



Supervisor Engine 720 SP Bootflash Memory Installation Note

Product Numbers: BF-S720-64MB-SP=

This publication describes how to install the switch processor (SP) bootflash memory kit. The SP bootflash memory kit contains a 64-MB bootflash DIMM that installs in the SP bootflash DIMM socket replacing the SP CompactFlash adapter.

Contents

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Note

For translations of the warnings in this publication, see the “[Safety Warning Translations](#)” section on [page 23](#).

This memory kit is applicable only for the SP bootflash; it is independent from the SP DRAM. The 64-MB Bootflash is preprogrammed with the default Cisco IOS image s72033-ipservicesk9-mz.122-18.SXF6.bin to allow you to boot up your system to the Router> prompt from the SP bootflash. Once your system is running Cisco IOS software, you can download your specific Cisco IOS image from CCO onto the new SP bootflash. After you perform a power cycle on your system or reload your system to the rmon> prompt, you can boot your system with the specific Cisco IOS image that is on the SP bootflash.

Safety Overview

Safety warnings appear throughout this publication in procedures that may harm you if performed incorrectly. A warning symbol precedes each warning statement.

Statement 1071—Warning Definition



Warning

IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

SAVE THESE INSTRUCTIONS

Waarschuwing

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van de standaard praktijken om ongelukken te voorkomen. Gebruik het nummer van de verklaring onderaan de waarschuwing als u een vertaling van de waarschuwing die bij het apparaat wordt geleverd, wilt raadplegen.

BEWAAR DEZE INSTRUCTIES

Varoitus

TÄRKEITÄ TURVALLISUUSOHJEITA

Tämä varoitusmerkki merkitsee vaaraa. Tilanne voi aiheuttaa ruumiillisia vammoja. Ennen kuin käsittelet laitteistoa, huomioi sähköpiirien käsittelemiseen liittyvät riskit ja tutustu onnettomuuksien yleisiin ehkäisytapoihin. Turvallisuusvaroitusten käännökset löytyvät laitteen mukana toimitettujen käännettyjen turvallisuusvaroitusten joukosta varoitusten lopussa näkyvien lausuntonumeroiden avulla.

SÄILYTÄ NÄMÄ OHJEET

Attention IMPORTANTES INFORMATIONS DE SÉCURITÉ

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS**Warnung WICHTIGE SICHERHEITSHINWEISE**

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.**Avvertenza IMPORTANTI ISTRUZIONI SULLA SICUREZZA**

Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Utilizzare il numero di istruzione presente alla fine di ciascuna avvertenza per individuare le traduzioni delle avvertenze riportate in questo documento.

CONSERVARE QUESTE ISTRUZIONI**Advarsel VIKTIGE SIKKERHETSINSTRUKSJONER**

Dette advarselssymbolet betyr fare. Du er i en situasjon som kan føre til skade på person. Før du begynner å arbeide med noe av utstyret, må du være oppmerksom på farene forbundet med elektriske kretser, og kjenne til standardprosedyrer for å forhindre ulykker. Bruk nummeret i slutten av hver advarsel for å finne oversettelsen i de oversatte sikkerhetsadvarslene som fulgte med denne enheten.

TA VARE PÅ DISSE INSTRUKSJONENE**Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você está em uma situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha conhecimento dos perigos envolvidos no manuseio de circuitos elétricos e familiarize-se com as práticas habituais de prevenção de acidentes. Utilize o número da instrução fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham este dispositivo.

GUARDE ESTAS INSTRUÇÕES

¡Advertencia!**INSTRUCCIONES IMPORTANTES DE SEGURIDAD**

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES**Varning!****VIKTIGA SÄKERHETSANVISNINGAR**

Denna varningssignal signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanliga förfaranden för att förebygga olyckor. Använd det nummer som finns i slutet av varje varning för att hitta dess översättning i de översatta säkerhetsvarningar som medföljer denna anordning.

SPARA DESSA ANVISNINGAR**FONTOS BIZTONSÁGI ELOÍRÁSOK**

Ez a figyelmeztető jel veszélyre utal. Sérülésveszélyt rejtő helyzetben van. Mielőtt bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplő figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján kereshető meg.

ORIZZE MEG EZEKET AZ UTASÍTÁSOKAT!**Предупреждение****ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ**

Этот символ предупреждения обозначает опасность. То есть имеет место ситуация, в которой следует опасаться телесных повреждений. Перед эксплуатацией оборудования выясните, каким опасностям может подвергаться пользователь при использовании электрических цепей, и ознакомьтесь с правилами техники безопасности для предотвращения возможных несчастных случаев. Воспользуйтесь номером заявления, приведенным в конце каждого предупреждения, чтобы найти его переведенный вариант в переводе предупреждений по безопасности, прилагаемом к данному устройству.

СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ**警告****重要的安全性说明**

此警告符号代表危险。您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾提供的声明号码来找到此设备的安全性警告说明的翻译文本。

请保存这些安全性说明

警告 安全上の重要な注意事項

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止策に留意してください。警告の各国語版は、各注意事項の番号を基に、装置に付属の「Translated Safety Warnings」を参照してください。

これらの注意事項を保管しておいてください。

주의 중요 안전 지침

이 경고 기호는 위험을 나타냅니다. 작업자가 신체 부상을 일으킬 수 있는 위험한 환경에 있습니다. 장비에 작업을 수행하기 전에 전기 회로와 관련된 위험을 숙지하고 표준 작업 관례를 숙지하여 사고를 방지하십시오. 각 경고의 마지막 부분에 있는 경고문 번호를 참조하여 이 장치와 함께 제공되는 번역된 안전 경고문에서 해당 번역문을 찾으십시오.

이 지시 사항을 보관하십시오.

Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA

Este símbolo de aviso significa perigo. Você se encontra em uma situação em que há risco de lesões corporais. Antes de trabalhar com qualquer equipamento, esteja ciente dos riscos que envolvem os circuitos elétricos e familiarize-se com as práticas padrão de prevenção de acidentes. Use o número da declaração fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham o dispositivo.

GUARDE ESTAS INSTRUÇÕES**Advarsel** VIGTIGE SIKKERHEDSANVISNINGER

Dette advarselssymbol betyder fare. Du befinder dig i en situation med risiko for legemesbeskadigelse. Før du begynder arbejde på udstyr, skal du være opmærksom på de involverede risici, der er ved elektriske kredsløb, og du skal sætte dig ind i standardprocedurer til undgåelse af ulykker. Brug erklæringsnummeret efter hver advarsel for at finde oversættelsen i de oversatte advarsler, der fulgte med denne enhed.

GEM DISSE ANVISNINGER**تحذير****إرشادات الأمان الهامة**

يوضح رمز التحذير هذا وجود خطر. وهذا يعني أنك متواجد في مكان قد ينتج عنه التعرض لإصابات. قبل بدء العمل، احذر مخاطر التعرض للصدمات الكهربائية وكن على علم بالإجراءات القياسية للحيولة دون وقوع أي حوادث. استخدم رقم البيان الموجود في آخر كل تحذير لتحديد مكان ترجمته داخل تحذيرات الأمان المترجمة التي تأتي مع الجهاز. قم بحفظ هذه الإرشادات

Upozorenje VAŽNE SIGURNOSNE NAPOMENE

Ovaj simbol upozorenja predstavlja opasnost. Nalazite se u situaciji koja može prouzročiti tjelesne ozljede. Prije rada s bilo kojim uređajem, morate razumjeti opasnosti vezane uz električne sklopove, te biti upoznati sa standardnim načinima izbjegavanja nesreća. U prevedenim sigurnosnim upozorenjima, priloženima uz uređaj, možete prema broju koji se nalazi uz pojedino upozorenje pronaći i njegov prijevod.

SAČUVAJTE OVE UPUTE**Upozornění DŮLEŽITÉ BEZPEČNOSTNÍ POKYNY**

Tento upozorňující symbol označuje nebezpečí. Jste v situaci, která by mohla způsobit nebezpečí úrazu. Před prací na jakémkoliv vybavení si uvědomte nebezpečí související s elektrickými obvody a seznamte se se standardními opatřeními pro předcházení úrazům. Podle čísla na konci každého upozornění vyhledejte jeho překlad v přeložených bezpečnostních upozorněních, která jsou přiložena k zařízení.

USCHOVEJTE TYTO POKYNY**Προειδοποίηση ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ**

Αυτό το προειδοποιητικό σύμβολο σημαίνει κίνδυνο. Βρίσκεστε σε κατάσταση που μπορεί να προκαλέσει τραυματισμό. Πριν εργαστείτε σε οποιοδήποτε εξοπλισμό, να έχετε υπόψη σας τους κινδύνους που σχετίζονται με τα ηλεκτρικά κυκλώματα και να έχετε εξοικειωθεί με τις συνήθεις πρακτικές για την αποφυγή ατυχημάτων. Χρησιμοποιήστε τον αριθμό δήλωσης που παρέχεται στο τέλος κάθε προειδοποίησης, για να εντοπίσετε τη μετάφρασή της στις μεταφρασμένες προειδοποιήσεις ασφαλείας που συνοδεύουν τη συσκευή.

ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ

אזהרה

הוראות בטיחות חשובות

סימן אזהרה זה מסמל סכנה. אתה נמצא במצב העלול לגרום לפציעה. לפני שתעבוד עם ציוד כלשהו, עליך להיות מודע לסכנות הכרוכות במעגלים חשמליים ולהכיר את הנהלים המקובלים למניעת תאונות. השתמש במספר ההוראה המסופק בסופה של כל אזהרה כדי לאתר את התרגום באזהרות הבטיחות המתורגמות שמצורפות להתקן.

שמור הוראות אלה

Opomena

ВАЖНИ БЕЗБЕДНОСНИ НАПАТСТВИЈА

Симболот за предупредување значи опасност. Се наоѓате во ситуација што може да предизвика телесни повреди. Пред да работите со опремата, бидете свесни за ризикот што постои кај електричните кола и треба да ги познавате стандардните постапки за спречување на несреќни случаи. Искористете го бројот на изјавата што се наоѓа на крајот на секое предупредување за да го најдете неговиот период во преведените безбедносни предупредувања што се испорачани со уредот. ЧУВАЈТЕ ГИ ОБИЕ НАПАТСТВИЈА

Ostrzeżenie

WAŻNE INSTRUKCJE DOTYCZĄCE BEZPIECZEŃSTWA

Ten symbol ostrzeżenia oznacza niebezpieczeństwo. Zachodzi sytuacja, która może powodować obrażenia ciała. Przed przystąpieniem do prac przy urządzeniach należy zapoznać się z zagrożeniami związanymi z układami elektrycznymi oraz ze standardowymi środkami zapobiegania wypadkom. Na końcu każdego ostrzeżenia podano numer, na podstawie którego można odszukać tłumaczenie tego ostrzeżenia w dołączonym do urządzenia dokumencie z tłumaczeniami ostrzeżeń.

NINIEJSZE INSTRUKCJE NALEŻY ZACHOWAĆ

Upozornenie

DÔLEŽITÉ BEZPEČNOSTNÉ POKYNY

Tento varovný symbol označuje nebezpečenstvo. Nachádzate sa v situácii s nebezpečenstvom úrazu. Pred prácou na akomkoľvek vybavení si uvedomte nebezpečenstvo súvisiace s elektrickými obvodmi a oboznámte sa so štandardnými opatreniami na predchádzanie úrazom. Podľa čísla na konci každého upozornenia vyhľadajte jeho preklad v preložených bezpečnostných upozorneniach, ktoré sú priložené k zariadeniu.

USCHOVAJTE SI TENTO NÁVOD

Installing the SP Bootflash Memory Kit

The SP memory procedure is divided into the following tasks:

- [Removing the Supervisor Engine 720, page 8](#)
- [Installing the SP Bootflash DIMM, page 11](#)
- [Reinstalling the Supervisor Engine 720, page 14](#)

Removing the Supervisor Engine 720

**Warning**

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030

The following tools are required to perform the bootflash upgrade kit installation:

- 3/16-inch flat-blade screwdriver for the captive installation screws on the supervisor engine
- Antistatic mat or foam pad to support and protect the removed supervisor engine
- Your own ESD-prevention equipment or the disposable grounding wrist strap included with all upgrade kits, field-replaceable units (FRUs), and spares

**Warning**

Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place. Statement 1029

**Warning**

Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing. Statement 1034

**Caution**

Always use an ESD wrist strap when handling the Supervisor Engine 720 or coming in contact with internal components.

To remove the supervisor engine, follow these steps:

- Step 1** Power down your system.
- Step 2** Disconnect any network interface cables attached to the supervisor engine.
- Step 3** Attach an ESD grounding strap to your wrist and to ground.

**Note**

If you are unsure about the correct way to attach an ESD grounding strap, see the [“Attaching Your ESD Grounding Strap”](#) section on page 20 for instructions.

Step 4 Verify that the captive installation screws on all of the modules in the chassis are tight.

**Note**

This step ensures that the space created by the removed supervisor engine is maintained. If the captive installation screws are loose, the EMI gaskets on the installed modules will push the modules toward the open slot, reducing the opening size and making it difficult to reinstall the module.

Step 5 Loosen the two captive screws on the supervisor engine that is to be removed.

Step 6 Depending on the orientation of the slots in the chassis (horizontal or vertical), perform one of the following sets of steps:

Horizontal slots

- a. Place your thumbs on the left and right ejector levers, and simultaneously rotate the levers outward to unseat the supervisor engine from the backplane connector. (See [Figure 1.](#))
- b. Grasp the front edge of the supervisor engine, and slide the supervisor engine partially out of the slot. Place your other hand under the supervisor engine to support the weight of the module. Do not touch the module circuitry. (See [Figure 2.](#))

Vertical slots

- a. Place your thumbs on the ejector levers located at the top and bottom of the supervisor engine, and simultaneously rotate the levers outward to unseat the supervisor engine from the backplane connector.
- b. Grasp the edges of the supervisor engine, and slide the supervisor engine straight out of the slot. Do not touch the module circuitry.

Step 7 Immediately place the supervisor engine on an antistatic mat or antistatic foam.

Figure 1 Opening the Ejector Levers (Horizontal Chassis Shown)

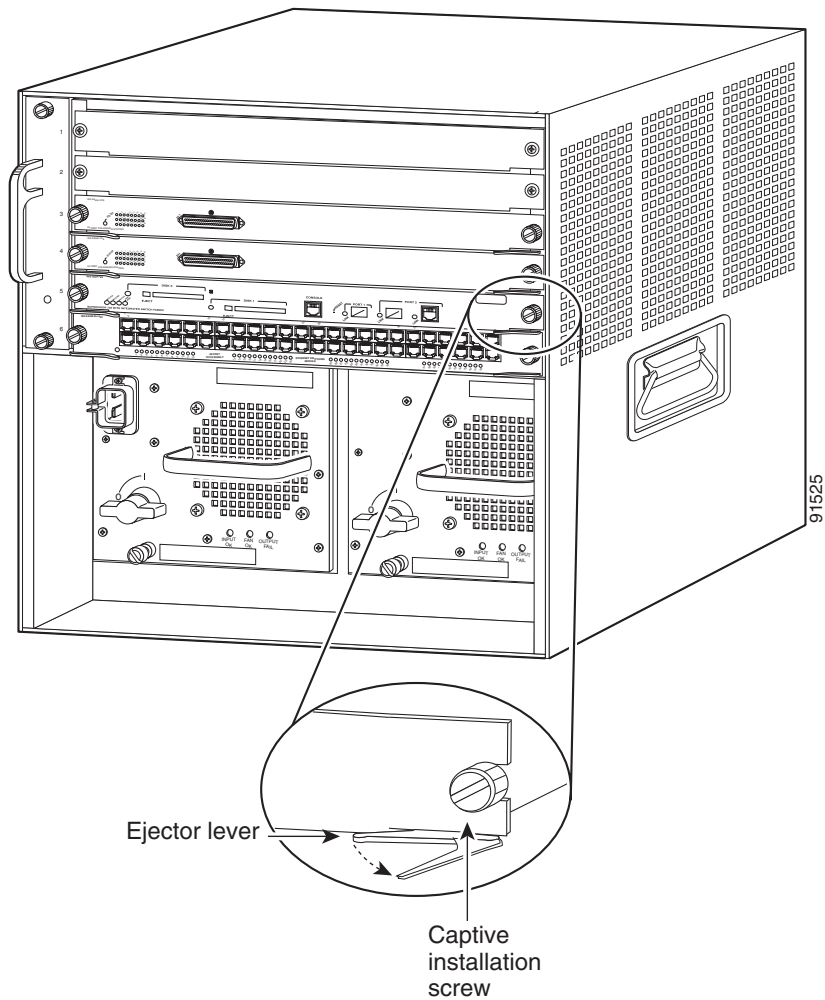
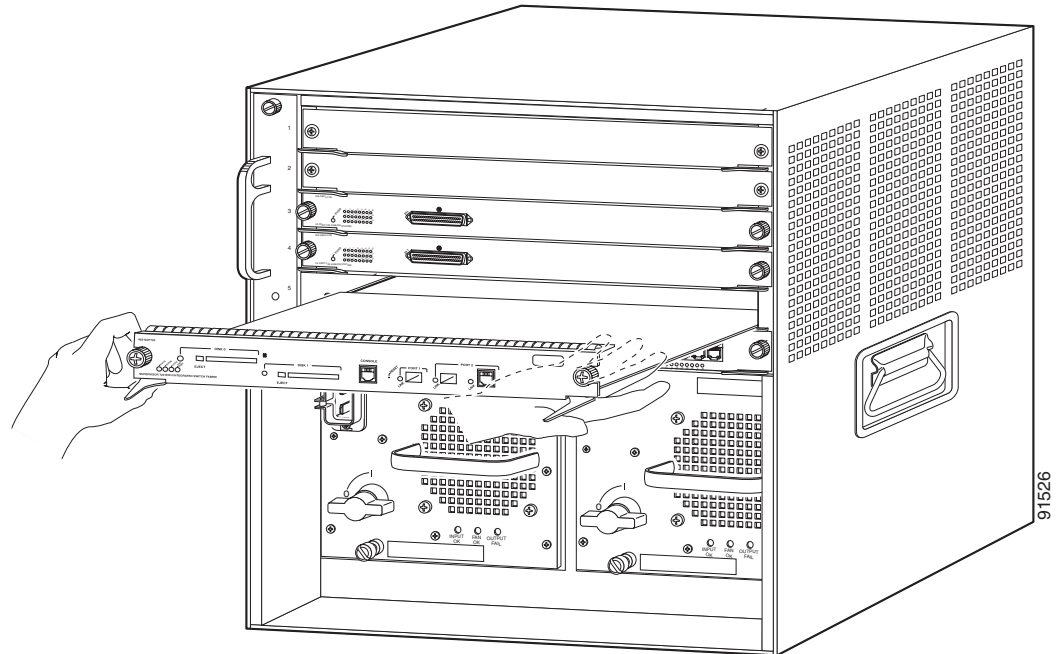


Figure 2 Removing the Module from the Chassis (Horizontal Chassis Shown)



Installing the SP Bootflash DIMM

To install the SP bootflash DIMM, follow these steps:

- Step 1** Locate the SP bootflash DIMM socket on the Supervisor Engine 720. (See [Figure 3](#).)

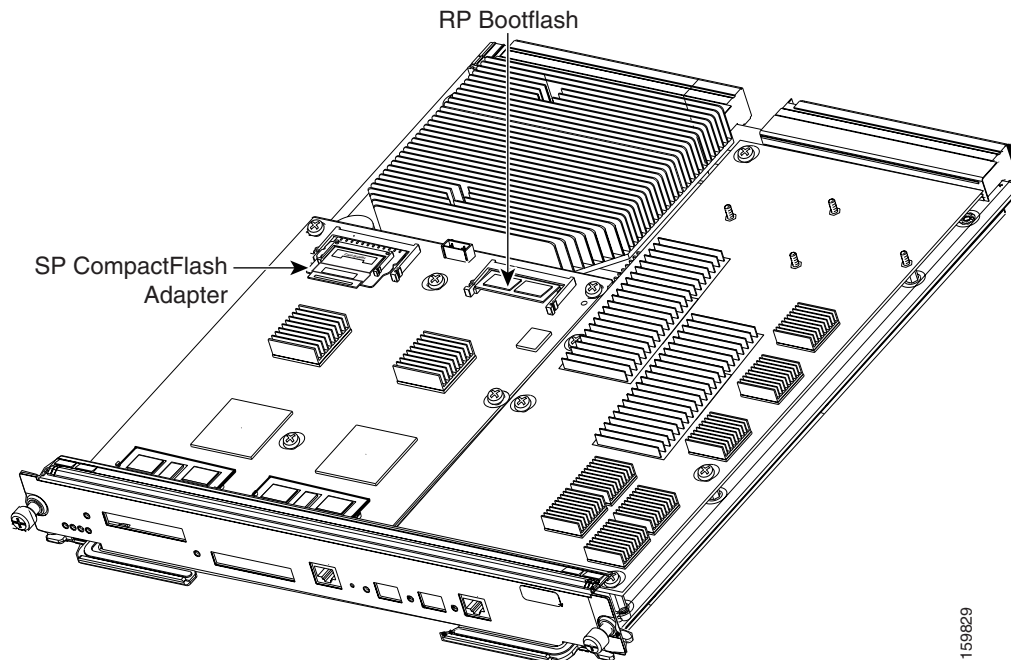
The SP bootflash DIMM is on the left side of the Supervisor Engine 720 as you face the front of the board. The RP bootflash DIMM is on the right side of the Supervisor Engine 720 as you face the front of the board.



Caution

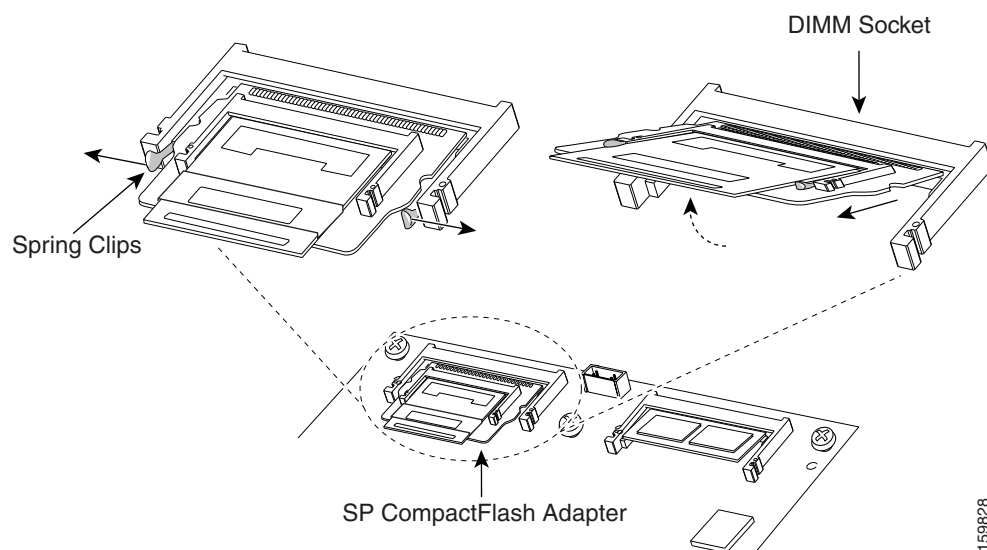
The DIMM is a sensitive component that is susceptible to ESD damage. To prevent ESD damage, wear an ESD grounding wrist strap and handle the DIMM by the edges only; avoid touching the memory modules, pins, or traces (including the metal *fingers* along the connector edge of the DIMM). Attach an ESD grounding strap to your wrist and to ground. (If you are unsure about the correct way to attach an ESD grounding strap, see the [“Attaching Your ESD Grounding Strap”](#) section on [page 20](#) for instructions.)

Figure 3 *SP and RP Bootflash DIMM Locations on the Supervisor Engine 720*



- Step 2** Release the CompactFlash adapter from the socket by simultaneously releasing the two locking spring clip tabs on either side of the DIMM socket. (See [Figure 4](#), left view.) The CompactFlash adapter will flip up in the socket. (See [Figure 4](#), right view.)
- Step 3** Hold the CompactFlash adapter by its edges and carefully remove it from the DIMM socket.

Figure 4 *Removing the SP CompactFlash Adapter*



- Step 4** Immediately place the CompactFlash adapter in an antistatic bag.

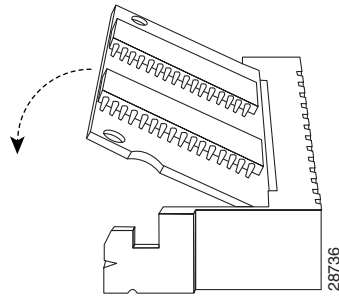
- Step 5** Open the antistatic bag containing the replacement 64-MB bootflash DIMM.
- Step 6** Carefully align the 64-MB bootflash DIMM edge connector with the DIMM socket. Slide the bootflash DIMM edge connector at an angle into the socket. (See [Figure 5](#).)



Note Make sure that the DIMM edge connector is fully inserted into the DIMM socket.

- Step 7** Press down firmly on both edges of the bootflash DIMM until the DIMM latches into place. Visually verify that both locking spring clips are fully engaged over the edges of the DIMM. (See [Figure 5](#).)

Figure 5 *Installing the Bootflash DIMM*



You are now ready to reinstall the Supervisor Engine 720 into the switch chassis.

Reinstalling the Supervisor Engine 720

**Caution**

During this procedure, wear grounding wrist straps and handle modules by the carrier edges only to avoid ESD damage to the card.

To reinstall the Supervisor Engine 720 in the chassis, follow these steps:

Step 1 Attach an ESD grounding strap to your wrist and to ground.

**Note**

If you are unsure about the correct way to attach an ESD grounding strap, see the [“Attaching Your ESD Grounding Strap”](#) section on page 20 for instructions.

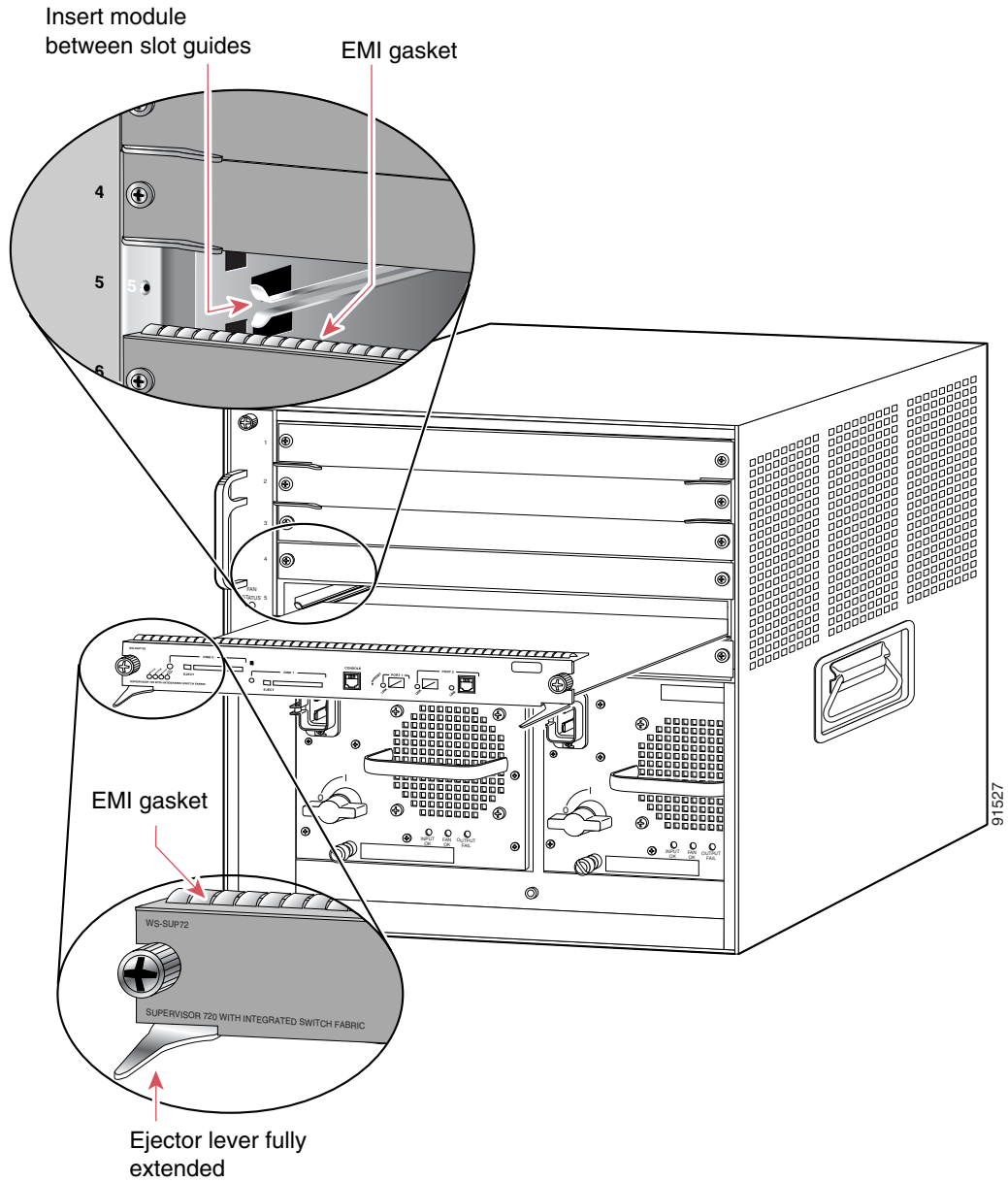
Step 2 Verify that the captive installation screws are tightened on all modules installed in the chassis.

**Note**

This action assures that the EMI gaskets on all modules are fully compressed in order to maximize the opening space for the removed supervisor engine. If the captive installation screws are loose, the EMI gaskets on the installed modules will push adjacent modules toward the open slot, reducing the opening size and making it difficult to install the removed supervisor engine.

Step 3 Fully open both ejector levers on the supervisor engine that is being installed. (See [Figure 6.](#))

Figure 6 Positioning the Supervisor Engine in a Horizontal Slot Chassis



- Step 4** Depending on the orientation of the slots in the chassis (horizontal or vertical), perform one of the following sets of steps:

Horizontal slots

- a. Position the supervisor engine in the slot. (See [Figure 6](#).) Make sure that you align the sides of the module carrier with the slot guides on each side of the slot.
- b. Carefully slide the supervisor engine into the slot until the EMI gasket along the top edge of the module makes contact with the module in the slot above it and both ejector levers have closed to approximately 45 degrees with respect to the module faceplate. (See [Figure 7](#).)
- c. Using the thumb and forefinger of each hand, grasp the two ejector levers and press down to create a small 0.040 inch (1 mm) gap between the supervisor engine's EMI gasket and the module above it. (See [Figure 7](#).)



Note Do not press down too forcefully on the levers because they will bend and be damaged.

- d. While pressing down, simultaneously close the left and right ejector levers to fully seat the supervisor engine in the backplane connector. The ejector levers are fully closed when they are flush with the module faceplate. (See [Figure 7](#).)



Note Failure to fully seat the module in the backplane connector can result in error messages.

- e. Tighten the two captive installation screws on the supervisor engine.



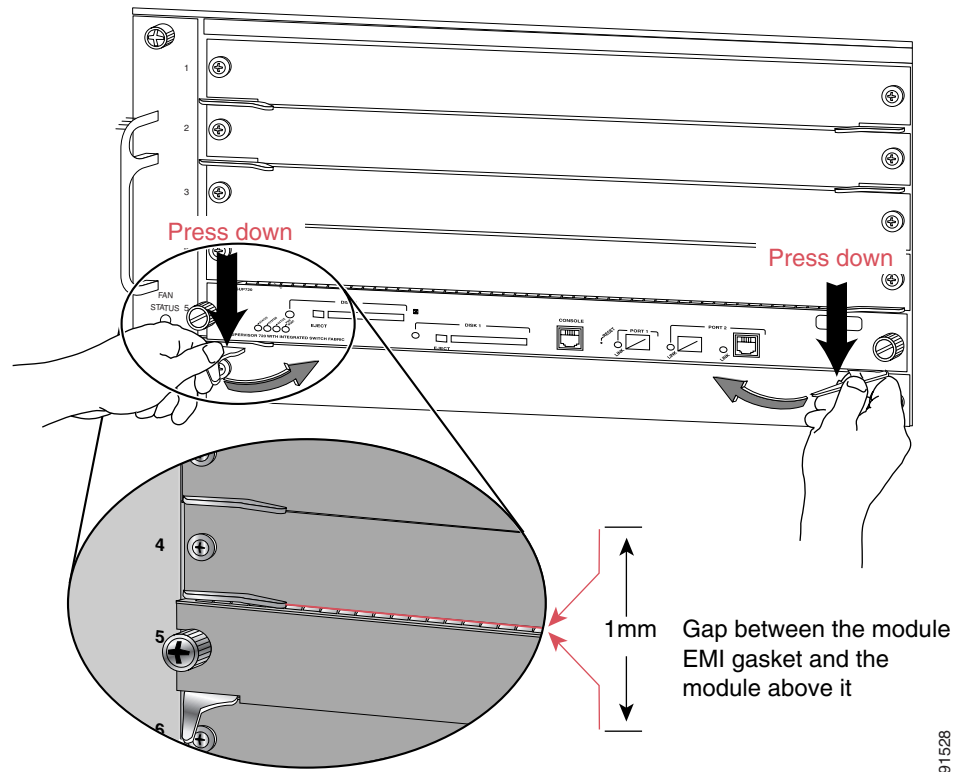
Note Make sure that the ejector levers are fully closed before tightening the captive installation screws.

- f. Power up your system.
- g. At the `rmon>` prompt, enter the **`boot bootflash:s72033-ipervicesk9-mz.122-18.SXF6.bin`** command to boot your system with the default Cisco IOS image that is on the SP bootflash. Once your system is running Cisco IOS software, you can download your specific Cisco IOS image from CCO onto the SP bootflash.
- h. Verify that the Supervisor Engine 720 STATUS LED is lit.
- i. Periodically check the STATUS LED:
 - If the STATUS LED changes from orange to green, the module has successfully completed the boot process and is now online.
 - If the STATUS LED remains orange or turns red, the supervisor engine has not successfully completed the boot process and may have encountered an error.



Note After a successful boot process, the router (or the host name) prompt should be seen.

Figure 7 Clearing the EMI Gasket in a Horizontal Slot Chassis



Vertical slots

- a. Position the supervisor engine in the slot. (See [Figure 8](#).) Make sure that you align the sides of the module carrier with the slot guides on the top and bottom of the slot.
- b. Carefully slide the supervisor engine into the slot until the EMI gasket along the right edge of the module makes contact with the module in the slot adjacent to it and both ejector levers have closed to approximately 45 degrees with respect to the module faceplate. (See [Figure 9](#).)

Figure 8 Positioning the Supervisor Engine in a Vertical Slot Chassis

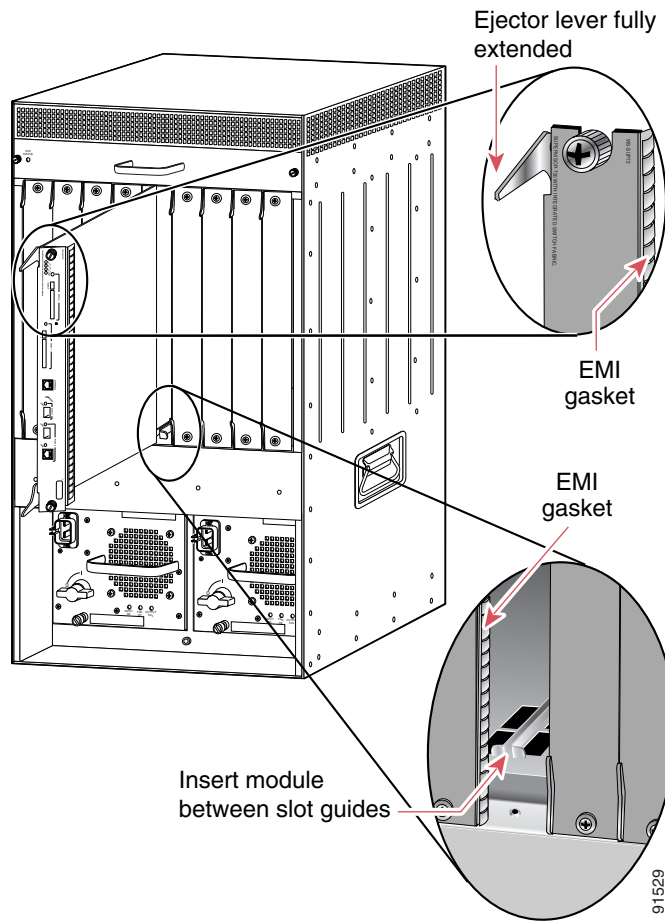
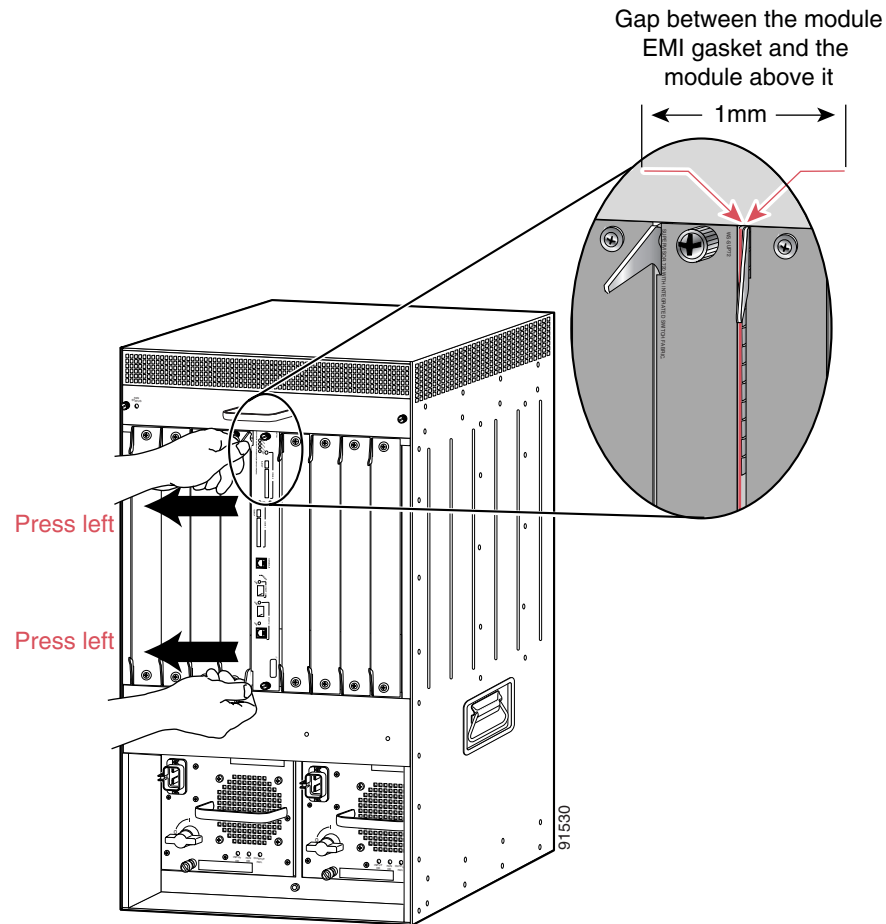


Figure 9 Clearing the EMI Gasket in a Vertical Slot Chassis



- c. Using the thumb and forefinger of each hand, grasp the two ejector levers and exert a slight pressure to the left, deflecting supervisor engine approximately 0.040 inches (1 mm) creating a small gap between the supervisor engine's EMI gasket and the module adjacent to it. (See [Figure 9](#).)



Note Do not exert too much pressure on the ejector levers because they will bend and be damaged.

- d. While pressing down on the ejector levers, simultaneously close the levers to fully seat the supervisor engine in the backplane connector. The ejector levers are fully closed when they are flush with the module faceplate.

- e. Tighten the two captive installation screws on the supervisor engine.



Note Make sure that the ejector levers are fully closed before tightening the captive installation screws.

- f. Power up your system.
- g. At the `rmon>` prompt, enter the **`boot bootflash:s72033-ipservicesk9-mz.122-18.SXF6.bin`** command to boot your system with the default Cisco IOS image that is on the SP bootflash. Once your system is running Cisco IOS software, you can download your specific Cisco IOS image from CCO onto the SP bootflash.
- h. Verify that the Supervisor Engine 720 STATUS LED is lit.
- i. Periodically check the STATUS LED:
 - If the STATUS LED changes from orange to green, the module has successfully completed the boot process and is now online.
 - If the STATUS LED remains orange or turns red, the supervisor engine has not successfully completed the boot process and may have encountered an error.



Note After a successful boot process, the router (or the host name) prompt should be seen.

Attaching Your ESD Grounding Strap

Electrostatic discharge (ESD) damage, which can occur when modules or other FRUs are improperly handled, results in intermittent or complete failures. Modules consist of printed circuit boards that are fixed in metal carriers. Electromagnetic interference (EMI) shielding and connectors are integral components of the carrier. Although the metal carrier helps to protect the board from ESD, always use an ESD grounding strap when handling modules.

To prevent ESD damage, follow these guidelines:

- Always use an ESD wrist strap and ensure that it makes maximum contact with bare skin. ESD grounding straps are available with banana plugs, metal spring clips, or alligator clips. All Catalyst 6500 series chassis are equipped with a banana plug connector (identified by the ground symbol next to the connector) on the front panel. If you have an older Catalyst 6500 series chassis equipped with a plastic banana plug connector, we recommend that you use either the supplied ESD grounding wrist strap (with a metal clip) or an ESD grounding wrist strap equipped with an alligator clip. If you have a newer Catalyst 6500 series chassis that has a bare metal hole as the banana plug connector (also identified by the ground symbol next to the connector), we recommend that you use a personal ESD grounding strap equipped with a banana plug.
- If you choose to use the disposable ESD wrist strap supplied with most FRUs or an ESD wrist strap equipped with an alligator clip, you must attach the system ground lug to the chassis in order to provide a proper grounding point for the ESD wrist strap.



Note This system ground is also referred to as the network equipment building system (NEBS) ground.

- If your chassis does not have the system ground attached, you must install the system ground lug. Refer to the online *Catalyst 6500 Series Switches Installation Guide* or the *Cisco 7600 Series Router Installation Guide* for the procedure.



Note You do not need to attach a supplemental system ground wire to the system ground lug; the lug provides a direct path to the bare metal of the chassis.

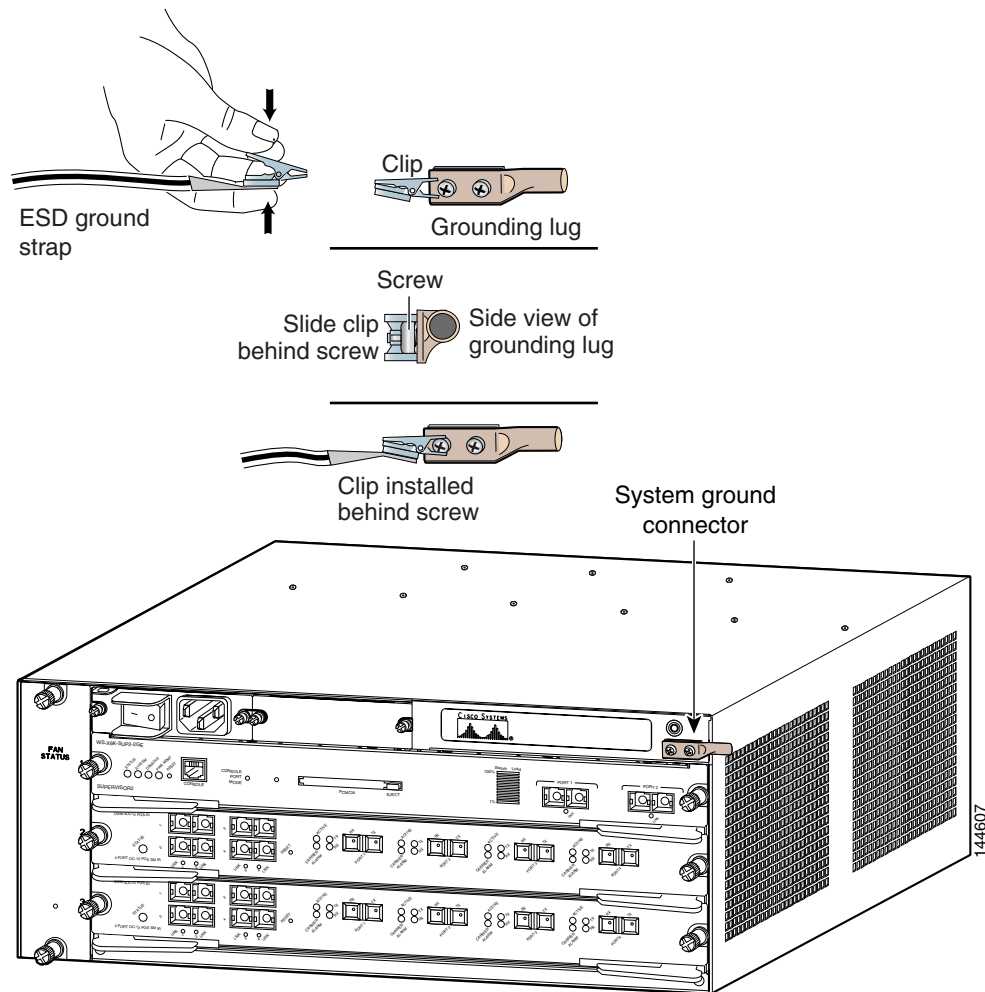
After you install the system ground lug, you can perform the procedure in this section.

To attach the ESD wrist strap, follow these steps:

-
- Step 1** Attach the ESD wrist strap to bare skin as follows:
- If you are using the ESD wrist strap supplied with the FRUs, open the wrist strap package and unwrap the ESD wrist strap. Place the black conductive loop over your wrist and tighten the strap so that it makes good contact with your bare skin.
 - If you are using an ESD wrist strap equipped with an alligator clip, open the package and remove the ESD wrist strap. Locate the end of the wrist strap that attaches to your body and secure it to your bare skin.
- Step 2** Grasp the spring or alligator clip on the ESD wrist strap and momentarily touch the clip to a bare metal spot (unpainted surface) on the rack.
- We recommend that you touch the clip to an unpainted rack rail so that any built-up static charge is then safely dissipated to the entire rack.
- Step 3** Attach either the spring clip or the alligator clip to the ground lug screw as follows (see [Figure 10](#)):
- If you are using the ESD wrist strap that is supplied with the FRUs, squeeze the spring clip jaws open, position the spring clip to one side of the system ground lug screw head, and slide the spring clip over the lug screw head so that the spring clip jaws close behind the lug screw head.
- 

Note The spring clip jaws do not open wide enough to fit directly over the head of the lug screw or the lug barrel.
- If you are using an ESD wrist strap that is equipped with an alligator clip, attach the alligator clip directly over the head of the system ground lug screw or to the system ground lug barrel.

Figure 10 Attaching the ESD Wrist Strap Clip to the System Ground Lug Screw



For safety, periodically check the resistance value of the antistatic strap. The measurement should be between 1 and 10 megohm (Mohm).

Module Handling Guidelines

When handling modules, follow these guidelines:

- Handle carriers by available handles or edges only; avoid touching the printed circuit boards or connectors.
- Place a removed component board-side-up on an antistatic surface or in a static-shielding container. If you plan to return the component to the factory, immediately place it in a static-shielding container.
- Never attempt to remove the printed circuit board from the metal carrier.

Safety Warning Translations

This section repeats in multiple languages the basic warnings that appear in this publication.

Statement 1030—Equipment Installation



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

Waarschuwing

Deze apparatuur mag alleen worden geïnstalleerd, vervangen of hersteld door bevoegd geschoold personeel.

Varoitus

Tämän laitteen saa asentaa, vaihtaa tai huoltaa ainoastaan koulutettu ja laitteen tunteva henkilökunta.

Attention

Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés.

Warnung

Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden.

Avvertenza

Questo apparato può essere installato, sostituito o mantenuto unicamente da un personale competente.

Advarsel

Bare opplært og kvalifisert personell skal foreta installasjoner, utskiftninger eller service på dette utstyret.

Aviso

Apenas pessoal treinado e qualificado deve ser autorizado a instalar, substituir ou fazer a revisão deste equipamento.

¡Advertencia!

Solamente el personal calificado debe instalar, reemplazar o utilizar este equipo.

Varning!

Endast utbildad och kvalificerad personal bör få tillåtelse att installera, byta ut eller reparera denna utrustning.

A berendezést csak szakképzett személyek helyezhetik üzembe, cserélhetik és tarthatják karban.

Предупреждение

Установку, замену и обслуживание этого оборудования может осуществлять только специально обученный квалифицированный персонал.

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

この装置の設置、交換、保守は、訓練を受けた相応の資格のある人が行ってください。

주의	교육을 받고 자격을 갖춘 사람만 이 장비를 설치, 교체, 또는 서비스를 수행해야 합니다.
Aviso	Somente uma equipe treinada e qualificada tem permissão para instalar, substituir ou dar manutenção a este equipamento.
Advarsel	Kun uddannede personer må installere, udskifte komponenter i eller servicere dette udstyr.
تحذير	يسمح للفنيين المتخصصين فقط بتركيب المعدة أو استبدالها أو إجراء الصيانة عليها.
Upozorenje	Uređaj smije ugrađivati, mijenjati i servisirati samo za to obučeno i osposobljeno servisno osoblje.
Upozornění	Instalaci, výměnu nebo opravu tohoto zařízení smějí provádět pouze proškolené a kvalifikované osoby.
Προειδοποίηση	Η τοποθέτηση, η αντικατάσταση και η συντήρηση του εξοπλισμού επιτρέπεται να γίνονται μόνο από καταρτισμένο προσωπικό με τα κατάλληλα προσόντα.
אזהרה	רק עובדים מיומנים ומוסמכים רשאים להתקין, להחליף, או לטפל בציד זה.
Опoмeнa	Местењето, заменувањето и сервисирањето на оваа опрема треба да му биде дозволено само на обучен и квалификуван персонал.
Ostrzeżenie	Do instalacji, wymiany i serwisowania tych urządzeń mogą być dopuszczone wyłącznie osoby wykwalifikowane i przeszkolone.
Upozornenie	Inštaláciu, výmenu alebo opravu tohto zariadenia smú vykonávať iba vyškolené a kvalifikované osoby.

Statement 1029—Blank Faceplates and Cover Panels



Warning

Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place.

Statement

Waarschuwing

Lege vlakplaten en afdekpanelen vervullen drie belangrijke functies: ze voorkomen blootstelling aan gevaarlijke voltages en stroom binnenin het frame, ze bevatten elektromagnetische storing (EMI) hetgeen andere apparaten kan verstoren en ze leiden de stroom van koellucht door het frame. Het systeem niet bedienen tenzij alle kaarten, vlakplaten en afdekkingen aan de voor- en achterkant zich op hun plaats bevinden.

Varoitus

Tyhjillä tasolaikoilla ja suojapaneeleilla on kolme tärkeää käyttötarkoitusta: Ne suojaavat asennuspohjan sisäisille vaarallisille jännitteille ja sähkövirralle altistumiselta; ne pitävät sisälläan elektromagneettisen häiriön (EMI), joka voi häiritä muita laitteita; ja ne suuntaavat tuuletusilman asennuspohjan läpi. Järjestelmää ei saa käyttää, elleivät kaikki tasolaikat, etukannet ja takakannet ole kunnolla paikoillaan.

Attention

Ne jamais faire fonctionner le système sans que l'intégralité des cartes, des plaques métalliques et des panneaux avant et arrière ne soient fixés à leur emplacement. Ceux-ci remplissent trois fonctions essentielles : ils évitent tout risque de contact avec des tensions et des courants dangereux à l'intérieur du châssis, ils évitent toute diffusion d'interférences électromagnétiques qui pourraient perturber le fonctionnement des autres équipements, et ils canalisent le flux d'air de refroidissement dans le châssis.

Warnung

Blanke Faceplates und Abdeckungen haben drei wichtigen Funktionen: (1) Sie schützen vor gefährlichen Spannungen und Strom innerhalb des Chassis; (2) sie halten elektromagnetische Interferenzen (EMI) zurück, die andere Geräte stören könnten; (3) sie lenken den kühlenden Luftstrom durch das Chassis. Das System darf nur betrieben werden, wenn alle Karten, Faceplates, Vorder- und Rückabdeckungen an Ort und Stelle sind.

Avvertenza

Le piattaforme bianche e i pannelli di protezione hanno tre funzioni importanti: Evitano l'esposizione a voltaggi e correnti elettriche pericolose nello chassis, trattengono le interferenze elettromagnetiche (EMI) che potrebbero scombussolare altri apparati e dirigono il flusso di aria per il raffreddamento attraverso lo chassis. Non mettete in funzione il sistema se le schede, le piattaforme, i pannelli frontali e posteriori non sono in posizione.

Advarsel

Blanke ytterplater og deksler sørger for tre viktige funksjoner: de forhindrer utsettelse for farlig spenning og strøm inni kabinettet; de inneholder elektromagnetisk forstyrrelse (EMI) som kan avbryte annet utstyr, og de dirigerer luftavkjølingsstrømmen gjennom kabinettet. Betjen ikke systemet med mindre alle kort, ytterplater, frontdeksler og bakdeksler sitter på plass.

Aviso

As faces furadas e os painéis de protecção desempenham três importantes funções: previnem contra uma exposição perigosa a voltagens e correntes existentes no interior do chassis; previnem contra interferência electromagnética (EMI) que poderá danificar outro equipamento; e canalizam o fluxo do ar de refrigeração através do chassis. Não deverá operar o sistema sem que todas as placas, faces, protecções anteriores e posteriores estejam nos seus lugares.

¡Advertencia! Las placas frontales y los paneles de relleno cumplen tres funciones importantes: evitan la exposición a niveles peligrosos de voltaje y corriente dentro del chasis; reducen la interferencia electromagnética (EMI) que podría perturbar la operación de otros equipos y dirigen el flujo de aire de enfriamiento a través del chasis. No haga funcionar el sistema a menos que todas las tarjetas, placas frontales, cubiertas frontales y cubiertas traseras estén en su lugar.

Varning! Tomma framplattor och skyddspaneler har tre viktiga funktioner: de förhindrar att personer utsätts för farlig spänning och ström som finns inuti chassit; de innehåller elektromagnetisk interferens (EMI) som kan störa annan utrustning; och de styr riktningen på kylflödet genom chassit. Använd inte systemet om inte alla kort, framplattor, fram- och bakskydd är på plats.

Az előlapok és burkolópanelek három fontos funkciót töltenek be: biztosítják a veszélyes feszültségű és áramerősségű területek érintésvédelmét; elnyelik a más berendezések működésében működési zavarokat okozó elektromágneses interferenciát (EMI); a gépházon belül terelik a hűtőlevegőt. Csak úgy működtesse a rendszert, ha minden kártya, lemez, előlső és hátulsó burkolat a helyén van.

Предупреждение Заглушки передней панели и защитные панели выполняют три важные функции: помогают избежать поражения электротоком высокого напряжения при прикосновении к внутренним элементам, экранируют электромагнитное излучение, которое может нарушить работу другого оборудования, а также направляют охлаждающий воздушный поток внутри корпуса. Не пользуйтесь устройством со снятыми крышками, заглушками, передними и задними защитными панелями.

警告 空白面板和盖板具有三个重要的功能：它们可以防止接触到底盘内危险的电压和电流；它们将可能破坏其它设备的电磁干扰 (EMI) 封闭起来；它们可以使冷气流从底盘通过。请勿在全部卡、面板、前盖和后盖未安装完毕时操作系统。

警告 ブランクの前面プレートおよびカバー パネルは、3つの重要な役割を果たします。シャーシ内部の危険な電圧および電流に接触しないように防御の役割を果たします。他の機器に悪影響を与えるEMI(電磁波干渉)を外に出しません。さらに、シャーシ全体に冷却用の空気を流します。カード、前面プレート、前面カバー、および背面カバーがすべて取り付けられてから、システムを稼働させてください。

주의 비어있는 전면케이스 커버와 커버 패널은 다음과 같은 세가지 중요한 역할을 합니다. 쉼시 내부의 위험한 전압 및 전류에 노출되는 것을 방지, 기타 장비에 영향을 끼칠 수 있는 전자파 간섭(EMI)을 포함, 냉각 공기를 쉼시로 유입. 모든 카드, 전면케이스 커버, 전면 및 후면 커버가 장착되어 있지 않은 경우, 시스템을 작동하지 마십시오.

Aviso Plaquetas vazias e painéis de proteção têm três funções importantes: impedem a exposição a tensões e correntes elétricas perigosas dentro do chassi; apresentam interferência eletromagnética (EMI) que pode danificar outros equipamentos; direcionam o fluxo do ar refrigerado pelo chassi. Não opere o sistema a menos que todas as placas, plaquetas, tampas frontais e tampas traseiras estejam em seu devido lugar.

Advarsel Blanke frontplader og sidepaneler tjener tre vigtige formål: de forhindrer udsættelse for farlig spænding og strøm inde i chassiset, de isolerer elektromagnetisk interferens (EMI), der kan forstyrre andet udstyr, og de leder en strøm af kølig luft gennem chassiset. Betjen ikke systemet medmindre alle kort, frontplader, sidepaneler og bagpaneler er på plads.

تحذير تؤدي كل من الواجهات الفارغة ولوحات التغطية ثلاث وظائف هامة: الحيلولة دون التعرض للجهد الكهربائي الخطير والتيارات الموجودة في الهيكل المعدني، حيث يحتوي كلاهما على واجهة كهرومغناطيسية () والتي قد تعيق عمل الأجهزة الأخرى كما يقوم بتوجيه تيار التبريد داخل الهيكل المعدني. لا تحاول تشغيل النظام إلا إذا كانت كافة البطاقات والواجهات والأغطية الأمامية والخلفية موضوعة في مكانها.

Upozorenje Prazna prednja ploča i pokrovne ploče imaju tri važne funkcije: sprječavaju izlaganje opasnome visokom naponu i struji unutar kućišta, proizvode elektromagnetnu interferenciju koja može ometati rad ostalih uređaja, te usmjeravaju protok rashladnog zraka kroz kućište. Sustav nemojte koristiti ako sve kartice, te prednje, pokrovne i stražnje ploče nisu pravilno ugrađene.

Upozornění Prázdné líčové desky a krycí panely mají tři důležité funkce: zabraňují odkrytí nebezpečného napětí a proudu uvnitř skříně; obsahují elektromagnetické rušení, které může rušit jiná zařízení; směřují proud chladícího vzduchu skříní. Nepoužívejte systém, pokud nejsou všechny karty, líčové desky, přední kryty a zadní kryty na svém místě.

Προειδοποίηση Οι κενές προσόψεις και τα κενά πλαίσια καλύμματος χρησιμεύουν για τρεις σημαντικές λειτουργίες: Αποκλείουν την έκθεση σε επικίνδυνες τάσεις και ρεύματα στο εσωτερικό του σασί, περικλείουν τις ηλεκτρομαγνητικές παρεμβολές (EMI) που ενδέχεται να προκαλέσουν προβλήματα σε άλλο εξοπλισμό και κατευθύνουν τη ροή του αέρα ψύξης μέσα στο σασί. Μην θέτετε το σύστημα σε λειτουργία αν δεν βρίσκονται στη θέση τους όλες οι κάρτες, οι μπροστινές πλάκες, οι προσόψεις και οι πλάτες.

אזהרה לוחות כיסוי ריקים ולוחות כיסוי משמשים לשלוש פונקציות חשובות: הם מונעים חשיפה למתחים מסוכנים ולזרם בתוך התושבת; הם מכילים הפרעות אלקטרומגנטיות (EMI) העלולות לשבש ציוד אחר; והם מכוונים את זרימת האוויר המצנן דרך התושבת. אל תפעיל את המערכת אלא אם כל הכרטיסים, לוחות הכיסוי, הלוחות הקדמיים והכיסויים האחוריים נמצאים במקומם.

Opomena Празните предни плочи и плочите за покривање служат за три важни функции: го спречуваат изложувањето на ризични напони и струи во куќиштето; содржат електромагнетни интерференции (EMI) што можат да попречуваат друга опрема; и го насочуваат протокот на воздухот за разладување низ куќиштето. Не работете со системот ако сите картички, предни плочи, предни капаци и задни капаци не се на своите места.

Ostrzeżenie Zaślepki i panele osłonowe pełnią trzy ważne funkcje: zapobiegają kontaktowi użytkownika z niebezpiecznymi napięciami i prądami występującymi wewnątrz obudowy; pochłaniają zakłócenia elektromagnetyczne, które mogłyby negatywnie wpływać na działanie innych urządzeń; kierują przepływem powietrza chłodzącego wewnątrz obudowy. System można eksploatować wyłącznie wtedy, gdy zamontowane są wszystkie karty, zaślepki oraz przednie i tylne osłony.

Upozornenie Prázdné líčové dosky a krycie panely majú tri dôležité funkcie: zabraňujú odkrytiu nebezpečného napätia a prúdu vnútri skrine; obsahujú elektromagnetické rušenie, ktoré môže rušiť iné zariadenia; smerujú prúd chladiaceho vzduchu cez skriňu. Nepoužívajte systém, pokiaľ nie sú všetky karty, líčové dosky, predné kryty a zadné kryty na svojom mieste.

Statement 1034—Backplane Voltage



Warning

Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing.

Waarschuwing

Er is gevaarlijke spanning of energie aanwezig op de achterplaat wanneer het systeem bediend wordt. Wees voorzichtig bij het onderhoud.

Varoitus

Kun laite on toiminnassa, taustalevyyn muodostuu vaarallista jännitettä. Ole varovainen huoltaessasi laitetta.

Attention

Lorsque le système est en fonctionnement, des tensions électriques circulent sur le fond de panier. Prendre des précautions lors de la maintenance.

Warnung

Wenn das System in Betrieb ist, treten auf der Rückwandplatine gefährliche Spannungen oder Energien auf. Vorsicht bei der Wartung.

Avvertenza

Quando il sistema è in funzione, il pannello posteriore è sotto tensione pericolosa. Prestare attenzione quando si lavora sul sistema.

Advarsel

Farlig spenning er til stede på bakpanelet når systemet kjøres. Utvis forsiktighet under service.

Aviso

Há presença de voltagem perigosa ou de energia na placa traseira quando o sistema está em operação. Tenha cuidado ao fazer a manutenção.

¡Advertencia!

Cuando el sistema está en funcionamiento, el voltaje del plano trasero es peligroso. Tenga cuidado cuando lo revise.

Varning!

Farlig spänning föreligger på bakplattan när systemet körs. Var försiktig vid service.

A rendszer működése közben veszélyes feszültség vagy energia van jelen a hátlapon. Karbantartás közben óvatosan járjon el!

Предупреждение

При работе оборудования на разъемах задней панели присутствует высокое напряжение. Будьте внимательны при работе с оборудованием.

警告

当系统正在运行时，背板上有很危险的电压或能量。进行维修时务必小心。

警告

システムの稼働中は、バックプレーンに危険な電圧またはエネルギーがかかっています。保守作業を行うときは注意してください。

주의

시스템이 가동 중일 때 뒷면에서 위험한 전압 또는 에너지가 발생합니다. 서비스 수행시 주의하십시오.

Aviso

O sistema em funcionamento emite tensão ou energia elétrica perigosa no painel traseiro. Seja cauteloso ao fazer a manutenção.

Advarsel	Der er farlig spænding og energi på bagpladen når systemet er i brug. Vær forsigtig under servicering.
تحذير	عند تشغيل النظام، يوجد قدر كبير من الجهد الكهربائي الخطير في الجزء الخلفي. كن حريصاً عند إجراء الصيانة.
Upozorenje	Kad sustav radi, na stražnjoj je ploči prisutan opasan visoki napon ili energija. Budite oprezni kod servisiranja.
Upozornění	Při provozu systému je na zadní desce nebezpečné napětí nebo energie. Při opravě dbejte opatrnosti.
Προειδοποίηση	Όταν το σύστημα λειτουργεί, στην πίσω πλάκα συνδέσεων είναι παρούσα επικίνδυνη τάση ή ενέργεια. Να είστε προσεκτικοί κατά τις εργασίες συντήρησης.
אזהרה	מתח מסוכן וחשמל קיימים בלוח האחורי כאשר המערכת פעילה. נקוט זהירות בעת הטיפול.
Opomena	На задната плоча има ризичен напон или енергија кога системот работи. Бидете претпазливи при сервисирањето.
Ostrzeżenie	Podczas pracy systemu na płycie interfejsu magistrali występują niebezpieczne napięcia lub energia elektryczna. Przy wykonywaniu czynności serwisowych należy zachować ostrożność.
Upozornenie	Počas prevádzky systému je na zadnej doske nebezpečné napätie alebo energia. Pri oprave buďte opatrní.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.

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