DEC 3000 Models 500/500S/800/800S/900/900S AXP Rackmount Installation Guide

Order Number: EK-R355S-IN. C01

Revision/Update Information: This a revised document.

September 1994

This guide is a support and reference document for Digital service personnel who install DEC 3000 Model 500/500S/800/800S/900/900S AXP rackmount systems. The guide is also intended for Digital customers who have qualified maintenance personnel and choose to perform their own maintenance.

Digital Equipment Corporation
Maynard, Massachusetts

September 1994

The postpaid Reader's Comments forms at the end of this document request your critical evaluation to assist in preparing future documentation.

This document was prepared using VAX DOCUMENT Version 2.1.

Contents

4 Using the Rackmount System

A DEC 3000 Model 500/500S/800/800S/900/900S AXP Pedestal-to-Rackmount Conversion

Figures

Tables

Preface

About This Guide

Purpose and Audience

This guide is a support and reference document for Digital service personnel who install DEC 3000 Model 500/500S/800/800S/900/900S AXP rackmount systems. The guide is also intended for Digital customers who have qualified personnel and choose to perform their own maintenance.

Organization

This guide is organized as follows:

- Chapter 1—Provides an overview of the PE5XH-CC/CD rackmount kit and describes where it can be installed.
- Chapter 2—Provides instructions for verifying that the preselected installation site meets the physical requirements for rack mounting the system.
- Chapter 3—Describes how to install the system in a cabinet using an H9A00–AJ cabinet as an example.
- Chapter 4—Describes how to gain access to system components after the rackmount kit is installed.
- Appendix A—Explains how to convert the pedestal DEC 3000 Model 500/500S/800/800S/900/900S AXP systems to a rackmountable system.

Conventions Used in This Guide

This guide uses the following conventions:

Convention	Meaning
Note	A note calls the reader's attention to any item of information that may be of special importance to the reader.
Caution	A caution contains essential information to avoid damage to the system.
Warning	A warning contains information essential to the safety of personnel.
❶	Circled numbers provide a link between figures and text.

Safety Symbol

This Attention symbol is used to alert the reader about specific safety conditions, and to instruct the reader to read other instructional material in this manual.

Related Documentation

The following documents provide additional information about the DEC 3000 Model 500/500S/800/800S/900/900S AXP systems:

Document	Order Number
DEC 3000 Model 500/500S AXP Owner's Guide	EK–FLAMI–OM
DEC 3000 Model 500/500S AXP Options Installation Guide	EK–FLAMI–IG
DEC 3000 Model 500/500S AXP Service Information	EK–FLAMI–SV
DEC 3000 Model 500/500S AXP Technical Summary	EK–FLASA–TM
DEC 3000 Model 800/800S/900 AXP Options Guide	EK–FLMUL-OP
DEC 3000 Model 800/800S/900 AXP Owner's Guide	EK–FLMUL-OG
DEC 3000 Model 800/800S AXP Service Information	EK–FLMUL-SV
DEC 3000 Models 700 AXP and 900 AXP Service Information Addendum	EK-FLSPC-AD
Site Environmental Preparation Guide	EK-CSEPG-MA

1

System Overview

Chapter Overview

Introduction

The DEC 3000 Model 500 AXP (PE50A–B9), Model 500S AXP (PE50A–D9), Model 800 AXP (PE52A–B9), Model 800S AXP (PE52A–D9), or Model 900/900S (PE54A–B9) system can be installed in a standard 19-inch cabinet (H9A10, H9A00, H9602, H9646, and H9702) conforming to RETMA standards using the rackmount kit PE5XH–CC or –CD.

In This Chapter

This chapter provides information on:

- Available rackmount kits
- Cautions concerning installing the system in an attached cabinet
- How the installed system can be accessed

The Rackmount System

The Rackmount Kits

There are two kits available for installing DEC 3000 Model 500/500S/800/800S/900/900S AXP systems into a standard 19-inch cabinet:

- PE5XH-CC (Rackmount Kit)
- PE5XH-CD (Pedestal Rackmount Kit)

Chapter 2 describes the contents and installation instructions of these kits.

Attached Cabinet Installation Caution

Caution

When installing the system in a cabinet system with two or more attached cabinets, internal divider panels (not provided) must be in place between cabinets to ensure proper cooling for the installed rackmount system.

Purpose of the Rackmount Kit

The rackmount kit provides easy access for servicing and maintenance of DEC 3000 Model 500/500S/800/800S/900/900S AXP systems that are contained in cabinets.

Once installed, the rackmount kit allows the system to be pulled out of the cabinet for servicing without disconnecting the system. The top cover can be removed to gain access to the modules and other components in the top of the system box. The system box can also be pivoted upward and an access panel removed to gain access to the drives in the bottom of the system.

2

Preparing to Install the System

Chapter Overview

Introduction

Before installing the DEC 3000 Model 500 AXP (PE50A–B9), Model 500S AXP (PE50A–D9), Model 800 AXP (PE52A-B9), Model 800S AXP (PE52A-D9), or Model 900/900S AXP (PE54A-B9) rackmount system, you must:

- Verify that the installation site meets the required environmental conditions.
- Unpack the system.

In This Chapter

This chapter covers the following topics:

- Verifying the Installation Site
- Tools Required
- Unpacking the Rackmount Kit

Verifying the Installation Site

System Warranty Caution

Caution

Review your system warranty. It may require that a Digital service representative install your system to prevent damage to equipment or software.

Preinstallation Considerations

Before installing the rackmount server system, make sure:

- All cables that you plan to connect to the rackmount system are in place and clearly labeled:

  Terminal data cables
  Telephone cables
  Network cables

- The specifications and environmental conditions listed in the system owner's guide are met. For additional information about planning and preparing the installation site for a computer network or free-standing system, refer to the *Site Environmental Preparation Guide* (EK-CSEPG-MA) (not shipped with the system).
- The system is located in an area that provides 61 centimeters (24 inches) clearance from the rear of the cabinet and 91 centimeters (36 inches) from the front of the cabinet for ventilation and servicing.
- The system has been converted from a pedestal to a rackmountable system if applicable. (See Appendix A for instructions.)

Attached Cabinet Installation Caution

Caution

When installing the system in a cabinet system with two or more attached cabinets, internal divider panels (not provided) must be in place between cabinets to ensure proper cooling for the installed rackmount system.

Airflow Caution

Caution

Do not impede airflow by obstructing the front and/or rear of the unit. Exceeding internal thermal limits can affect system reliability/availability.

Cabinet Stabilization Warning

Warning

The system weighs 27 to 41 kg (60 to 90 lbs). To prevent personal injury and equipment damage, ensure that the system is contained in an enclosure that can be stabilized when the system is pulled out on its slides.

It is the customer's responsibility to ensure that the enclosure can be stabilized.

Tools Required

The following tools are required to install the rackmount kit:

- Pencil
- Flat blade screwdriver
- Phillips screwdriver
- 5/16-inch hex socket head driver
- 1/2-inch open-end wrench or adjustable wrench
- Scissors

Unpacking the Rackmount Kit

Checking the Shipment

Note

Save all packing materials in case you need to return the rackmount kit.

Before installing the rackmount system, check that the kit contains the parts listed on the packing slip shipped with your system.

Note

Power cords are not shipped with PE5XH-CC kits. Be sure to use the country-specific power cord that is appropriate for the country in which the system is being installed.

The power cord should be a minimum length of 5 meters (15 feet).

If Parts Are Missing

If any parts are missing or damaged, contact your delivery agent immediately, and contact your Digital sales representative.

PE5XH-CC Factory Installable Kit Contents

The PE5XH-CC kit contains the items listed in Table 2–1.

Table 2–1 PE5XH-CC Parts List

Description	Part Number	Qty
5/16-18 keps nuts	90–06568–00	2
6-32 pan head screws	90–09984–00	6
8-32 keps nuts	90–06563–00	10
8-32 pan head screws	90–00062–23	33
10-32 ball studs	90–11337–01	4
10-32 bar nuts	74–48448–01	4
10-32 clip nuts	90–07786–00	10
10-32 hex head screws	90–10064–00	13
10-32 socket-head shoulder screws	12–24007–02	4
10-32 truss head screws	90–00063–39	16

(continued on next page)

Table 2–1 (Cont.) PE5XH-CC Parts List

Description	Part Number	Qty
10-mm ball studs	12–40128–04	2
10-mm ball stud clips	12–41430–01	2
Access cover	74–47582–01	1
Bezel assembly	70–30978–01	1
Bottom air baffle	74–47329–01	1
Bottom air deflector	74–47587–01	1
Bottom cover	74–47581–01	1
Cable tie bracket	74–40319–01	1
Cable ties	90–07032–00	17
Cable clamp	90–07082–00	1
Caution hazard label	36–24385–01	1
Flat washers	90–06661–00	8
Front support brace	74–47584–01	1
Gas cylinder	12–41477–01	1
Hinge	74–47586–01	1
Interlock actuator bracket	74–47382–01	1
Left hand (LH) slide mount bracket	74–47580–02	1
Left front mounting bracket	74–47327–01	1
Long slide mounting brackets	12–41431–02	2
Middle support brace (pivot block)	74–47585–01	1
Nuts	90–06561–00	8
Pivot Lock assembly	70–31505–01	1
Rear support brace	74–47583–01	1
Right front mounting bracket	74–47328–01	1
Right hand (RH) slide mount bracket	74–47580–01	1
Short slide mounting brackets	12–41431–01	2
Styrene grommet strips	90–09718–00	2
Split lockwashers	90–06690–00	8
Slide assemblies	12–41429–01	2
Top air baffle	74–47331–01	1

(continued on next page)

Table 2–1 (Cont.) PE5XH-CC Parts List

Description	Part Number	Qty
Top air deflector	74–47332–01	1
Twisted fingerstock	12–28434–01	6
Model ID label	36–43125–01	1

PE5XH-CD Field Installable Kit Contents

The PE5XH-CD kit contains the items listed in Table 2–1 and Table 2–2.

Note

PE5XH-CD kits are shipped with a 120-volt U.S. power cord. Be sure to use the country-specific power cord that is appropriate for the country in which the system is being installed.

The power cord should be a minimum length of 5 meters (15 feet).

Table 2–2 PE5XH-CD Parts List

Description	Part Number	Qty
6-32 pan head screws	90–09984–02	2
LSM module	54–21145–01	1
Product conversion label	36–15946–01	1
Top cover	70–29564–01	1
U.S. 120-V power cord	17–00083–58	1

3

Rackmount Installation

Chapter Overview

Introduction

This chapter describes how to install DEC 3000 Model 500/500S/800/800S/900/900S AXP systems in a standard 19-inch RETMA cabinet using rackmount kit PE5XH-CC or -CD. In the following procedures, an H9A00-AJ cabinet is used as an example.

Note

The system configurations that this procedure supports do not require a power controller.

In This Chapter

This chapter explains how to install the rackmount system in a cabinet, which involves:

1. Preparing the cabinet for installation
2. Preparing and installing the top air deflector
3. Preparing and installing the bottom air deflector
4. Preparing and installing the chassis slides
5. Preparing and installing the top and bottom covers
6. Installing the chassis in the cabinet
7. Installing the interlock actuator bracket
8. Installing the cable tie bracket
9. Connecting the power cord and cables
10. Verifying the system

Preparing the Cabinet for Installation

Establishing Cabinet Location

When the customer has identified the location to install the cabinet, perform the following steps:

Step	Action
1	Move the cabinet to the selected location.
2	Use an open end (spanner) wrench to screw down the cabinet leveler feet.
3	Place a spirit level on the cabinet base to ensure that the cabinet is level.
4	Readjust the leveler feet (if necessary) until the cabinet is level.
5	Slide out the stabilizer bar (or other cabinet stabilizing device) to support the weight of the system being installed.

Cabinet Stability Warning

Warning

To ensure cabinet stability, Digital does not recommend installing the system in the top area of the cabinet.

Cabinet Rail Hole Pattern

The space between mounting holes in the cabinet rails follows a pattern of 1.27 cm (0.50 in), 1.59 cm (0.625 in), and 1.59 cm (0.625 in). This pattern is repeated for the length of the rails.

Determining the Installation Area

To determine the installation area for the system in an H9A00–AJ cabinet, perform the following steps at the front and rear cabinet rails. See Figure 3–1.

Step	Action
1	Select a section of the cabinet rail where there is a 1.27 cm (0.50 in) space between two holes.
2	Make a mark between the holes. This is your starting point.
3	Count up or down three holes. This is one **set** and equals 4.45 cm (1.75 in).
4	Count up or down eight sets and make a mark. The area between the marks is the **installation area**.

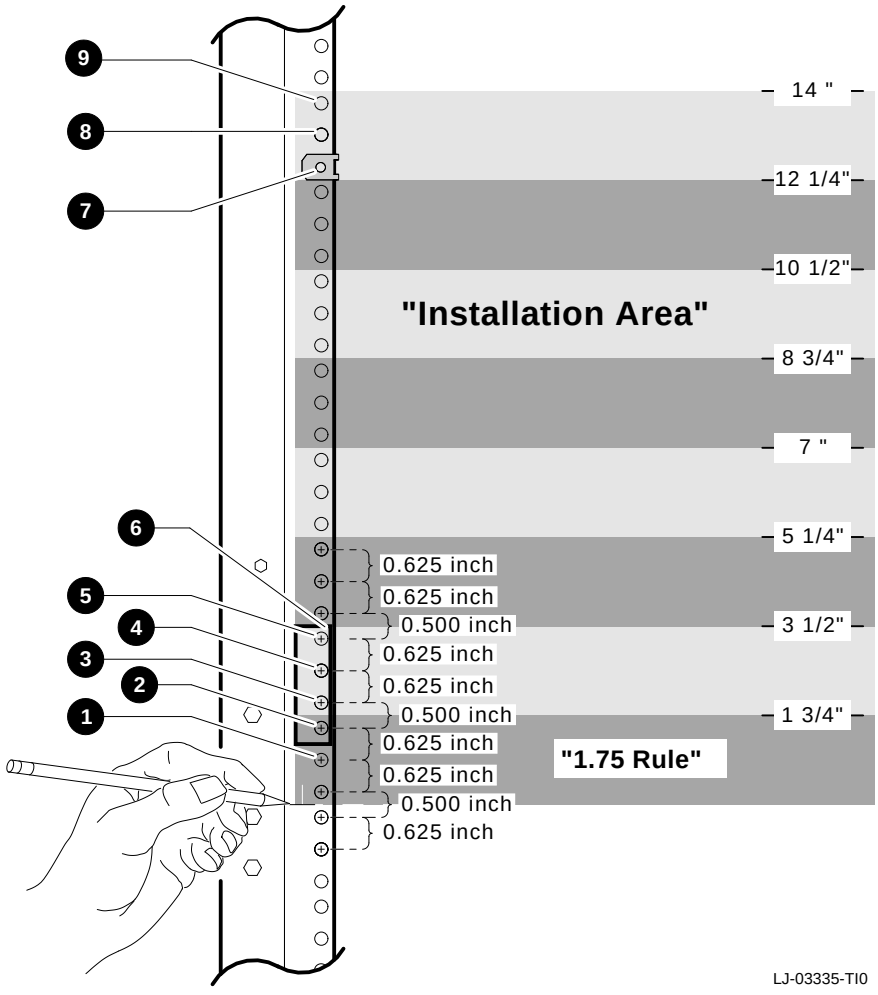
The total installation area is 35.56 cm (14 in). The equation for calculating the total area is

4.45 cm (1.75 in) × 8 sets = 35.56 cm (14 in)

Note

The hole count described in this section determines the system installation location in any 35.56-cm (14-in) area of the cabinet.

Figure 3–1 Determining the Installation Area



❶ Hole 2, for attaching bottom deflector plate
❷ Hole 3, for ball stud
❸ Hole 4, for attaching slide
❹ Hole 5, for shoulder screw
❺ Hole 6, for attaching slide
❻ Bar nut (placed behind the rail)
❼ Hole 22, for ball stud
❽ Hole 23, for attaching top deflector plate
❾ Hole 24, top hole in installation area

Installing the Top Air Deflector

Required Materials for Assembling the Top Air Deflector

- Six 8-32 pan head screws (PN 90-00062-23)
- Top air baffle (PN 74–47331–01)
- Top air deflector (PN 74–47332–01)

Assembling the Top Air Deflector and Baffle Subassembly

To assemble the top air deflector and baffle subassembly, refer to Figure 3–2 and perform the following procedure:

Step	Action
1	Align the holes in the deflector ❶ to the holes in the baffle ❷.
2	Insert and tighten the six screws to secure the baffle to the deflector.

Required Materials for Installing the Top Air Deflector

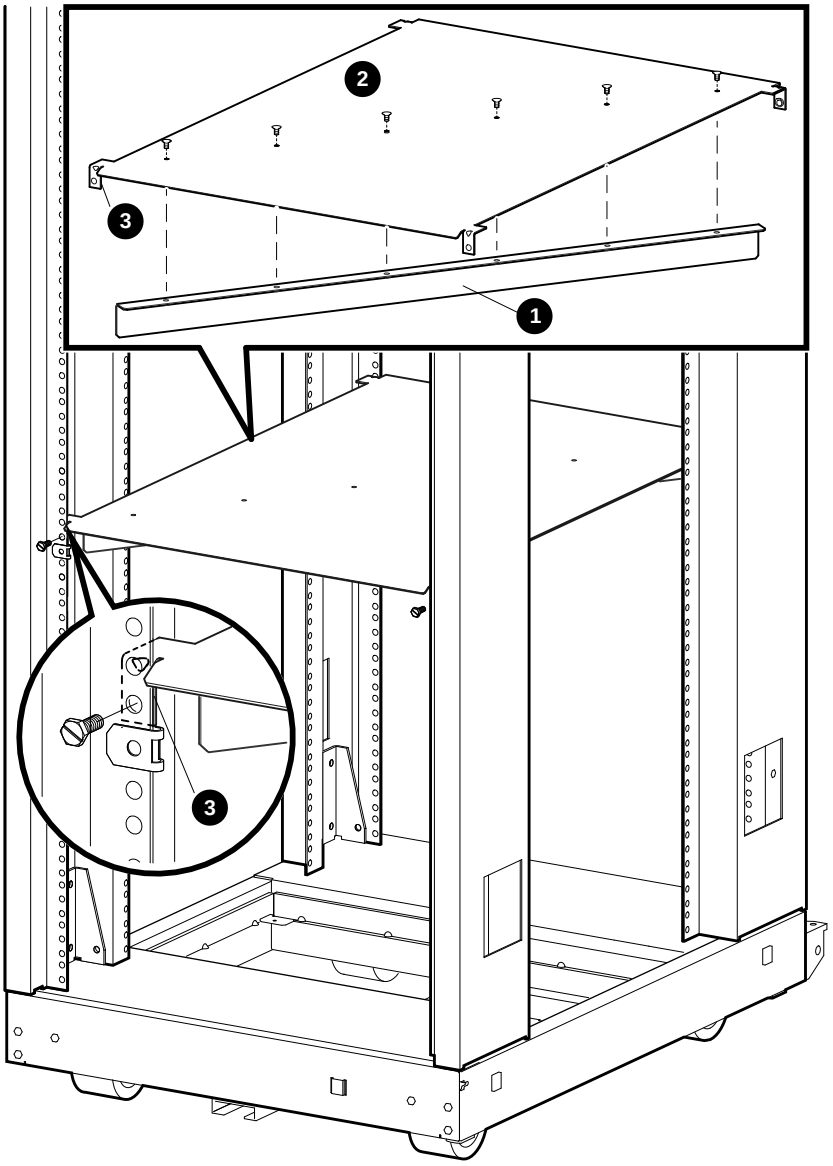
- Four 10-32 hex head screws (PN 90-10064-00)
- Top air deflector assembly (assembled in the previous section)
- Two 10-32 clip nuts (PN 90-07786-10)

Installing the Top Air Deflector Assembly

To install the top air deflector assembly, refer to Figure 3–2 and perform the following procedure:

Step	Action
1	Count up 23 holes from the bottom of the installation area on the front and rear cabinet rails, as shown in Figure 3–1. Mark the holes.
2	Use four 10-32 hex head screws to secure the top air deflector assembly tabs ❸ to the cabinet rails using the holes marked in step 1. See Figure 3–2 exploded views.
3	Count up 22 holes from the bottom of the installation area on the front cabinet rails and make a mark. See Figure 3–1.
4	Install a 10-32 clip nut on each front rail hole (marked in step 3) for later use. See Figure 3–2 exploded view.

Figure 3–2 Installing the Top Air Deflector



Installing the Bottom Air Deflector

Required Materials for Assembling the Bottom Air Deflector

- Six 8-32 pan head screws (PN 90-00062-23)
- Bottom air baffle (PN 74-47329-01)
- Bottom air deflector (PN 74-47587-01)
- Two styrene grommet strips (PN 90-09718-00)

Assembling the Bottom Air Deflector and Baffle Subassembly

To assemble the bottom air deflector and baffle subassembly, refer to Figure 3–3 and perform the following procedure:

Step	Action
1	Align the holes in the deflector ❶ to the holes in the baffle ❷.
2	Insert and tighten the six screws to secure the baffle to the deflector.
3	Cut to fit styrene grommet strips ❹ and slide over the top edge of the bottom air deflector.

Required Materials for Installing the Bottom Air Deflector

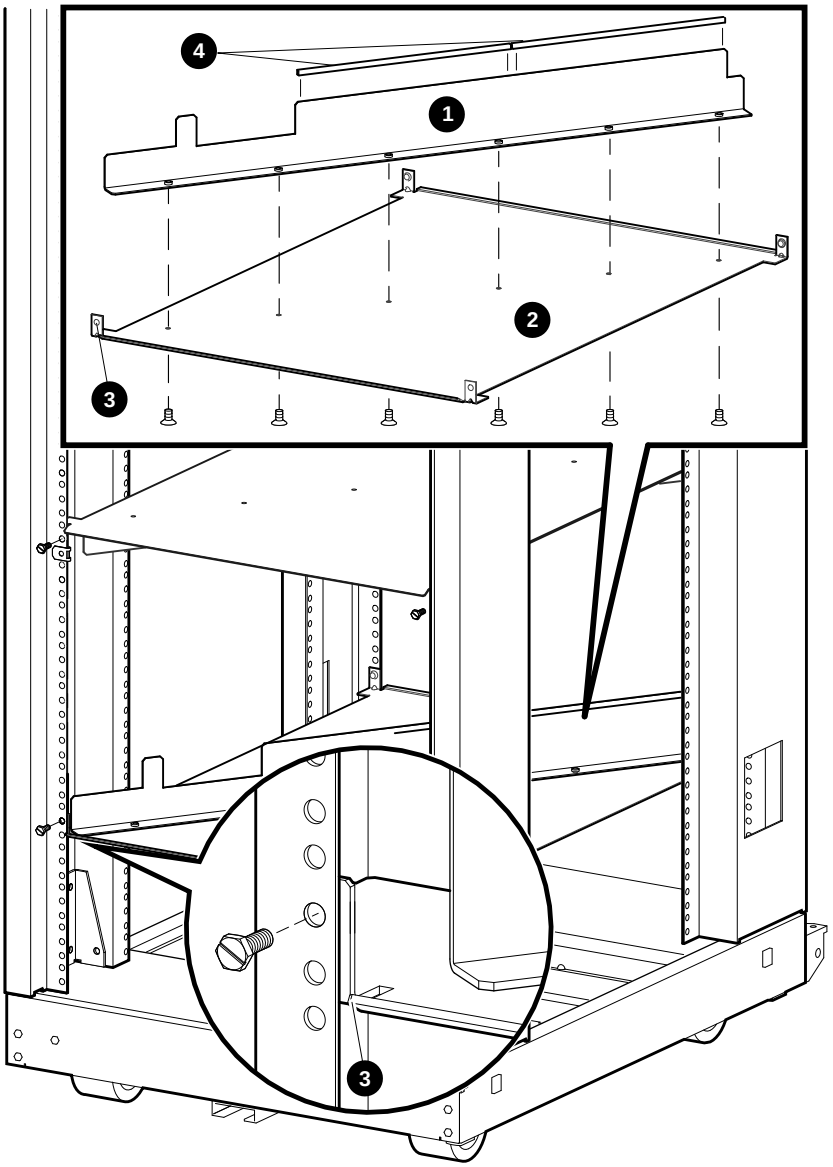
- Four 10-32 hex head screws (PN 90-10064-00)
- Bottom air deflector assembly (assembled in the previous section)

Installing the Bottom Air Deflector Assembly

To install the bottom air deflector assembly, refer to Figure 3–3 and perform the following procedure:

Step	Action
1	Count up two holes from the bottom of the installation area on the front and rear cabinet rails as shown in Figure 3–1.
2	Use four 10-32 hex head screws to secure the bottom air deflector assembly tabs ❸ to the cabinet rails. See Figure 3–3 exploded view.

Figure 3–3 Installing the Bottom Air Deflector Assembly



Preparing and Installing Chassis Slides

Required Materials for Assembling Chassis Slides

- Sixteen 8-32 pan head screws (PN 90-00062-23)
- Eight flat washers (PN 90-06661-00)
- Eight split lockwashers (PN 90-06690-00)
- Eight nuts (PN 90-06561-00)
- Two slide assemblies (PN 12-41429-01)
- Right hand (RH) slide mount bracket (PN 74-47580-01)
- Left hand (LH) slide mount bracket (PN 74-47580-02)
- Two short slide mounting brackets (PN 12-41431-01)
- Two long slide mounting brackets (PN 12-41431-02)

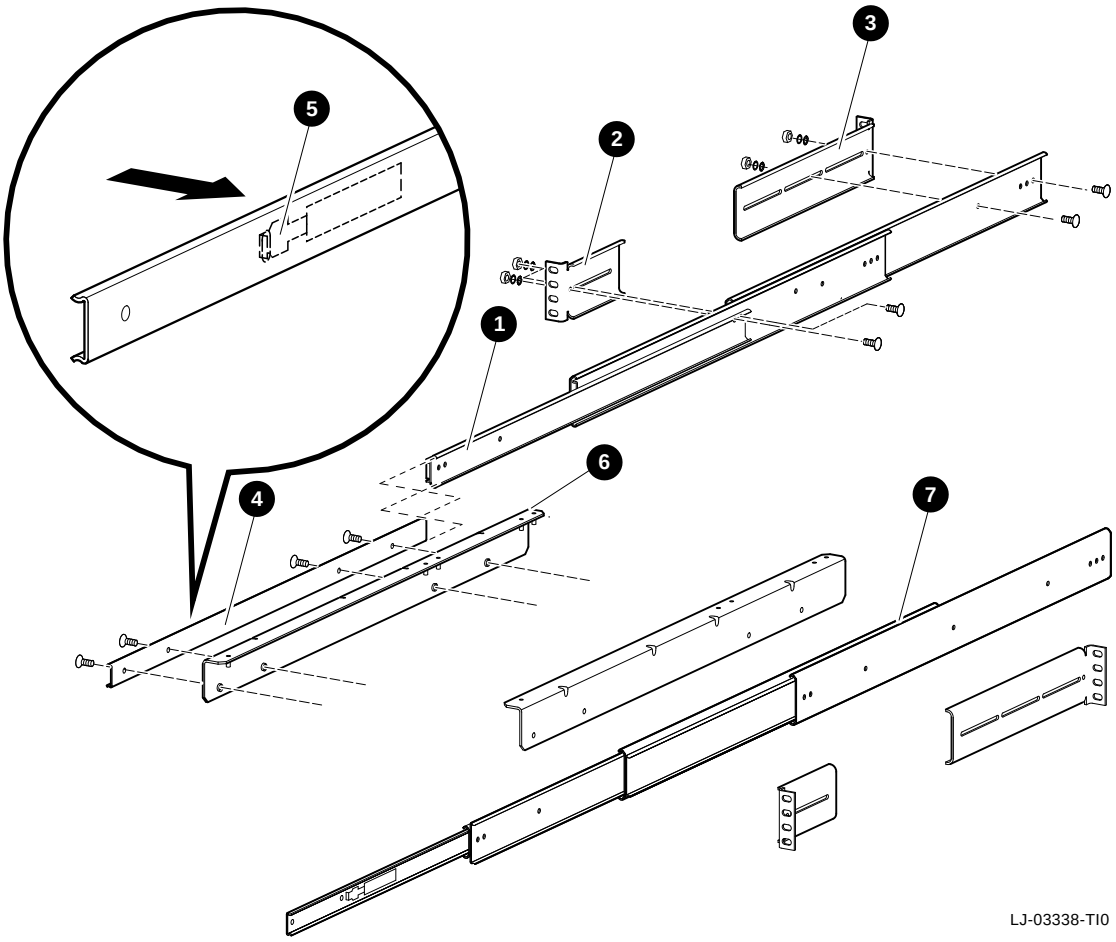
Assembling the Chassis Slides

To assemble the chassis slide subassemblies, refer to Figure 3–4 and perform the following procedure:

Step	Action
1	Locate one of the slides ❶ in the kit. (This slide will be referred to as the left slide.)
2	Attach a short slide mounting bracket ❷ to the left slide ❶ using two 8-32 pan head screws, two split lockwashers, two flat washers and two nuts.
3	Attach a long slide mounting bracket ❸ to the rear of the left slide ❶ using two 8-32 pan head screws, two split lockwashers, two flat washers, and two nuts, but do not tighten.
4	Adjust the long slide mounting bracket ❸ so the slide fits between the front and rear rails. Then tighten the hardware installed in step 3.
5	Remove the inner slide race ❹ from the left slide ❶ by pushing in on the slide lock ❺, and then pulling out the inner slide race from the left slide.
6	Attach the left-hand (LH) slide mounting bracket ❻ to the inner slide race ❹ using four 8-32 pan head screws.
7	While holding the slide lock ❺ pushed in, slide the inner slide race ❹ back into the left slide ❶. This subassembly will be referred to as the left slide subassembly.
8	Locate the right slide ❼ in the kit.

Step	Action
9	Repeat steps 2 through 7 to assemble the remaining slide. This subassembly will be referred to as the right slide subassembly.

Figure 3–4 Assembling the Chassis Slide Subassembly



Required Materials for Installing Chassis Slides

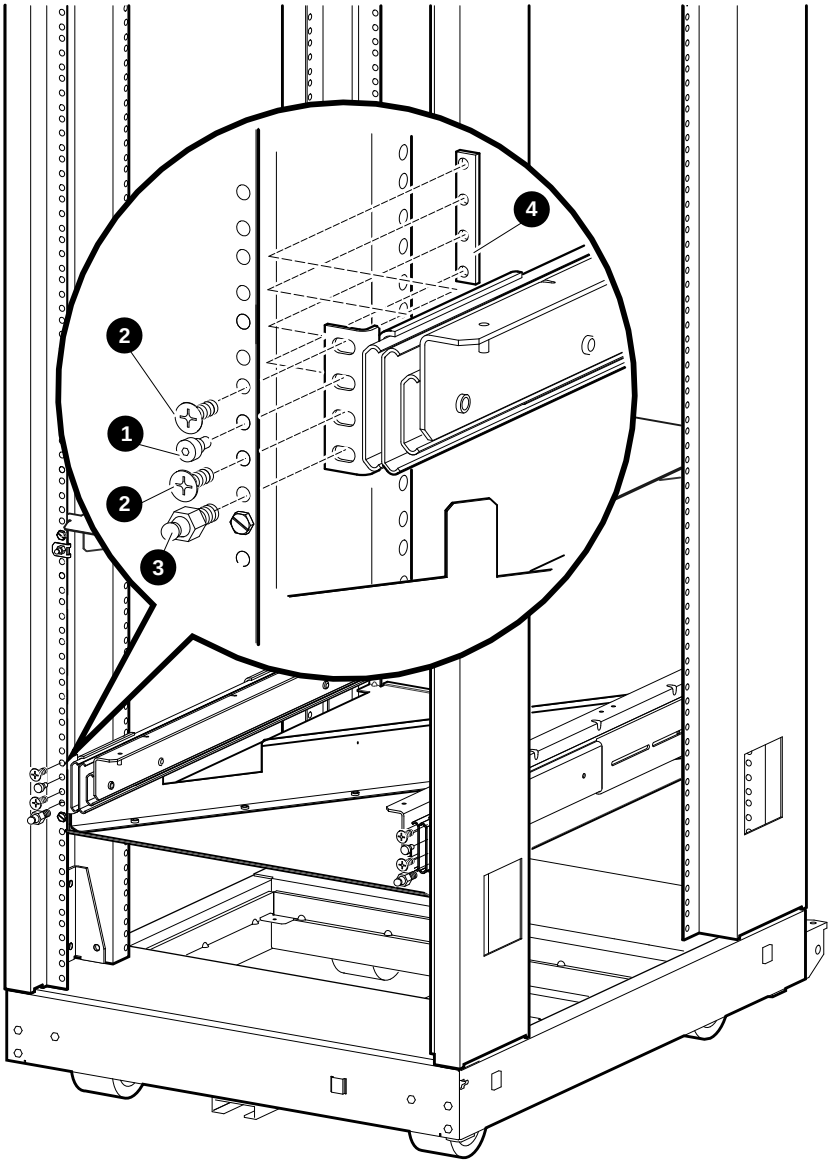
- Right and left chassis slide subassemblies (assembled in the previous section)
- Eight 10-32 truss head screws (PN 90-00063-39)
- Four 10-32 socket-head shoulder screws (PN 12-24007-02)
- Four 10-32 bar nuts (PN 74-48448-01)
- Two 10-32 clip nuts (PN 90-07786-00)
- Four 10-32 ball studs (PN 90-11337-01)

Installing the Right/Left Chassis Slide Assemblies and Ball Studs

To install the left chassis slide subassembly, refer to Figure 3–5 and perform the following procedure:

Step	Action
1	Count up four holes from the bottom of the installation area on the left front and rear cabinet rails and make a mark.
2	Count up six holes from the bottom of the installation area on the left front and rear cabinet rails and make a mark.
3	Align the left chassis slide subassembly to the fourth and sixth holes, then secure the assembly to the cabinet rails using four 10-32 truss head screws ❷ (two in front, two in rear) and two bar nuts ❹ (one in front, one in rear). Do not tighten. See Figure 3–5 exploded view.
4	Count up five holes (left front and rear rails) from the bottom of the installation area and screw in a shoulder screw ❶ in both locations. (These screws ensure proper slide alignment; they do not tighten down flush to the rail.)
5	Screw a ball stud ❸ in holes 3 and 22 of the front left rail. Hole 22 requires a 10-32 clip nut if not already installed.
6	Repeat steps 1 through 5 to install the right chassis slide subassembly and ball studs to the right rails.

Figure 3–5 Installing the Right/Left Side Chassis Slide Assembly and Ball Studs



Required Materials for Installing Support Braces

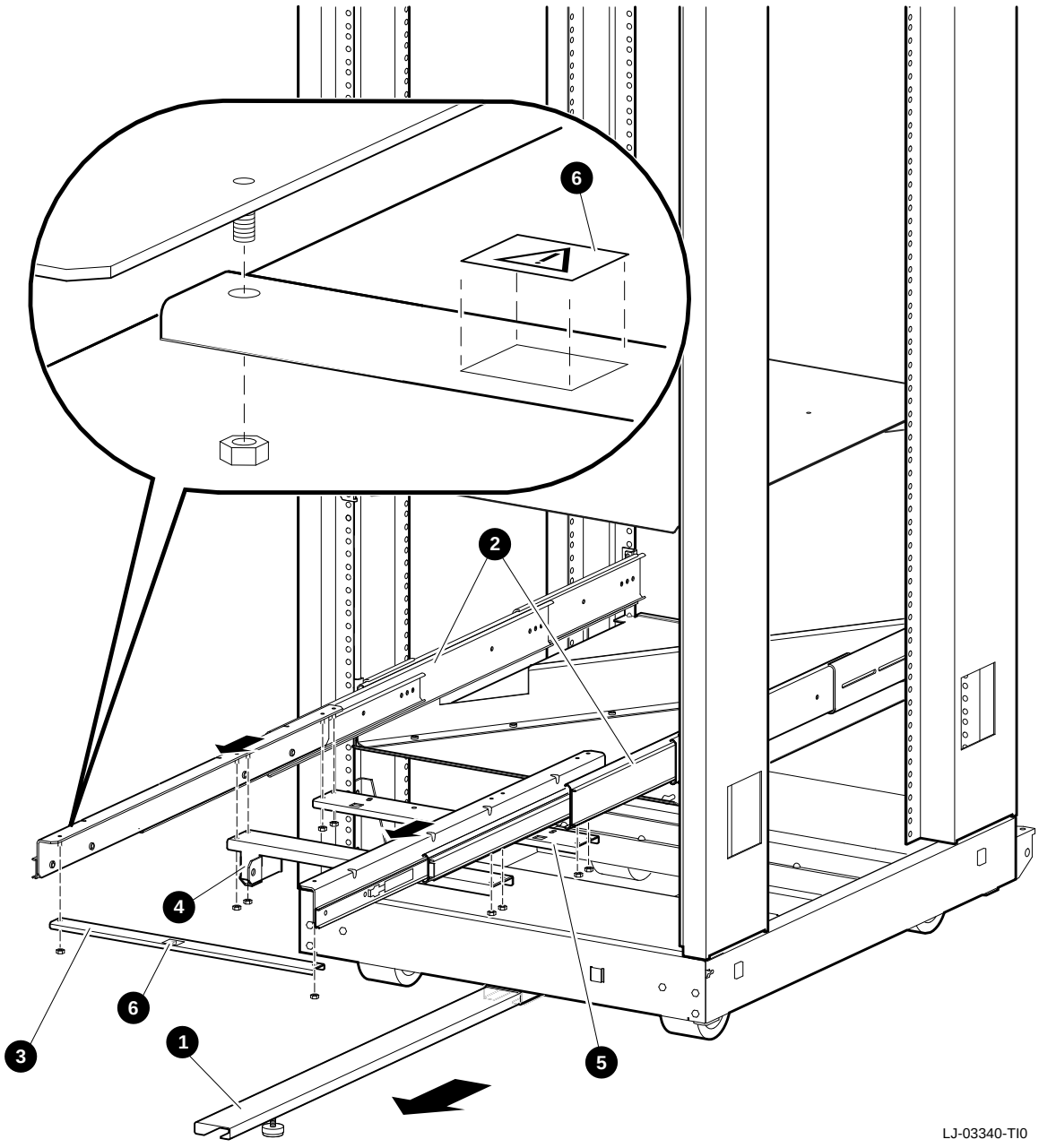
- Front support brace (PN 74-47584-01)
- Middle support brace (pivot block) (PN 74-47585-01)
- Rear support brace (PN 74-47583-01)
- Ten 8-32 kep nuts (PN 90-06563-00)
- Caution hazard label (PN 36-24385-01)

Installing Chassis Slide Support Braces

To install the chassis slide support braces, refer to Figure 3–6 and perform the following procedure:

Step	Action
1	Slide out the cabinet stabilizer bar to support the weight of the system being installed (if not already out). Figure 3–6 shows an example of a cabinet with the stabilizer foot ❶ extended.
2	Fully extend both chassis slide assemblies ❷.
3	Use ten 8-32 kep nuts to secure the support braces to the chassis slide assembly: • Use two nuts for the front support brace ❸ • Use four nuts for the middle support brace ❹ • Use four nuts for the rear support brace ❺
4	Attach the caution hazard label ❻ to the top center of the front support brace.
5	Tighten the 10-32 truss head screws installed in step 3 of the previous section to secure the chassis slide assemblies to the rails.

Figure 3–6 Installing the Chassis Slide Support Brackets



Preparing and Installing the Top and Bottom Covers

Required Materials for Preparing Bottom Cover

- Bottom cover (PN 74-47581-01)
- Access cover (PN 74-47582-01)
- Six twisted fingerstock (PN 12-28434-01)
- Lock assembly (PN 70-31505-01)
- Hinge (PN 74-47586-01)
- Five 8-32 pan head screws (PN 90-00062-23)

Preparing the Bottom Cover

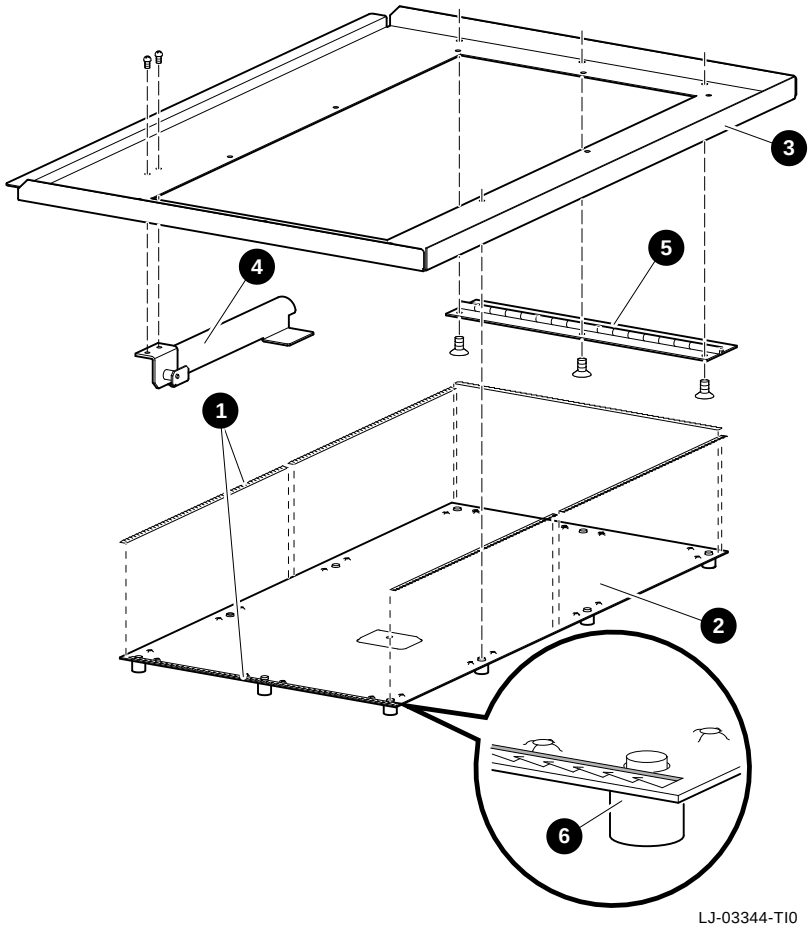
To prepare the bottom cover, refer to Figure 3–7 and perform the following procedure:

Warning

When handling the twisted fingerstock, beware of sharp edges to prevent possible lacerations.

Step	Action
1	Locate the six pieces of fingerstock ❶ and access cover ❷ in the kit.
2	Cut to fit the fingerstock ❶ along the outside perimeter and inside surface of the access cover ❷.
3	Peel off the adhesive protective strip on the back of the fingerstock ❶. Attach the fingerstock to the inside surface (outer perimeter) of the access cover ❷. **Note: Ensure that the teeth of the fingerstock face toward and are flush with the outside edges of the access cover.**
4	Fasten the access cover ❷ to the bottom cover ❸ using the ten captive screws ❻.
5	Fasten the lock assembly ❹ to the bottom cover ❸ using two 8-32 pan head screws.
6	Fasten the hinge ❺ to the bottom cover ❸ using three 8-32 pan head screws.

Figure 3–7 Preparing the Bottom Cover



Required Materials for Installing Top and Bottom Covers

- Top cover (PN 70-29564-01)
- Bottom cover assembled in previous section
- Two 6-32 pan head screws (PN 90-09984-02)

Pedestal to Rackmount Conversion

If you are converting a pedestal DEC 3000 Model 500/500S/800 /800S/900/900S AXP system to a rackmount model, you must complete the conversion before continuing with this procedure. Instructions for making the conversion are in Appendix A.

When to Install the Top Cover

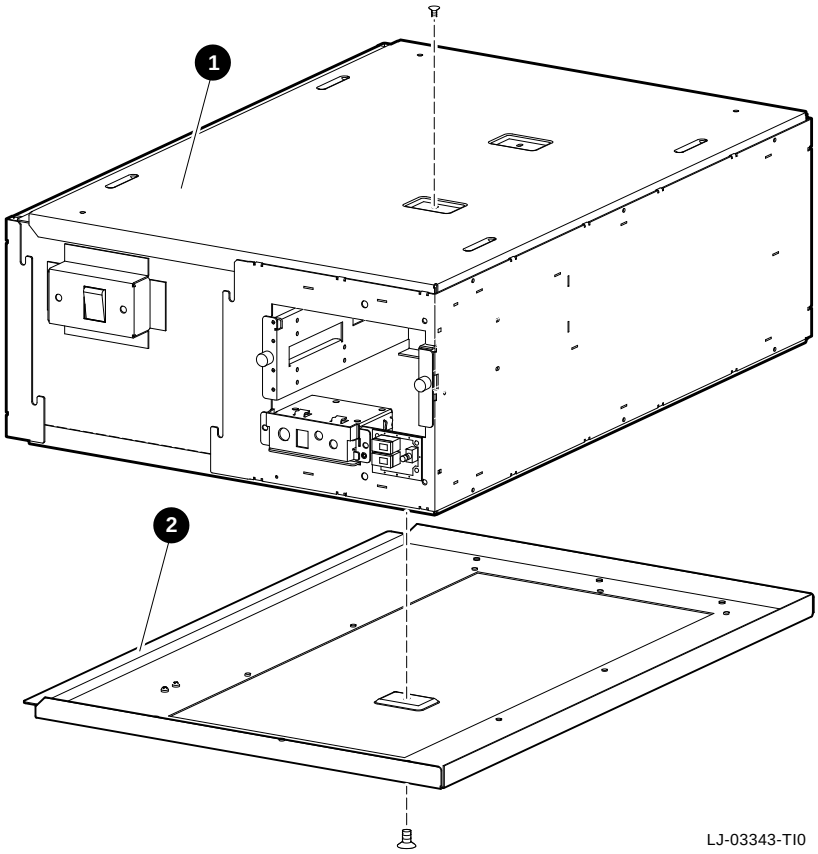
Installation of the top cover is required when the system does not already have a top cover installed. This may occur, for example, when converting a pedestal model to a rackmount model.

Installing the Top and Bottom Covers

To install the top and bottom covers, refer to Figure 3–8 and perform the following procedure:

Step	Action
1	If the unit has a top cover ❶, proceed to step 5.
2	Place the unit right side up (as shown in Figure 3–8) on a flat sturdy surface.
3	While facing the unit, slide the left side of the top cover under the top left edge of the unit, and then lower it and press into place.
4	Secure the top cover with a 6-32 pan head screw through the screw hole in the top cover (closest to the front of unit).
5	Place the unit upside down on a flat sturdy surface.
6	While facing the unit, slide the right side of the bottom cover ❷ under the right edge of the unit, and then lower it and press into place. (The unit is shown right side up in Figure 3–8.)
7	Secure the bottom cover with a 6-32 pan head screw through the screw hole in the center of the bottom cover assembly.

Figure 3–8 Installing Top and Bottom Covers



Installing the Chassis in the Cabinet

Required Materials for Securing the Slide Assembly

- Five 10-32 hex head screws (PN 90-10064-00)
- Gas cylinder (PN 12-41477-01)
- Two 10-mm ball studs (PN 12-40128-04)
- Two 5/16-18 kep nuts (PN 90-06568-00)
- Two 10-mm ball stud clips (PN 12-41430-01)

Chassis Installation Warning

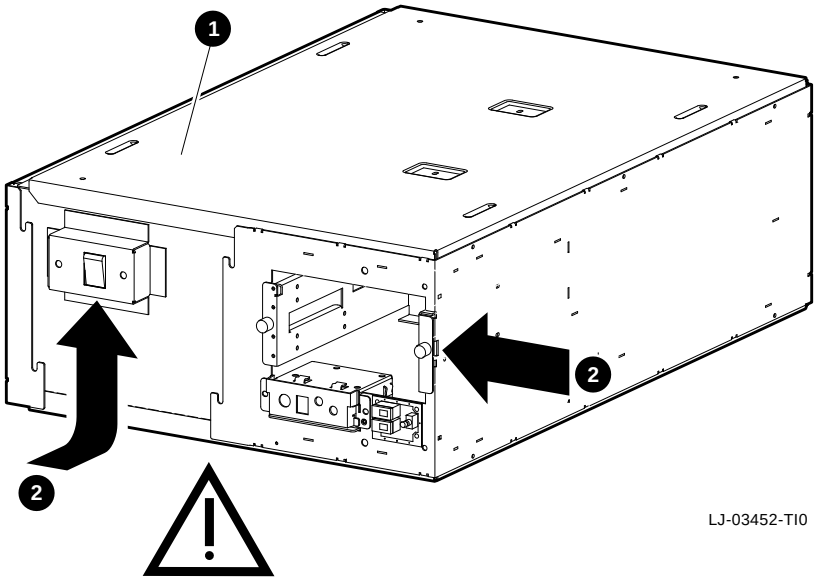
Warning

The chassis can weigh from 27 to 41 kg (60 to 90 lbs). Use sufficient personnel or equipment to install the system. Failure to do so could cause personal injury.

To ensure cabinet stability, Digital does not recommend installing the system in the top area of the cabinet.

When lowering or raising the system, support the system as indicated by the arrows ❷ in Figure 3–9 to prevent pinching fingers between the system ❶ and the slide assembly.

Figure 3–9 Lowering and Raising the System



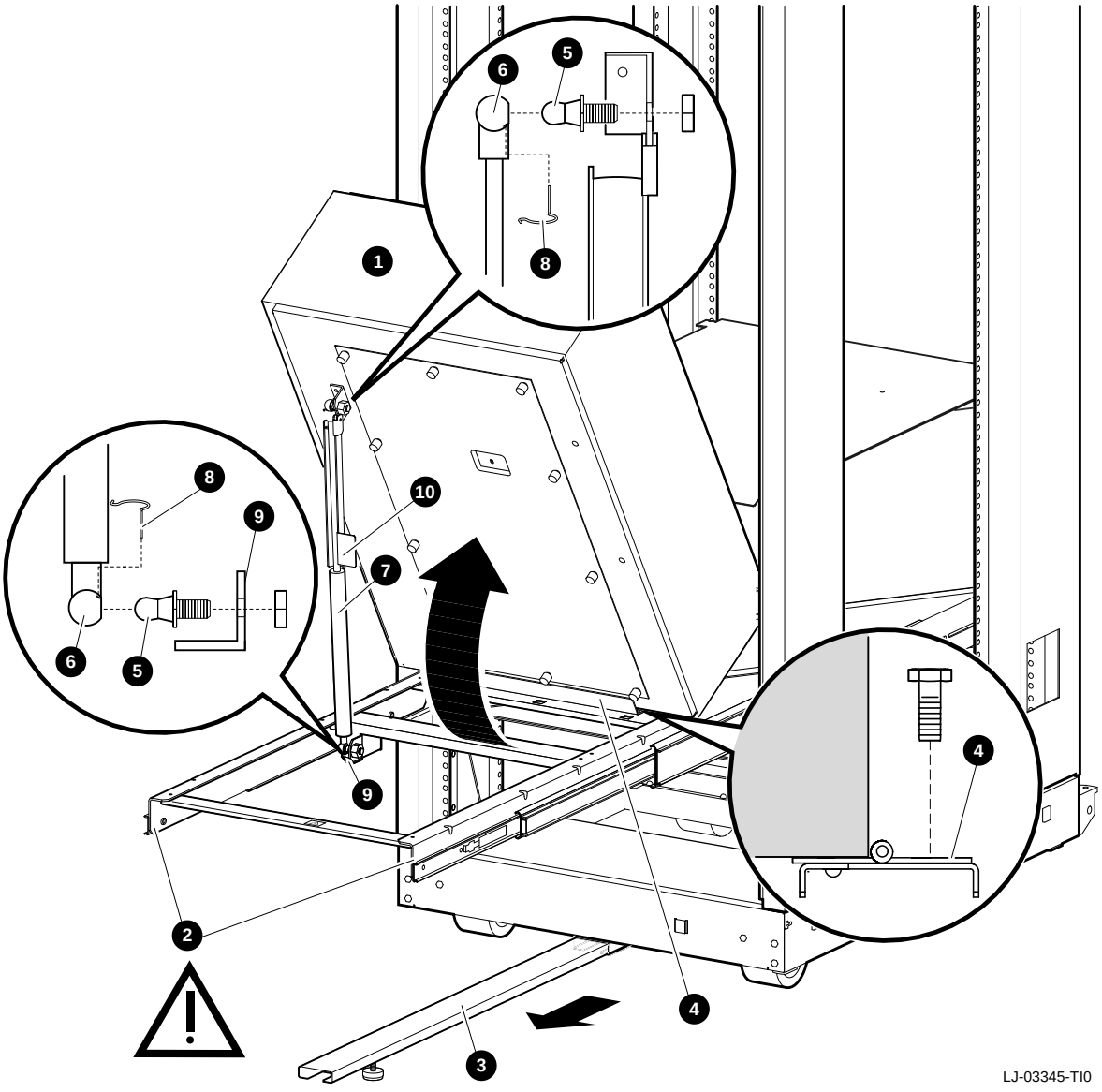
Securing the Unit to the Chassis Slide Assembly

To secure the system to the chassis slide assembly, refer to Figure 3–10 and proceed as follows:

Step	Action
1	Slide out the cabinet stabilizer bar or other cabinet stabilizing device (if not already out) to support the weight of the system ❶ being installed. Figure 3–10 shows an example of a cabinet with the stabilizer bar ❸ extended.
2	Slide out both chassis slide assemblies ❷ until they are fully extended (locked position).
3	**Caution: Do not damage the safety lock ❿ on the bottom cover when placing the system on the extended chassis slide assemblies.** Use sufficient personnel or equipment to lift the system ❶ and position it on the extended chassis slide assemblies ❷ with the hinge ❹ on the bottom cover extended out from the rear of the system. The hinge should lie flat on the rear support brace.
4	Align the five hinge mounting holes with those on the rear support brace. Then fasten the hinge ❹ to the brace using five 10-32 hex head screws.
5	Push a 10-mm ball stud ❺ into the ball stud receiver ❻ at one end of the gas cylinder ❼. Then secure it by inserting a 10-mm ball stud clip ❽ into the ball stud receiver and snap into place around base of 10-mm ball stud receiver. Repeat the procedure to install the 10-mm ball stud into the other end of the gas cylinder.
6	**Warning: Have one person tilt the system upward and hold it in place while another person installs the gas cylinder.** To install the gas cylinder ❼, insert the threaded end of the ball stud at end of the gas cylinder (that does not extend) into the bracket ❾ on the middle support brace, and secure the ball stud with a 5/16-18 kep nut. Repeat the procedure to install the other end of the gas cylinder into the bracket under the bottom cover of the system. Tighten both nuts.

Step	Action
7	**Warning: When lowering the system onto the slide assembly, support the system as indicated by the arrows ❷ in Figure 3–9 to prevent pinching fingers between the system ❶ and the slide assembly.** Lower the system onto the slide assembly by holding the system up with one hand while using the other hand to move the safety lock ❿ away from the gas cylinder ❼. Then lower the system part way (enough to clear the lock). Support the system as shown in Figure 3–9 (**DO NOT** place hands under front bottom edge of system) and lower the system in a controlled manner to keep the system from free falling onto the chassis slide assembly.

Figure 3–10 Securing the System to the Chassis Slide Assembly



Required Materials for Installing the Front Mounting Brackets

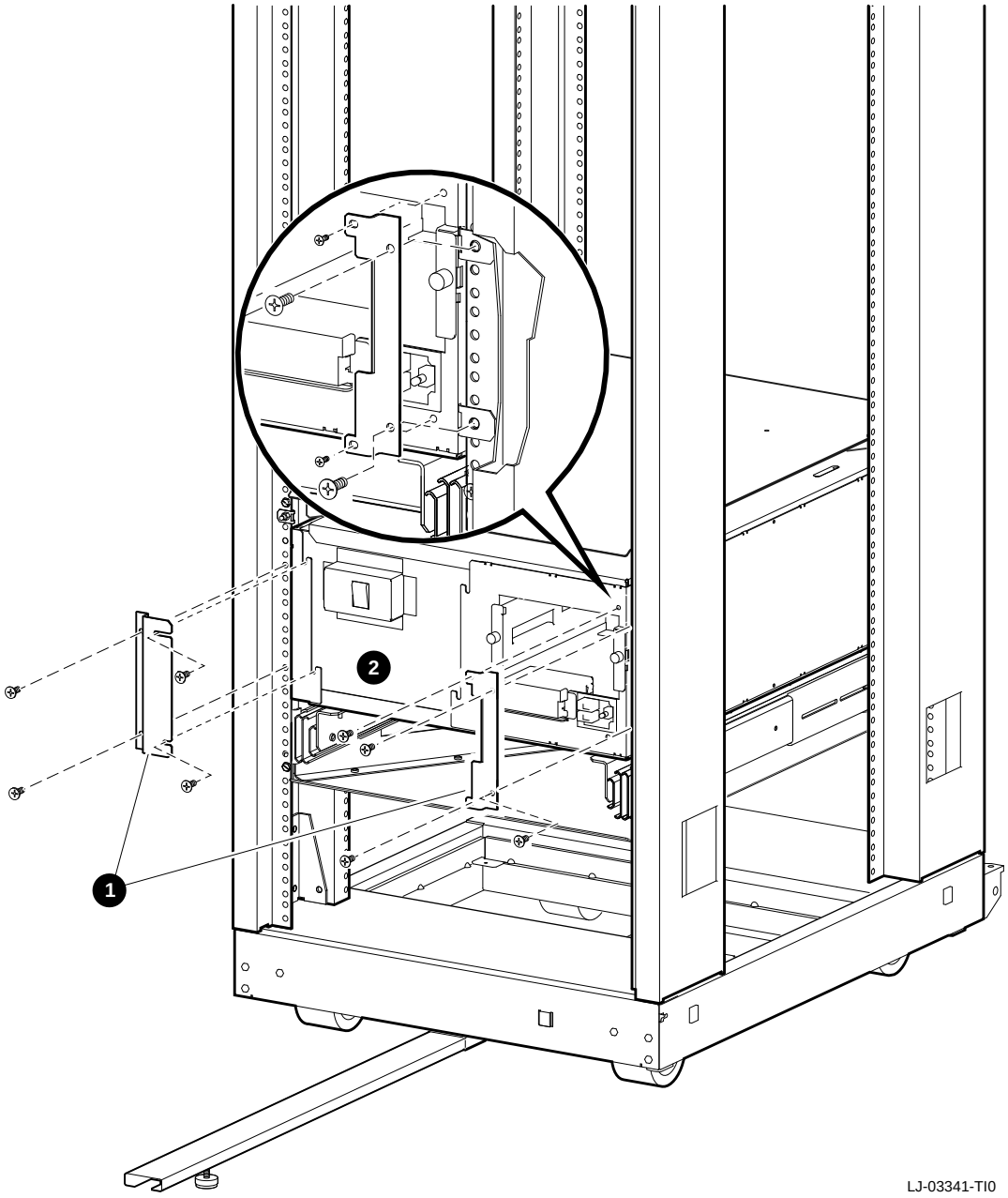
- Four 6-32 pan head screws (PN 90-09984-00)
- Four 10-32 clip nuts (PN 90-07786-00)
- Four 10-32 truss head screws (PN 90-00063-39)
- Left front mounting bracket (PN 74–47327-01)
- Right front mounting bracket (PN 74-47328-01)

Installing the Front Mounting Brackets

To install the front mounting brackets, refer to Figure 3–11 and perform the following procedure:

Step	Action
1	Use four 6-32 pan head screws to secure the right and left front mounting brackets ❶ to the system ❷.
2	Count up 10 holes and 18 holes from the bottom of the installation area on the front cabinet rails and mark them.
3	Insert clip nuts at the locations determined in step 2 (if not already installed).
4	Push in and hold the two slide locks (one on each slide) while pushing the system about half way into the cabinet. Then release the slide locks and push the system completely into the cabinet.
5	Use four 10-32 truss head screws to secure the faceplate mounting brackets ❶ to the cabinet via the clip nuts installed in step 3.

Figure 3–11 Installing the Front Mounting Brackets



Installing the Bezel

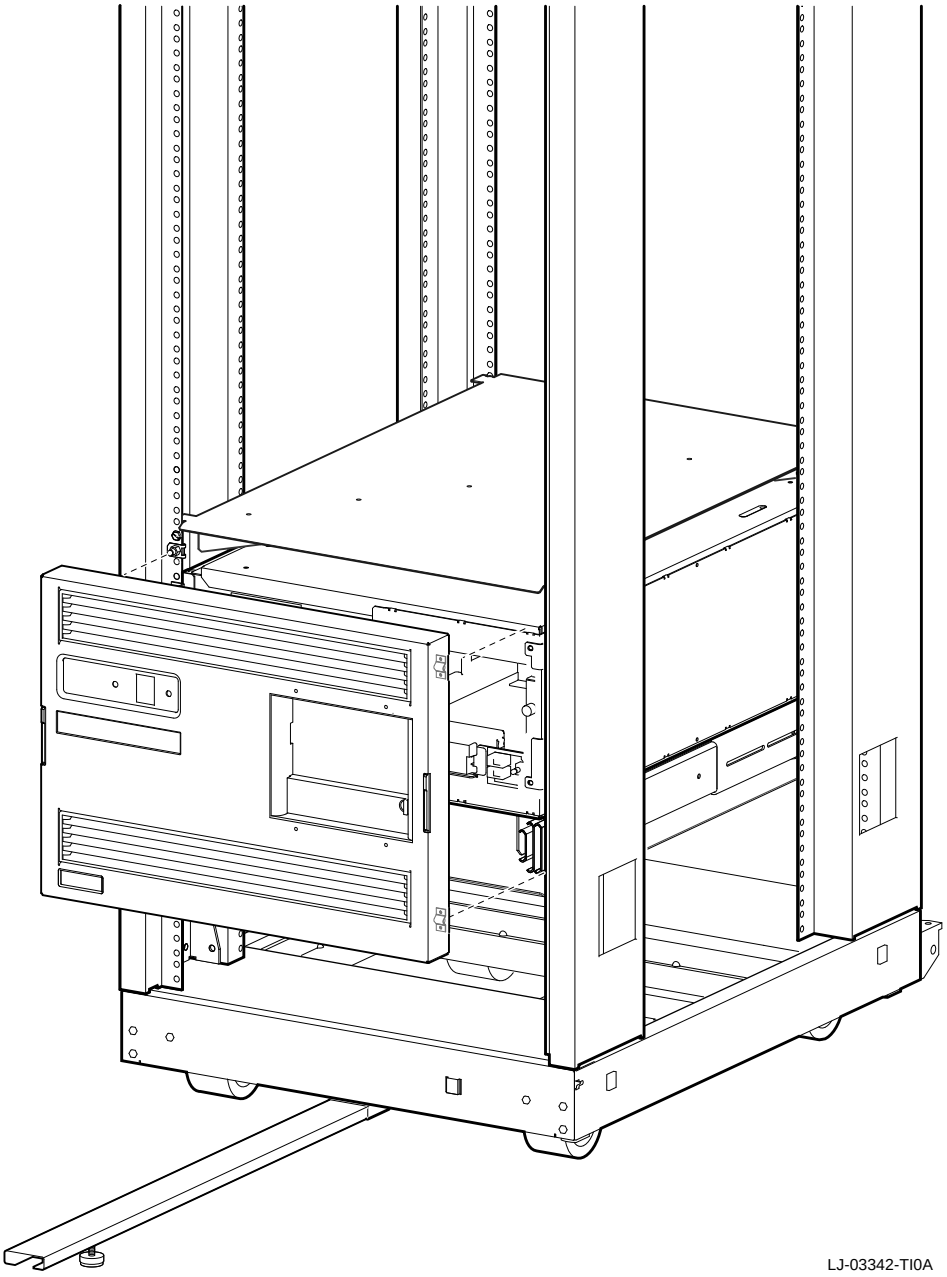
To install the bezel (PN 70-30978-01), refer to Figure 3–12 and perform the following procedure:

Step	Action
1	Align the ball stud receivers on the back of the bezel with the four ball studs on the front rails of the cabinet.
2	Press the bezel firmly into place on the ball studs.

Note

In Figure 3–12, the bezel has two option inserts. The bottom insert is for an RZ26 drive. The top insert is a blank; it is used when no other drive is installed with the RZ26.

Figure 3–12 Installing the Bezel



LJ-03342-TI0A

Installing the Interlock Actuator Bracket

Purpose of Interlock Actuator Bracket

The interlock actuator bracket is for use in Digital cabinets that have an interlock bar.

Warning

If the cabinet does not have an interlock bar, make sure that only one system is extended out of the cabinet at any time and that the cabinet is stabilized to prevent equipment damage and possible injury.

Required Materials for Installing the Interlock Actuator Bracket

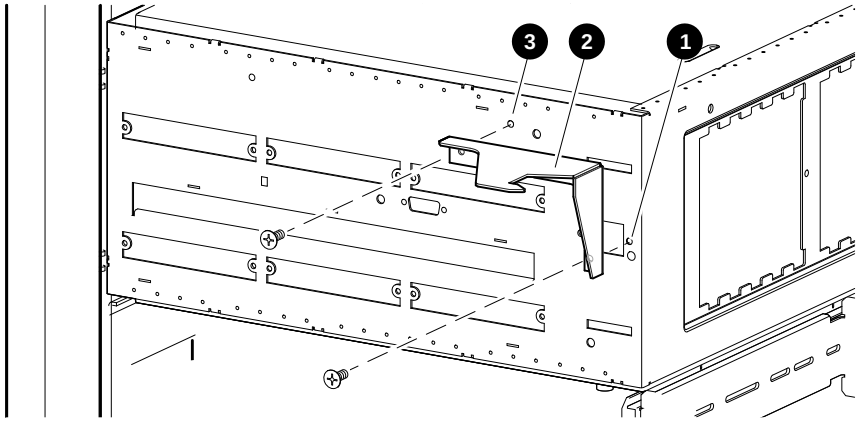
- Interlock actuator bracket (74-47382-01)
- One 6-32 pan head screw (90-09984-00)

Installing the Interlock Actuator Bracket

To install the interlock actuator bracket, refer to Figure 3–13 and perform the following procedure:

Step	Action
1	Remove and save the right side screw from the power cord connector hole ❶.
2	Align the interlock actuator bracket ❷ with holes ❶ and ❸.
3	Fasten the interlock actuator bracket ❷ to the system using one 6-32 pan head screw and the screw removed in step 1.

Figure 3–13 Installing the Interlock Actuator Bracket



Installing the Cable Tie Bracket

Required Materials for Installing the Cable Tie Bracket

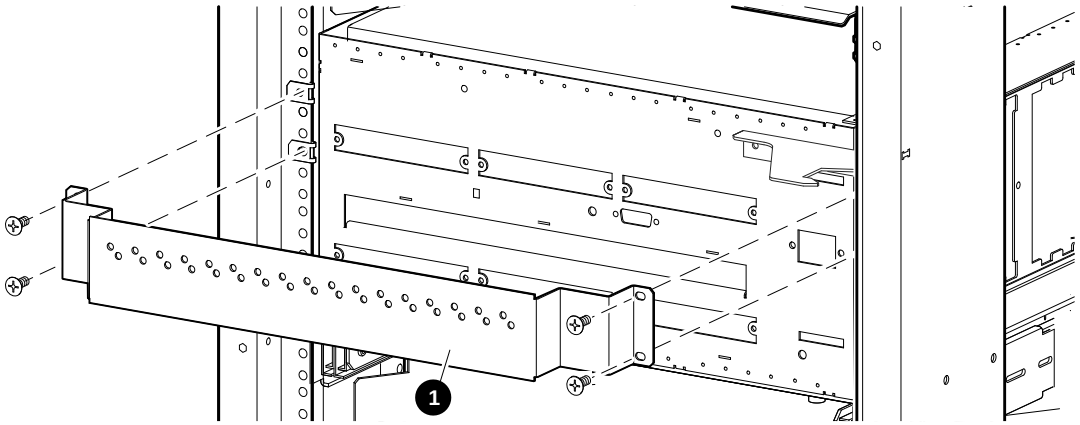
- Cable tie bracket (74-40319-01)
- Four 10-32 clip nuts (90-07786-00)
- Four 10-32 truss head screws (90-00063-39)

Installing the Cable Tie Bracket

To install the cable tie bracket, refer to Figure 3–14 and perform the following procedure:

Step	Action
1	Count up 13 holes and 16 holes from the bottom of the installation area on the rear cabinet rails. Mark the holes.
2	Insert clip nuts at the locations determined in step 1 (if not already installed).
3	Use four 10-32 truss head screws to attach the cable tie bracket ❶ to the rear rails using the clip nuts installed in step 2.

Figure 3–14 Installing the Cable Tie Bracket



Connecting Power Cord and Cables

Location of Connectors, Switches and Option Slots

The location of cable connectors, switches, and options slots on the system are provided in the *DEC 3000 Model 500/500S AXP Owner's Guide* or *DEC 3000 Model 800/800S/900 AXP Owner's Guide* as appropriate.

Required Materials for Connecting Power Cord and Cables

- 17 cable ties (90-07032-00)
- One cable clamp (90-07082-00)
- Power cord

Connecting System Cables

To connect the system cables, proceed as follows:

Step	Action
1	Connect the keyboard/mouse cable.
2	Connect the monitor cable.
3	Locate and remove the 6-32 screw that secures the left side of the cabinet interlock bracket.
4	Connect the power cord. There is no power controller.
5	Route the power cord through the cable clamp, then fasten the clamp using the 6-32 screw removed in step 3.
6	Connect any other necessary cables.
7	Leave enough slack in the power cord and other cables to allow the system to be pulled out of the cabinet and away from the cable tie bracket without straining cable connections. Then secure the cables to the cable tie bracket using cables ties.

System Verification

Verifying the System

For system verification, refer to *DEC 3000 Model 500/500S AXP Service Information* or *DEC 3000 Model 800/800S/900 AXP Owner's Guide* as appropriate.

4

Using the Rackmount System

Chapter Overview

Introduction

To perform service and maintenance on the DEC 3000 Model 500/500S/800/800S/900/900S AXP system once it has been installed in the cabinet, you must extend the system from the cabinet and remove one or more covers to access system components.

This chapter describes how to access system components for servicing and maintenance. Refer to the *DEC 3000 Model 500/500S AXP Service Information, DEC 3000 Model 800/800S AXP Service Information,* or *DEC 3000 Models 700 AXP and 900 AXP Service Information Addendum* manuals for information on removal and replacement procedures of system components, as well as system maintenance.

In This Chapter

This chapter discusses the following topic:

- Accessing the System Components

Cabinet Stabilization Warning

Warning

The system weighs 27 to 41 kg (60 to 90 lbs). To prevent personal injury and equipment damage, ensure that the system is contained in an enclosure that can be stabilized when the system is pulled out on its slides.

It is the customer's responsibility to ensure that the enclosure can be stabilized.

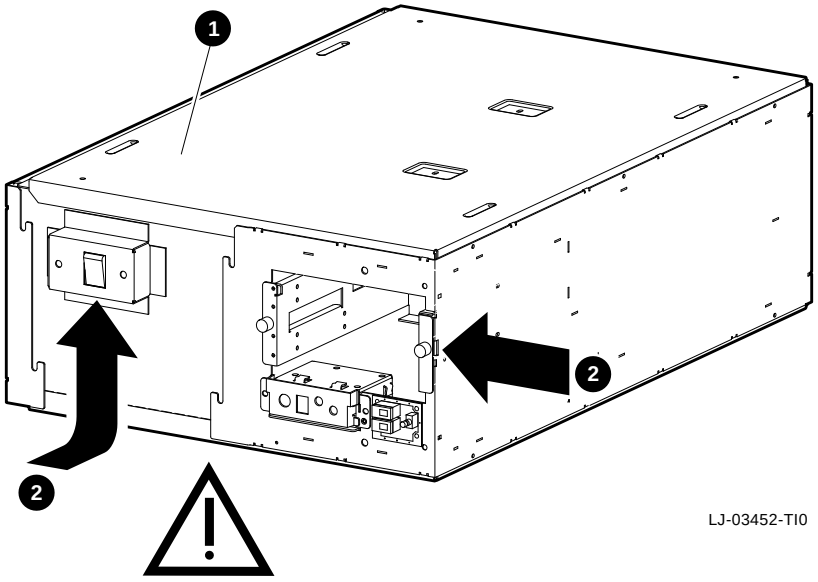
Accessing the System Components

Chassis Installation Warning

Warning

When lowering or raising the system, support the system as indicated by the arrows ❷ in Figure 4–1 to prevent pinching fingers between the system ❶ and the slide assembly.

Figure 4–1 Lowering and Raising the System



Procedure

To gain access to the system components, proceed as follows:

Step	Action
1	Shut down the system and disconnect the ac power cord. Refer to the *DEC 3000 Model 500/500S AXP Owner's Guide* or *DEC 3000 Model 800/800S/900 AXP Owner's Guide* for instructions on how to shut down the system.
2	Pull out the cabinet stabilizer foot or other cabinet stabilizing device to ensure cabinet stability.
3	Lift up on the release levers located on the left and right front side of front bezel, then pull the front bezel off of the ball studs securing it to the front rails.
4	Remove the four screws fastening the system front mounting brackets to the rails.
5	Pull the system out of the cabinet to the full run of the slides.
6	To gain access to components in the top of the system, proceed as follows: a. Remove the retaining screw in the center of the top cover. b. Lift the right side (facing the front of the system) of the top cover, and then pull the top cover up and to the right away from the top left edge of the system. c. You now have access to the components in the top of the system. d. Reverse the procedure to reinstall the top cover.

Step	Action
7	To gain access to components in the bottom of the system, proceed as follows:

a. Lift the front end of the system to the full travel of the gas cylinder.

Caution: Ensure the safety lock at the top of the cylinder falls into place on the cylinder rod and remains in place during servicing. This ensures that the system does not fall in case of cylinder failure.

b. Remove the retaining screw in the center of the access panel of the bottom cover.

c. While holding the access panel in place, loosen the ten captive screws around the perimeter of the access panel. Remove the access panel.

d. You now have access to the components in the bottom of the system.

e. To install the access panel and lower the system back onto the slide assembly, proceed as follows:

- Lift the access panel into place and install the retaining screw through the center of the access panel.
- Tighten the ten captive screws on the access panel with a screwdriver (not finger tight) to ensure good contact with the bottom cover.
- **Warning: When lowering the system onto the slide assembly, support the system as indicated by the arrows ❷ in Figure 3–9 to prevent pinching fingers between the system ❶ and the slide assembly.**

  Lower the system onto the slide assembly by holding the system up with one hand while using the other hand to move the safety lock away from the gas cylinder. Then lower the system part way (enough to clear the lock). Support the system as shown in Figure 4–1 (**DO NOT** place hands under front bottom edge of system) and lower the system in a controlled manner to keep the system from free falling onto the chassis slide assembly.

Step	Action
8	To place the system back into the cabinet, proceed as follows: a. Push in and hold the two slide locks (one on each slide) while pushing the system about half way into the cabinet. Then release the slide locks and push the system completely into the cabinet. b. Fasten the system front mounting brackets to the rails using four screws. c. Align the front bezel with the four ball studs on the front rails and push firmly into place.
9	Push in the cabinet stabilizer bar.
10	Connect the ac power cord and start the system. Refer to the *DEC 3000 Model 500/500S AXP Owner's Guide* or *DEC 3000 Model 800/800S/900 AXP Owner's Guide* for detailed instructions on starting the system.

A

DEC 3000 Model 500/500S/800/800S/900/900S AXP Pedestal-to-Rackmount Conversion

Appendix Overview

Introduction

If you are intalling a pedestal version of the DEC 3000 Model 500/500S/800/800S/900/900S AXP system into a cabinet, you must first convert it to a rackmount version.

This appendix provides the procedure to convert your pedestal system to a rackmount system. Refer to the *DEC 3000 Model 500/500S Service Information*, *DEC 3000 Model 800/800S Service Information*, or *DEC 3000 Models 700 AXP and 900 AXP Service Information Addendum* manuals for details on performing this procedure.

In This Appendix

This appendix discusses the following topic:

- Pedestal-to-Rackmount Conversion

Pedestal-to-Rackmount Conversion

Before You Start

Before you start the conversion, have the system manager perform a system shutdown before removing power.

Required Materials

- One LSM Module (PN 54-21145-01)
- One Product Conversion Label (PN 36-15946-01)

Beginning the Conversion

To convert a DEC 3000 Model 500/500S/800/800S/900/900S AXP pedestal system, perform the following procedure. **Refer to the *DEC 3000 Model 500/500S AXP Service Information, DEC 3000 Model 800/800S AXP Service Information,* or *DEC 3000 Models 700 AXP and 900 AXP Service Information Addendum* manuals for details on steps 1—8.**

Step	Action
1.	Remove power from the unit.
2.	Remove the top cover.
3.	Remove the front bezel.
4.	Remove the pedestal side panels.
5.	Remove the rear bezel.
6.	Disconnect the light and switch module (LSM) cable.
7.	Remove the four removable rivets.
8.	Remove the LSM module (PN 54-21145-02).

Completing the Conversion

To complete the conversion to a rackmount system, perform the following procedure:

Step	Action
1.	Remove the pedestal base.
2.	Install the new LSM module (PN 54-21145-01) with the top of the module towards the storage media cavity.
3.	Attach the Product Conversion Label to the rear of the chassis, in the top left corner.
4.	Continue with the rackmount installation procedure as described in Chapter 3.