



Installation Guide
FIPS 140-2 Level 2 Kit

McAfee® Firewall Enterprise

E model appliances

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Preface

About this guide

The *McAfee Firewall Enterprise FIPS 140-2 Level 2 Kit Installation Guide* describes how to install the FIPS 140-2 Level 2 kit on E model appliances. Use this document with the FIPS configuration guide that corresponds to the software version you want to use:

- *McAfee Firewall Enterprise FIPS 140-2 Configuration Guide*
- *Secure Firewall (Sidewinder) FIPS 140-2 Configuration Guide*

Audience

This guide is intended for network and security administrators who have responsibility for planning, configuring, and managing McAfee® Firewall Enterprise. The guide assumes you are familiar with:

- UNIX and Microsoft Windows operating systems
- System administration
- Internet and its associated terms and applications
- Networks and network terminology, including TCP/IP protocols

Conventions

The table summarizes the text conventions used in this guide.

Table i-1 Conventions

Convention	Description
Monospace bold	Identifies commands and key words you type at a system prompt Note: A backslash (\) signals a command that does not fit on the same line. Type the command as shown, ignoring the backslash.
<i>Monospace italic</i>	Indicates a placeholder for text you type
< <i>Monospace italic</i> >	When enclosed in angle brackets (< >), identifies optional text
<i>nnn.nnn.nnn.nnn</i>	Indicates a placeholder for an IP address you type
Monospace plain	Used to show text that appears on a computer screen
<i>Plain text italics</i>	Identifies the names of files and directories Used for emphasis (for example, when introducing a new term)
Plain text bold	Identifies buttons, field names, and tabs that require user interaction
[]	Signals conditional or optional text and instructions (for example, instructions that pertain only to a specific configuration)
Caution:	Signals be careful—in this situation, you might do something that could result in the loss of data or an unpredictable outcome
Note:	Used for a helpful suggestion or a reference to material not covered elsewhere in the guide

Table i-1 Conventions (continued)

Convention	Description
Security Alert:	Identifies information that is critical for maintaining product integrity or security
Tip:	Indicates time-saving actions; might help you solve a problem

Note: The IP addresses, screen captures, and graphics used within this document are for illustration purposes only. They are not intended to represent a complete or appropriate configuration for your specific needs. Features might be enabled in screen captures to make them clear; however, not all features are appropriate or desirable for your setup.

Acronyms

The following acronyms are used in this guide.

Table i-2 Acronyms

Acronym	Description
BIOS	basic input/output system
ESD	electrostatic discharge
FIPS	Federal Information Processing Standards

Find product information

You can find additional information at the following locations.

Table i-3 Product resources

Resource	Location
McAfee Technical Support ServicePortal	Visit mysupport.mcafee.com to find: • Product documentation • KnowledgeBase • Product announcements • Technical support
Product updates	Visit go.mcafee.com/goto/updates to download the latest Firewall Enterprise patches.
Product installation files	1 Visit www.mcafee.com/us/downloads. 2 Provide your grant number, then navigate to the appropriate product and version.

1

FIPS kit overview

Contents

What makes an appliance compliant with FIPS 140-2 Level 2?

Introduction to the FIPS kit

What makes an appliance compliant with FIPS 140-2 Level 2?

Software and hardware modifications are required to make a Firewall Enterprise appliance compliant with FIPS 140-2 Level 2:

- **Hardware** — The FIPS 140-2 Level 2 kit must be installed to meet the physical tamper-evidence requirement for FIPS 140-2 Level 2 standards.
- **Software** — Software configuration changes must be made to enable FIPS mode and ensure compliance. These changes are described in the FIPS configuration guide that corresponds to the software version you want to use:
 - *McAfee Firewall Enterprise FIPS 140-2 Configuration Guide*
 - *Secure Firewall (Sidewinder) FIPS 140-2 Configuration Guide*

Introduction to the FIPS kit

Install the FIPS 140-2 kit to meet the physical tamper-evidence requirement for FIPS 140-2 Level 2 standards.

Model compatibility

This FIPS kit is compatible with the following Firewall Enterprise appliance models:

- 1100E
- 2150E
- 4150E

Contents

The kit includes baffles to prevent the viewing of circuitry details through ventilation holes, and tamper-evident seals that must be broken to gain physical access to the components within the firewall chassis.

Note: The FIPS kit for model 4150E includes only tamper-evident seals. Baffles are not necessary for this appliance.

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Installing the FIPS kit

Contents

Before you begin

Install the kit in a model 1100E appliance

Install the kit in a model 2150E appliance

Install the kit in a model 4150E appliance

Before you begin

Before you install the FIPS kit, complete the following tasks.

Download and follow the configuration guide

Follow the instructions in the FIPS 140-2 configuration guide for the software version you are using.

- 1 Download the FIPS configuration guide.
 - a Go to the McAfee Technical Support ServicePortal at mysupport.mcafee.com.
 - b Under **Self Service**, click **Product Documentation**.
 - c Select the appropriate product and version.
 - d Download the appropriate FIPS configuration guide:
 - *McAfee Firewall Enterprise FIPS 140-2 Configuration Guide*
 - *Secure Firewall (Sidewinder) FIPS 140-2 Configuration Guide*
- 2 Follow the instructions to configure the appliance for FIPS mode.

Note: The configuration guide specifies when to install the FIPS kit.

Protect against electrostatic discharge

Static electricity can harm delicate components inside your appliance. When adding baffles to your appliance, take the following steps to prevent damage from electrostatic discharge (ESD):

Caution: To guard against electrical shock, always unplug your appliance from the electrical outlet before opening the cover.

- Do not remove components from their antistatic packing material until you are ready to install them in your appliance. Just before unwrapping the antistatic packaging, discharge static electricity from your body by touching the power supply or an unpainted metal surface on the appliance chassis.
- Handle all electrostatic sensitive components in a static-safe area. If possible, use antistatic floor pads and workbench pads.
- Discharge static electricity from your body before you touch any of your appliance's electronic components, such as the microprocessor.

Install the kit in a model 1100E appliance

Verify the contents of the FIPS kit, then install the kit in your appliance.

Verify kit contents

The FIPS kit for model 1100E includes the following:

- One large baffle and fasteners for the cover
- Two small baffles and fasteners for the back panel
- One opaque PCI expansion slot filler cover
- Tamper-evident seals with serial numbers

Install the kit

To install baffles and seals:

- 1 Remove the bezel (see [Figure 2-1](#)).
 - a If necessary, unlock the bezel.
 - b Press the tab at the left end of the bezel.
 - c Rotate the left end of the bezel away from the system to release the right end of the bezel.
 - d Pull the bezel away from the system.

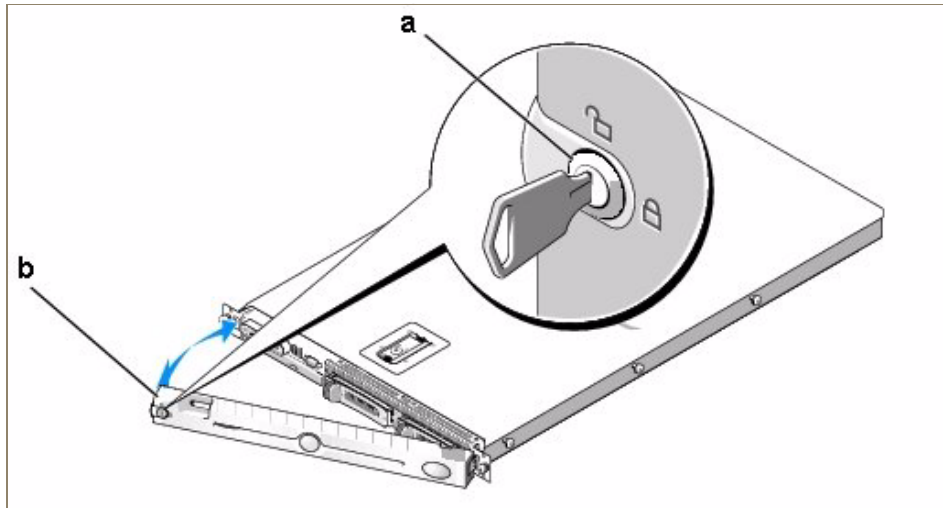


Figure 2-1 Removing the bezel from the appliance

- 2 Turn off the appliance and disconnect all cords and cables.
 - a Use the Admin Console to Halt System and turn off the appliance.
 - b Disconnect the appliance and all attached devices from their electrical outlets, then press the power button to ground the system board.
 - c Unplug all network cables from the appliance.

- 3 Remove the cover (see [Figure 2-2](#)).

Caution: To guard against electrical shock, always unplug your appliance from the electrical outlet before opening the cover.

- a Turn the latch release lock counter-clockwise to the unlocked position.
- b Lift up on the latch on top of the system.
- c Grasp the cover on both sides and carefully lift the cover away from the system.

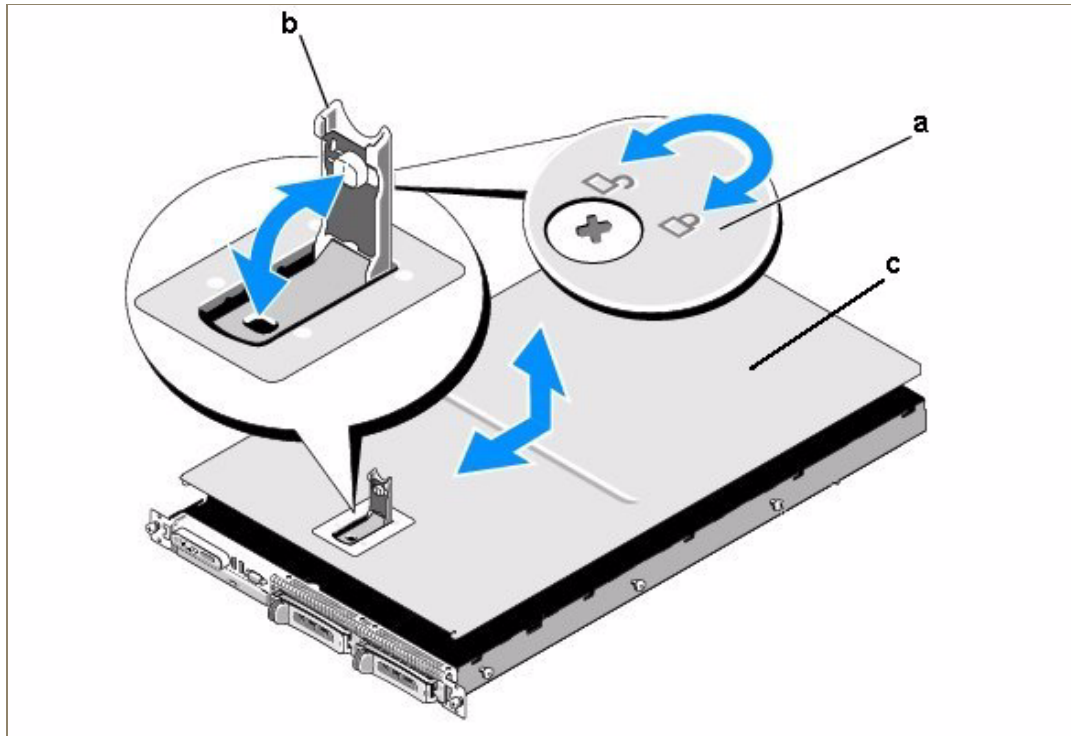


Figure 2-2 Removing the cover from the appliance

- 4 Touch the power supply to discharge static electricity.

5 Install the cover baffle (see [Figure 2-3](#)).

Note: This baffle is not compatible with fiber NICs.

- a** If there is a NIC in PCI slot 2, clip the fastener to allow clearance.
- b** On the inside of the cover, position the large baffle over the ventilation holes. Face the tabs toward the back and hook them through the last row of ventilation holes.
- c** On the outside of the cover, insert the fasteners.

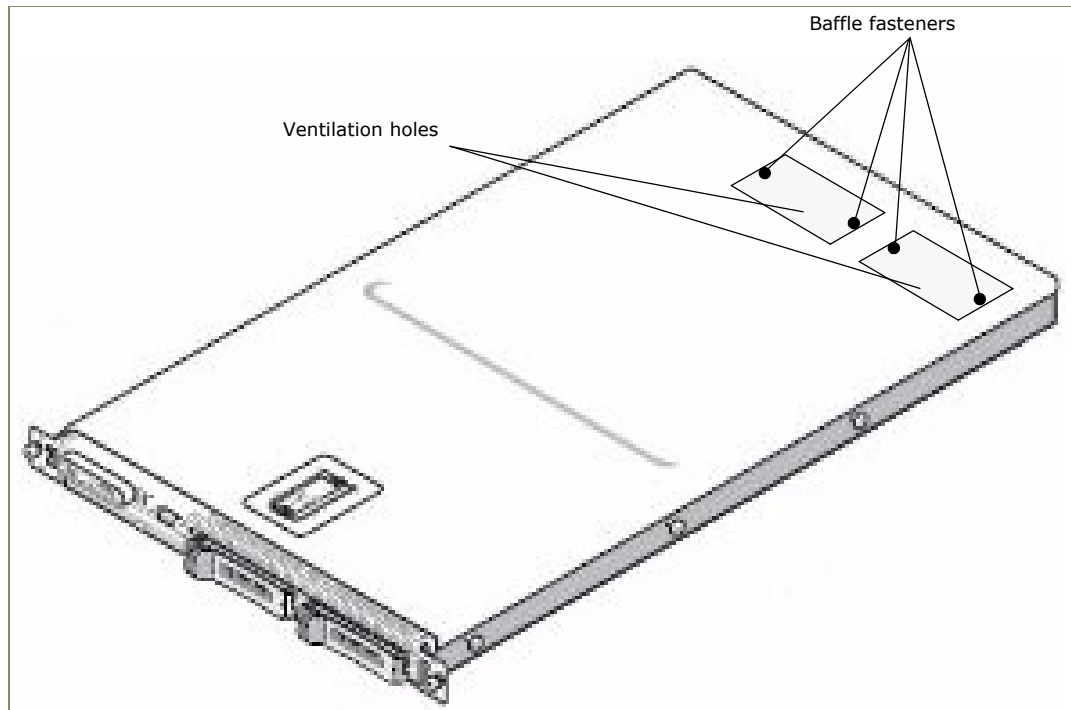


Figure 2-3 Top of model 1100E

6 Install the opaque filler cover in the open PCI expansion slot (see [Figure 2-4](#)).

- a** Inside the chassis, lift the expansion card latch and remove the ventilated filler cover.
- b** Insert the opaque filler cover and close the expansion card latch.

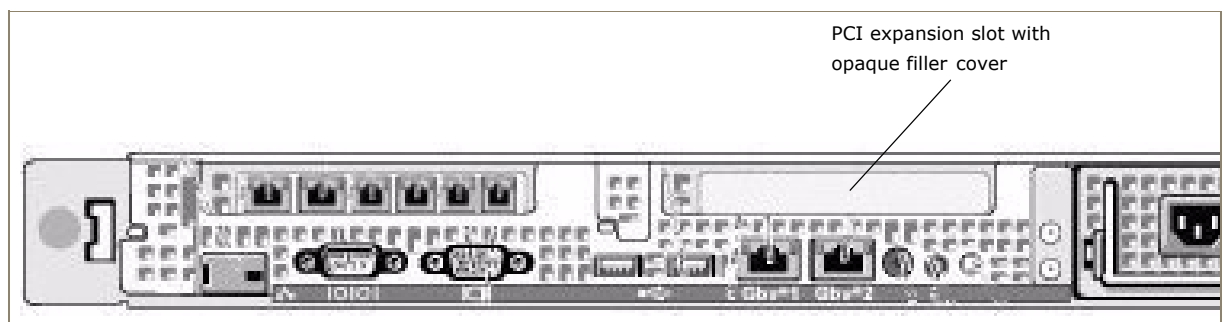


Figure 2-4 PCI expansion slots on back panel of model 1100E

- 7 Install baffles on the back panel (see [Figure 2-5](#)): Place the appropriate baffle over the ventilation holes and insert the fasteners.

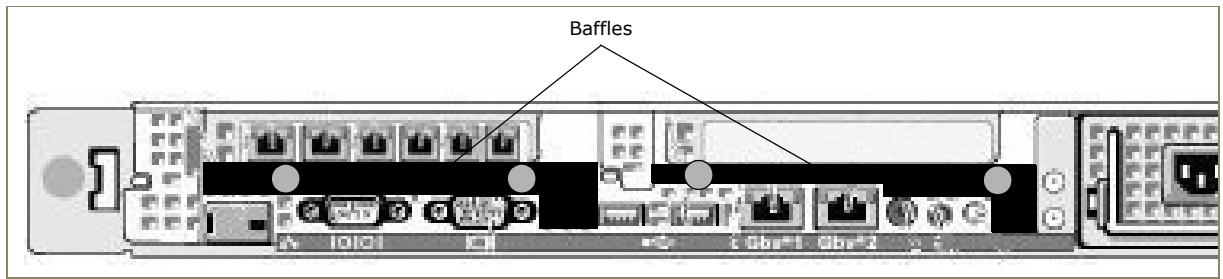


Figure 2-5 Back panel of model 1100E with baffles installed

- 8 Replace the cover.
- 9 Connect all cords and cables.
- 10 Turn on the appliance.
- 11 Replace the bezel.
- 12 Attach tamper-evident seals to the chassis (see [Figure 2-6](#)).
 - a Place a seal on the top where the bezel and chassis meet. Make sure that the seal is attached to both the bezel and the chassis.
 - b Place a seal over the right side seam where the cover and case meet.

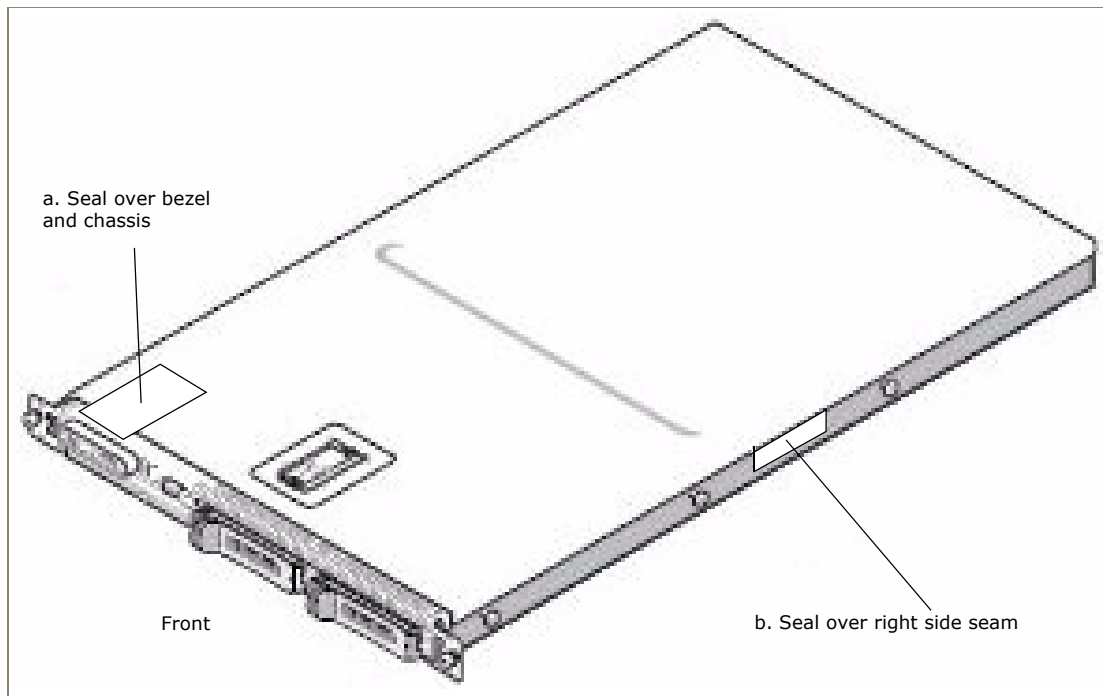


Figure 2-6 Top of model 1100E (bezel not shown)

Install the kit in a model 2150E appliance

Verify the contents of the FIPS kit, then install the kit in your appliance.

Verify kit contents

The FIPS kit for model 2150E includes the following:

- One large internal baffle and fasteners for the cover
- Opaque PCI expansion slot filler covers
- Tamper-evident seals with serial numbers

To install baffles and seals:

- 1 Remove the bezel (see [Figure 2-7](#)).
 - a If necessary, unlock the bezel.
 - b Press the tab at the left end of the bezel.
 - c Rotate the left end of the bezel away from the system to release the right end of the bezel.
 - d Pull the bezel away from the system.

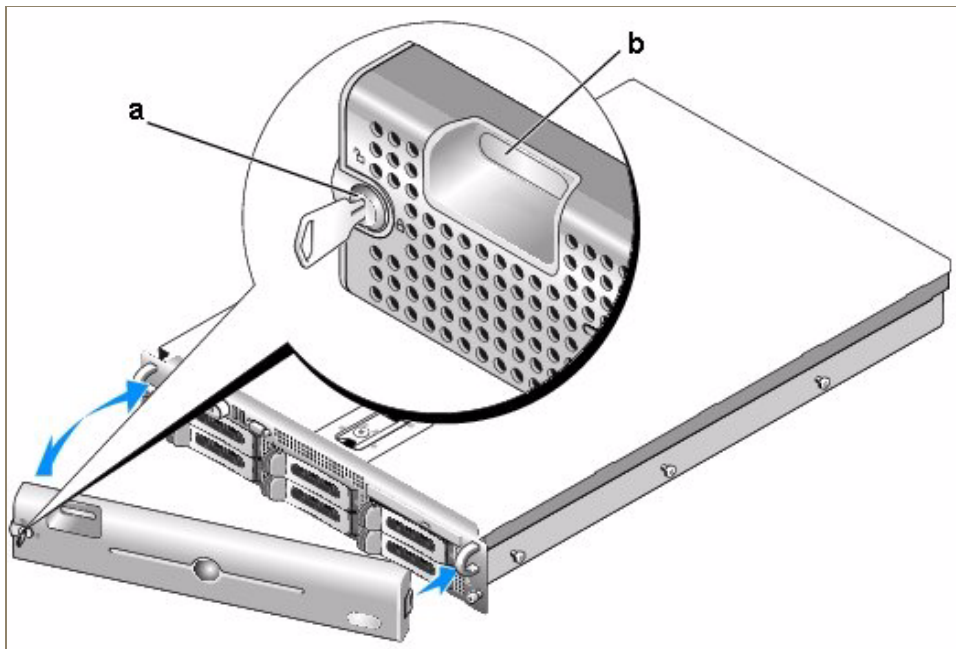


Figure 2-7 Removing the bezel from the appliance

- 2 Turn off the appliance and disconnect all cords and cables.
 - Use the Admin Console to Halt System and turn off the appliance.
 - Disconnect the appliance and all attached devices from their electrical outlets, then press the power button to ground the system board.
 - Unplug all network cables from the appliance.

- 3 Remove the cover (see [Figure 2-8](#)).

Caution: To guard against electrical shock, always unplug your appliance from the electrical outlet before opening the cover.

- a Turn the latch release lock counter-clockwise to the unlocked position.
- b Lift up on the latch on top of the system.
- c Grasp the cover on both sides and carefully lift the cover away from the system.

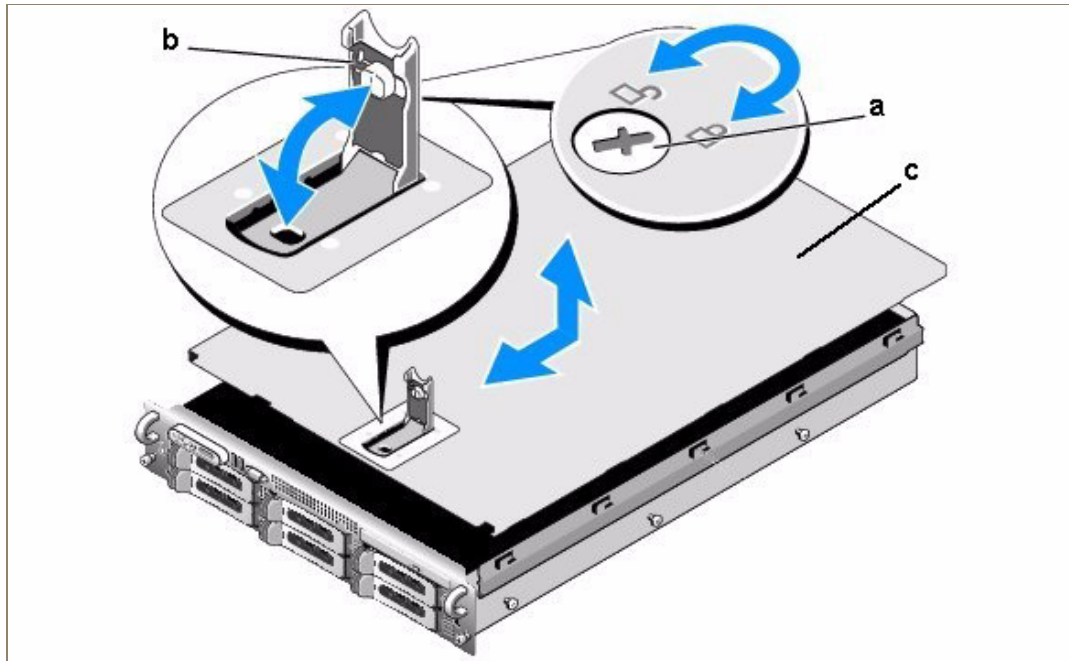


Figure 2-8 Removing the cover from the appliance

- 4 Touch the power supply to discharge static electricity.
- 5 Install opaque filler covers in open PCI expansion slots (see [Figure 2-9](#)).
- a Inside the chassis, lift the expansion card latch and remove the ventilated filler cover.
 - b Insert the opaque filler cover and close the expansion card latch.

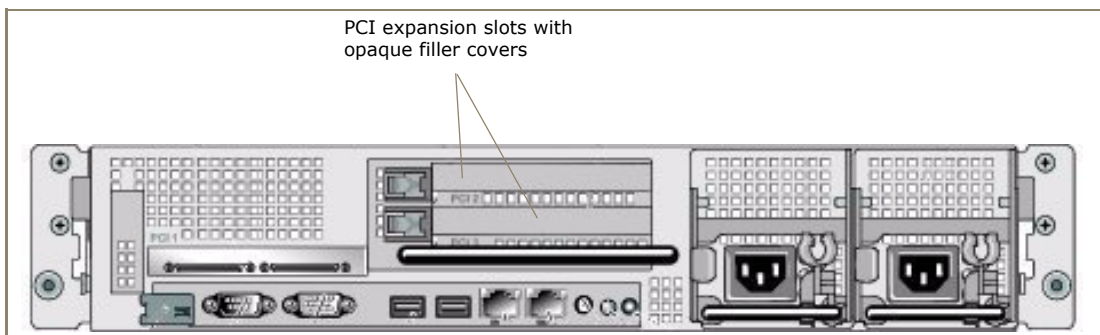
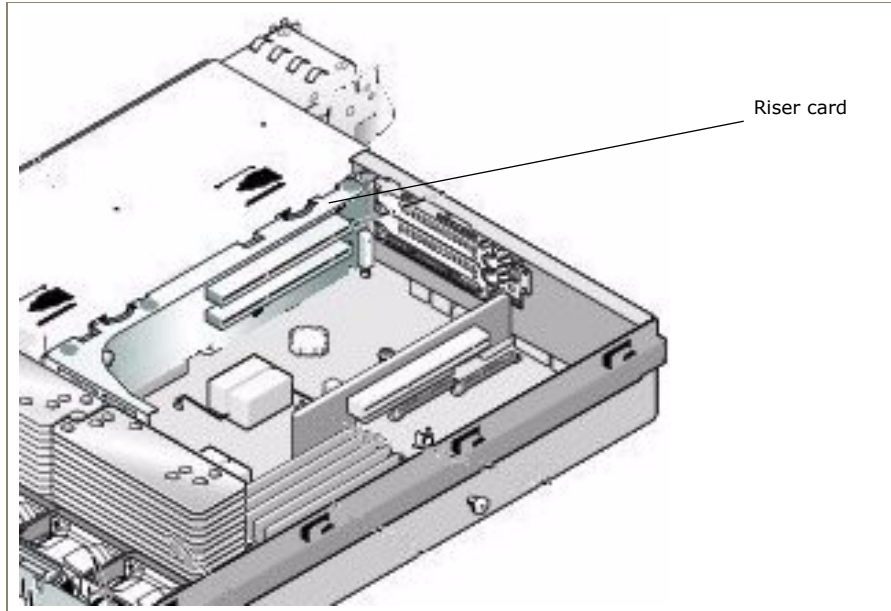


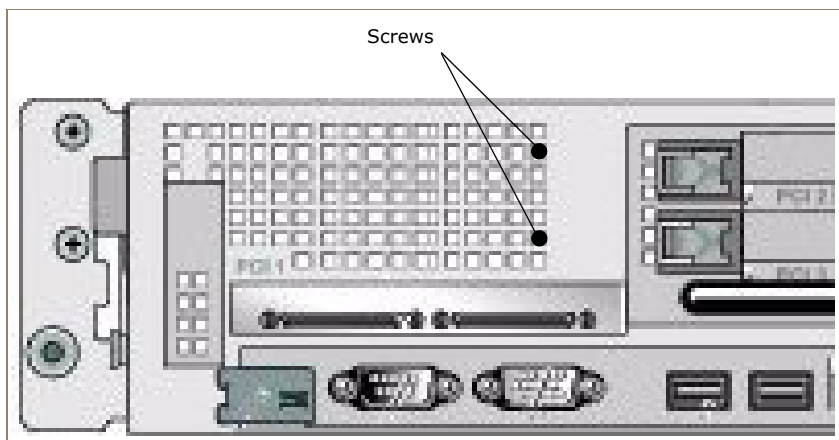
Figure 2-9 PCI expansion slots on back panel of model 2150E

6 Install the baffle.

- a** [Conditional] Remove existing PCI cards from PCI slots 2 and 3. Keep track of their location so that you put them back in the same slots.
- b** Position the baffle on the inside of the chassis. Place the top of the baffle underneath the top of the riser card (see [Figure 2-10](#)).

**Figure 2-10 Inside of model 2150**

- c** Insert two screws through the outside of the back panel (see [Figure 2-11](#)).
 - Insert the top screw through the ventilation hole one down from the top and farthest to the right.
 - Insert the bottom screw through the ventilation hole one up from the bottom and farthest to the right.

**Figure 2-11 Screws through back panel of model 2150E**

- d** If necessary, replace the PCI cards in PCI slots 2 and 3.
- 7** Replace the cover.
- 8** Connect all cords and cables.
- 9** Turn on the appliance.

10 Replace the bezel.

11 Attach tamper-evident seals to the chassis (see [Figure 2-12](#)).

- a** Place a seal on the top where the bezel and chassis meet. Make sure that the seal is attached to both the bezel and the chassis.
- b** Place a seal over the left side seam where the cover and case meet.

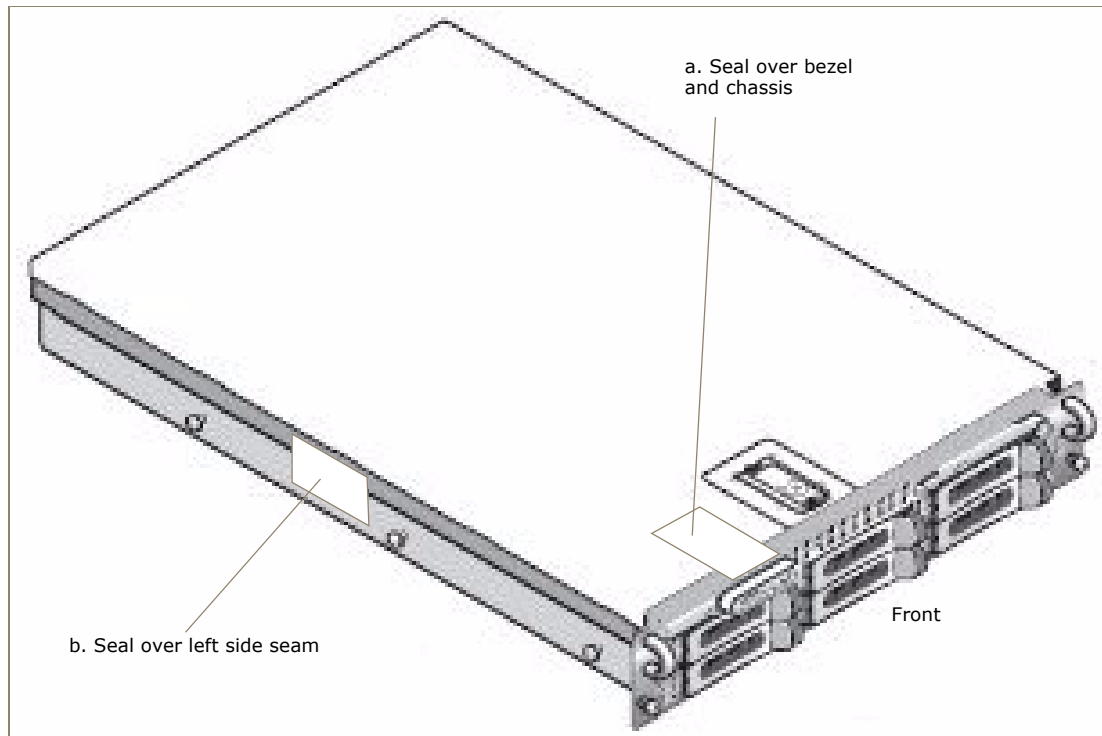


Figure 2-12 Top view of model 2150E (bezel not shown)

Install the kit in a model 4150E appliance

Verify the contents of the FIPS kit, then install the kit in your appliance.

Verify kit contents

The FIPS kit for model 4150E includes only tamper-evident seals. Baffles are not necessary for this appliance.

Install the kit

To attach seals:

- 1** Make sure all cords and cables are connected, the appliance is turned on, and the bezel is secured.
If necessary, remove the bezel to turn on the appliance (see [Figure 2-13](#)).
 - a** If necessary, unlock the bezel.
 - b** Press the tab at the left end of the bezel.
 - c** Rotate the left end of the bezel away from the system.
 - d** Unhook the right end of the bezel and pull the bezel away from the system.
 - e** Replace the bezel.

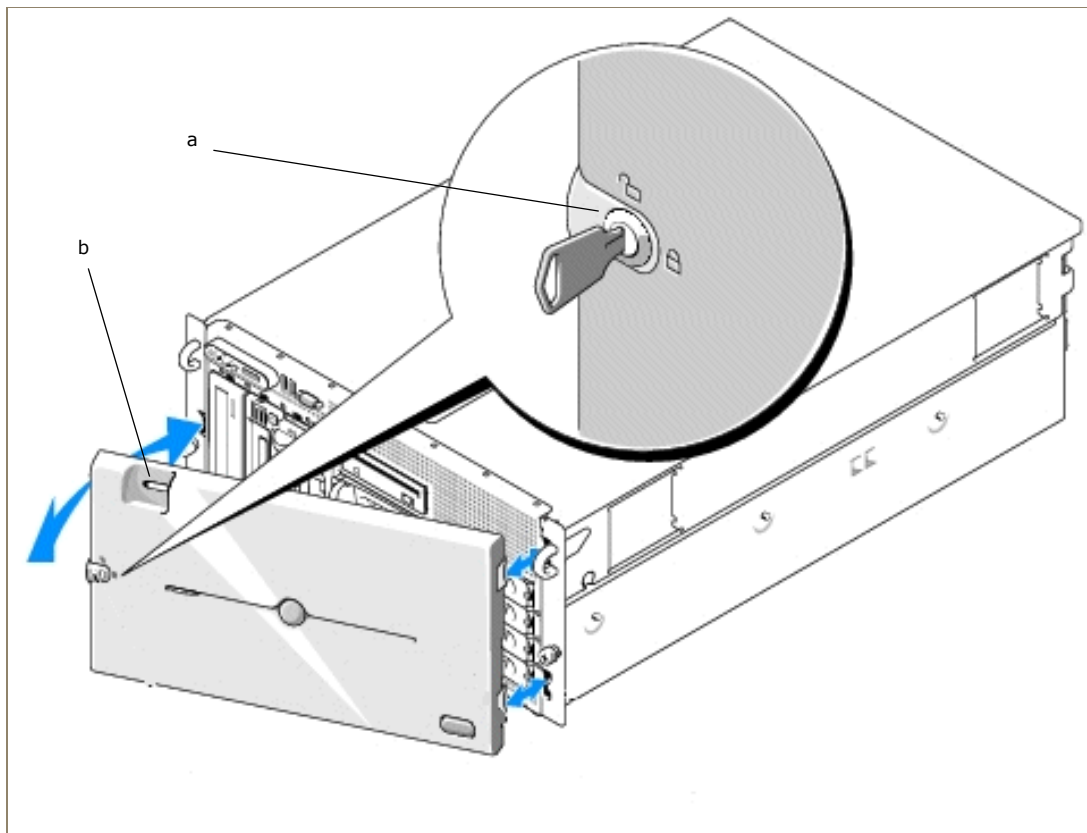


Figure 2-13 Removing the bezel from the appliance

- 2 Attach tamper-evident seals to the cover of the chassis (see [Figure 2-14](#)).
 - a Place a seal on the top where the bezel and chassis meet. Make sure that the seal is attached to both the bezel and the chassis.
 - b Place a seal over the left side seam where the cover and case meet.

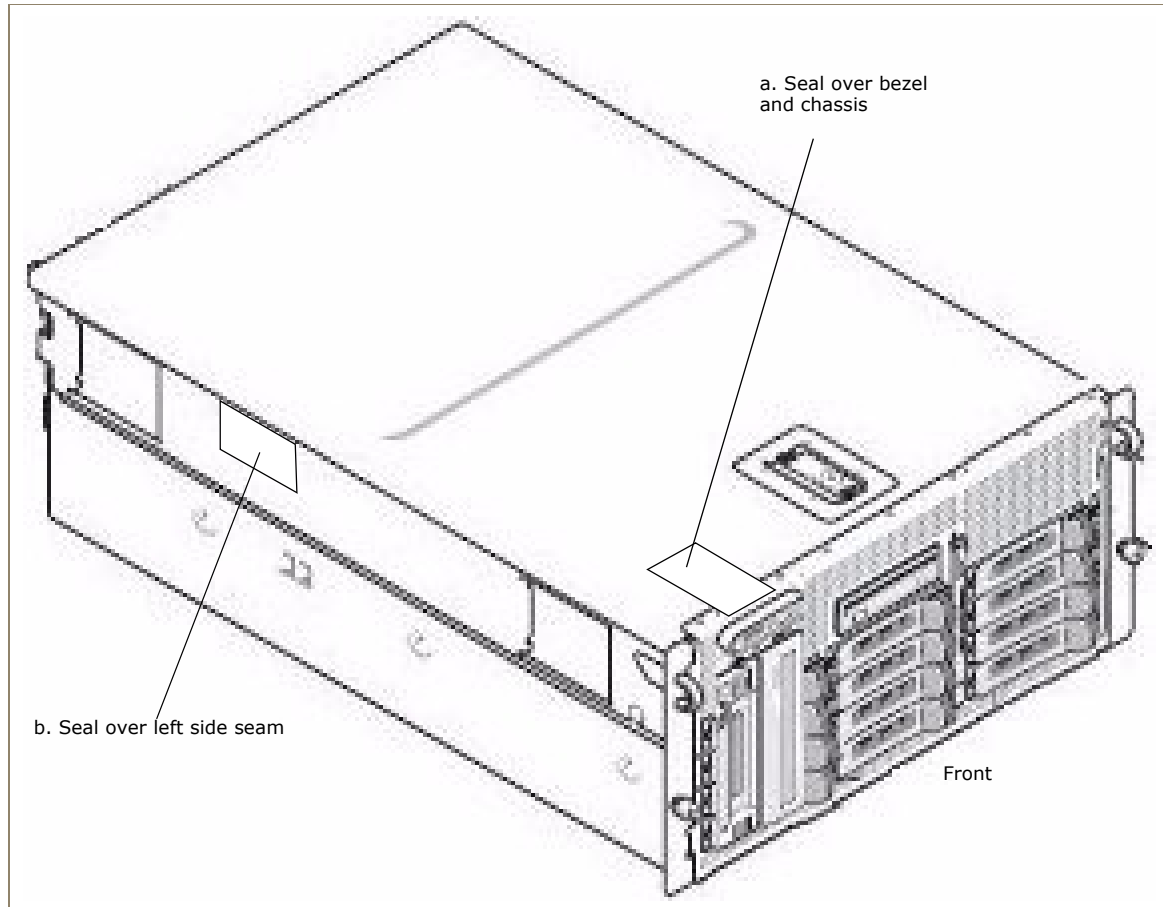


Figure 2-14 Top view of model 4150E (bezel not shown)

Installing the FIPS kit

Install the kit in a model 4150E appliance

- 3 Attach tamper-evident seals to the back panel: Attach a seal to connect each power supply to the chassis (see [Figure 2-15](#))

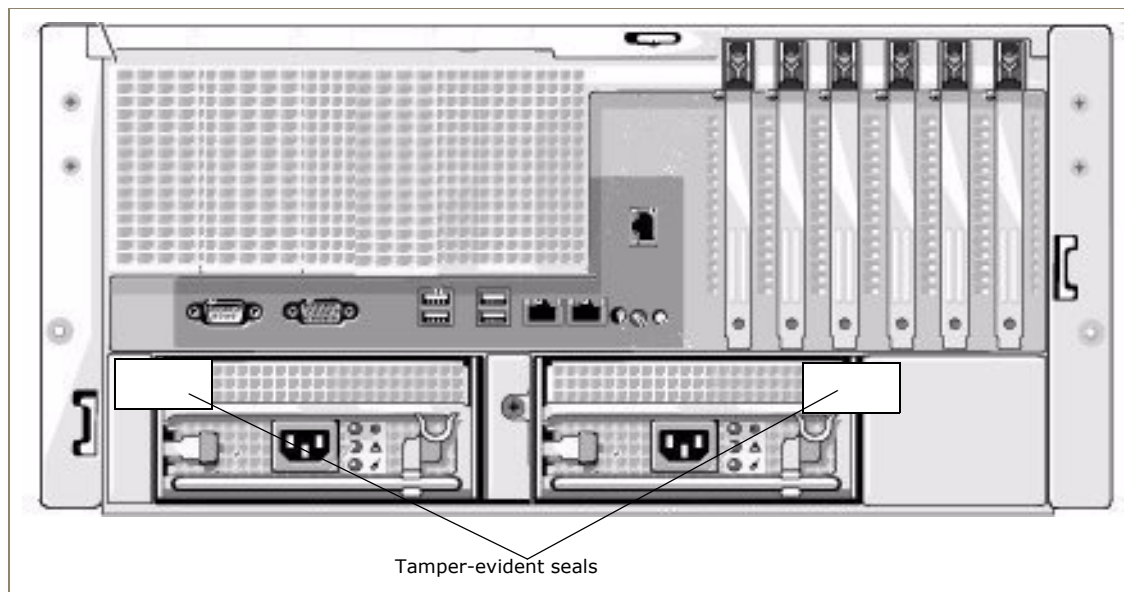


Figure 2-15 Back panel of model 4150E showing seals on power supplies

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Modifying BIOS settings

Contents

[Requirements](#)

[Modify BIOS settings](#)

Requirements

You must enter your firewall's System Setup program to address the following FIPS requirements:

- The firewall must start up only from the FIPS-enabled hard drive. All other bootable devices must be disabled.
- Unauthorized users are not allowed to enter the System Setup program. You must create a password that is used each time an administrator enters the System Setup program.
- The power button is not accessible. You must change the AC Power Recovery setting.

Modify BIOS settings

To update the BIOS settings:

- 1 Connect a monitor and keyboard to the firewall.
- 2 From the command line, restart the firewall.
- 3 When the **F2 = Setup** menu line appears in the upper right corner of the screen, press the **F2** key. The BIOS window appears.
- 4 Disable other bootable devices.
 - a Select **Boot Sequence** and then press **Enter**.
 - b Verify that the hard drive is enabled. If necessary, use the space bar to enable the hard drive.
 - c Select all other devices and use the space bar to disable them.
 - d Press **Esc** to return to the main BIOS menu.

Note: PXE booting on ethernet devices is not allowed. If you have enabled PXE booting on an onboard NIC, select **Integrated Devices**, select the appropriate NIC, and use the right arrow to select **Enabled** (do not select Enabled with PXE).
- 5 Create a password for the System Setup program and set the power restore option.
 - a Select **System Security** and then press **Enter**.
 - b Select **Setup Password** and then press **Enter**.
 - c Enter a password and a confirmation and then press **Enter**.
 - d Select **AC Power Recovery** and then press **Enter**.

- e** Use the space bar to set AC Power Recovery to **On**.
 - f** Press **Esc** to return to the main BIOS menu.
- 6** Press **Esc**, select **Save Changes and Exit**, and then press **Enter**. The firewall finishes starting up.

