

Intel® SC5000 Server Chassis Hot Swap Upgrade Kit

A Guide for Technically Qualified Assemblers of Intel® Identified Subassemblies/Products

Order Number: 749356-002

If an FCC declaration of conformity marking is present on the system, the following statement applies:

FCC Declaration of Conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions related to the EMC performance of this product, contact:

Intel Corporation
5200 N.E. Elam Young Parkway
Hillsboro, OR 97124
1-800-628-8686

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit other than the one to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Canadian Department of Communications Compliance Statement:

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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Installing the Hot Swap Bay

Kit Contents

This upgrade kit contains the following:

Item	Quantity
Hot swap bay assembly	1
Hot swap drive carriers (installed in bay assembly)	5
Plastic air baffles (installed in drive carriers)	5
SCSI cable	1
IPMB/I2C cable	1
Mounting screws	6
This manual	1

Tools and Supplies Needed

- Phillips (cross head) screwdriver (#2 bit)
- Antistatic wrist strap (recommended)
- Needle-nosed pliers

Safety: Before You Remove the Access Cover

Before removing the access cover for any reason, observe these safety guidelines.

1. Turn off all peripheral devices connected to the server.
2. Turn off the server by pressing the power button on the front of the chassis. Then unplug the AC power cord from the chassis or wall outlet.
3. Label and disconnect all peripheral cables and all telecommunication lines connected to I/O connectors or ports on the back of the chassis.
4. Provide some electrostatic discharge (ESD) protection by wearing an antistatic wrist strap attached to chassis ground—any unpainted metal surface—when handling components.

Warnings and Cautions

These warnings and cautions apply whenever you remove the access cover to access components inside the server. Only a technically qualified person should integrate and configure the server.



WARNINGS

The power button on the front panel DOES NOT turn off the AC power. To remove power from server, you must unplug the AC power cord from the wall outlet or the chassis.

Hazardous electrical conditions may be present on power, telephone, and communication cables. Turn off the server and disconnect the power cords, telecommunications systems, networks, and modems attached to the server before opening it. Otherwise, personal injury or equipment damage can result.

Hazardous voltage, current, and energy levels are present inside the power supply. There are no user-serviceable parts inside it; servicing should be done by technically qualified personnel.



CAUTIONS

ESD can damage disk drives, boards, and other parts. Perform all procedures in this chapter only at an ESD workstation. If one is not available, provide some ESD protection by wearing an antistatic wrist strap attached to chassis ground—any unpainted metal surface—on your server when handling parts.

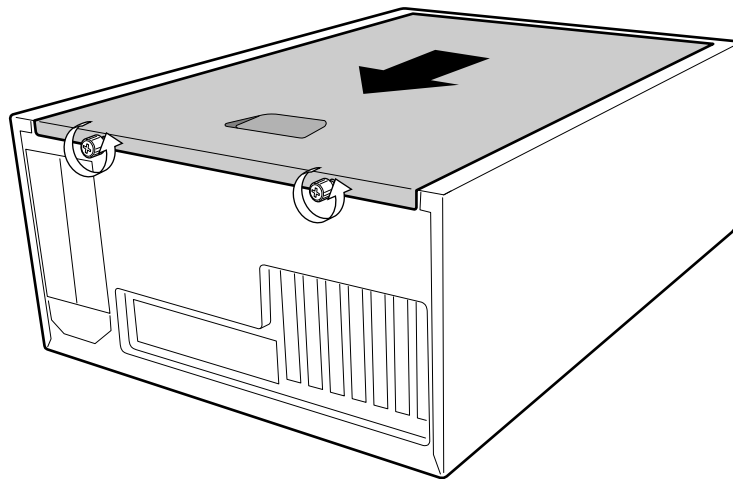
Always handle boards carefully. They can be extremely sensitive to ESD. Hold boards only by their edges. Do not touch the connector contacts. After removing a board from its protective wrapper or from the server, place the board component side up on a grounded, static free surface. If you place the server board on a conductive surface, the battery leads may short out. If they do, this will result in a loss of CMOS data and will drain the battery. Use a conductive foam pad if available but not the board wrapper. Do not slide board over any surface.

For proper cooling and airflow, always install the access cover before turning on the server. Operating it without the cover in place can damage system parts.

Remove the Access Cover

Facing the front of the chassis, the access cover is on the right side for pedestal-mounted (tower) servers, and on the top for rack-mounted servers. If you are working on a table, the front bezel needs to hang over an edge, otherwise you will not be able to open the front bezel door.

1. Observe the safety and ESD precautions at the beginning of this chapter.
2. Loosen the captive thumbscrews that secure the access cover in place.
3. Slide the cover backward a short distance, until it stops.
4. Pull the entire cover outward, straight away from the chassis, to disengage the rows of tabs from the notches in the top and bottom edges of the chassis. Set the cover aside.



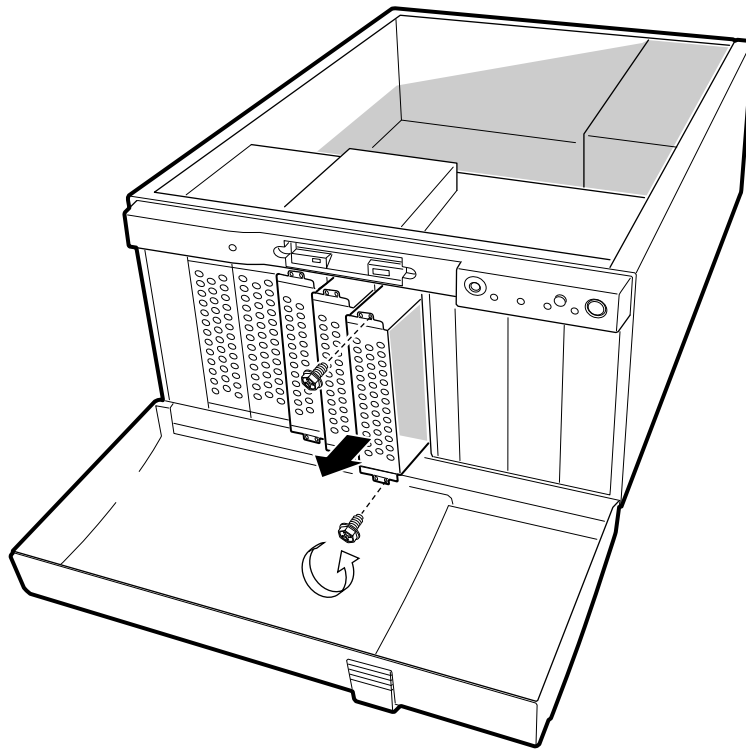
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Figure 1. Removing the Access Cover

Remove the Drive Carriers

You **must** remove the top three hard drive carriers. Not the 5 ¼" peripheral bays. Figure 2 shows the correct drive carriers to remove. For each carrier do the following:

1. If a drive is installed in the carrier, disconnect the power and data cables from it.
2. Remove and save the two screws that hold the carrier in the chassis.
3. Remove the carrier from the chassis.



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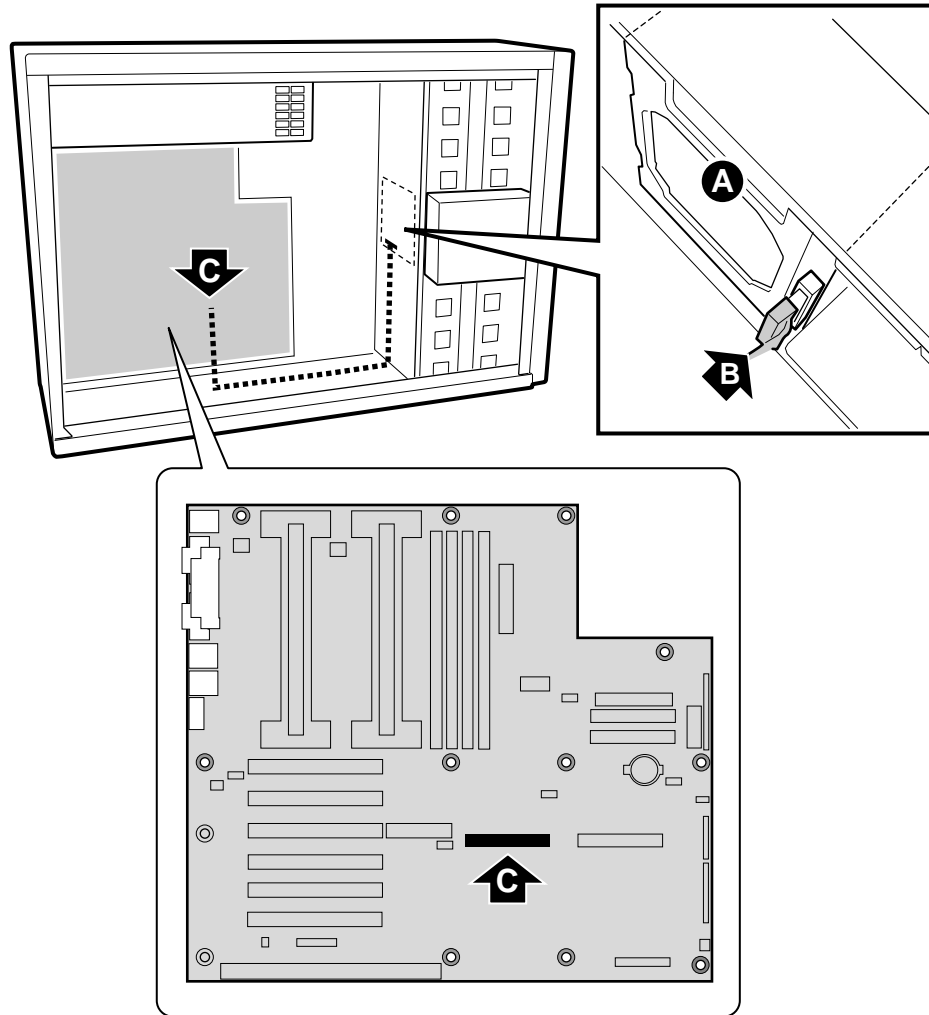
Figure 2. Removing the Drive Carriers

Remove the Fans and Foam Epac

1. Disconnect the fan cables from the server board.
2. Remove the top piece of foam epac from the system fans.
3. Remove the bottom piece of foam epac.

Route the SCSI Cable

1. Connect the SCSI cable from connector P1 to the LVD SCSI connector on the server board.
2. Lay the cable flat against the bottom and side of the chassis. The cable runs under the foam epac.



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Figure 3. Routing the SCSI Cable

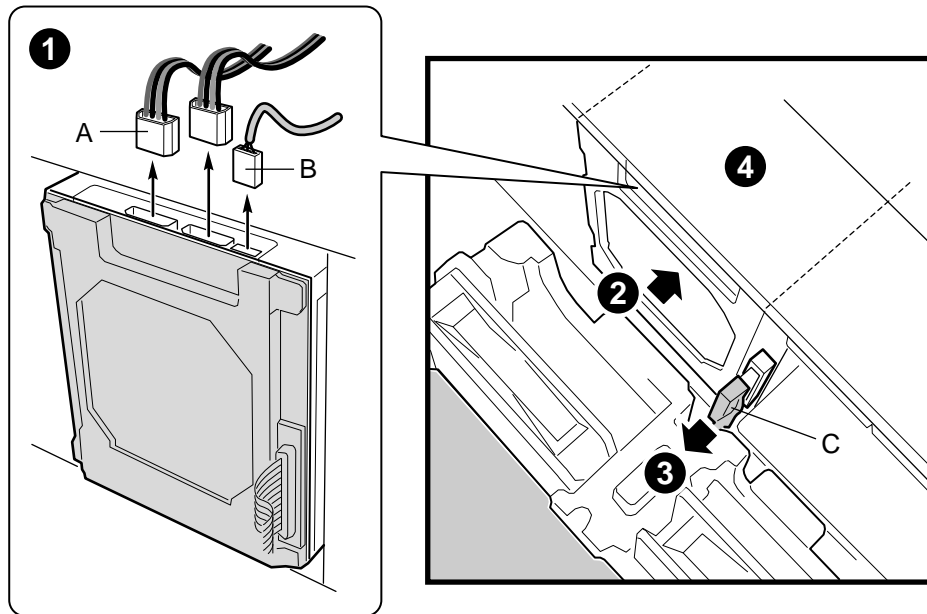
- A. Hot swap bay
- B. SCSI connector on backplane
- C. LVD SCSI connector on server board

Install the Fans and Lower Foam Epac

1. Place the lower part of the epac over the SCSI cable. It should rest against the bottom and side of the chassis.
2. If you removed the fans, replace them. Make sure the label side is facing into the chassis (airflow away from the drives to the interior of the chassis).
3. Connect the fan cables to the server board.

Install Hot Swap Bay

1. Slide bay half way into the chassis.
2. Connect the SCSI cable to the backplane.
3. Slide the bay the rest of the way into the chassis.
4. Connect power cables to the back plane.
5. Connect the I2C cable to the backplane and the front panel board (connector labeled “Primary HSBay”).

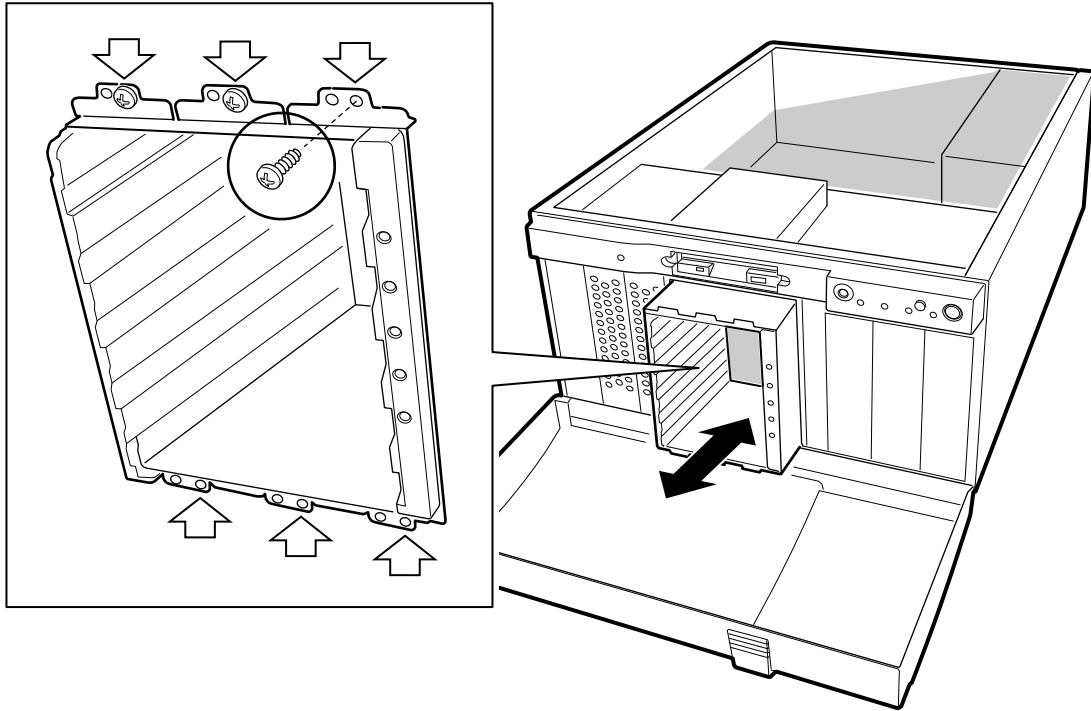


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Figure 4. Connecting Cables to the Hot Swap Backplane

- A. Power cable
- B. I2C cable
- C. SCSI cable

6. Insert and tighten the six screws that hold the bay in the chassis.

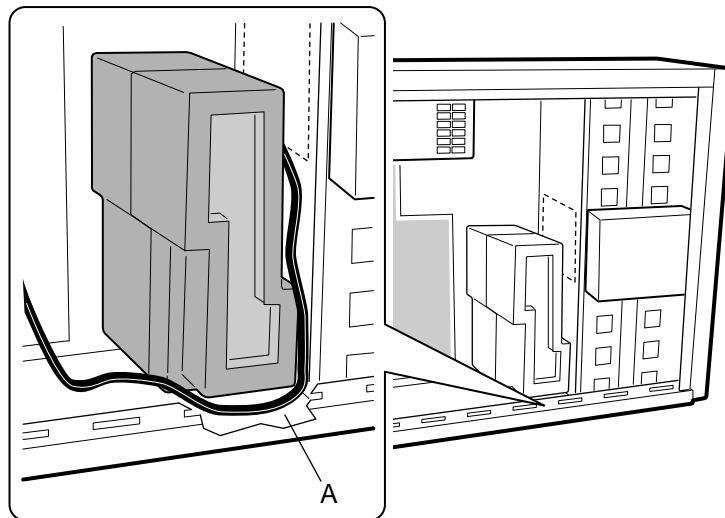


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Figure 5. Installing the Hot Swap Drive Bay

Install the Upper Foam Epac

1. Make sure the fan cables are in their slots in the lower foam epac.
2. Place the upper part of the foam epac into the chassis. The SCSI I2C and diskette drive data cables should lay over it.
3. Press the foam epac into place. You may need to wiggle the fans to get it to sit flush with the lower foam epac.
4. Tilt the side of the upper foam epac that is against the chassis (the side farthest away from the power supply) up so it forms an opening between the foam epac and the slotted access cover support rail on the chassis. Refer to Figure 6.
5. Lay the diskette drive data cable in this gap onto the shoulder of the foam epac. Refer to Figure 6.
6. Being careful not to pinch the cable, tilt the foam epac back into place.

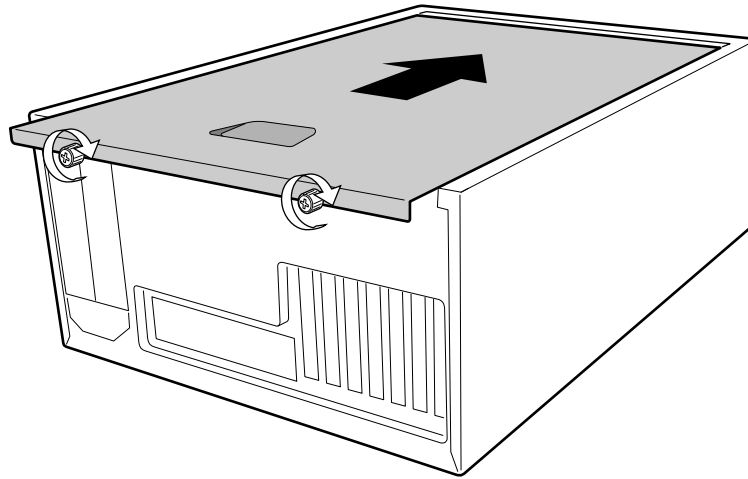


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Figure 6. Routing the Diskette Data Cable

Replace Access Cover

1. Place the cover so the tabs go into the slots on the server. The cover should be flush against the chassis.
2. Slid the cover forward until it stops.
3. Tighten the two captive screws into the rear of the chassis.



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Figure 7. Installing the Access Cover

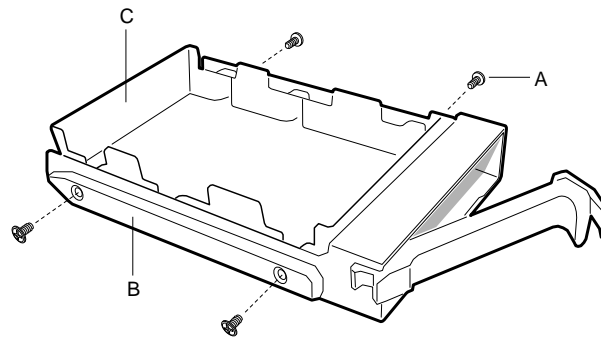
Install Hot Swap Drives



CAUTION

For proper cooling of the hot swap bay, each carrier must have a drive or an air baffle installed.

1. Press the latch on the top of the carrier handle down, pull the carrier handle toward you, and pull the carrier from the chassis.
2. Remove the four screws that hold the air baffle to the carrier. Save the air baffle for use if you remove the drive.



OM09067

Figure 8. Removing the Air Baffle from the Drive Carrier

- A. Screw (save for reuse (6-32 flat head))
- B. Drive carrier
- C. Air baffle

3. Remove the 3.5-inch hard drive from its wrapper and place it on an antistatic surface.
4. Record the drive model and serial number in your equipment log.
5. Orient the drive so the connector is near the top surface of the drive, then place the drive carrier on top of the drive.
6. Using the four screws removed earlier, attach the carrier to the drive.

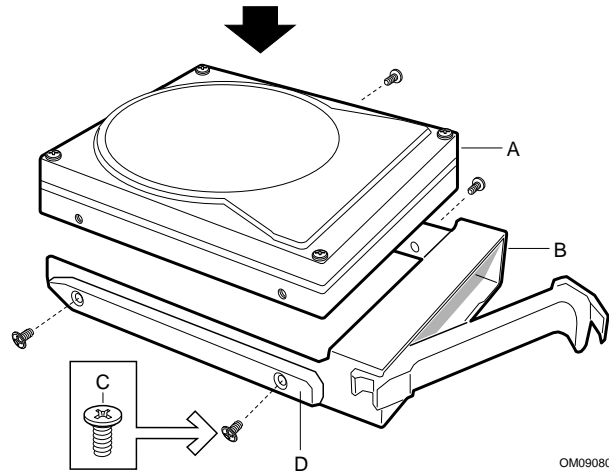


Figure 9. SCA Hard Disk Drive and Hot Swap Drive Carrier

- A. Hard drive
- B. Drive carrier
- C. Screw (6-32 flat head)
- D. Positioning rail

7. Position the drive carrier so it engages the guide rails.
8. Push the drive into the chassis until the tab (Figure 10, B) engages the hole in the drive bay (Figure 10, A).
9. Push the carrier handle up until the latch clicks.

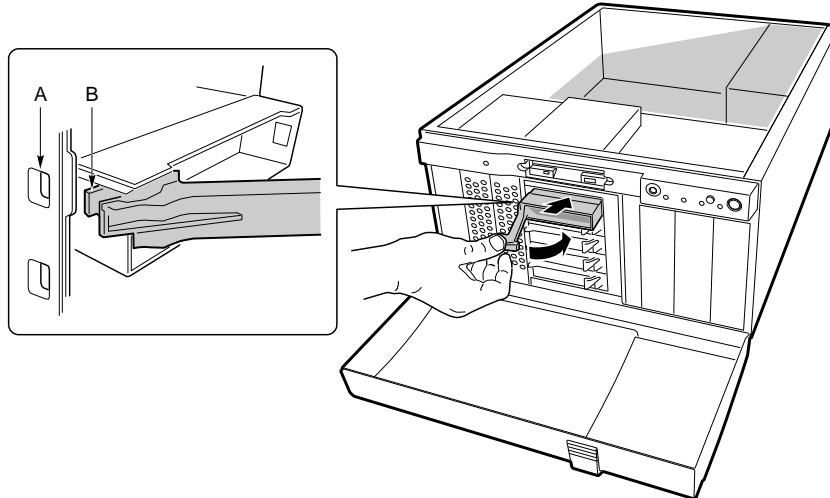


Figure 10. Inserting a Hot Swap Drive

- A. Hole
- B. Tab

Warranty

Limited Warranty for Intel® Server Chassis Subassembly Products

Intel warrants that the Products (defined herein as the Intel® chassis subassembly and all of its various components and software delivered with or as part of the Products) to be delivered hereunder, if properly used and installed, will be free from defects in material and workmanship and will substantially conform to Intel's publicly available specifications for a period of three (3) years after the date the Product was purchased from an Intel authorized distributor. Software of any kind delivered with or as part of products is expressly provided "as is" unless specifically provided for otherwise in any software license accompanying the software.

If any Product furnished by Intel which is the subject of this Limited Warranty fails during the warranty period for reasons covered by this Limited Warranty, Intel, at its option, will:

- **REPAIR** the Product by means of hardware and/or software; OR
- **REPLACE** the Product with another Product; OR
- **REFUND** the then-current value of the Product if Intel is unable to repair or replace the Product.

If such Product is defective, transportation charges for the return of Product to buyer within the USA will be paid by Intel. For all other locations, the warranty excludes all costs of shipping, customs clearance, and other related charges. Intel will have a reasonable time to make repairs or to replace Product or to refund the then-current value of the Product.

In no event will Intel be liable for any other costs associated with the replacement or repair of Product, including labor, installation or other costs incurred by buyer.

This Limited Warranty, and any implied warranties that may exist under state law, apply only to the original purchaser of the Product.

Extent of Limited Warranty

Intel does not warrant that Products to be delivered hereunder, whether delivered stand-alone or integrated with other Products, including without limitation semiconductor components, will be free from design defects or errors known as "errata". Current characterized errata are available upon request.

This Limited Warranty does not cover damages due to external causes, including accident, problems with electrical power, usage not in accordance with product instructions, misuse, neglect, alteration, repair, improper installation, or improper testing.

Warranty Limitations and Exclusions

These warranties replace all other warranties, expressed or implied including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Intel makes no expressed warranties beyond those stated here. Intel disclaims all other warranties, expressed or implied including, without limitation, implied warranties of merchantability and fitness for a particular purpose. Some jurisdictions do not allow the exclusion of implied warranties, so this limitation may not apply.

All expressed and implied warranties are limited in duration to the limited warranty period. No warranties apply after that period. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so this limitation may not apply to you.

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Intel's responsibility under this, or any other warranty, implied or expressed, is limited to repair, replacement or refund, as set forth above. These remedies are the sole and exclusive remedies for any breach of warranty. Intel is not responsible for direct, special, incidental, or consequential damages resulting from any breach of warranty under another legal theory including, but not limited to, lost profits, downtime, goodwill, damage to or replacement of equipment and property, and any costs of recovering, reprogramming, or reproducing any program or data stored in or used with a system containing this product. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This limited warranty gives you specific legal rights, and you may also have other rights that vary from jurisdiction to jurisdiction.

Any and all disputes arising under or related to this Limited Warranty shall be adjudicated in the following forums and governed by the following laws: for the United States of America, Canada, North America and South America, the forum shall be Santa Clara, California, USA and the applicable law shall be that of the State of California, USA; for the Asia Pacific region, the forum shall be Singapore and the applicable law shall be that of Singapore; for Europe and the rest of the world, the forum shall be London and the applicable law shall be that of the United Kingdom.

In the event of any conflict between the English language version and any other translated version(s) of this Limited Warranty, the English language version shall control.

How to Obtain Warranty Service

To obtain warranty service for this Product, you may contact Intel or your authorized distributor.

North America—Call Intel at 1-800-628-8686 during the warranty period during normal business hours (Pacific time), excluding holidays. Please be prepared to provide: (1) your name, address, and telephone numbers; (2) model name and serial number of the Product; (3) an explanation of the problem. The customer service representative may need additional information from you depending on the nature of the problem.

In Europe, Asia, or South America—Contact your original authorized distributor for warranty service.

Any replacement Product is warranted under this written warranty and is subject to the same limitations and exclusions for the remainder of the original warranty period.

Telephone Support

If you can't find the information you need on Intel's World Wide Web site (<http://www.intel.com>), call your local distributor or an Intel Customer Support representative.

Country	Customer Support Telephone Number	Hours (Monday-Friday)	Billing
United States	1-900-555-5800	7:00 - 17:00	\$2.50/minute
United States & Canada	1-800-404-2284	7:00 - 17:00 PST	Credit card calls \$25.00/incident
European Community English: Francaise: Deutsch: Italiano:	+44-131-458-6847 +44-131-458-6848 +44-131-458-6954 +44-131-458-6951	UK time 8:00 - 17:00 (M, Th, F) 8:00 - 16:00 (Tues - W)	Credit Card Calls \$25.00/incident Levied in local currency at the applicable credit card exchange rate plus applicable VAT
Asia-Pacific Australia: Hong Kong: Korea: Manila: PRC: Singapore: Taiwan:	+1-800-649-931 +852-2-844-4456 +822-767-2595 +886-2-718-9915 +852-2-844-4456 +65-831-1311 +886-2-718-9915	Singapore local time Oct-April: 6:00 - 16:00 April-Oct: 5:00 - 16:00	Credit card calls \$25.00/incident
Everywhere else	+916-377-7000	7:00 - 17:00 PST	Credit card calls \$25.00/incident

Returning a Defective Product

Before returning any product, call your authorized dealer/distribution authority.

- From Europe:
 - in English +44 1793 431144
 - in French +44 1793 421777
 - in German +44 1793 421333
- All other locations: +(503) 264-7000

If the customer support group verifies that your product is defective, you will receive a Return Material Authorization (RMA) number to place on the outer package of the product. Intel can not accept any product without an RMA number on the package.