700-00	2
3	BRACKET PLATE MTG.	C-MD-7420954-0-0	2
2	PLATE PANEL MTG.	C-1A-7420953-0-0	2
1	5 1/4 BEZEL	E-MD-7415313-00	1
ITEM	DESCRIPTION	DWG. PART NO.	QTY.

MK-0583

Figure A-13 5 1/4 Bezel For 11/34



NOTES:

1. FOR INTERLOCK ASSEMBLY SEE DRAWING 7013686, INTERLOCK LOCATION D29.
2. FOR COMPLETE CONSOLE ASSEMBLY SEE DRAWING 7013517.

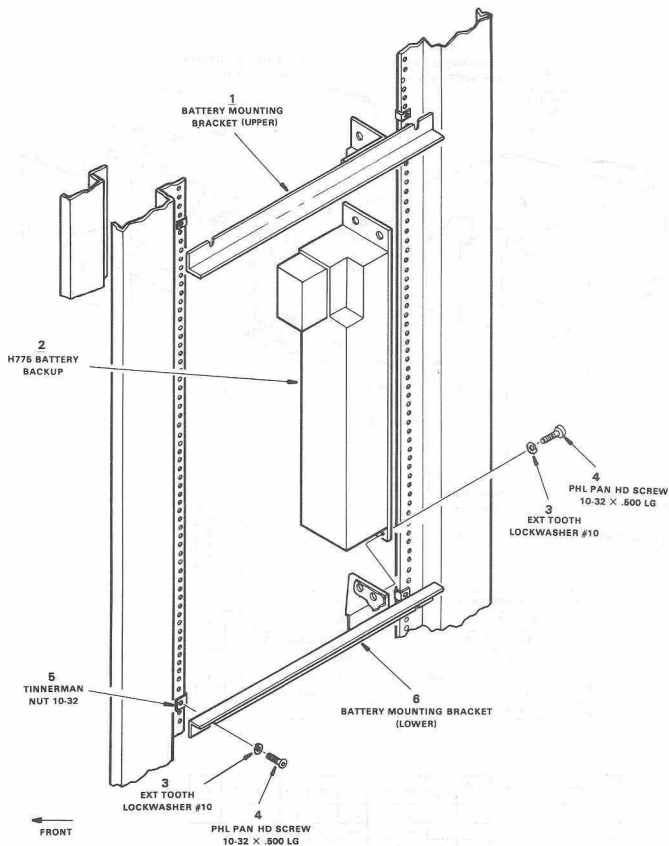
UNIT HOLE LOCATION								
PRIM. LOC.	SEC. LOC.	LRV	LRC	LFV	MRV	MFV	RRV	RFV
1		26		26	26	26		
		28		28	28	28		
		29		29	29	29		

REFER TO FIGURE A-1

7	BEZEL	D-1A-7417662-0-0	1
6	PLATE, BEZEL MTG.	D-MD-7417663-0-0	1
5	SPLIT LOCKWASHER	9007906	10
4	PHL TRUSS HD SCR	9008007-03	10
3	AIR FILTER BEZEL	1213246-0-0	1
2	INTERLOCK KIT	E-AD-7013686-0-0	1
1	TAPE, NYLON HOOK MOLDED	1211336-02	A/R
ITEM	DESCRIPTION	DWG PART NO	QTY

MK-0577

Figure A-14 PDP-11/34 Sheet Metal Bezel



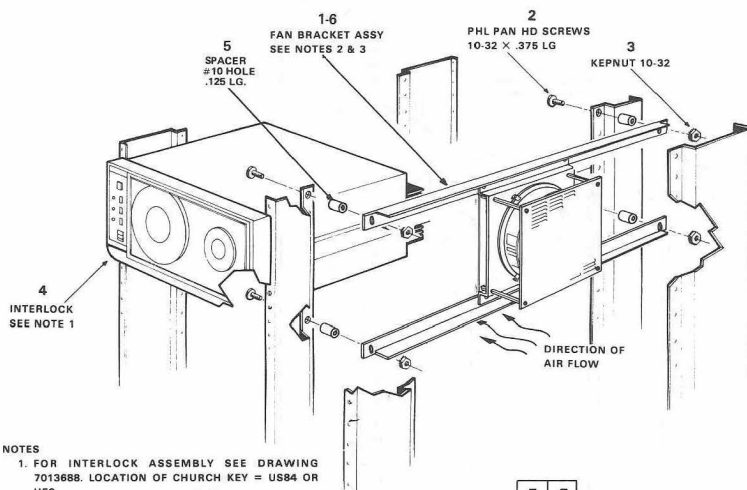
6	BRACKET, BATTERY MTG (LOWER)	D-1A-7015238-0-0	1
5	TINNEMAN NUT	9007786	4
4	PHL PAN HD SCREW	9006073-01	8
3	EXT TOOTH LOCKWASHER	9007651	8
2	H776 BATTERY BACKUP	E-UA-H776-0-0	1
1	BRACKET, BATTERY MTG (UPPER)	D-1A-7015238-0-1	1
ITEM	DESCRIPTION	DWG/PART NO.	QTY

UNIT HOLE LOCATION									
PRIM. LOC.	SEC. LOC.	LRV	LRC	LFV	MRV	MFV	RRV	RRC	RPV
1							17		17
							61		61

REFER TO FIGURE A-1

MK-0584

Figure A-15 Battery Back-Up for the PDP-11/34 System



# NOTES

1. FOR INTERLOCK ASSEMBLY SEE DRAWING 7013688. LOCATION OF CHURCH KEY = US84 OR US3.
2. POSITION FAN TO GIVE OPTIMUM AIR ACROSS TS03 HEAT SINK.

ITEM	DESCRIPTION	DWG PART NO	QTY	
			115V SYSTEM	230V SYSTEM
6	FAN ASSEMBLY	D-AD-7016010-01		1
5	SPACER	9008825	4	4
4	INTERLOCK KIT	E-AD-7013688-0-0	1	1
3	KEPNUT	9006565	4	4
2	PHL PAN HD SCREW	9006071-01	4	4
1	FAN ASSY	D-AD-7016010-00	1	

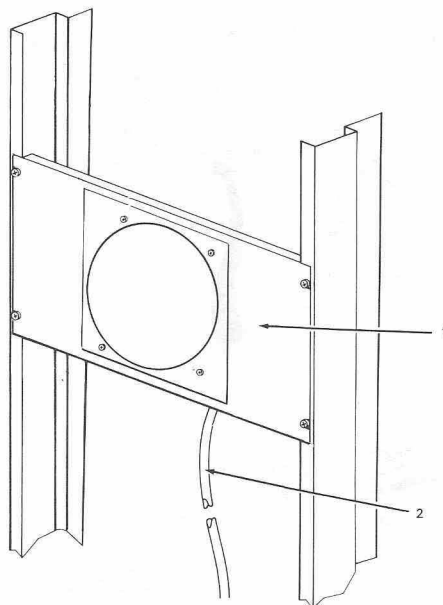
UNIT HOLE LOCATION	PRIM. LOC.	SEC. LOC.	LRV	LRC	LFV	MRV	MFV	RRV	RRC	RFV
TS03	1		53		53	53	53			
			54		54	54	54			
TS03	1		84		84	84	84			
			85		85	85	85			
FAN ASSY	1					47	47			
						60	60			
FAN ASSY	1					75	75			
						88	88			

REFER TO FIGURE A-1

MK-0338

Figure A-16 Fan Assembly for TS03 Magnetic Tape Unit





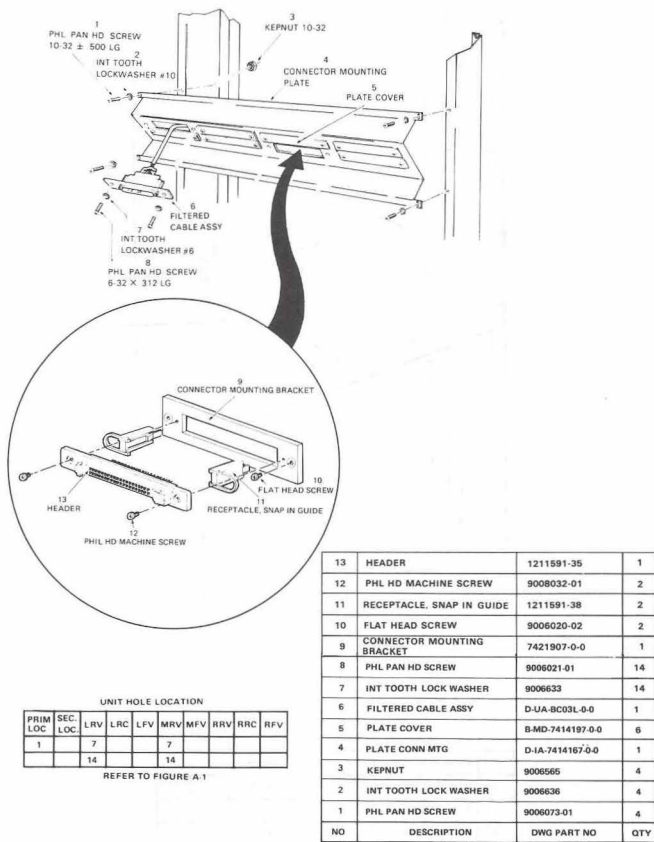
REAR of Cab

NOTE: Remove filter from fan before installing fan assembly.

			115V	230V
2	POWER CORD	1700016-09		1
2	POWER CORD	1700006-09	1	
1	FAN ASSEMBLY	H957-HB		1
1	FAN ASSEMBLY	H957-HA	1	
ITEM	DESCRIPTION	DWG PART NO.	QTY.	QTY.

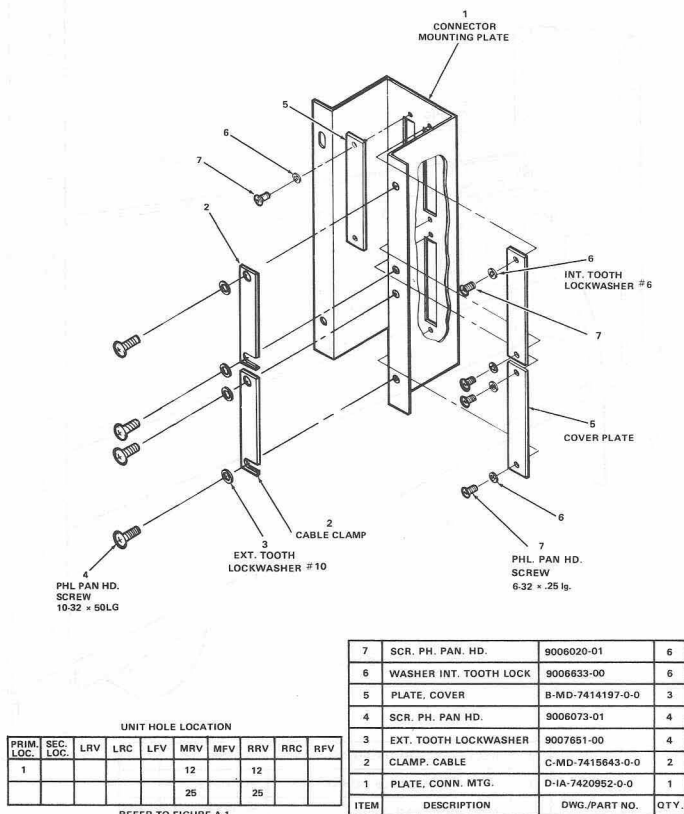
MK-0618

Figure A-17 H957 Fan Assembly (Used in 11/70 based systems)



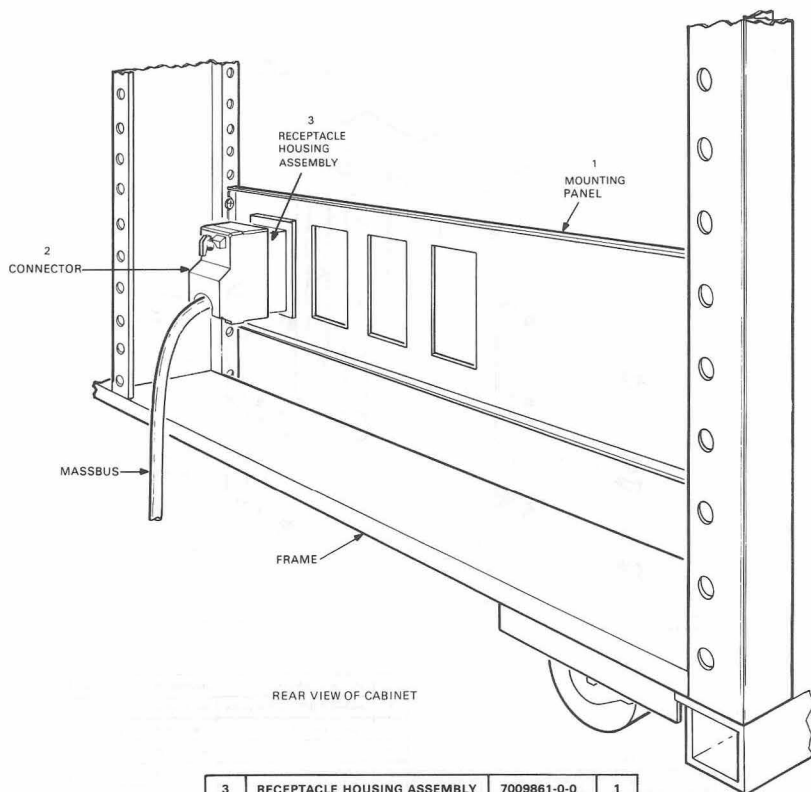
MK-0620

Figure A-18 Connector Mounting Plate (Z Bracket)



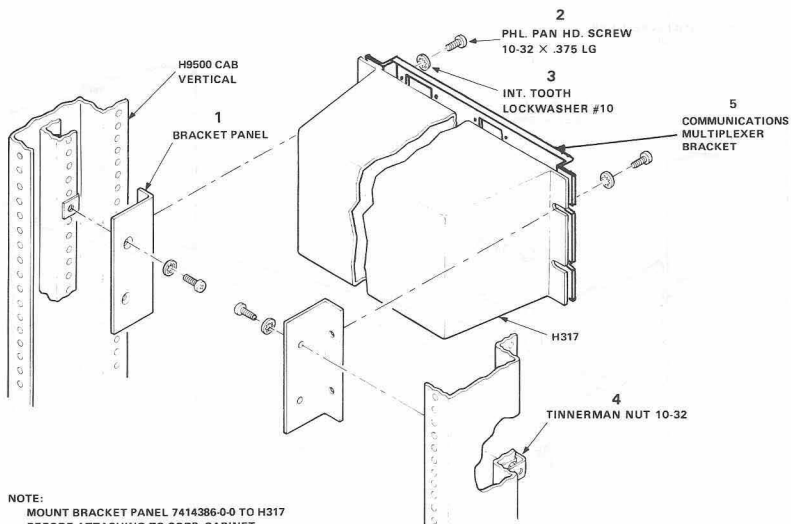
MK-0576

Figure A-19 Vertical Connector Mounting Plate



3	RECEPTACLE HOUSING ASSEMBLY	7009861-0-0	1
2	MASSBUS & CABLE CONNECTOR	BC06S-25	1
1	MOUNTING PANEL	70-10574	1
ITEM	DESCRIPTION	DWG PART NO	QTY

Figure A-20 Massbus Connector and Mounting Panel



UNIT HOLE LOCATION

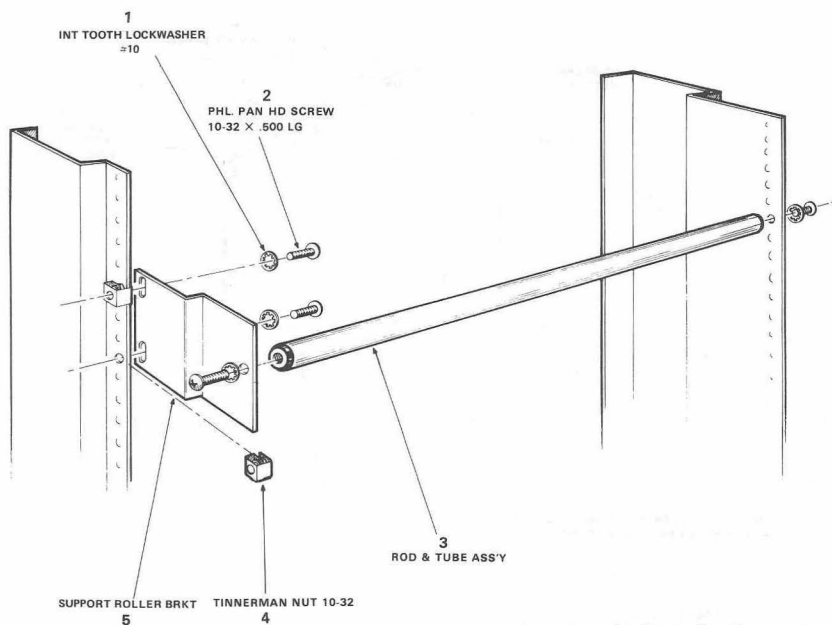
PRIM. LOC.	SEC. LOC.	LRV	LRC	LFV	MRV	MFV	RRV	RRC	RFV
1		8			8				
		12			12				
2		30			30				
		34			34				
3		52			52				
		56			56				

REFER TO FIGURE A-1

5	COMM MULT BRACKET	7415808	1
4	TINNEMAN NUT	9007786	4
3	INT TOOTH LCK WASHER	9006636	8
2	PHL PAN HD SCREW	9006071-01	8
1	BRACKET PANEL	C-MD-7414386-0-0	2
ITEM	DESCRIPTION	DWG PART NO	QTY

MK-0344

Figure A-21 H317 Distribution Panel Mounting Hardware



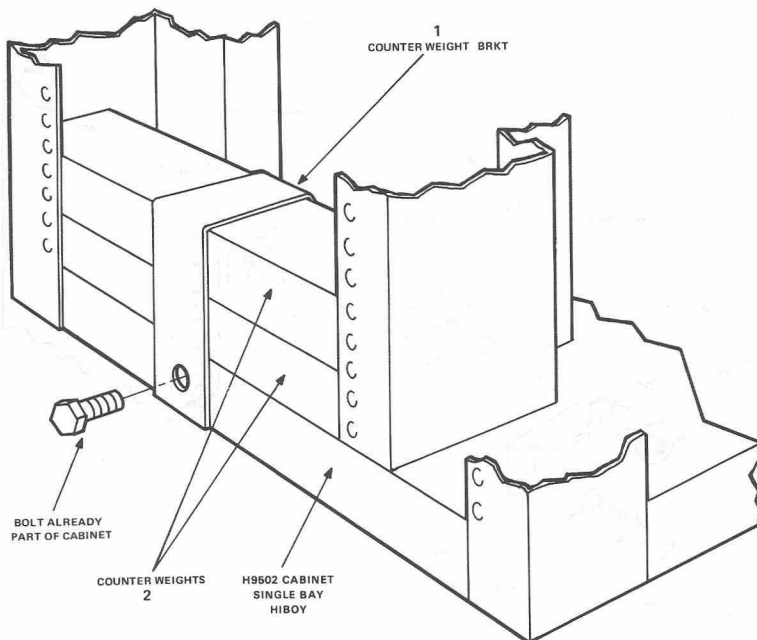
UNIT HOLE LOCATION									
PRIM. LOC.	SEC. LOC.	LRV	LRC	LFV	MRV	MFV	RRV	RRC	RFV
1				42		41			
						43			
	2			69		68			
						70			

REFER TO FIGURE A-1

5	SUPPORT ROLLER	C-MD-7415654-0-0	1
4	TINNERMAN NUT	9007786	2
3	ROD & TUBE ASSY	1212173	1
2	PHL PAN HD SCREW	9006073-01	4
1	INT TOOTH LCK WASHER	9006636	4
ITEM	DESCRIPTION	DWG PART NO	QTY

MK-0354

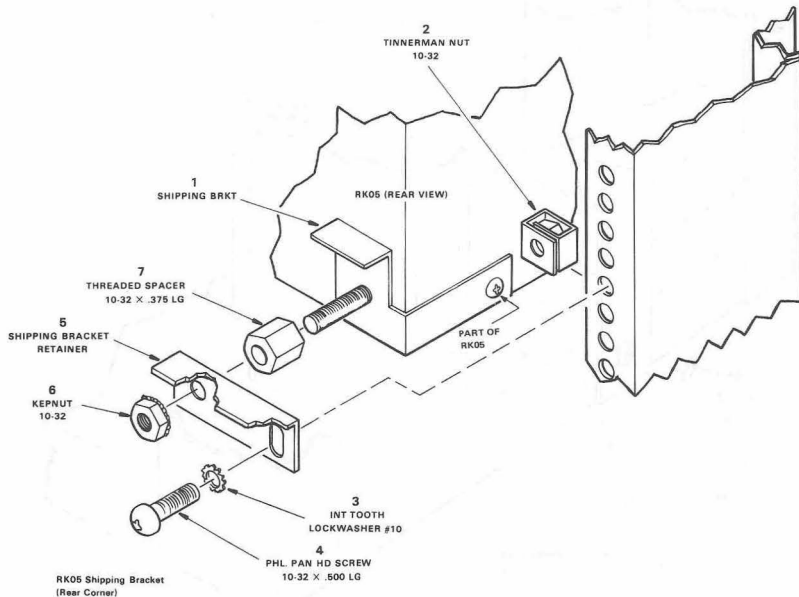
Figure A-22 Roll Bar



2	COUNTERWEIGHT	1211442-0	A/R	
1	BRKT, COUNTERWEIGHT	C-MD-7417608-02	A/R	2-WEIGHTS
1	BRKT, COUNTERWEIGHT	C-MD-7417608-01	A/R	1-WEIGHT
1	BRKT, COUNTERWEIGHT	C-MD-7417608-00	A/R	3-WEIGHTS
ITEM	DESCRIPTION	DWG/PART NO.	QTY	USED WITH

MA-0406

Figure A-23 Counterweight Bracket for H9602 Cabinet



ITEM	DESCRIPTION	DWG PART NO	QTY
7	THREADED SPACER	9008436	1
6	KEPNUT	9006565	1
5	SHIPPING BRKT RET.	C-MD-7419938-0-0	1
4	PHL PAN HD SCREW	9008073-01	1
3	INT TOOTH LCK WASHER	9006836	1
2	TINNEMAN NUT	9007785	1
1	SHIPPING BRKT	C-MD-7419937-0-0	1

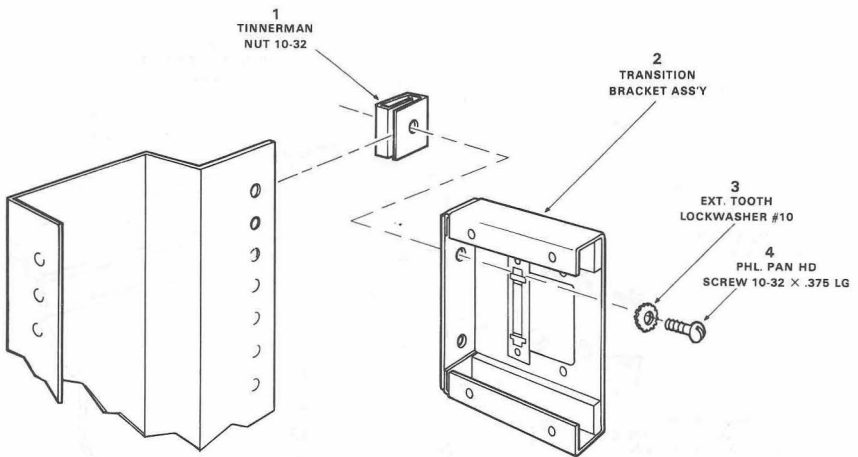
UNIT HOLE LOCATION									
PRIM. LOC.	SEC. LOC.	LRV	LRC	LFV	MRV	MFV	RRV	RRC	RFV
1		48		48	48	48			
		50		50	50	50			
		51		51	51	51			
	2	75		75	75	75			
		77		77	77	77			
		78		78	78	78			

REFER TO FIGURE A-1

MK-0329

Figure A-24 Shipping Bracket for RK05 Disk Drive





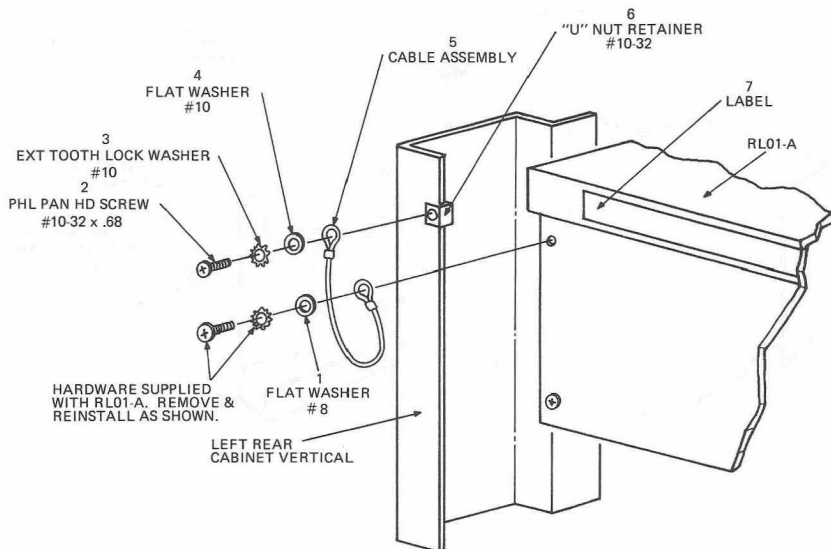
UNIT HOLE LOCATION									
PRIM. LOC.	SEC. LOC.	LRV	LRC	LFV	MRV	MFV	RRV	RRC	RFV
1							63		
							69		

REFER TO FIGURE A-1

4	PHL. PAN HD SCREW	9006071-01	2
3	EXT. TOOTH LOCKWASHER	9007661	2
2	TRANSITION BRACKET ASS'Y	C-AD-7012415-0-0	1
1	TINNEMAN NUT	9007786	2
ITEM	DESCRIPTION	DWG PART NO.	QTY

MK-0337

Figure A-25 Transition Bracket (Used with RK06)

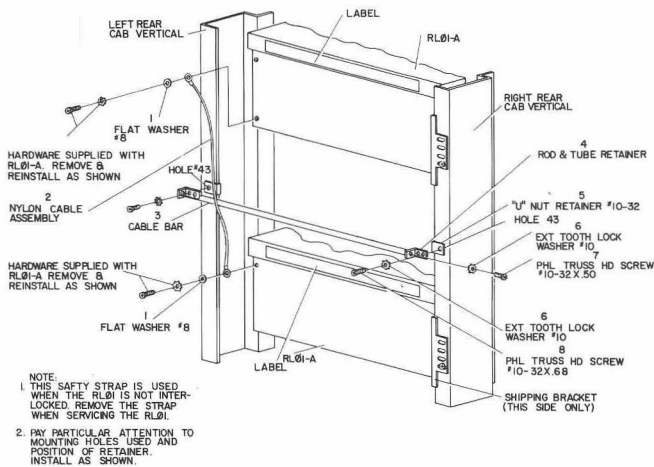


7	LABEL	3615745-00	1
6	U NUT RETAINER	9007786-00	1
5	CABLE ASSEMBLY	1215700-00	1
4	FLAT WASHER	9006664-00	1
3	EXT. TOOTH LOCKWASHER	9007651-00	1
2	PHL. PAN HD. SCREW	9008909-01	1
1	FLAT WASHER	9006662-00	1
ITEM	DESCRIPTION	DWG PART NO	QTY

NOTE:  
THIS SAFETY STRAP IS USED  
WHEN THE RL01 IS NOT INTER-  
LOCKED. REMOVE THE STRAP  
WHEN SERVICING THE RL01.

MK-0346

Figure A-26 Safety Strap for Single RL01



8	PHL TRUSS HD SCREW	9008008-03	2
7	PHL TRUSS HD SCREW	9006073-03	2
6	EXT TOOTH LOCKWASHER	9007651-00	4
5	U NUT RETAINER	9007786-00	2
4	ROD & TUBE RETAINER	7421503-00	2
3	CABLE BAR	1212173-00	1
2	NYLON CABLE ASSEMBLY	1215700-01	1
1	FLAT WASHER	9006662-00	2
ITEM	DESCRIPTION	DWG. PART NO.	QTY.

MK-0615

Figure A-27 Safety Strap for Dual RL01's

The first part of the report deals with the general situation of the country. It is a very interesting and informative study of the country's development. The author has done a great deal of research and has gathered a wealth of material. The report is well written and is a valuable contribution to the study of the country.

Table 1		Table 2	
1950	100	1950	100
1951	105	1951	105
1952	110	1952	110
1953	115	1953	115
1954	120	1954	120
1955	125	1955	125
1956	130	1956	130
1957	135	1957	135
1958	140	1958	140
1959	145	1959	145
1960	150	1960	150

The second part of the report deals with the specific details of the country's development. It is a very detailed and thorough study of the country's development. The author has done a great deal of research and has gathered a wealth of material. The report is well written and is a valuable contribution to the study of the country.

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