

# Honeywell



**LEVEL 6**

**HARDWARE**

**MSU9105/9106  
MASS STORAGE  
DRAWER  
INSTALLATION  
PROCEDURE**

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MSU9105/9106  
MASS STORAGE DRAWER  
INSTALLATION PROCEDURE

Document No. 71010681-100      Order No. FX75, Rev. 0

This Manual provides procedures for installing Mass Storage Unit Expansion Drawer (Drive) MSU9105/9106 into Mass Storage Unit MSU9101/9102 free-standing cabinet.

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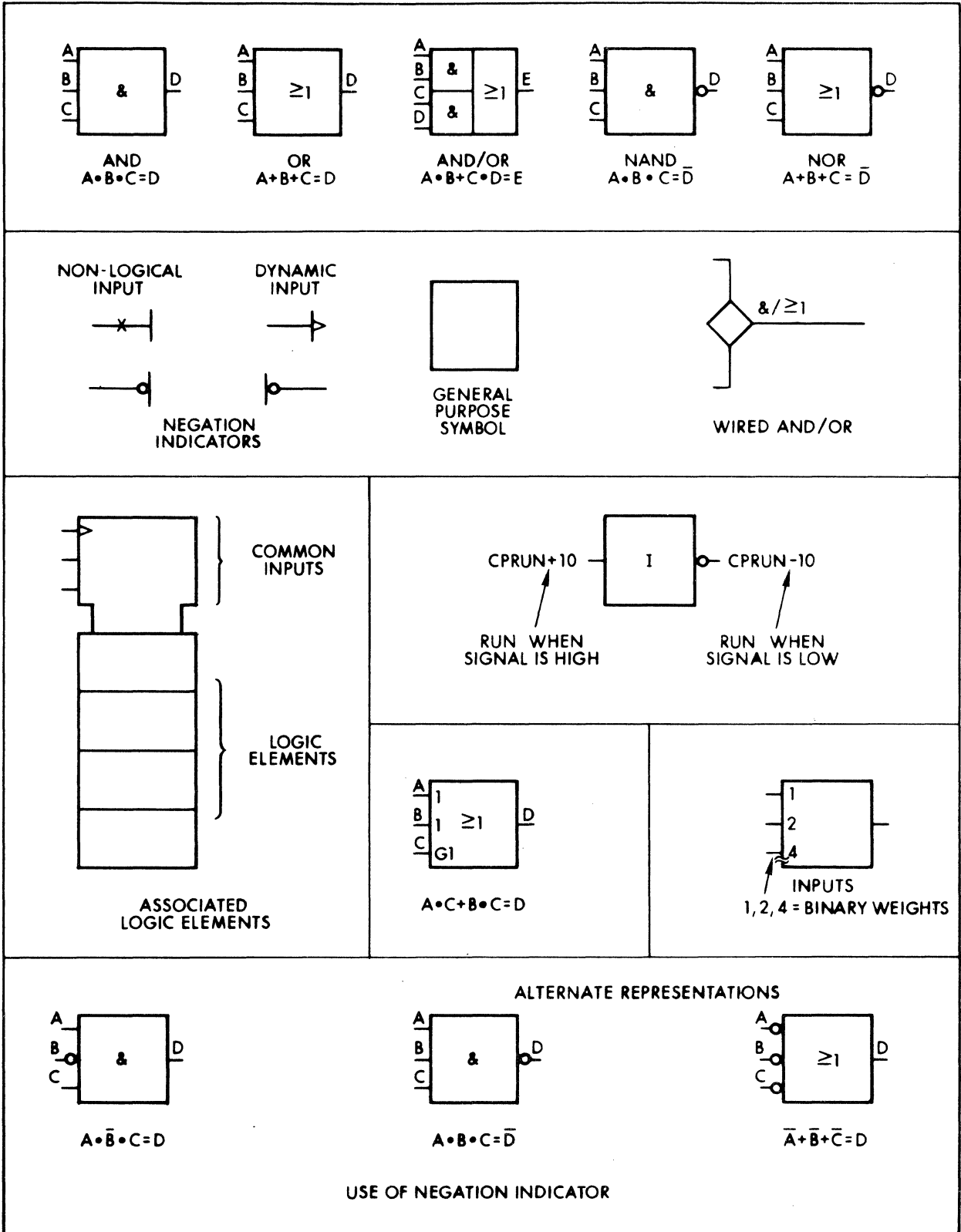
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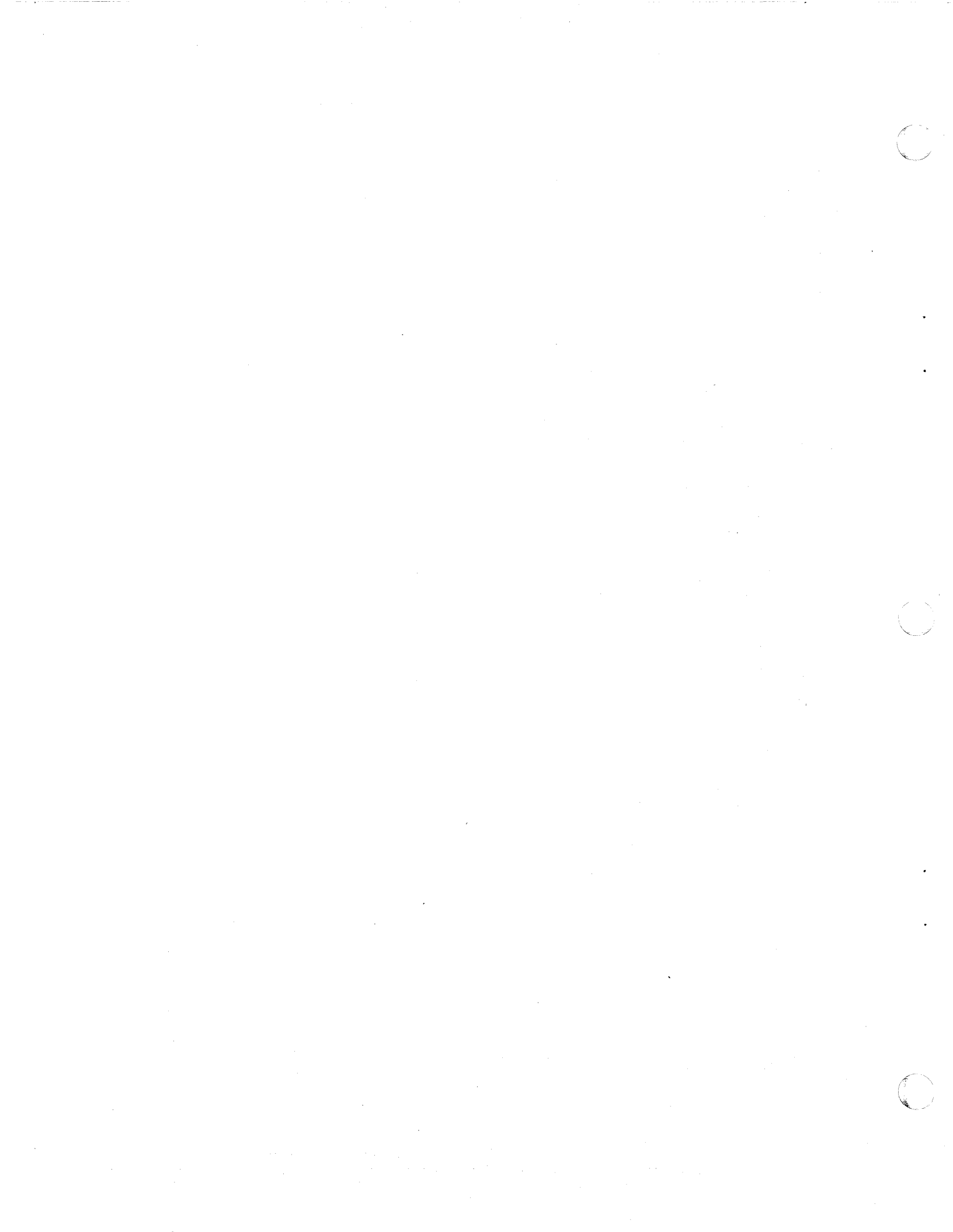
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# LOGIC SYMBOLY





# INTRODUCTION

The purpose of this manual is to provide the necessary procedures for the site installation of a Mass Storage Expansion Drawer (Drive) MSU9105/9106 into a Mass Storage Unit MSU9101/9102 free-standing cabinet.

The MSU types are defined as follows:

MSU9101 - 37- or 33-megabyte mass storage unit in free-standing cabinet.

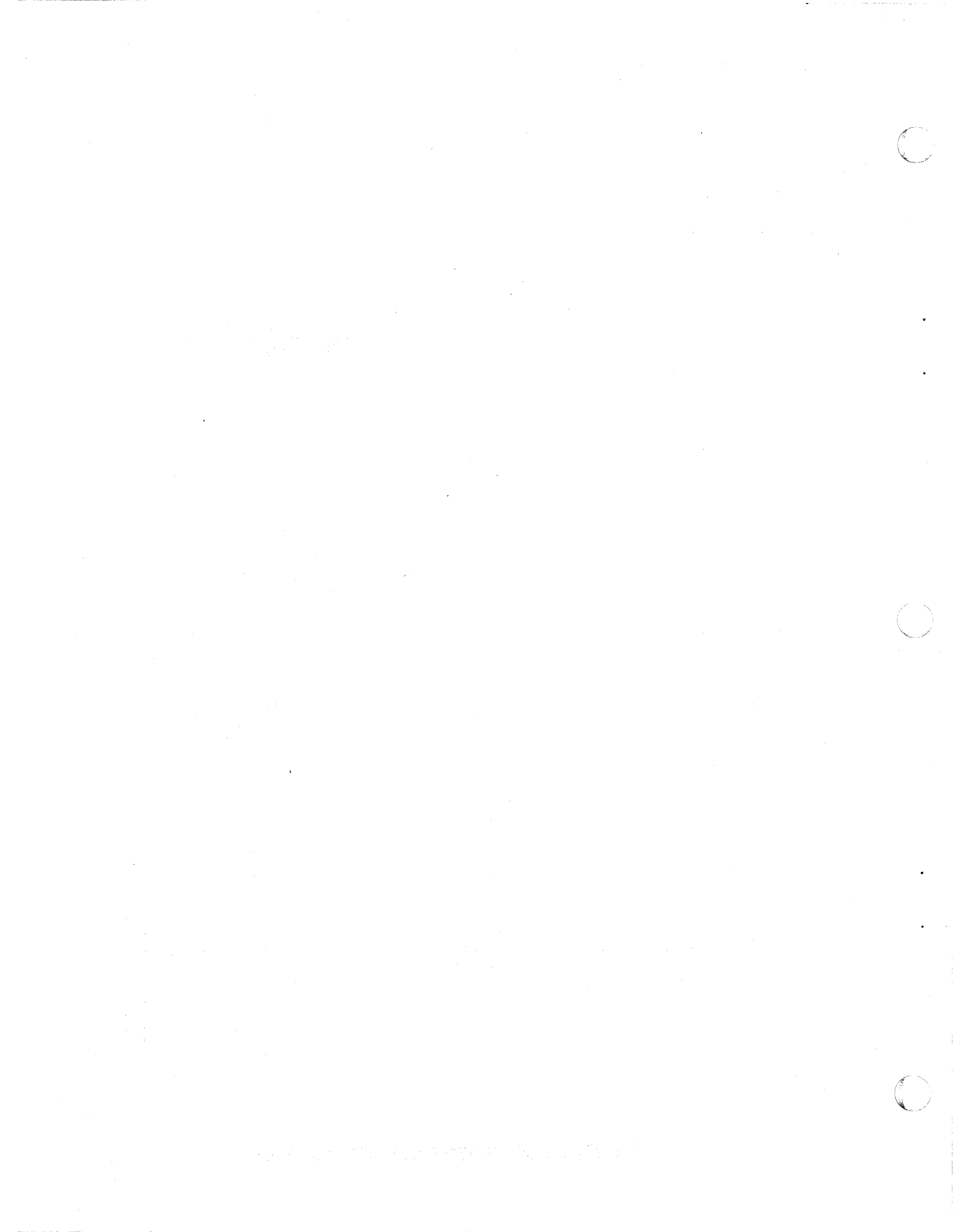
MSU9102 - 75- or 67-megabyte mass storage unit in free-standing cabinet.

MSU9105 - Expansion drawer for 37- or 33-megabyte mass storage unit.

MSU9106 - Expansion drawer for 75- or 67-megabyte mass storage unit.

After the expansion drawer has been installed in the free-standing cabinet, refer to MSU9101/9102 Mass Storage Unit Installation Procedure Manual (Order No. FX73) for system cabling and power-up instructions.





# II INSTALLATION

The following subsections outline the unpacking procedure and the installation and internal cabling procedures for Mass Storage Expansion Drawer MSU9105/9106.

## 2.1 UNPACKING INSTRUCTIONS

The following subsections contain general unpacking instructions and procedures for removing shipping hardware from the mass storage unit expansion drawer.

### 2.1.1 General Unpacking Instructions

The unpacking instructions for the mass storage unit expansion drawer are as follows:

1. Open cardboard box containing Mass Storage Unit Expansion Drawer MSU9105/9106.
2. Remove loose parts from outer box and set them aside.
3. Loosen ac power cord wrapped around inner box containing unit, and cut inner box so that ac power cord will not hang up when drawer is lifted out of inner box.

## **WARNING**

To avoid injury to personnel and damage to the equipment, at least two men are required to handle the mass storage unit expansion drawer.

4. Lift drawer out of inner shipping container and place drawer upright on a work bench (on the rubber feet).
5. Remove polyethylene dust cover from mass storage unit expansion drawer.

### 2.1.2 Removing Shipping Hardware from Expansion Drawer

To remove the shipping hardware from the mass storage unit expansion drawer proceed as follows:

1. Raise drawer mount case (see Figure 2-1) as follows:
  - a. Press in on release catches located on bottom outside corners of mount case at rear of drawer.
  - b. While holding in release catches, lift up on top cover of drawer.

## **CAUTION**

To prevent damage to the front of the case assembly, the unit must be extended over the edge of the work surface.

- c. When top cover of drawer has been raised a short distance, swing hinged panel at rear of drawer away from the mass storage unit in order to clear rear of actuator assembly.
  - d. Pivot top cover of drawer up until it rests against case support.
2. Within expansion drawer, locate rail bracket assembly (see Figure 2-2) and remove taped down carriage locking pin and ring assembly (red tag attached) from SHIPPING LOCK hole and store assembly in PIN STORAGE hole.

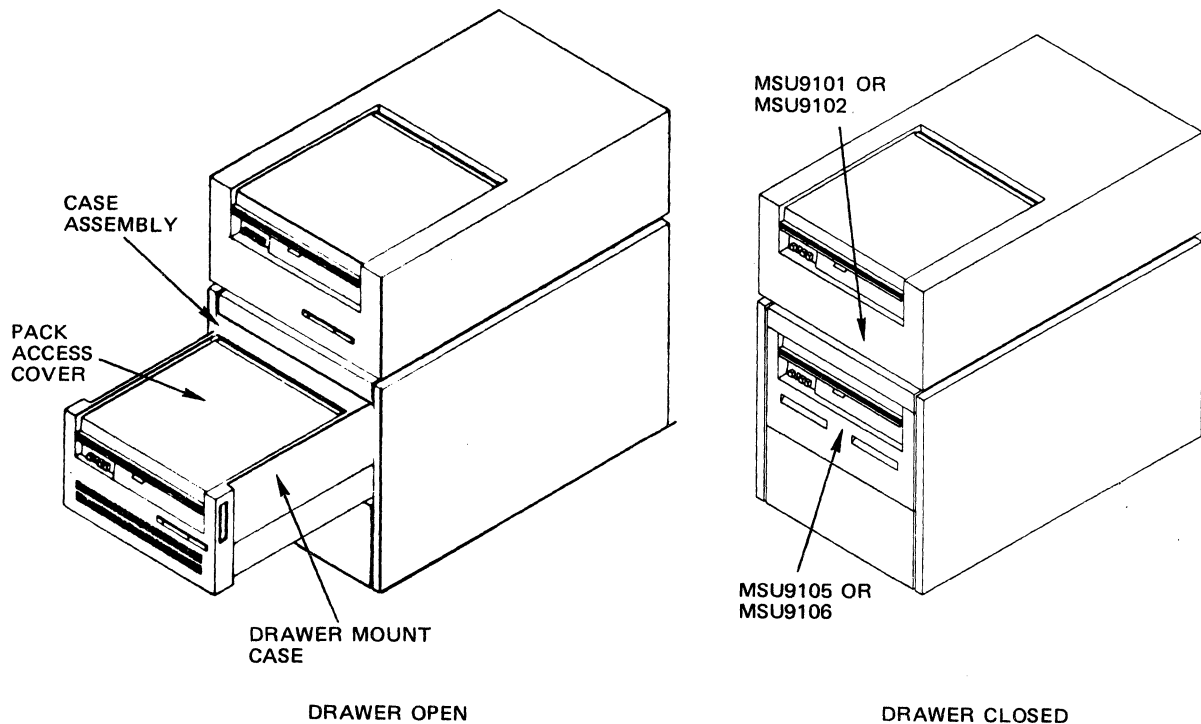


Figure 2-1 Mass Storage Unit Cabinet with Expansion Drawer

3. From rear of drawer, locate rear deck holddown screw (i.e., center of three screws at rear deck casting) and associated spacer (red tag attached) (see Figure 2-3). Remove rear deck holddown screw and spacer and store them in threaded keeper hole at rear of deck casting. Discard red tag and string.
4. From right-hand side of drawer, locate shock-lock bracket (red tag attached) near front of drawer (see Figure 2-4). Loosen bottom screw and remove top screw. Pivot L-shaped shock-lock bracket 90 degrees to right and fasten bottom screw securely. Place top screw back into original tapped hole and fasten it securely. Discard red tag and string.

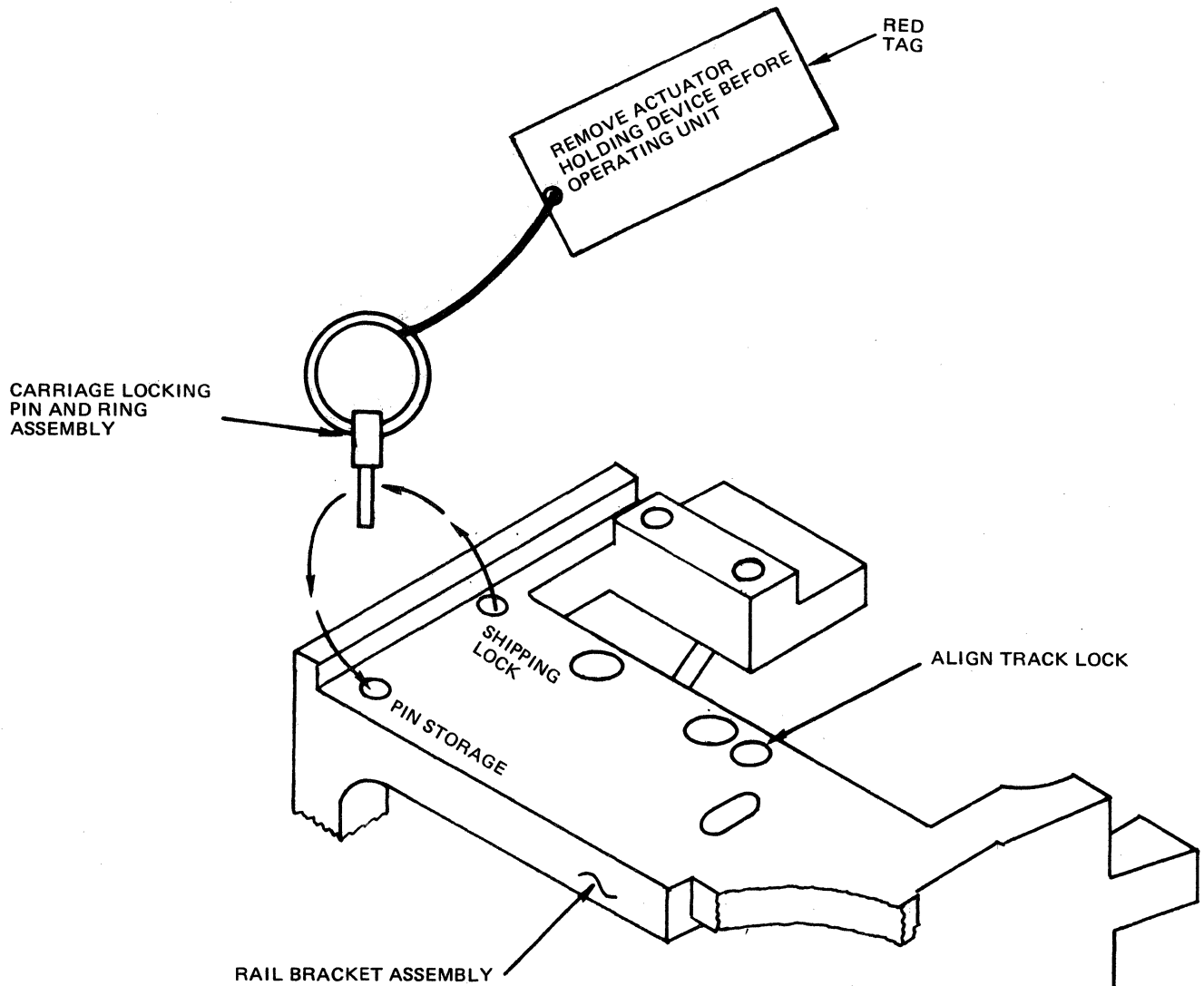


Figure 2-2 Removal of Carriage Locking Pin and Ring Assembly

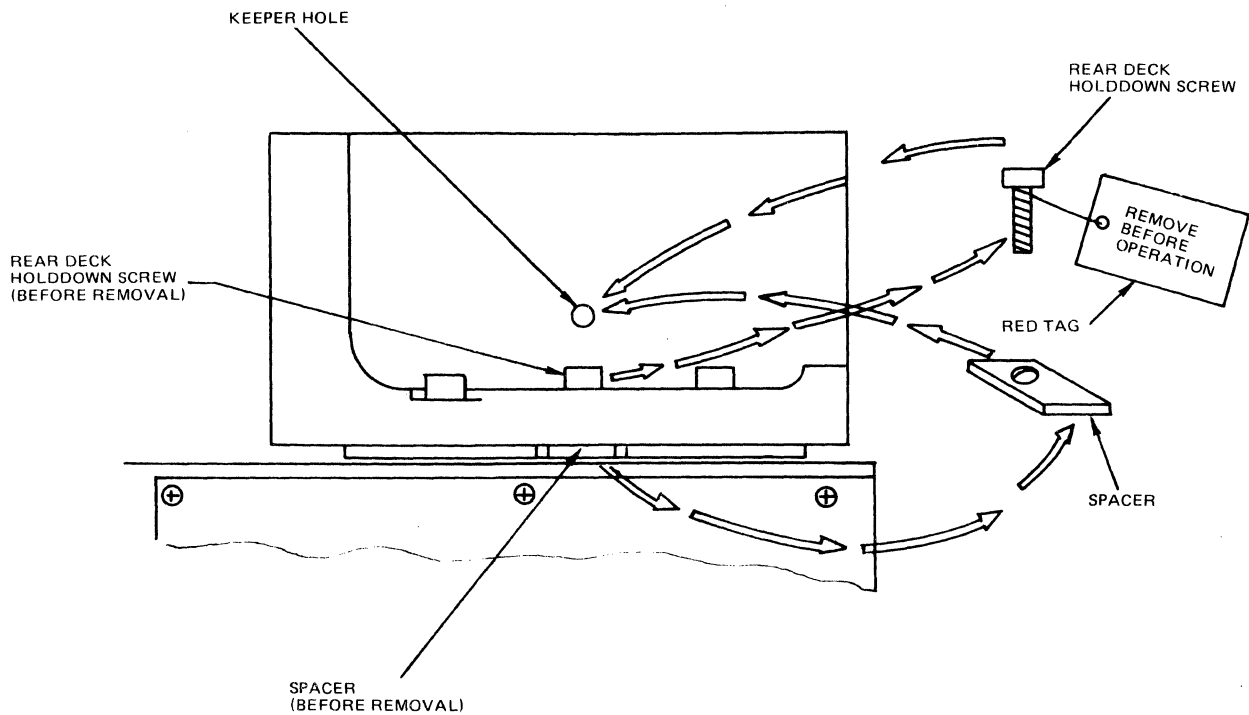


Figure 2-3 Removal of Rear Deck Holddown Screw and Spacer

5. Perform the following inspection:
  - a. Inspect drawer for possible shipping damage. Any claim for shipping damage should be filed promptly with transporter involved. If a claim is filed, save original shipping materials.
  - b. Ensure that all logic cards are firmly seated in logic chassis and power supply.
  - c. Ensure that control panel is firmly seated in shroud.
  - d. Ensure that all connectors are firmly seated.
  - e. Ensure that all cabling is intact and that there are no broken or damaged wires.
  - f. Remove from expansion drawer any foreign material, particularly material that could cause an electrical short.
  - g. Remove from actuator area any foreign material that could obstruct movement of carriage and heads.



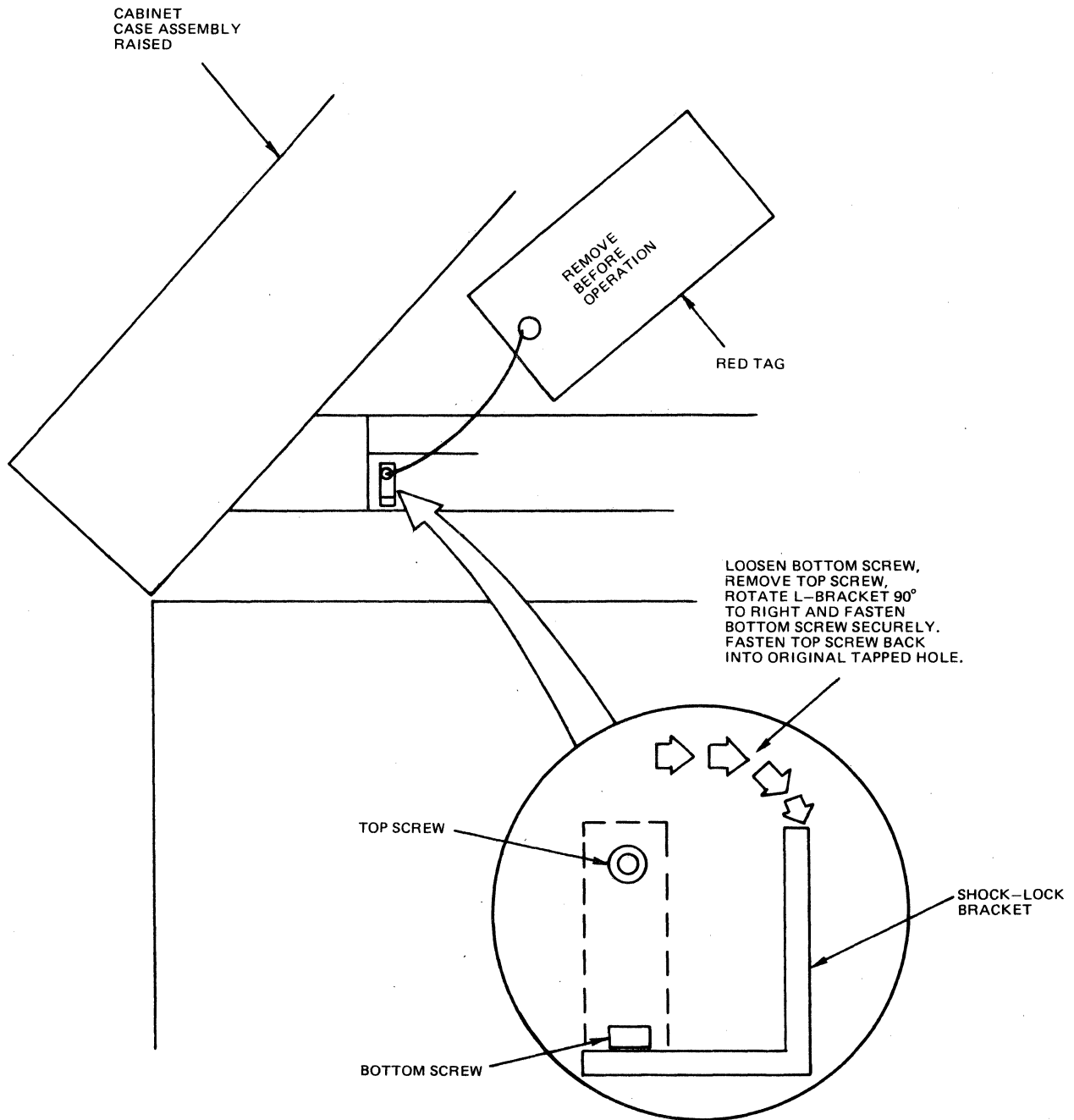


Figure 2-4 Removal of Shock-Lock Bracket

6. Close drawer mount case as follows:
  - a. Pivot drawer mount case down toward mass storage unit while lifting hinged panel out, in order to clear rear of actuator assembly.
  - b. With drawer mount case still raised slightly, push hinged panel into place against back and rear of drawer.

**CAUTION**

Do not drop the drawer mount case assembly all the way down and then push in on the hinged panel. This will cause damage to the top cover release catches.

- c. While pressing on hinged panel at rear of unit, push down on drawer mount case from top. Release catches should snap into place.
7. Open pack access cover (see Figure 2-1) on drawer, and remove orange plastic cover that protects spindle during shipment.

NOTE

A plastic bag containing the programmable insert keys (logic address plugs labelled 00 through 15) is taped to the orange plastic protective cover. Temporarily store these programmable insert keys. They will be installed later as directed in subsection 2.6 of MSU9101/9102 Mass Storage Unit Installation Procedure (Order No. FX73).

8. Remove all foreign material from pack area and from shroud area.
9. Close pack access cover.

## 2.2 INSTALLATION PROCEDURE

The following subsection provides detailed instructions for installing mass storage unit expansion drawer into the free-standing cabinet.

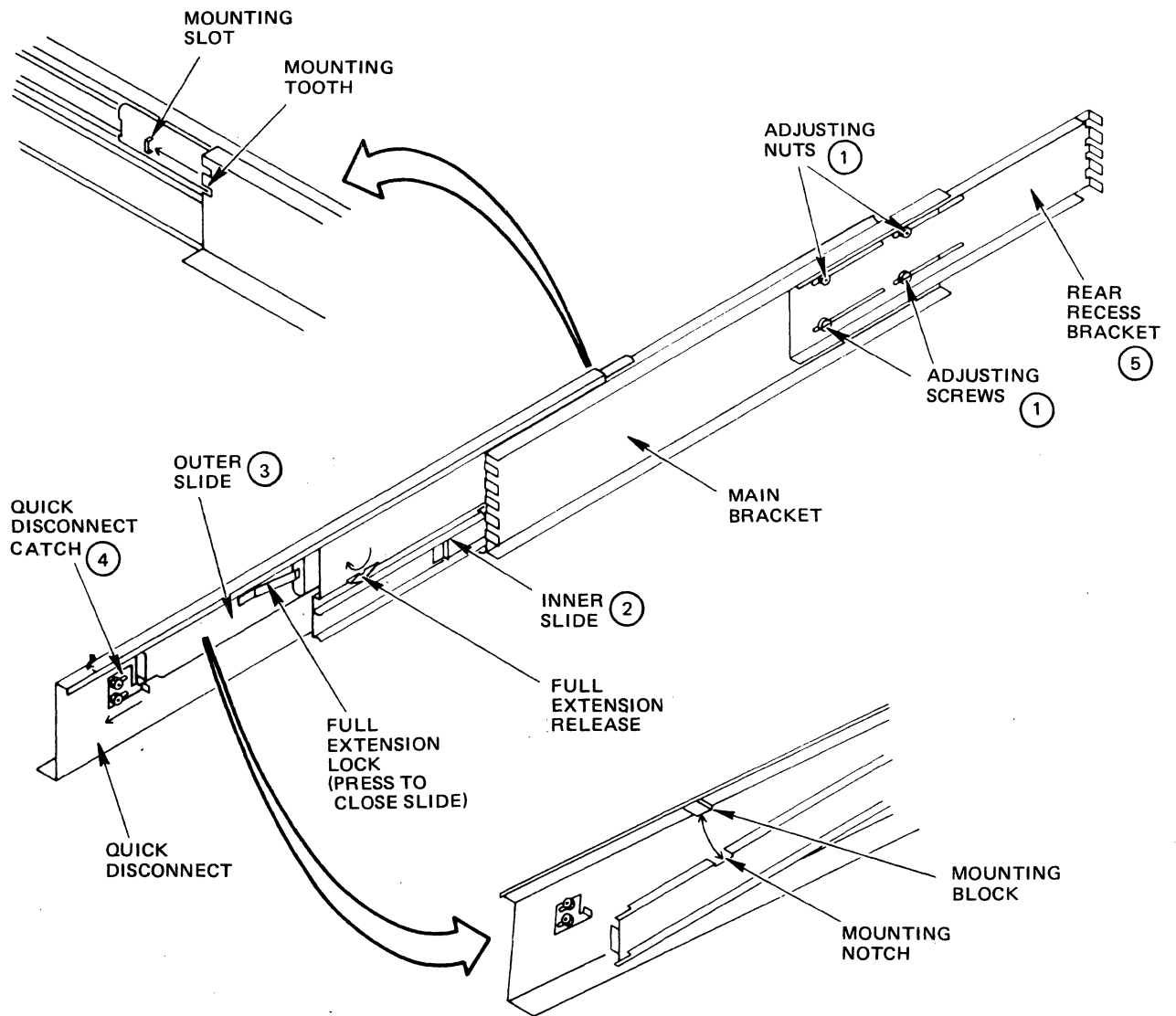
### 2.2.1 Preparation of Expansion Drawer for Installation

The preparation procedure for the expansion drawer prior to installation in the free-standing cabinet is as follows:

## **WARNING**

To avoid injury to personnel and damage to the equipment, at least two men are required to handle the storage module unit drawer.

1. Lay out some type of protective material and carefully turn and rest drawer on its right-hand side on top of protective material.
2. Remove the four rubber mounting pads and steel shipping bar from bottom of drawer. This hardware may be discarded after installation.
3. Locate right-hand slide assembly, as shown in Figure 2-5, packaged with supplied hardware.
4. Remove quick disconnect from outer slide by loosening the two screws on quick disconnect catch (see Figure 2-5), and lay aside outer right-hand slide.
5. Place right-hand quick disconnect on right-hand side of drawer and align mounting holes.
6. Using the four countersunk flat-head screws and countersunk washers supplied with slide kit, fasten right-hand quick disconnect to right-hand side of drawer.
7. Lay out additional protective material and carefully turn and rest drawer on its left-hand side on top of protective material.
8. Locate left-hand slide assembly (reverse of what is shown in Figure 2-5), packaged with supplied hardware.
9. Remove quick disconnect from outer slide by loosening the two screws on quick disconnect catch and lay aside outer left-hand slide.
10. Place left-hand quick disconnect on left-hand side of drawer and align mounting holes.
11. Using the four countersunk flat-head screws and countersunk washers supplied with slide kit, fasten left-hand quick disconnect to left-hand side of drawer.
12. Carefully rest expansion drawer on its base.



NOTES:

- ① ALLOW REAR RECESS BRACKET ADJUSTMENT.
- ② LOCKS IN EXTENDED POSITION WHEN OUTER SLIDE IS FULLY EXTENDED.
- ③ EXTENDED BY PRESSING FULL EXTENSION RELEASE. FULL EXTENSION LOCK SNAPS OUT WHEN THIS SLIDE IS FULLY EXTENDED.
- ④ LOOSENING NUTS ALLOWS CATCH TO MOVE IN DIRECTION OF ARROW THUS ALLOWING QUICK DISCONNECT TO BE REMOVED.
- ⑤ REAR RECESS BRACKET.
- ⑥ ASSEMBLY SHOWN IS FOR RIGHT SIDE OF CABINET.

Figure 2-5 Slide Assembly Parts Location

### 2.2.2 Preparation of Free-standing Cabinet Prior to Installation of Expansion Drawer

The preparation procedure for the free-standing cabinet prior to installation of the expansion drawer is as follows:

#### **WARNING**

To avoid bodily injury, ensure that all ac power on the system is off; disconnect the ac input power cord from the power source.

#### NOTE

The MSU9101/9102 cabinet that is to receive the drawer must be completely separated from the system so that there is free access to all four sides of the cabinet.

1. Disconnect ac power cord from power source.
2. Open rear door of mass storage unit cabinet.
3. Disconnect bulkhead connectors from UPPER UNIT portion of I/O panel within cabinet.
4. Mark each cable as it is disconnected for easier connection later, and pull each cable down and out of cable entry area at base of cabinet and lay aside cables.
5. Locate grounding stud at rear of upper mass storage unit (see Figure 2-6) within cabinet.
6. Remove hardware from grounding stud and remove ground strap 60134300-001 or 60134300-002 from upper unit and then place hardware back on grounding stud.
7. Pull ground strap 60134300-001 or 60134300-002 down and out of cable entry area at base of cabinet and lay aside ground strap with the other cables removed.
8. Turn up the four leveling pads (located at each corner of cabinet frame) and roll cabinet on its casters to a work area where cabinet can be approached from all sides.
9. As a safety precaution, ensure that a ballast (counterweight) has been installed at rear of cabinet, attached to underside of cabinet base (see Figure 2-7).

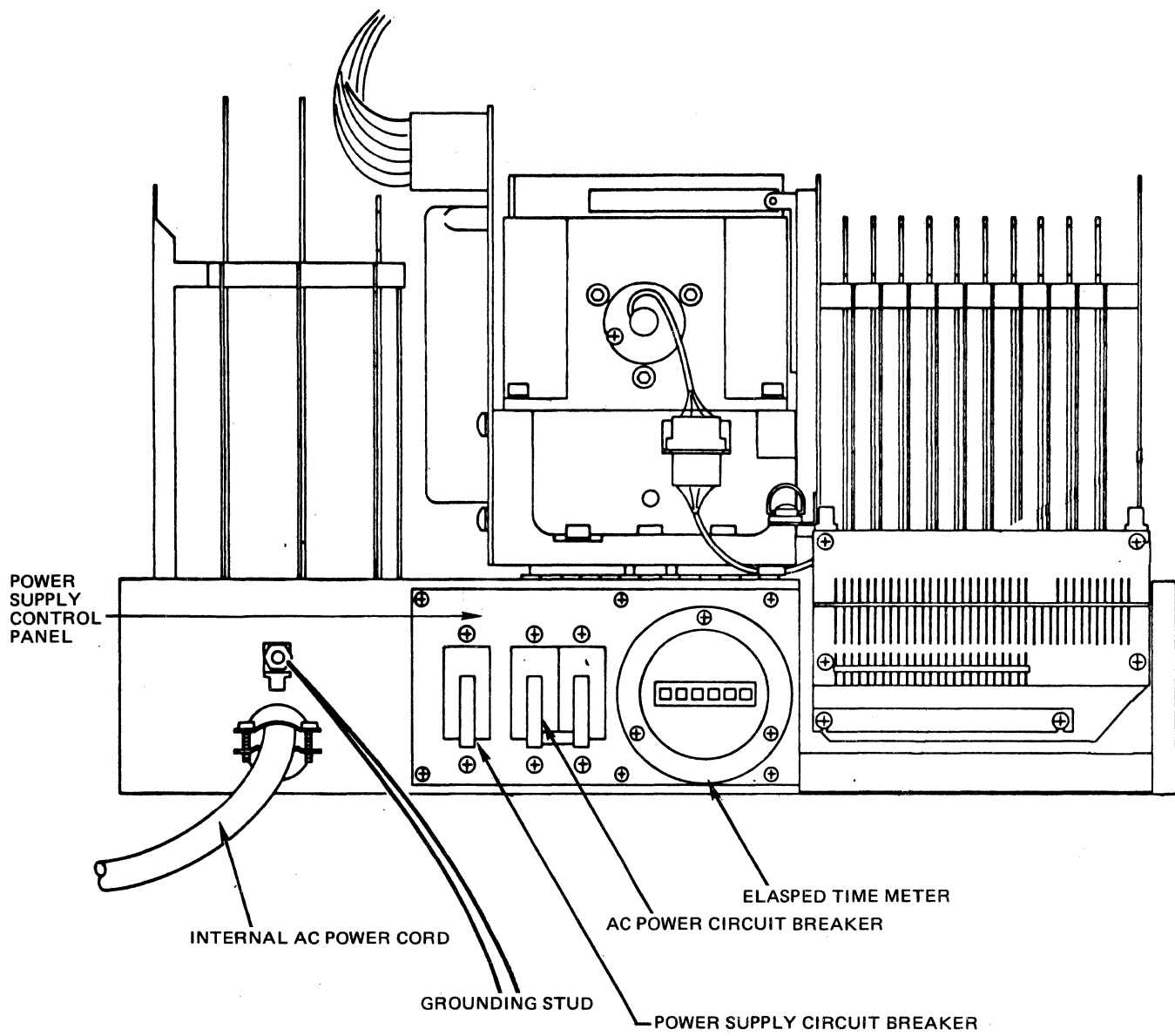


Figure 2-6 Rear View of Mass Storage Unit



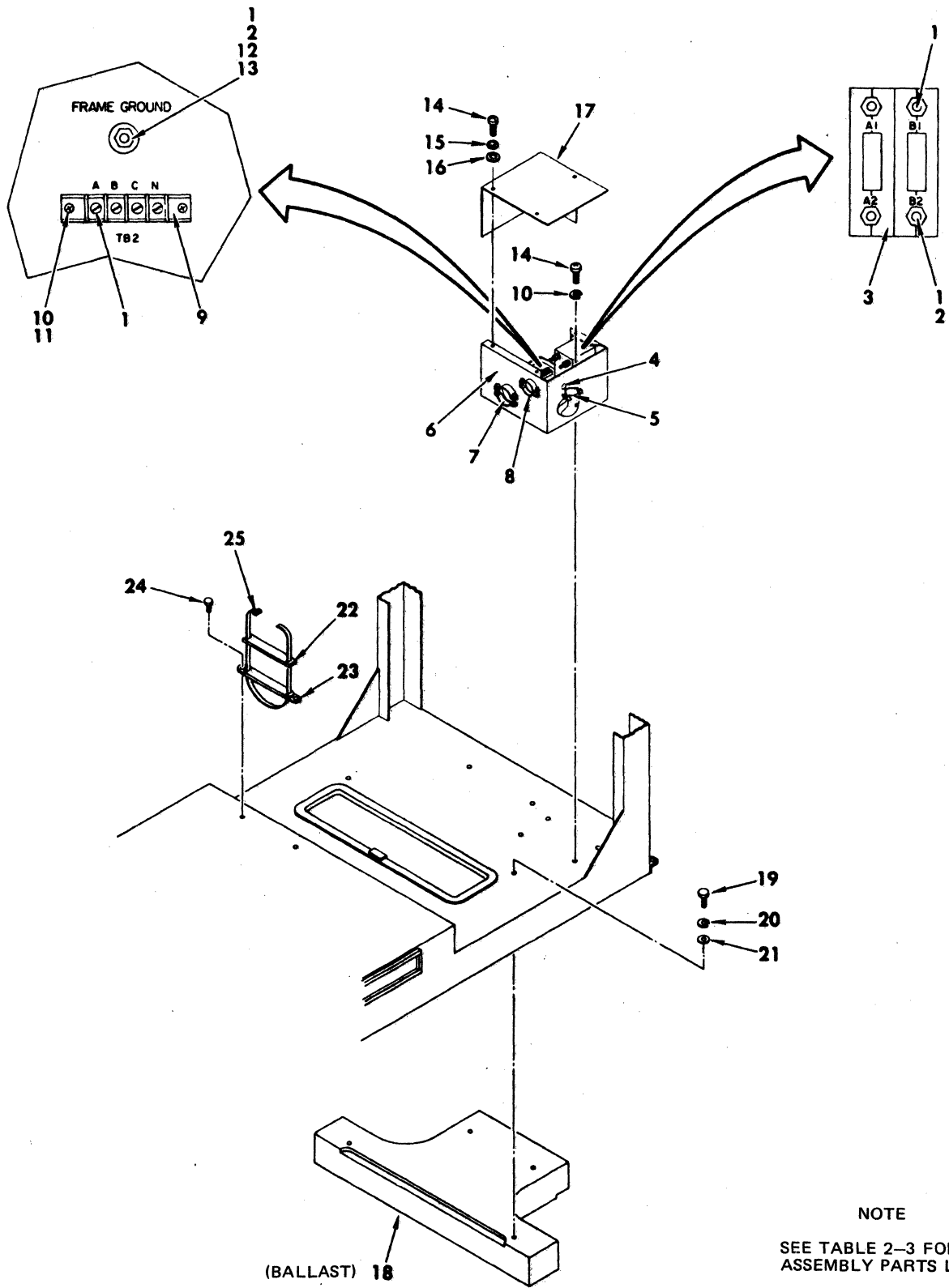


Figure 2-7 Location of Ballast and Circuit Breaker

### 2.2.2.1 Removing Cabinet Front Door Assembly

Remove the front door assembly as follows (see Figure 2-8 and Table 2-1):

1. Swing open cabinet's front door (Table 2-1, item 15).
2. Remove ground cable from door by pulling quick-disconnect fastener.
3. Grasp front door with one hand and remove hinged pin (item 19) from lower front door hinge (item 14).
4. Remove front door from cabinet.
5. Remove ground cable quick-disconnect hardware from front door ground lug and discard door. Retain quick-disconnect hardware for later installation on ground stud of lower front panel, as described in subsection 2.2.2.6, step 2.
6. Remove upper front door hinge and hardware (items 11, 8, and 9) from cabinet frame. This hinge and hardware may be discarded after installation.
7. Remove lower front door hinge and hardware (items 14 and 13) from cabinet frame. This hinge and hardware may be discarded after installation.
8. Remove latch keeper and hardware (items 20, 21, 22, and 23) from upper right-hand side of cabinet frame. This latch keeper and hardware may be discarded after installation.

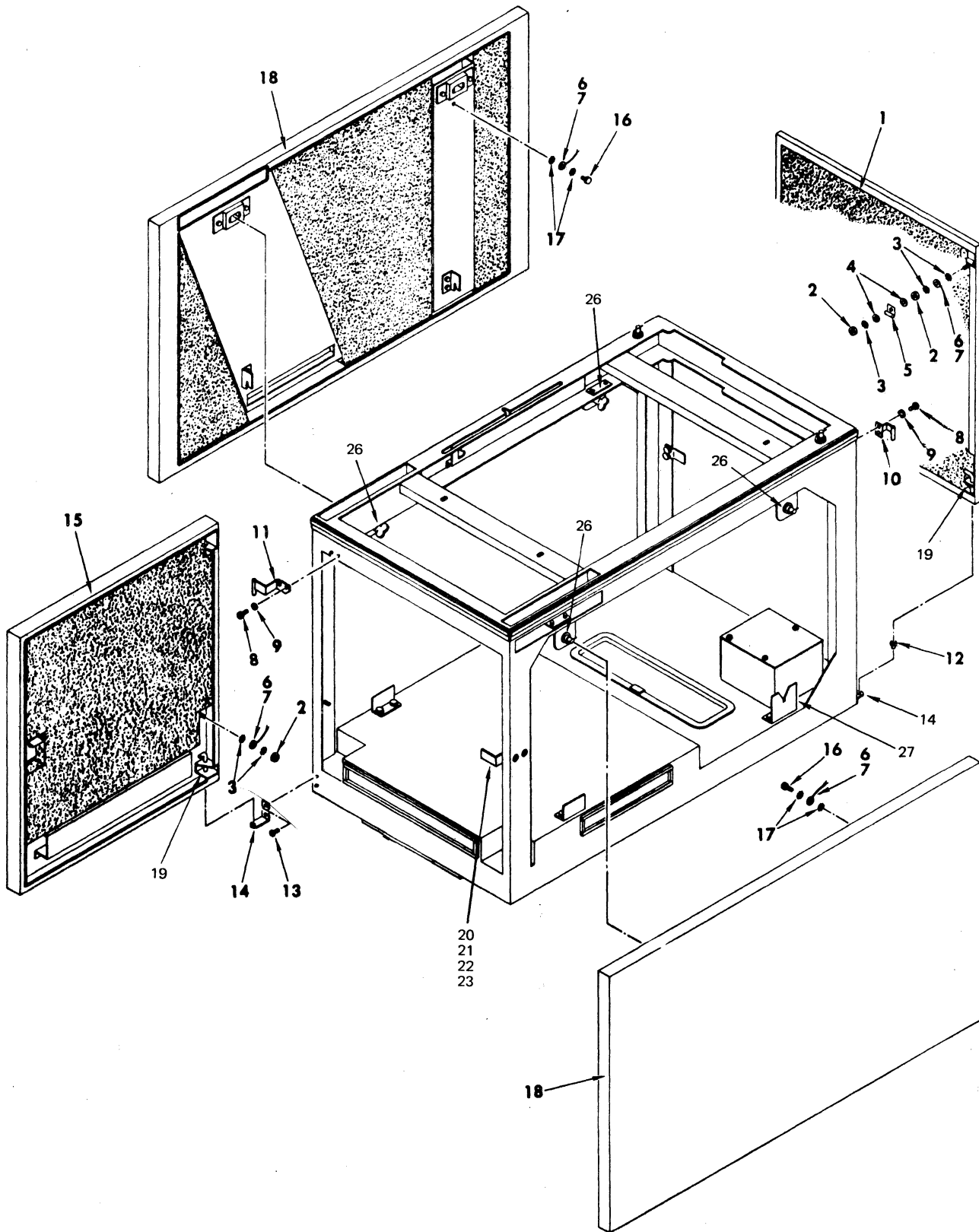


Figure 2-8 Free-Standing Cabinet Assembly

Table 2-1 Free-Standing Cabinet Assembly Parts List

INDEX NO.	PART NUMBER	PART DESCRIPTION
1		REAR DOOR ASSEMBLY
2	10125106	NUT, Hex, 8-32
3	10126402	WASHER, Lock, External Tooth, 8
4	10125606	WASHER, Flat, 8
5	92602002	CLAMP, Cable, Nylon
6	94274105	TERMINAL, Quick Connect
7	94281494	CABLE, Ground
8	10127142	SCREW, Machine, Pan Head, 10-32 x 3/8
9	10126105	WASHER, Lock, Internal Tooth, 10
10	76428300	HINGE, Top
11	77561700	HINGE, Door, Front, Upper
12	92373003	NYLINER, Snap In
13	10125747	SCREW, Flat Head, 10-32 x 1/2
14	77561600	HINGE, Door, Front, Lower
15		FRONT DOOR ASSEMBLY
16	93592428	SCREW, Hex Head, 10-32 x 3/8
17	10126403	WASHER, Lock, External Tooth, 10
18		SIDE PANEL ASSEMBLY
19	70948500	PIN Hinge
20	77561800	KEEPER, Latch
21	10125108	NUT, Hex, 10-32
22	10126105	WASHER, Lock, Internal Tooth, 10
23	10125607	WASHER, Flat, 10
24	93947004	CONNECTOR, Pin Housing (J400)
25	93948003	CONNECTOR, Pin Housing (P400)
26		FASTENERS, 1/4-turn
27	75007400	BRACKET, Panel, Side

2.2.2.2 Removing Cabinet Rear Door Assembly

Remove the rear door assembly as follows (see Figure 2-8 and Table 2-1):

NOTE

The rear door will be reinstalled after the expansion drawer has been installed.

1. Swing open rear door to cabinet (Table 2-1, item 1).
2. Remove tie wrap near fan cable and disconnect fan cable connectors (items 24 and 25).
3. Remove ground cable from door by pulling quick-disconnect fastener.
4. Grasp rear door with one hand and remove hinged pin (item 19) from lower rear door hinge (item 26).

5. Remove rear door from cabinet and place rear door aside. Return hinged pin (item 19) to lower rear door hinge (item 14).

#### 2.2.2.3 Removing Cabinet Side Panel Assemblies

Remove left and right side panel assemblies as follows (see Figure 2-8 and Table 2-1):

##### NOTE

The side panels will be reinstalled after drawer is installed.

1. From front of cabinet, release front 1/4-turn fastener on each side panel (Table 2-1, item 26).
2. From the rear of cabinet, remove ground cable from each side panel by pulling quick-disconnect fastener.
3. From rear of cabinet, release rear 1/4-turn fastener on each side panel (item 26).
4. Lift each side panel assembly up and out to clear rear side panel brackets (item 27) and place each panel aside.
5. Within cabinet, locate 1/4-turn fasteners (item 26) and push each fastener back into its panel bracket (item 28). Tape each fastener in place to prevent this hardware from falling back and scraping sides of drawer's case assembly when drawer is first installed.

#### 2.2.2.4 Installation of Slide Assemblies Into the Cabinet

The installation procedure for the right-hand and left-hand slide assemblies is as follows:

1. Locate right-hand and left-hand slide assemblies (see Figures 2-5 and 2-9).
2. Loosen adjusting screws and adjusting nuts (see Figure 2-5, item ①) on each slide assembly so that rear recess bracket (see Figure 2-5, item ⑤) can slide back and forth easily.
3. Push both slide assemblies into fully closed position and set slide assemblies aside.
4. Locate two nut plates (see Figure 2-9, item 12) in hardware accessory package supplied with slide kit and see CAUTION below prior to installation.

## CAUTION

The nut plate's four holes are drilled off center and must be installed with narrow side in towards slides at each corner of the cabinet frame. If installed backwards, the drawer will not slide in and out of cabinet properly.

5. From front of cabinet, loosely install one nut plate on each side of cabinet frame, ensuring that narrow side of nut plate is facing in toward drawer to be installed. Use hardware indicated in Figure 2-9 and Table 2-2.
6. From rear of cabinet, loosely install one nut plate on each side of cabinet frame, ensuring that narrow side of each nut plate is facing in toward drawer to be installed. Use hardware indicated in Figure 2-9 and Table 2-2.
7. Tighten screws holding nut plates with an allen wrench through access hole in frame; however, ensure that nut plates are loose enough so that slotted ends of slide assembly can be inserted between nut plates and frame.
8. Locate both slide assemblies and adjust position of rear recess bracket (see Figure 2-5, item ⑤) so that slide assemblies can be positioned in cabinet frame.
9. Position slide assemblies in cabinet frame with both slide's full extension release (on inner slide) down and to the outside (adjusting screws and nuts should be facing out to side of cabinet) as shown in Figure 2-5.

### NOTE

Ensure slides are fully engaged with nut plate before tightening.

10. Tighten mounting hardware securing slide assemblies to frame and tighten adjusting screws and adjusting nuts that secure rear recess bracket to main bracket (see Figure 2-5).
11. Ensure that slide assemblies are aligned both horizontally and vertically and that they are parallel.



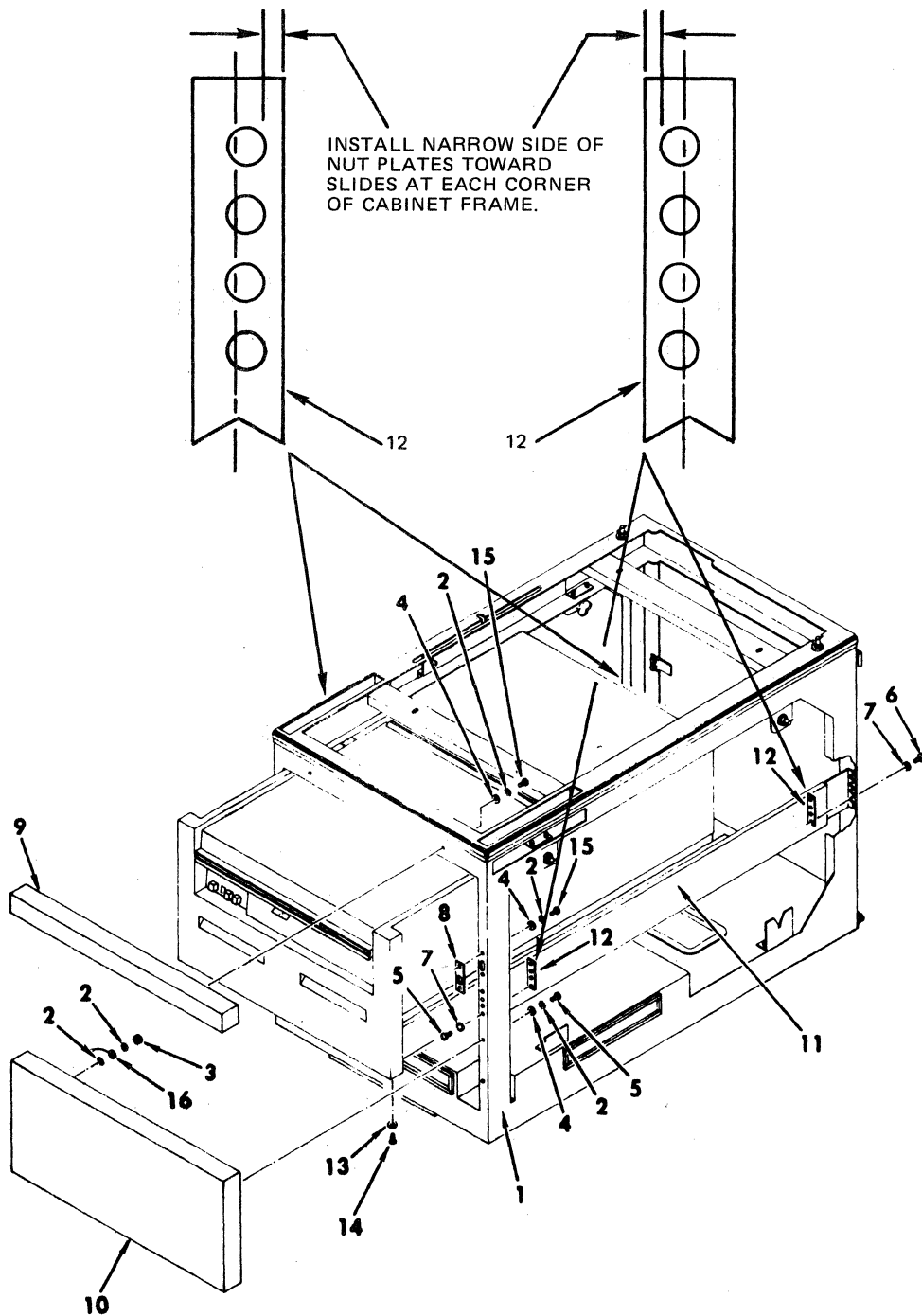


Figure 2-9 Expansion Drawer Assembly

Table 2-2 Expansion Drawer Assembly Parts List

INDEX NO.	PART NUMBER	PART DESCRIPTION
1		FRAME ASSEMBLY
2	10126402	WASHER, Lock, External Tooth, 8
3	10125106	NUT, Hex, 8-32
4	10125606	WASHER, Flat, 8
5	10127143	SCREW, Machine, Pan Head, 10-32 x 1/2
6	10126244	SCREW, Socket, Hex Head, 10-32 x 3/8
7	10126105	WASHER, Lock, Internal Tooth, 10
8	76428100	KEEPER, Latch
9	76428658	PANEL, Front, Upper
10	77562758	PANEL, Front, Lower
11	94393001	SLIDE
11	94393000	SLIDE (Not Shown)
12		PLATE, Nut
13	76422600	WASHER, Special
14	10125746	SCREW, Flat Head, 10-32 x 3/8
15	10127122	SCREW, Machine, Pan Head, 8-32 x 3/8
16		CABLE, Ground

#### 2.2.2.5 Installation of Latch Keepers

The installation of the latch keepers is as follows:

1. Locate latch keepers (Table 2-2, item 8) within supplied hardware.
2. From front of cabinet, loosely install a latch keeper on right-hand and left-handed sides of cabinet frame as shown in Figure 2-9, using hardware supplied (Table 2-2, item 8, and two sets of items 5 and 7).

#### 2.2.2.6 Installation of Lower Front Panel

The installation of the lower front panel is as follows:

1. Locate lower front panel supplied with shipment of expansion drawer (see Table 2-2, item 10, and Figure 2-9).
2. Locate ground stud inside lower front panel and install same ground cable quick-disconnect hardware that was on front door assembly in subsection 2.2.2.1, step 5.
3. From front of cabinet, place lower front panel at base of cabinet with ground stud to left and air circulating cut-out facing up and loosely fasten panel to cabinet frame using supplied hardware (Table 2-2, item 10, and four sets of items 2, 4, and 15), as shown in Figure 2-9.
4. Connect lower front panel ground cable to cabinet cable quick-disconnect.

### 2.2.2.7 Installation of Upper Front Panel

The installation of the upper front panel is as follows:

1. Locate upper front panel supplied with shipment of expansion drawer (see Table 2-2, item 9, and Figure 2-9).
2. From front of cabinet, place upper front panel into highest position (next to upper unit), as shown in Figure 2-9, and loosely fasten panel to cabinet frame, using supplied hardware (Table 2-2, item 9, and two sets of items 4, 2, and 15).

### 2.2.3 Installation of Expansion Drawer

The installation of the drawer into the mass storage unit cabinet is as follows:

1. At cabinet, pull both slides out to their fully extended position by pressing full extension releases (see Figure 2-5).
2. Ensure that all slide assembly mounting hardware is secure.
3. Ensure that the four 1/4-turn fasteners (see Figure 2-8, item 26) are taped into their panel brackets on cabinet frame.
4. Ensure that instructions on expansion drawer in subsection 2.2.1 have been completed.
5. To facilitate assembly and prevent damage to equipment, remove case before installing drawer on slide assembly as follows:
  - a. Open case assembly from rear and pivot it forward on case pivot pin until it rests on case support rod.
  - b. Remove ground cable by pulling it from quick-disconnect terminal.
  - c. Disengage support rod from slot in frame while supporting case.
  - d. While still supporting case, slide case pivot pins (both sides) towards center of unit and disengage pivot pins from brackets.
  - e. Lift off drawer mount case and place it aside.
6. Coil ac power cord on top of drawer so that it will be out of the way when lifting unit.

## WARNING

To avoid injury to personnel and damage to the equipment, at least two men are required to handle the mass storage unit expansion drawer.

7. Carefully lift expansion drawer to fully extended slide assemblies on cabinet.
8. Engage mounting tooth on quick-disconnects with mounting slot on outer slide (see Figure 2-5).
9. Use care not to exert undue downward pressure on slides or cabinet may tip forward.
10. Ensure that mounting block is properly seated in mounting notch (see Figure 2-5).
11. Slide quick-disconnect catch (see Figure 2-5) into position under outer slide and tighten nuts.
12. With drawer securely in position on slides, route drawer's ac cord to rear of cabinet.
13. Locate drawer mount case set aside in step 5.d of this subsection.
14. Install drawer mount case on drawer as follows:
  - a. Place drawer mount case upright over drawer and engage both case pivot pins with brackets on front left- and right-hand side of drawer.
  - b. Engage drawer mount case support rod with slot on drawer.
  - c. Connect ground cable on drawer mount case with quick-disconnect terminal on drawer.
15. Close the drawer mount case as follows:
  - a. Pivot drawer mount case down toward drawer while lifting hinged panel out in order to clear rear of actuator assembly.
  - b. With drawer mount case still raised slightly, push hinged panel into place against back and rear of drawer.

## **CAUTION**

Do not drop the drawer mount case assembly all the way down. This will cause damage to the top cover release catches.

- c. While holding down hinged panel at rear of drawer, push down on drawer mount case from top. Release catches should snap into place.
16. From front of cabinet, press in to release full extension locks and then carefully slide drawer into cabinet, ensuring that upper front panel and lower front panel are not binding. Adjust upper and lower panels, if necessary, and tighten hardware. Gasket on case assembly air intake (front) should be touching lower front panel.
17. Slide drawer in and out several times to ensure that it slides freely and that binding does not occur. If binding occurs, slide assemblies are not properly aligned. (Loosen nut plate and adjust to proper alignment.)
18. Align both latch keepers (see Figure 2-9, item 8), on both sides of cabinet, with drawer catches when drawer is in closed position and tighten hardware securing latch keepers.
19. Slide drawer in and out several times to ensure that drawer is locking properly when closed.

### 2.2.4 Installation of Expansion Drawer's AC Power Cord

The installation of the expansion drawer's ac power cord to the cabinet's circuit breaker box is as follows:

1. Locate circuit breaker box at the rear of cabinet on left-hand side (see Figure 2-7 and 2-10 and Table 2-3, item 6).
2. Remove outer shell of right-angle connector (Table 2-3, item 5) by unfastening two screws.
3. Remove circuit breaker box cover (item 17) by removing three sets of attaching hardware (items 14, 15, and 16).
4. Loosen right-angle connector (item 5) from circuit breaker box (item 6), turn right-angle connector up to a 45° angle toward front of cabinet, and retighten right-angle connector to circuit breaker box.
5. Loosen cable clamp (item 8) holding ac power cord from upper unit of cabinet.

6. Detach circuit breaker (item 3) from its mounting by removing its attaching hardware (four screws).
7. Remove protective tape from terminals at end of drawer's ac power cord.
8. Route drawer's ac power cord through right-angle connector and into circuit breaker box. Make a 360° service loop and place loop flat on bottom of cabinet (see Figure 2-11).
9. Referring to Figure 2-10, install ac power cord as follows:
  - a. Connect brown wire on ac cord to circuit breaker terminal A2.
  - b. Connect blue wire on ac cord to circuit breaker terminal B2.
  - c. Connect green wire on ac cord to FRAME GROUND stud within circuit breaker box.
10. Remount circuit breaker (Table 2-3, item 3) to front of circuit breaker box using attaching hardware.
11. Ensure that all wire terminals on circuit breaker's terminals are securely fastened by testing them and tightening them as necessary.
12. Tighten cable clamp (item 8) holding ac power cord from upper unit of cabinet.
13. Replace circuit breaker box cover (item 17) by fastening the three sets of attaching hardware (items 14, 15, and 16).

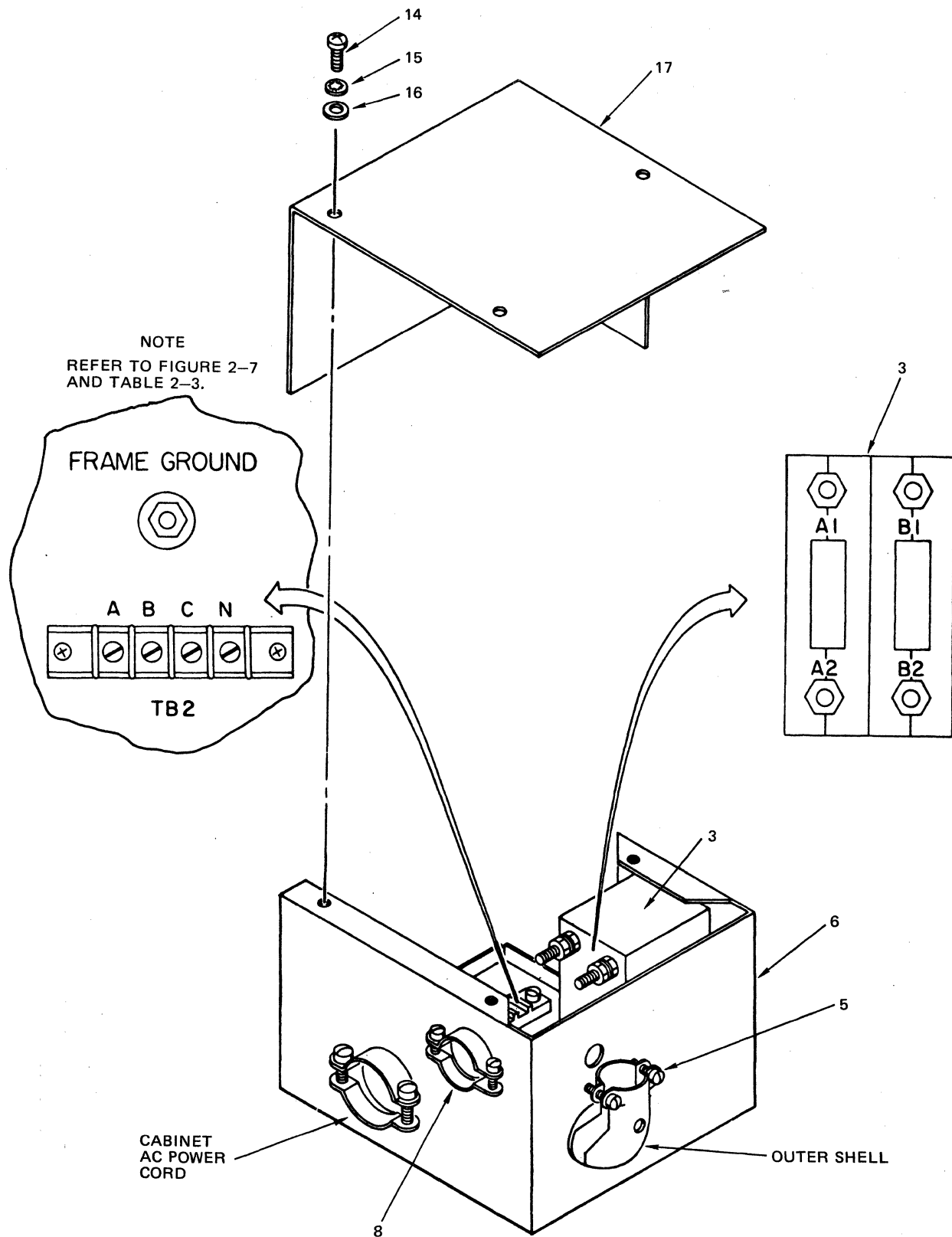


Figure 2-10 Cabinet Circuit Breaker Box

Table 2-3 Circuit Breaker Assembly Parts List  
(see Figures 2-7 and 2-10)

INDEX NO.	PART NUMBER	PART DESCRIPTION
1	93541023	TERMINAL, Ring Tongue
2	93541012	TERMINAL, Ring Tongue
3	94245220	CIRCUIT BREAKER
4	92491007	RELIEF, Cord
5	93299001	CONNECTOR, Right Angle
6	47171400	BOX, Circuit Breaker
7	92801002	CLAMP, Cable
8	92801001	CLAMP, Cable
9	94272329	BLOCK, Terminal Board
10	10125804	WASHER, Lock, Spring, 8
11	10127124	SCREW, Machine, Pan Head, 8-32 x 5/8
12	10126403	WASHER, Lock, External Tooth, 10
13	10125107	NUT, Hex, 10-24
14	10127121	SCREW, Machine, Pan Head, 8-32 x 5/16
15	10126104	WASHER, Lock, Internal Tooth, 8
16	10125606	WASHER, Flat, 8
17	47171500	COVER, Box, Circuit Breaker
18	77563300	BALLAST
19	10126502	SCREW, Hex Head, 1/4-20 x 3/4
20	10125806	WASHER, Lock, Spring, 1/4
21	10125608	WASHER, Flat, 1/4
22	94386402	MOUNT, Cable (Plate)
23	94386407	MOUNT, Cable (Base)
24	93590202	SCREW, Self Tapping, 8-32 x 1/2
25	94277422	STRAP, Cable, Large
	94277401	STRAP, Cable, Small
	94277406	STRAP, Cable, Clamp
	10127123	SCREW, Machine, Pan Head, 8-32 x 1/2
	10126104	WASHER, Lock, Internal Tooth, 8
	10125606	WASHER, Flat, 8
	94238903	LABEL, Caution (Circuit Breaker)



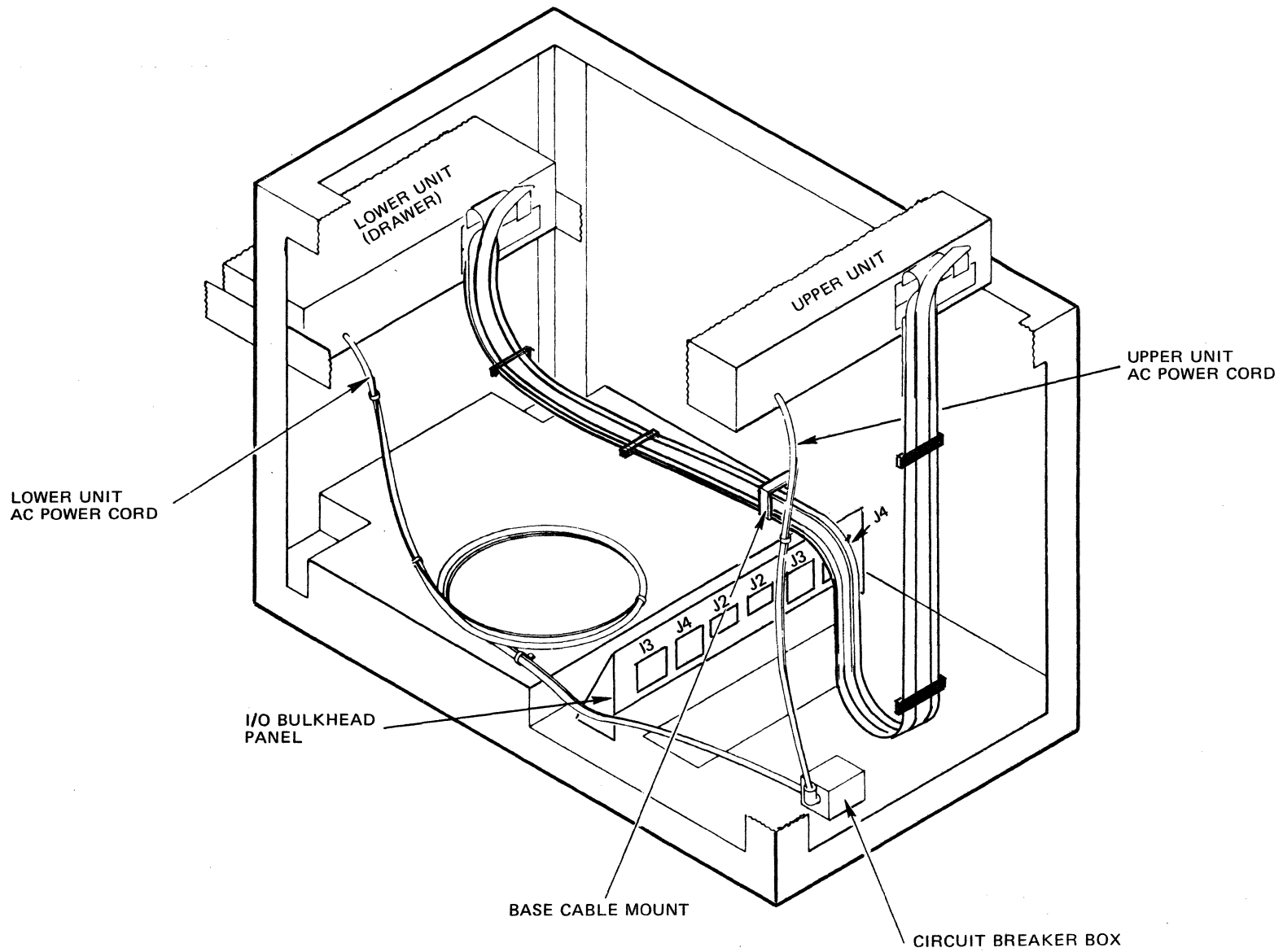


Figure 2-11 General Cabling of Expansion Drawer

## 2.2.5 Installation of I/O Cables

### 2.2.5.1 Installation of I/O Cables to Bulkhead I/O Panel

The connection of the I/O cable assemblies to the I/O bulkhead panel within the cabinet is as follows (see Figures 2-11 and 2-12):

1. Open expansion drawer to its fully extended position and lift drawer mount case.
2. Locate the three I/O cable assemblies supplied with drawer shipment and several plastic bags of accessories.
3. Locate I/O bulkhead panel within cabinet and place the three I/O cables between I/O bulkhead panel and extended drawer.
4. From LOWER UNIT portion of I/O bulkhead panel, locate J2 connector slot. From rear of I/O bulkhead panel, insert the A5J2 bulkhead receptacle of that I/O cable into J2 slot with pin A at upper right, and fasten as follows (see Figure 2-12):
  - a. Insert gold plated corner guide pins (male-94288101) in top left- and right-hand corner holes of A5J2 receptacle.
  - b. Insert gold plated corner guide sockets (female - 94288100) in bottom left- and right-hand corner holes of A5J2 receptacle.
  - c. Insert silver zinc female threaded jackscrew (93643007) in middle hole at top and bottom of A5J2 receptacle.
5. From the LOWER UNIT portion of I/O bulkhead panel, locate J3 connector slot. From rear of I/O bulkhead panel, insert A5J3 bulkhead receptacle of that I/O cable into J3 slot with pin 1 at lower left, and fasten as follows (see Figure 2-12):
  - a. Insert corner guide pins (male-93642004) in top left- and right-hand corner holes of A5J3 receptacle.
  - b. Insert corner guide sockets (female-94288110) in bottom left- and right-hand corner holes of A5J3 receptacle.
  - c. Insert male jackscrew (93643006) in second top left-hand hole of A5J3 receptacle.
  - d. Insert male jackscrew (93643006) in second bottom right-hand hole of A5J3 receptacle.

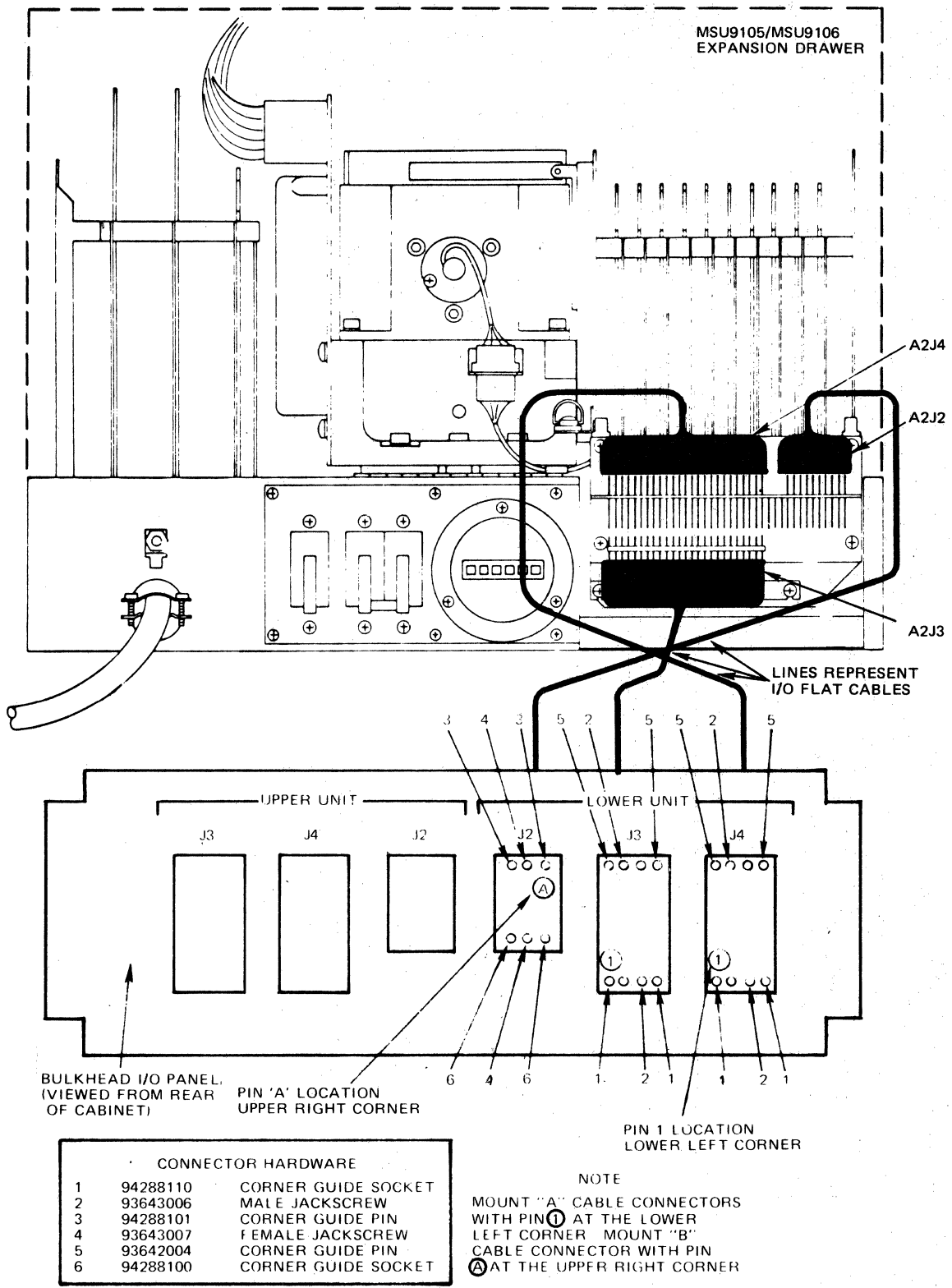


Figure 2-12 I/O Cable Connections

6. From LOWER UNIT portion of bulkhead I/O panel, locate J4 connector slot. From rear of I/O bulkhead panel, insert A5J4 bulkhead receptacle of that I/O cable into J4 slot with pin 1 at lower left, and fasten as follows (see Figure 2-12):
  - a. Insert corner guide pins (male-93642004) in top left- and right-hand corner holes of A5J4 receptacle.
  - b. Insert corner guide sockets (female-94288110) in bottom left- and right-hand corner holes of A5J4 receptacle.
  - c. Insert male jackscrew (93643006) in second top left-hand hole of A5J4 receptacle.
  - d. Insert male jackscrew (93643006) in second bottom right-hand hole of A5J4 receptacle.

#### 2.2.5.2 Installation of I/O Cables to Expansion Drawer

The connection of the I/O cable assemblies to the expansion drawer is as follows (see Figure 2-11 and 2-12):

1. Open expansion drawer to its fully extended position.
2. At rear of drawer (see Figure 2-13) remove cable clamp (steel bar) and plastic spacer by removing two screws and washers. Set hardware aside temporarily.

**CAUTION**

As flat I/O cables from J3, J4, and J2 on the I/O bulkhead panel are routed to the expansion drawer for connection, keep the cables flat against each other and do not allow them to twist.

3. Locate J3 I/O flat cable and connect this cable's connector to J3 connector pins on drawer unit (see Figure 2-14) with pin 31 to left and pin 60 to right. Note that pins 31 through 60 are labeled on connector block on J3 I/O flat cable (see Figure 2-14).
4. Locate plastic spacer, two screws, and washers and mount plastic spacer into position against J3 I/O flat cable and J3 connector as shown in Figure 2-13. Hold spacer in place by loosely inserting the two screws and washers into the two screw mounting holes.

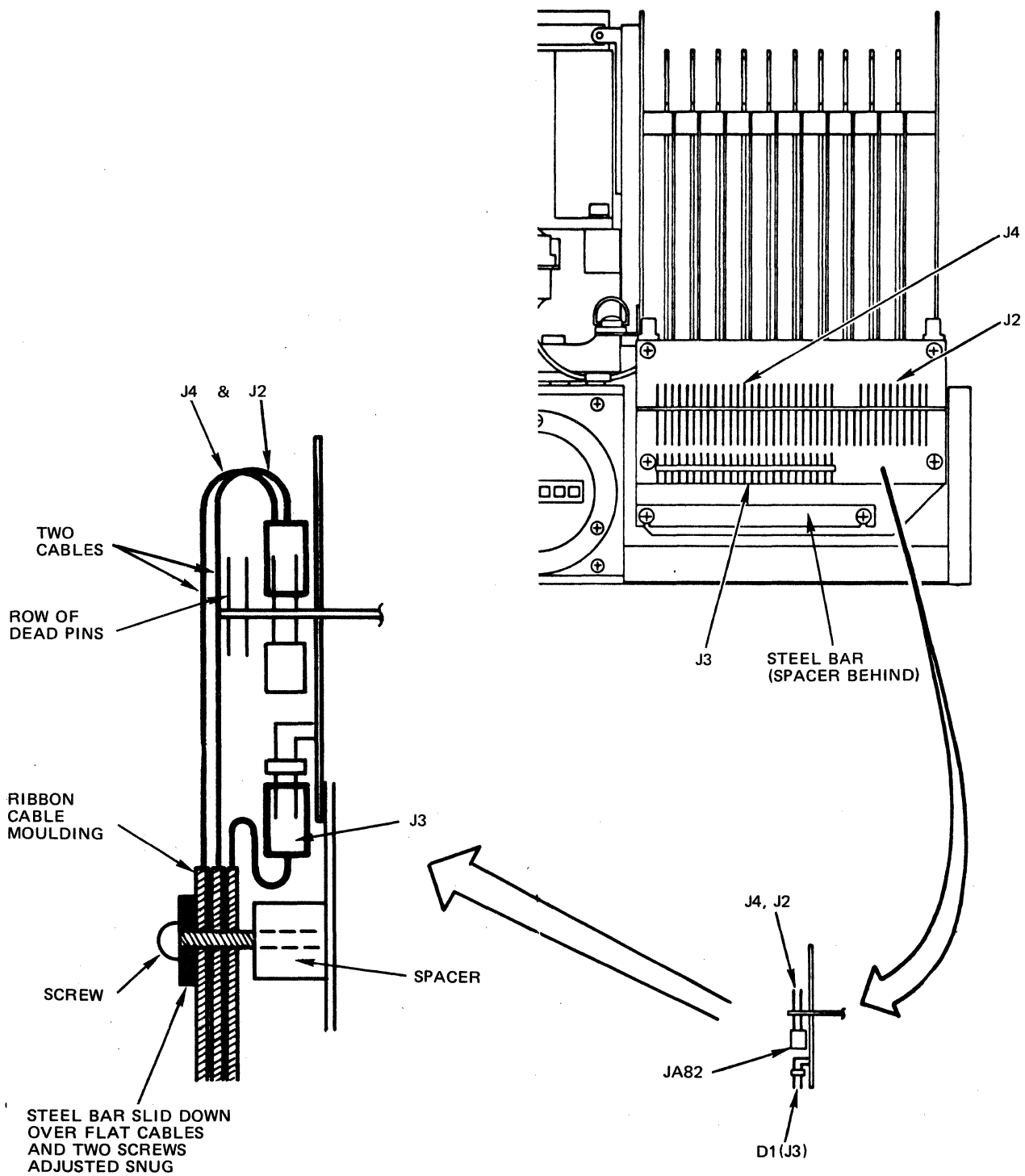


Figure 2-13 I/O Flat Cable Connection to Drawer

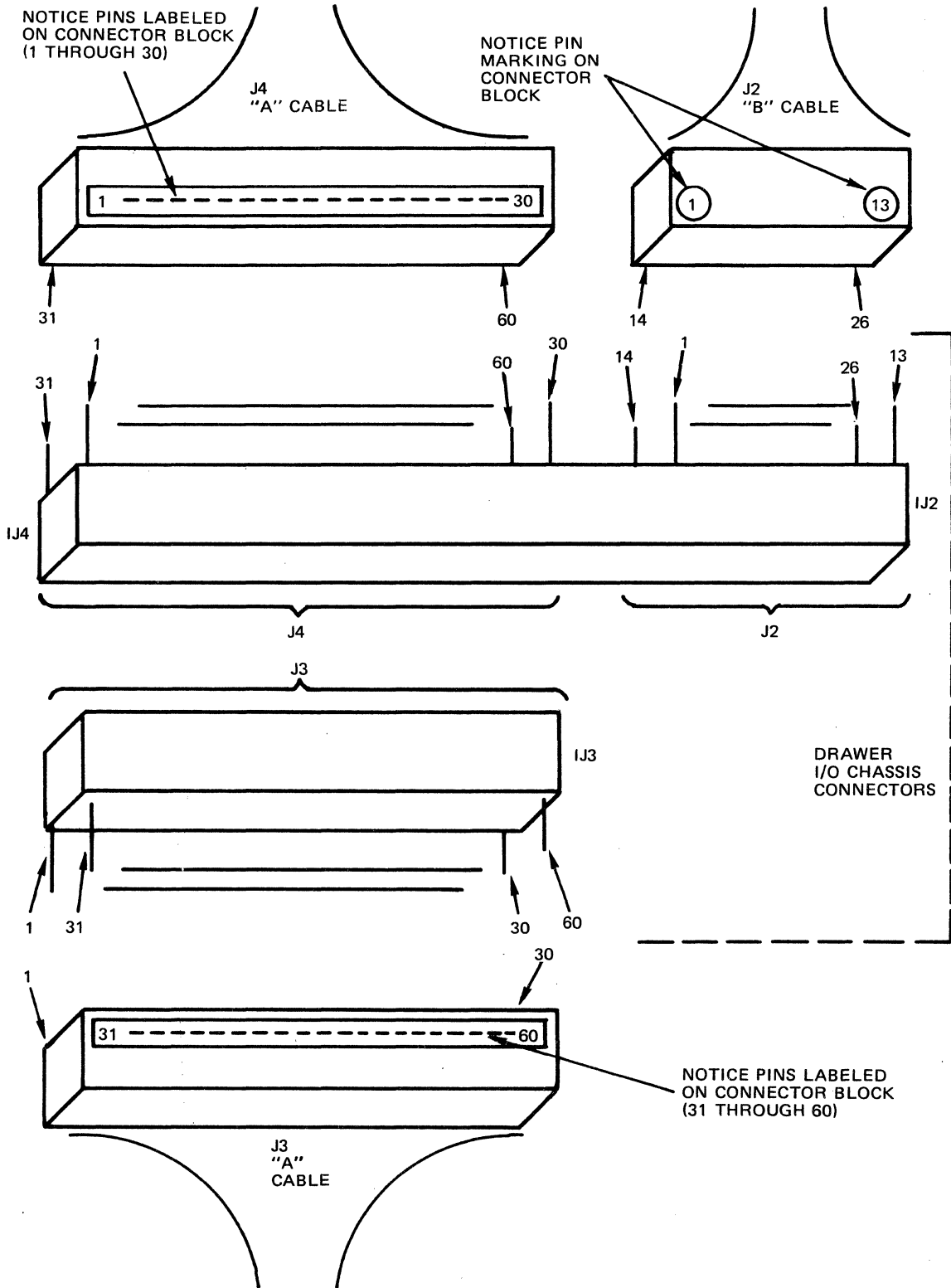


Figure 2-14 I/O Flat Cable to Drawer Pin Orientation

5. Locate J4 I/O flat cable and connect this cable's connector to J4 connector pins on drawer unit (see Figure 2-14) with pin 1 to left and pin 30 to right. Note that pins 1 through 30 are marked on connector block on J4 I/O flat cable.
6. Locate J2 I/O flat cable and connect this cable's connector to J2 connector pins on drawer unit (see Figure 2-14) with pin 1 to left and pin 13 to right (pin 14 to left and pin 26 to right). Note that these pin numbers are marked on connector block.
7. Adjust the three flat I/O cables in cable clamp area so that ribbon molding will be gripped by cable clamp when it is tightened (i.e., single strands of wire at cable connector should be above cable clamp when it is in position).
8. Slide steel bar (see Figure 2-13) down over the three flat cables and under the two screw heads.
9. With cable clamp in position over flat cables, tighten the two screws and washers to only a snug fit.

#### 2.2.5.3 Dressing and Clamping I/O Flat Cables in Cabinet

The cable dressing and clamping procedure is as follows:

1. Open expansion drawer to its fully extended position and lift drawer mount case.
2. Place logic chassis in maintenance position.
3. Within cabinet, install base cable mount and strap (see Figure 2-7 and 2-11), using the two screws (Table 2-3, items 23, 24, and 25).
4. Within cabinet, pull group of three I/O cables attached to drawer back to base cable mount position in back of I/O bulkhead panel (see Figure 2-11). There should be a few inches of slack left in the three cables.
5. Locate plate cable mount (Table 2-3, item 22) and place it on tie wrap at base cable mount position, as shown in Figure 2-7, and around group of three I/O flat cables folded there and pull tie wrap tight.
6. Any additional flat cable length may be placed in back of I/O bulkhead panel and tie wrapped to it.

7. Place two pairs of plastic clamps on the three flat cables between logic cage clamp and base mount clamp. Adjust the three cables so they lie flat against frame (see Figure 2-11). This step is important to ensure that cable assembly will not snag when drawer is opened and closed.
8. Lower and close drawer mount case.
9. Close and open expansion drawer several times to ensure cable assembly rolls under drawer unit without snagging.

#### 2.2.6 Reinstalling Rear Door and Side Panels

##### 2.2.6.1 Reinstall Rear Door

Reinstall the rear door to the cabinet as follows:

1. Remove hinged pin (Table 2-1, item 19) stored in lower rear door hinge (item 14).
2. Place door into position at rear of cabinet by hanging rear door on top hinge and inserting hinged pin in lower rear door hinge.
3. Reconnect fan cable connectors (Table 2-1, items 24 and 25) and tie wrap fan cable.
4. Reconnect ground cable quick-disconnect fasteners.
5. Check closing of door to see if there is any binding.

##### 2.2.6.2 Reinstall Panels

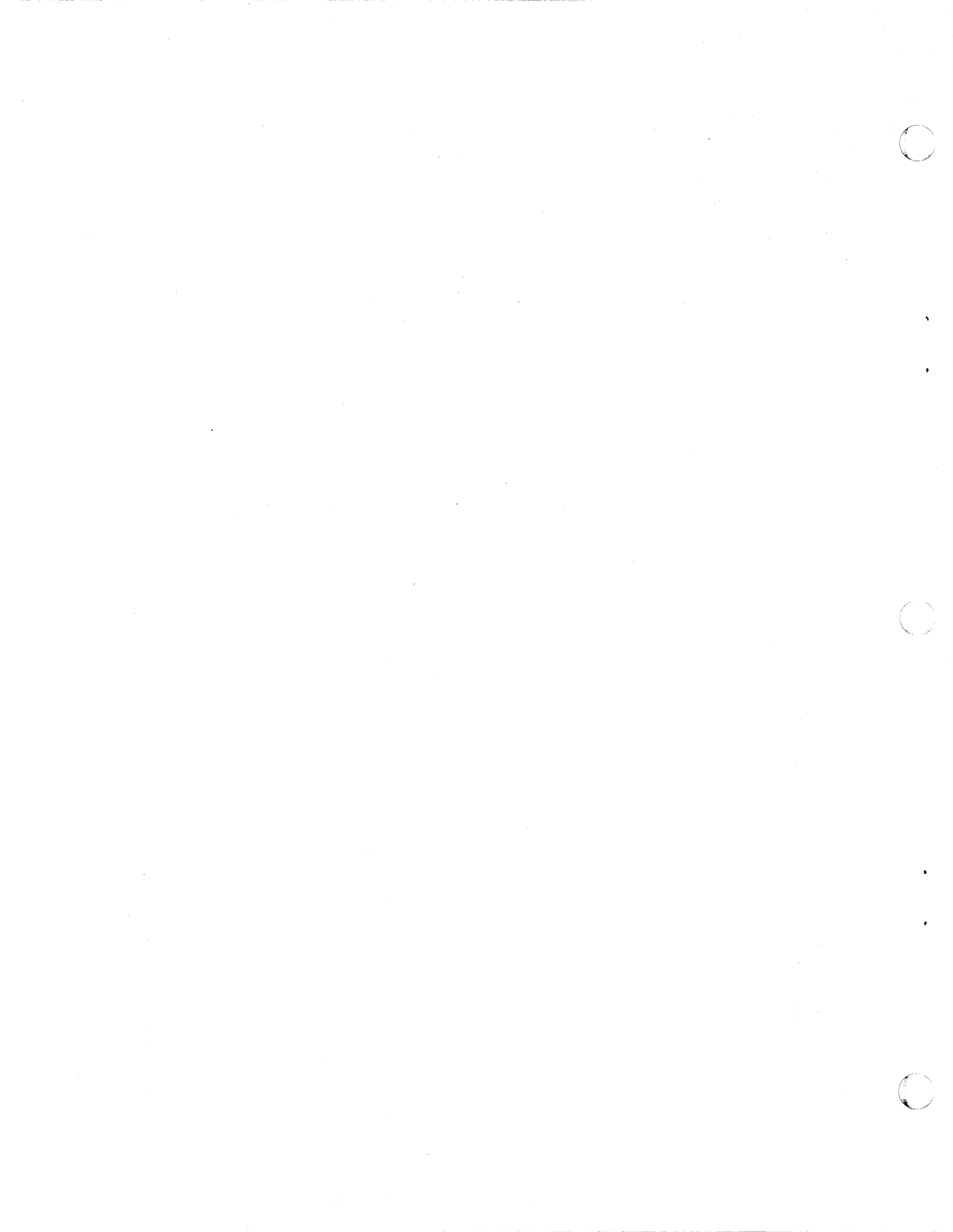
Reinstall the left and right side panels to the cabinet as follows (drawer unit must be fully extended):

1. Pull tape off the four 1/4-turn fasteners (Table 2-1, item 26).
2. Place both side panels on cabinet and secure each panel by locking 1/4-turn fasteners on cabinet.
3. Connect ground wire quick-connect fastener on each side panel.

#### 2.2.7 Reconnecting Mass Storage Unit Cabinet to System

To reconnect the mass storage unit cabinet to the system, follow the instructions given in subsection 2.2 (Cabinet Placement) and subsection 2.5 (Cabling Instructions for Two Mass Storage Unit Cabinets with One Expansion Drawer per Cabinet) in the MSU9101/9102 Mass Storage Unit Installation Procedure (Order No. FX73).





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