



Catalyst 6500 Series and Cisco 7600 Series Supervisor Engine 720 Switch Processor and Route Processor Memory Installation Note

Product Numbers: MEM-S2-512MB=, MEM-MSFC2-512MB=, MEM-SUP720-SP-1GB=, MEM-MSFC3-1GB=, MEM-RSP720-4G=, MEM-RSP720-2G=, MEM-RSP720-SP2G=

This publication describes how to upgrade the dynamic random-access memory (DRAM) dual inline memory modules (DIMMs) on the Supervisor Engine 720.

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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**Figyelem FONTOS BIZTONSÁGI ELOÍRÁSOK**

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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。

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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 legemeskadedigelse. 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 للإصابات. 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 συνήθειες 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**הזהרה****הוראות בטיחות חשובות**

סימן הזהרה 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 הזהרה כדי לאתר את התרגום באזהרות הבטיחות המתורגמות שמצורפות להתקן.

שמור הוראות אלה**Opomena VAŽNI BEZBEDNOSNI NAPATSTVIJA**

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**Opozorilo POMEMBNI VARNOSTNI NAPOTKI**

Ta opozorilni simbol pomeni nevarnost. Nahajate se v situaciji, kjer lahko pride do telesnih poškodb. Preden pričnete z delom na napravi, se morate zavedati nevarnosti udara električnega toka, ter tudi poznati preventivne ukrepe za preprečevanje takšnih nevarnosti. Uporabite obrazložitevno številko na koncu posameznega opozorila, da najdete opis nevarnosti v priloženem varnostnem priročniku.

SHRANITE TE NAPOTKE!**警告****重要安全性指示**

此警告符號代表危險，表示可能造成人身傷害。使用任何設備前，請留心電路相關危險，並熟悉避免意外的標準作法。您可以使用每項警告後的聲明編號，查詢本裝置隨附之安全性警告譯文中的翻譯。請妥善保留此指示

Figyelem FONTOS BIZTONSÁGI ELOÍRÁSOK

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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

Opozorilo POMEMBNI VARNOSTNI NAPOTKI

Ta opozorilni simbol pomeni nevarnost. Nahajate se v situaciji, kjer lahko pride do telesnih poškodb. Preden pričnete z delom na napravi, se morate zavedati nevarnosti udara električnega toka, ter tudi poznati preventivne ukrepe za preprečevanje takšnih nevarnosti. Uporabite obrazložitevno številko na koncu posameznega opozorila, da najdete opis nevarnosti v priloženem varnostnem priročniku.

SHRANITE TE NAPOTKE!

警告 重要安全性指示
此警告符號代表危險，表示可能造成人身傷害。使用任何設備前，請留心電路相關危險，並熟悉避免意外的標準作法。您可以使用每項警告後的聲明編號，查詢本裝置隨附之安全性警告譯文中的翻譯。
請妥善保留此指示

Required Tools

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

- Antistatic mat or foam pad to support and protect the removed supervisor engine
- 3/16-inch flat-blade screwdriver for the captive installation screws on the 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**

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

**Caution**

Always use an ESD wrist strap when working around chassis, handling modules not protected by antistatic bags, or coming into contact with internal components. See the [“Preventing Electrostatic Discharge Damage”](#) section on page 22.

**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

Removing the Supervisor Engine 720

To install the switch processor and route processor DRAM DIMM upgrade, you must first remove the Supervisor Engine 720 from the chassis.

The Supervisor Engine 720 is a required system component. If only one Supervisor Engine 720 is present, removing it while the system is operating causes the system to halt. When two Supervisor Engine 720s are installed, hot swapping allows you to remove and replace one of the supervisor engines without turning off the system power.

To avoid erroneous failure messages, note the current configuration of all interfaces before you remove or replace another switching module, and allow at least 15 seconds for the system to reinitialize after a module has been removed or replaced.



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 720, follow these steps:

Step 1 Attach an ESD grounding strap securely to your wrist and to earth (building) ground.



Note

If you are unsure about the correct way to attach an ESD grounding strap, see the [“Preventing Electrostatic Discharge Damage”](#) section on page 22 for instructions.

Step 2 Disconnect any interface cables attached to the supervisor engine.

Step 3 Verify that the captive installation screws are tightened on all of the modules in the chassis. This action assures that the EMI gaskets on all of the modules are fully compressed preserving the space created by the removed supervisor engine.



Note

If the captive installation screws are loose, the EMI gaskets on the remaining installed modules will expand which reduces the height of the slot opening making it difficult to reinstall the supervisor engine.

Step 4 Disengage the two captive screws on the supervisor engine that is to be removed.

Step 5 Depending on the orientation of the slots in the chassis (horizontal or vertical), perform one of the following sets of steps to remove the supervisor engine from the chassis slot:

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 6 Place the removed supervisor engine on an antistatic work mat or antistatic foam.

Figure 1 Opening the Ejector Levers (Horizontal Chassis Shown)

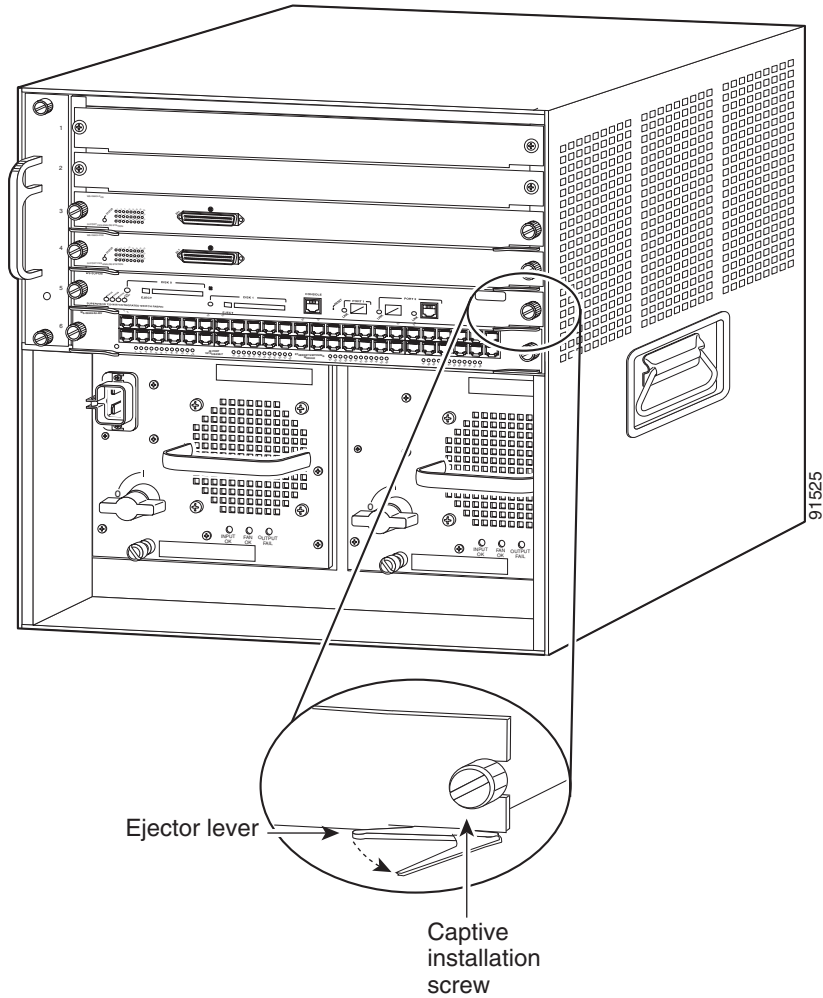
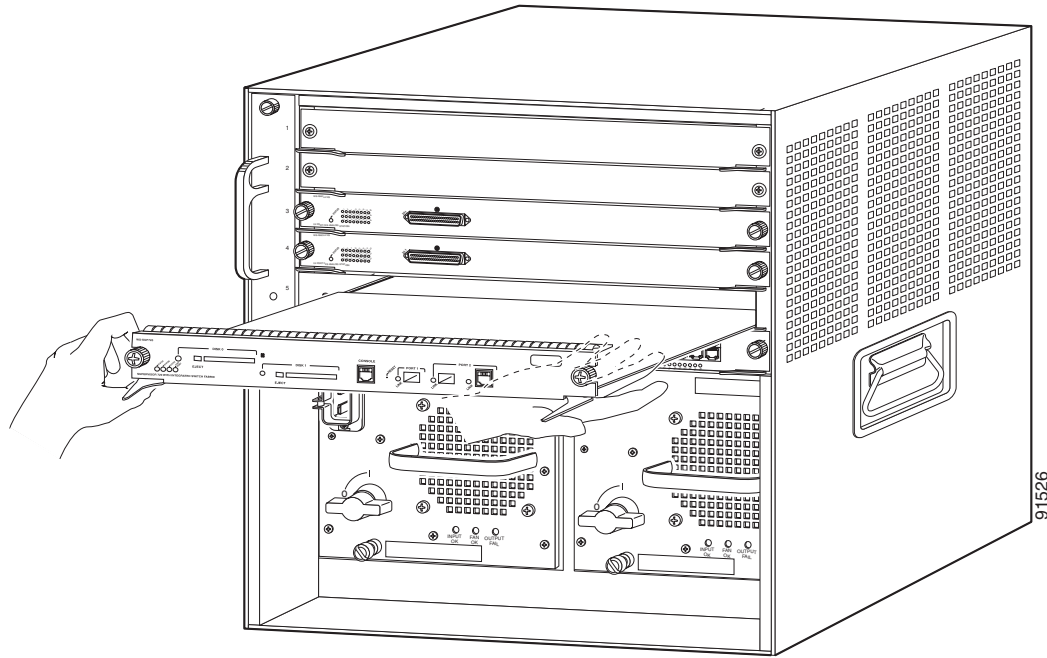


Figure 2 Removing the Module from the Chassis (Horizontal Chassis Shown)



Removing and Installing the DRAM DIMMs

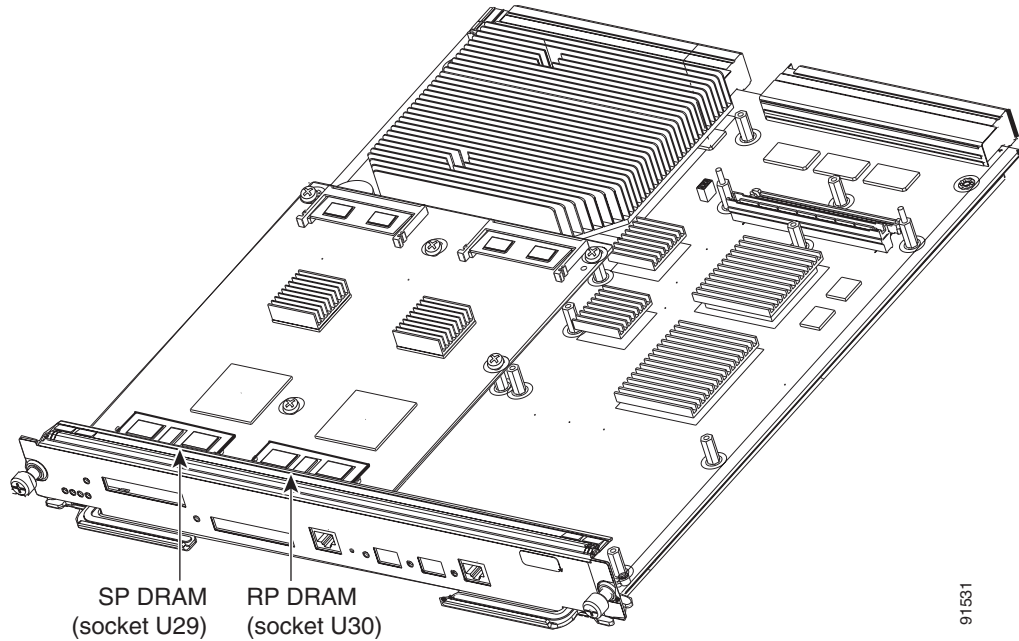
This section covers the removal of the old DRAM DIMMs and the installation of the switch processor and route processor DRAM DIMM upgrade. There are two DRAM DIMMs that must be removed and replaced; the SP DRAM and the RP DRAM. [Figure 3](#) shows the location of the SP and the RP DRAM DIMMs on the Supervisor Engine 720.



Caution

Both the SP and RP DRAM DIMMs are static-sensitive components that are susceptible to ESD damage. To prevent ESD damage, always wear an ESD grounding wrist strap, handle the DIMM by the edges only, and avoid touching the memory modules, pins, or traces (the metal *fingers* along the connector edge of the DIMM). (See [Figure 5](#).)

Figure 3 SP and RP DRAM DIMM Location on the Supervisor Engine 720



To install the SP and RP DRAM DIMMs, perform these steps:

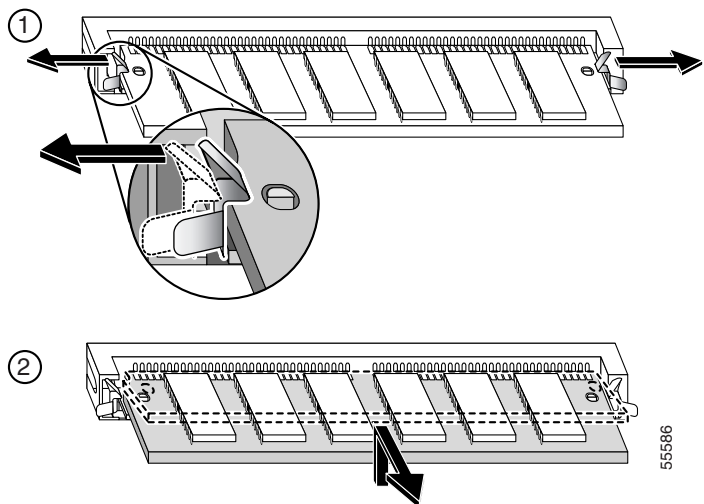
- Step 1** Attach an ESD grounding strap securely to your wrist and to earth (building) ground.



Note If you are unsure about the correct way to attach an ESD grounding strap, see the [“Preventing Electrostatic Discharge Damage”](#) section on page 22 for instructions.

- Step 2** Release the old DRAM DIMM from the DIMM socket by simultaneously pivoting out the two clips on either side of the DIMM socket. (See [Figure 4](#).) The DRAM DIMM will pivot up in the socket. Be careful not to apply too much force to the DIMM connector clips. Exerting too much force on the clips can cause them to break.

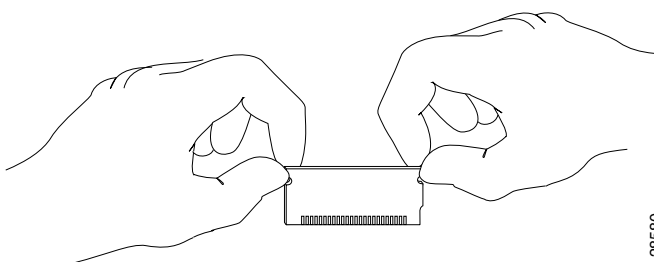
Figure 4 Removing the DRAM DIMM



Note The DIMM shown in Figure 4 is shown for illustration purposes only and might not look exactly like the one installed on your Supervisor Engine 720.

- Step 3** Grasp the old DRAM DIMM by its edges with your thumb and forefinger and gently pull the DRAM DIMM completely out of the socket. Immediately place the old DRAM DIMM on a properly grounded antistatic mat or store it in an antistatic bag.
- Step 4** Carefully remove the new DRAM DIMM from its antistatic package.
- Step 5** Holding the upgrade DIMM between your thumbs and forefingers, with the connector edge (the metal fingers) down, insert the connector edge of the DIMM into the socket connector. (See [Figure 5](#).)

Figure 5 Handling a DIMM



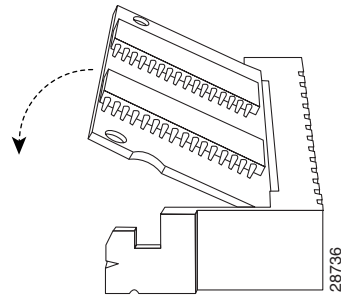
- Step 6** Slide the DIMM into the connector so that none of the metal fingers at the edge of the DIMM are visible under the edge of the connector.



Caution When inserting the DIMM, use firm but not excessive pressure. If you damage a socket, you must return the supervisor engine to Cisco for repair.

- Step 7** Gently press down on the DIMM edges pivoting the DIMM into the socket until the two socket latches engage the notches on the sides of the DIMM. (See [Figure 6](#).) Verify that both socket latches have engaged the DRAM DIMM.

Figure 6 Installing the DIMM in the Socket



Step 8 Repeat the process for the second DRAM DIMM.

Installing 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 module.

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

Step 1 Verify that the captive installation screws are tightened on all modules installed in the chassis. This action assures that the EMI gaskets on all modules are fully compressed to maximize the space for the removed module.



Note

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 module.

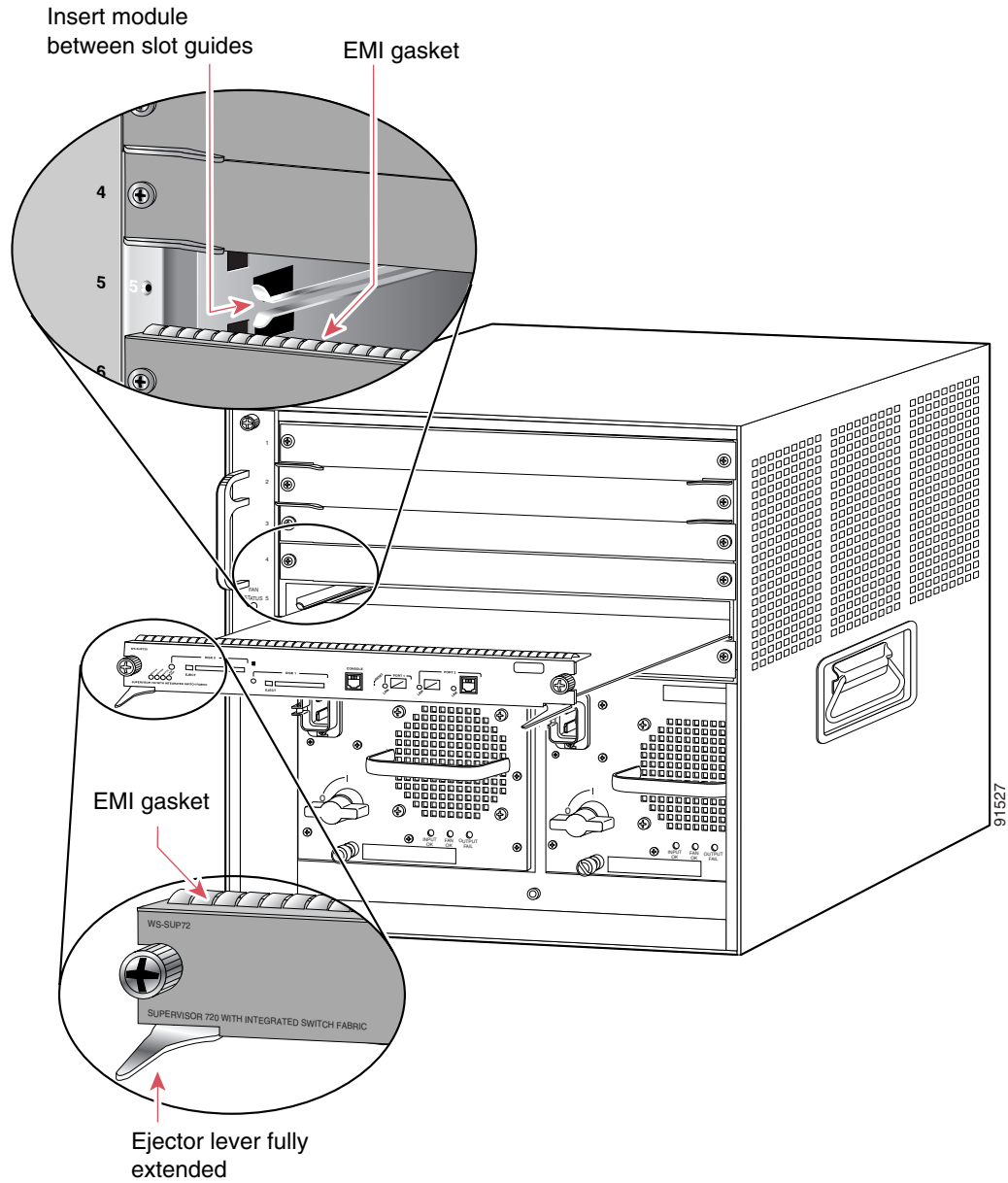
Step 2 Fully open both ejector levers on the supervisor engine that you are installing.

Step 3 Depending on the orientation of the slots in the chassis (horizontal or vertical), perform one of the following sets of steps for positioning the supervisor engine in a chassis with either horizontal or vertical slots:

Horizontal slots

- a. Position the supervisor engine in the slot. (See [Figure 7](#).) Make sure that you align the sides of the module carrier with the slot guides on each side of the chassis 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 supervisor engine faceplate.

Figure 7 Positioning the Supervisor Engine in a Horizontal Slot Chassis

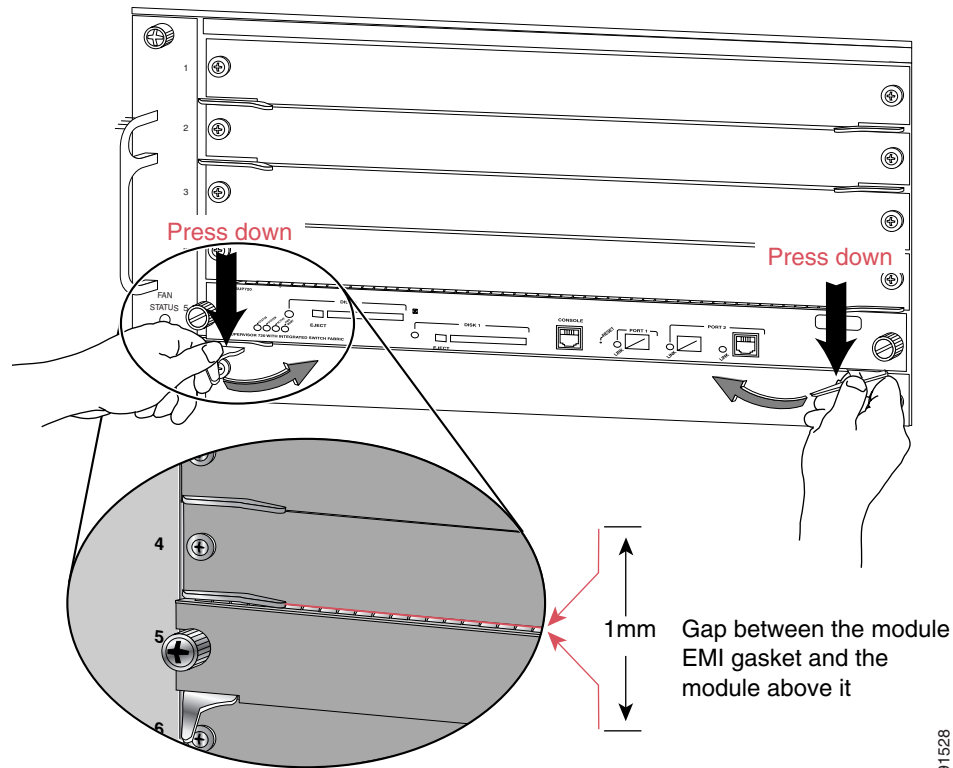


- c. Using the thumb and forefinger of each hand, grasp the two ejector levers, and gently press down to create a small 0.040 inch (1 mm) gap between the supervisor engine's EMI gasket and the module above it. (See [Figure 8](#).)



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

Figure 8 *Creating a Gap Above the EMI Gasket (Horizontal Slot Chassis)*



- 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 supervisor engine faceplate. (See [Figure 8](#).)



Note Failure to fully seat the supervisor engine 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.

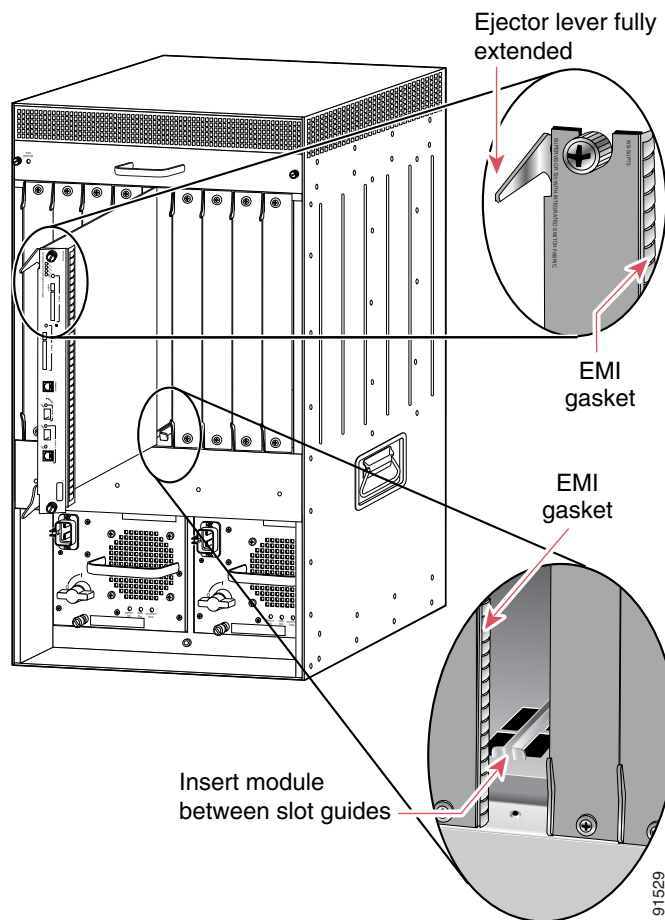
- f. Verify that the supervisor engine STATUS LED is lit.

Periodically check the STATUS LED. If the STATUS LED changes from orange to green, the supervisor engine 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.

Vertical slots

- a. Position the supervisor engine in the slot. (See [Figure 9](#).) Make sure that you align the sides of the module carrier with the slot guides on the top and bottom of the chassis 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.

Figure 9 Positioning the Supervisor Engine in a Vertical Slot Chassis

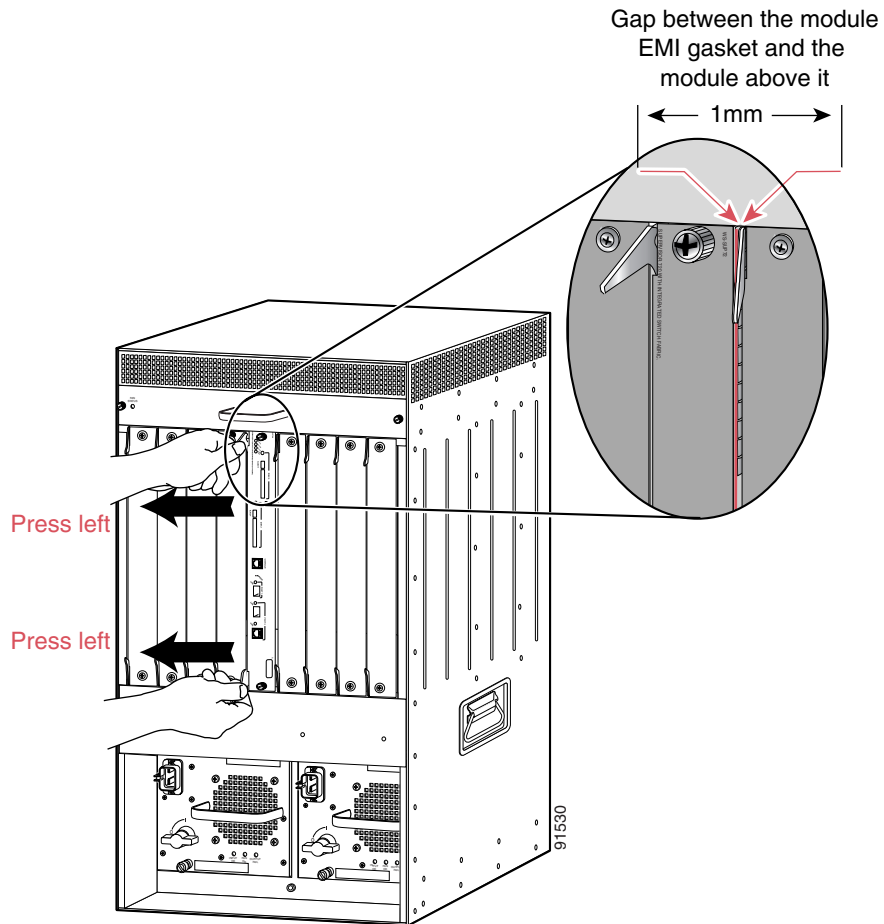


- c. Using the thumb and forefinger of each hand, grasp the two ejector levers, and exert a slight pressure to the left, deflecting it approximately 0.040 inches (1 mm) creating a small gap between the supervisor engine's EMI gasket and the module adjacent to it. (See [Figure 10](#).)



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

Figure 10 Creating a Gap Adjacent to the EMI Gasket (Vertical Slot Chassis)



- 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 supervisor engine 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. Verify that the supervisor engine STATUS LED is lit. Periodically check the STATUS LED. If the STATUS LED changes from orange to green, the supervisor engine 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.

Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) damage, which can occur when modules or other field-replaceable units (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.

Follow these guidelines for preventing ESD damage:

- When using an ESD wrist strap make sure that it makes maximum contact with bare skin and with earth ground. ESD grounding straps are available with an adhesive pad, banana plug, metal spring clip, or alligator clip earth ground connector. All Catalyst 6500 series chassis are equipped with a banana plug connector (identified by the ground symbol next to the connector) somewhere on the front panel. This connector should not be confused with the system NEBs ground pad also located on the chassis. 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 an adhesive pad or 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.

After you install the system ground, follow these steps to correctly attach the ESD wrist strap:

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 11](#)):

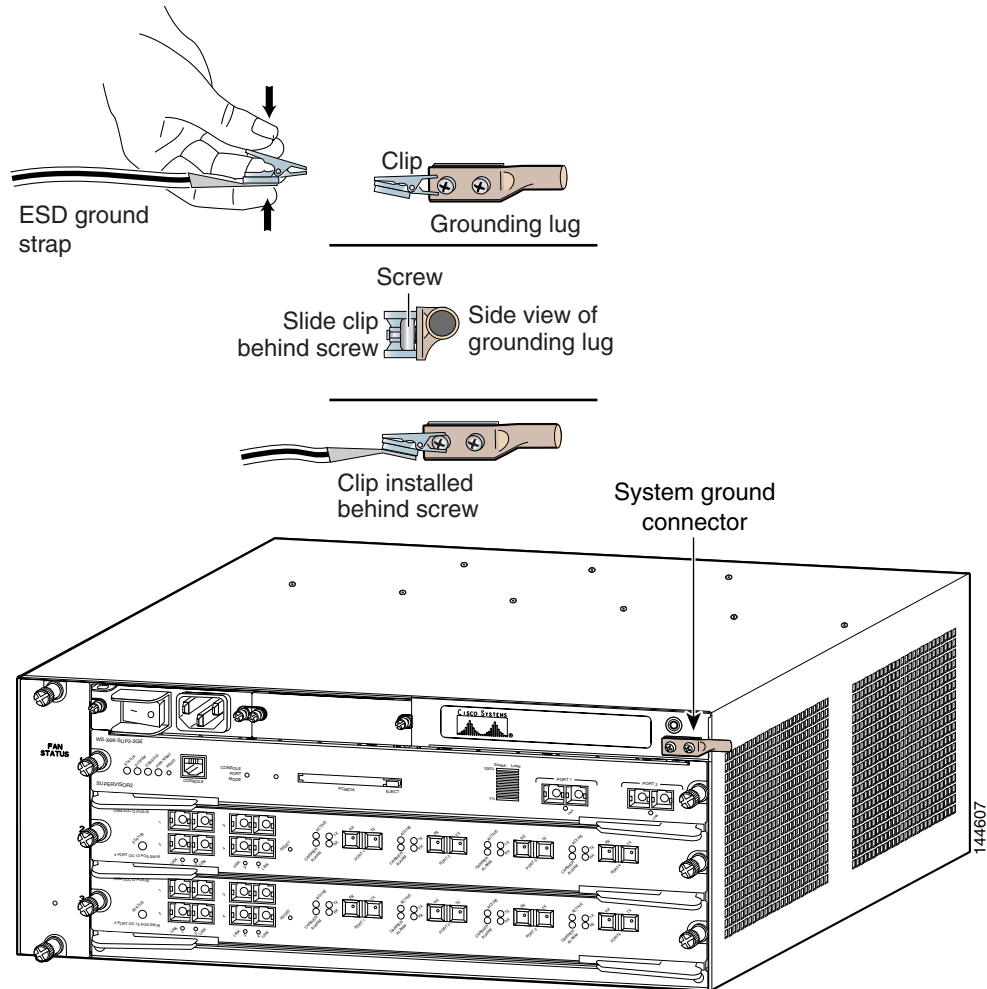
- If you are using the ESD wrist strap that is supplied with the FRUs, squeeze the spring clip jaws open, position the spring clip to one side of the system ground lug screw head, and slide the spring clip over the lug screw head so that the spring clip jaws close behind the lug screw head.



Note The spring clip jaws do not open wide enough to fit directly over the head of the lug screw or the lug barrel.

- b. 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 11 Attaching the ESD Wrist Strap Clip to the System Ground Lug Screw



In addition, follow these guidelines when handling modules:

- Handle modules by the metal carrier or edges only; avoid touching the printed circuit boards or connectors.
- Place a removed module component board-side-up on a properly grounded antistatic surface or in an antistatic bag. If you plan to return the module to the factory, immediately place it in an antistatic bag.
- Never attempt to remove the printed circuit board from the metal carrier.



Caution

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

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>

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