

# IBM Power System S821LC (8001-12C) Quick Install Guide



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## IBM Power<sup>®</sup> System S821LC (8001-12C) Quick Install Guide

The IBM Knowledge Center is available online from: [http://www.ibm.com/support/knowledgecenter/POWER8/p8hdx/8001\\_12c\\_landing.htm](http://www.ibm.com/support/knowledgecenter/POWER8/p8hdx/8001_12c_landing.htm).

- Read all precautions and instructions before you start working on key parts.
- Use normal electrostatic discharge (ESD) procedures when working on the system and parts. IBM recommends wearing gloves and an anti-static wrist strap to avoid possible damage to the equipment.

8001-12C information: <https://ibm.biz/8001-12CQR>

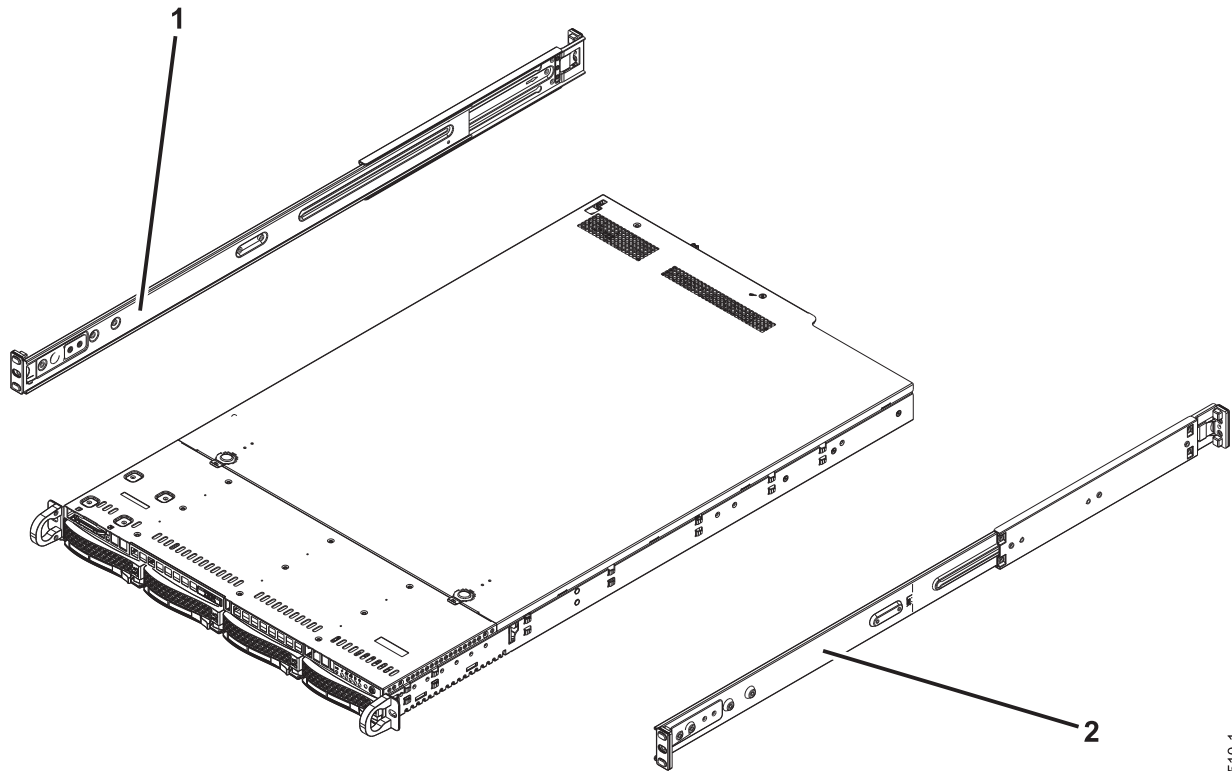


### 8001-12C or 8005-12N parts

Use this information to find the field-replaceable unit (FRU) part number.

After you identify the part number of the part that you want to order, go to Advanced Part Exchange Warranty Service. Registration is required. If you are not able to identify the part number, go to Contacting IBM<sup>®</sup> service and support.

## Rack final assembly



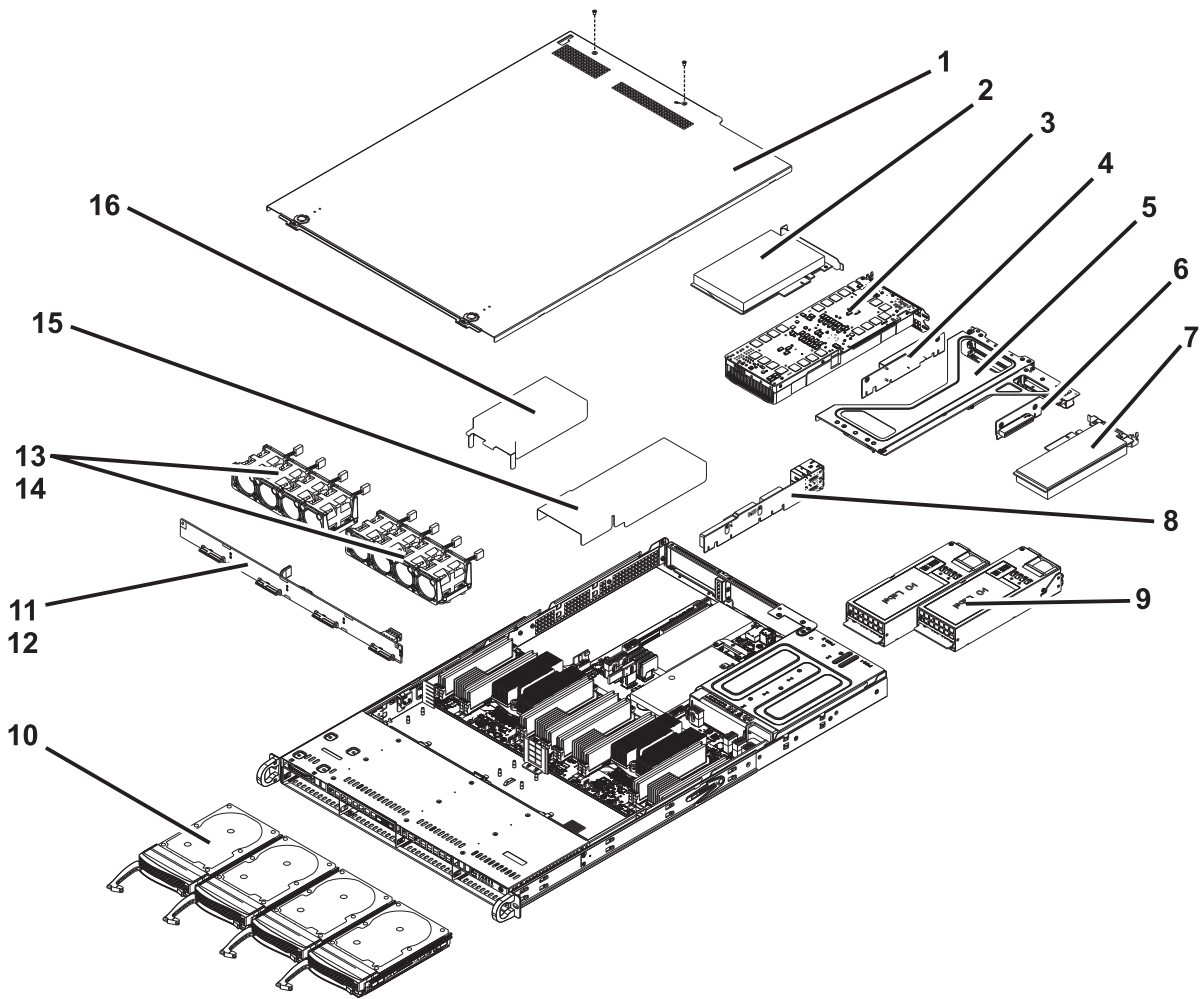
P8EIQ510-1

Figure 1. Rack final assembly

Table 1. Rack final assembly part numbers

Index number	Part number	Units per assembly	Description
1	MCP-290-00052-0N	1	Slide rail kit - contains left and right slide rails and attaching screws (8001-12C)
	MCP-290-00102-0N	1	Slide rail kit - contains left and right slide rails and attaching screws (8005-12N)
2	MCP-290-00052-0N	1	Slide rail kit - contains left and right slide rails and attaching screws (8001-12C)
	MCP-290-00102-0N	1	Slide rail kit - contains left and right slide rails and attaching screws (8005-12N)

## System parts



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Figure 2. System parts

Table 2. System parts

Index number	Part number	Units per assembly	Description
1		1	Top cover assembly
		2	Screws
2		2	PCIe adapters. Use the feature type of the adapter to find the FRU number in PCIe adapter information by feature type for the 8001-12C or 8005-12N.
3		1	GPU. Use the feature type of the GPU to find the FRU number in PCIe adapter information by feature type for the 8001-12C or 8005-12N. <b>Note:</b> 8005-12N systems do not support GPUs.
4	RSC-W-66P	1	PCIe riser for PCIe adapters or GPU. Use the feature type of the adapter to find the FRU number in PCIe adapter information by feature type for the 8001-12C or 8005-12N.
5		1	PCIe cage
6	RSC-R1UW-E8R	1	PCIe riser

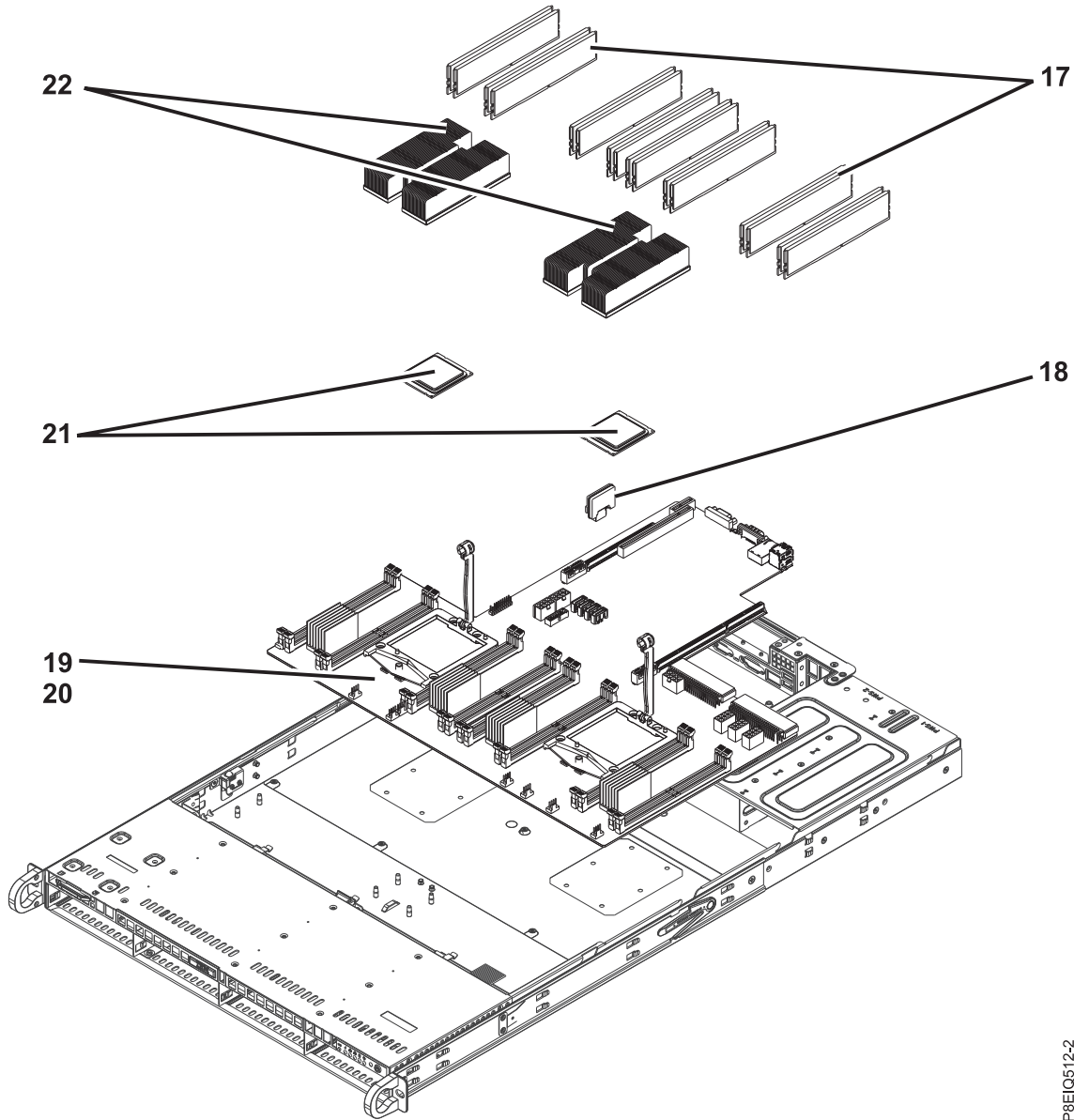
Table 2. System parts (continued)

Index number	Part number	Units per assembly	Description
7		1	PCIe adapter. Use the feature type of the adapter to find the FRU number in PCIe adapter information by feature type for the 8001-12C or 8005-12N.
8	AOC-UR-i4XTF	1	1U UIO NIC PCIe adapter with integrated 4-port 10 GbE Base-T, Intel XL710, and CAPI <b>Note:</b> This PCIe adapter is also a PCIe riser.
9	PWS-1K02A-1R	2	Power supply (8001-12C)
9	PWS-1K62A-1R	2	Power supply (8005-12N)
10	HDD-A2000-ST2000NM003401	4	2 TB 3.5 inch SAS disk drive (8001-12C)
10	HDD-A4000-ST4000NM003401 or HDD-A4TB-HUS726040AL5210	4	4 TB 3.5 inch SAS disk drive (8001-12C)
10	HDD-A6000-ST6000NM003401	4	6 TB 3.5 inch SAS disk drive (8001-12C)
10	HDD-A8000-ST8000NM0075	4	8 TB 3.5 inch SAS disk drive (8001-12C)
10	HDD-A4000-ST4000NM0075	4	4 TB 3.5 inch self-encrypting SAS disk drive (8001-12C)
10	HDD-A8000-ST8000NM0095	4	8 TB 3.5 inch self-encrypting SAS disk drive (8001-12C)
10	HDD-T2000-ST2000NM002401	4	2 TB 3.5 inch SATA disk drive (8001-12C)
10	HDD-T4000-ST4000NM002401	4	4 TB 3.5 inch SATA disk drive (8001-12C)
10	HDD-T6000-ST6000NM002401	4	6 TB 3.5 inch SATA disk drive (8001-12C)
10	HDD-T8000-ST8000NM0055	4	8 TB 3.5 inch SATA disk drive (8001-12C)
10	HDS-KIT-2A-1920-IB001	4	1.9 TB small form factor SAS solid-state drive (1 drive write per day) (8001-12C)
10	HDS-KIT-2A-3840-IB001	4	3.8 TB small form factor SAS solid-state drive (1 drive write per day) (8001-12C)
10	HDS-KIT-2T-160-IB001	4	160 GB small form factor SATA solid-state drive (8001-12C)
10	HDS-KIT-2T-240-IB001	4	240 GB small form factor SATA solid-state drive (8001-12C)
10	HDS-KIT-2T-960-IB001	4	960 GB small form factor SATA solid-state drive (8001-12C)
10	HDS-KIT-2T-1900-IB001	4	1.9 GB small form factor SATA solid-state drive (8001-12C)
10	HDS-KIT-2T-3800-IB001	4	3.8 GB small form factor SATA solid-state drive (8001-12C)
10	HDS-KIT-3N-800-IB001	4	800 GB small form factor NVMe drive (3 drive writes per day) (8001-12C)

Table 2. System parts (continued)

Index number	Part number	Units per assembly	Description
10	HDS-KIT-3N-1200-IB001	4	1.2 TB small form factor NVMe drive (3 drive writes per day) (8001-12C)
10	HDS-KIT-3N-1600-IB001	4	1.6 TB small form factor NVMe drive (3 drive writes per day) (8001-12C)
10	HDS-KIT-3N-2000-IB001	4	2.0 TB small form factor NVMe drive (3 drive writes per day) (8001-12C)
10	HDS-KIT-5N-800-IB001	4	800 GB small form factor NVMe drive (5 drive writes per day) (8001-12C)
10	HDS-KIT-5N-3200-IB001	4	3.2 TB small form factor NVMe drive (5 drive writes per day) (8001-12C)
10	HDS-KIT-2T-480-IB001	4	480 GB 2.5 inch SATA solid-state drive (3.5 drive writes per day) (8005-12N)
10	HDS-KIT-2T-960S-IB001	4	960 GB 2.5 inch SATA solid-state drive (3.5 drive writes per day) (8005-12N)
10	HDS-KIT-2T-1920-IB001	4	1.92 TB 2.5 inch SATA solid-state drive (3.5 drive writes per day) (8005-12N)
11	BPN-SAS3-815TQ-N4	1	Disk drive backplane
12		2	Screws
13	FAN-0141L4	8	Fan
14		2	Fan holder
15	MCP-310-81909-0B	1	CPU 1 air baffle
16	MCP-310-81908-0B	1	CPU 2 air baffle

## Additional system parts



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Figure 3. Additional system parts

Table 3. Additional system parts

Index number	Part number	Units per assembly	Description
17	MTA9ASF51272PZ-2G3B1	16	4 GB, 2400 MHz 1RX8 DDR4 RDIMM (Micron Technology, Inc.)* (8001-12C)
17	MTA9ASF1G72PZ-2G3B1	16	8 GB, 2400 MHz 1RX8 DDR4 RDIMM (Micron Technology, Inc.)* (8001-12C)
17	MTA18ASF2G72PZ-2G3B1	16	16 GB, 2400 MHz 1RX4 DDR4 RDIMM (Micron Technology, Inc.)* (8001-12C)
17	MTA36ASF4G72PZ-2G3A1	16	32 GB, 2400 MHz 2RX4 DDR4 RDIMM (Micron Technology, Inc.)* (8001-12C)

Table 3. Additional system parts (continued)

Index number	Part number	Units per assembly	Description
17	M393A1G40DB0-CPB	16	8 GB, 2133 MHz 1RX4 DDR4 RDIMM (Samsung Electronics Co., Ltd.)* (8001-12C)
17	M393A2G40DB0-CPB	16	16 GB, 2133 MHz 2RX4 DDR4 RDIMM (Samsung Electronics Co., Ltd.)* (8001-12C)
17	M393A4K40BB0-CPB	16	32 GB, 2133 MHz 2RX4 DDR4 RDIMM (Samsung Electronics Co., Ltd.)* (8001-12C)
17	HMA41GR7AFR4N-TF	16	8 GB, 2133 MHz 1RX4 DDR4 RDIMM (SK hynix, Inc.)* (8001-12C)
17	HMA42GR7AFR4N-TF	16	16 GB, 2133 MHz 2RX4 DDR4 RDIMM (SK hynix, Inc.)* (8001-12C)
17	HMA84GR7MFR4N-TFT1	16	32 GB, 2133 MHz 2RX4 DDR4 RDIMM (SK hynix, Inc.)* (8001-12C)
17	MEM-DR480L-HL02-ER21, MEM-DR480L-SL01-ER21, or MEM-DR480L-CL03-ER24	16	8 GB, 2133 MHz 2RX4 DDR4 ISRDIMM (Super Micro Computer, Inc.)* (8005-12N)
17	MEM-DR416L-CL03-ER24, MEM-DR416L-SL01-ER21, or MEM-DR416L-HL02-ER21	16	16 GB, 2133 MHz 2RX4 DDR4 ISRDIMM (Super Micro Computer, Inc.)*
18	SSD-DM064-PHI	2	64 GB SATA drive on module (DOM) (8001-12C)
18	SSD-DM064-SMCMVN1	2	64 GB SATA drive on module (DOM) (8005-12N)
18	SSD-DM128-SMCMVN1	2	128 GB SATA drive on module (DOM) (8001-12C)
19	MBD-P8DTU-1U-IB001, MCP-74Y4912-IB001, and MCP-01AF132-IB001	1	System backplane kit (includes system backplane, tray, and vacuum pen) <b>Note:</b> You must order all three part numbers to receive all of the kit contents.
20		14	Screws
21	CPU-KIT-00E4887-IB001	2	8 core 2.328 GHz system processor module kit (includes system processor, tray, and vacuum pen) (8001-12C)
	CPU-KIT-01EM061-IB001	2	10 core 2.095 GHz system processor module kit (includes system processor, tray, and vacuum pen)
22	SNK-P0052P-IB001	2	Heat sink kit (includes heat sink and thermal interface material)

\*All of the memory in a 8001-12C system must be the same size and from the same supplier. The 8001-12C system does not support mixing different sizes of memory or mixing memory from different suppliers. All of the memory in a 8005-12N system must be the same size and from the same supplier. The 8005-12N system does not support mixing different sizes of memory or mixing memory from different suppliers.

## Miscellaneous parts

Table 4. Miscellaneous parts

Description	Part number
Rail adapter kit for round hole racks	MCP-290-91904-0N (8005-12N)

## Rear ports

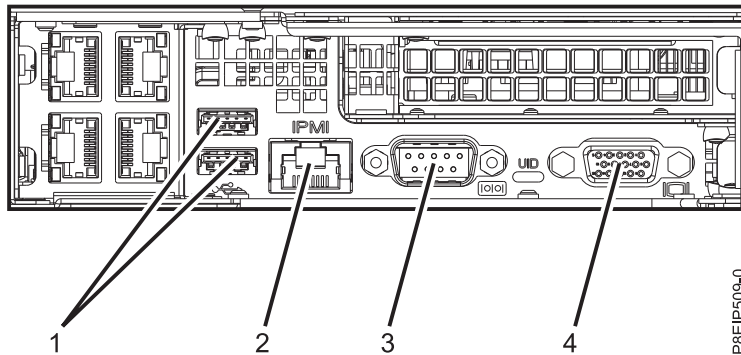


Figure 4. Rear ports

Table 5. Input and output ports

Identifier	Description
1	USB 2.0 used for keyboard and mouse.  Certain USB drives might be too wide to fit properly into the USB ports on the rear of the system. Test the fit your USB drive before proceeding.
2	Ethernet Intelligent Platform Management Interface (IPMI)
3	Serial IPMI
4	Video Graphics Array (VGA) used for monitor. Only the 1024 x 768 at 60 Hz VGA setting is supported. Only up to a 3-meter cable is supported. Text based capability is only supported at this time.

## Installing and Removing



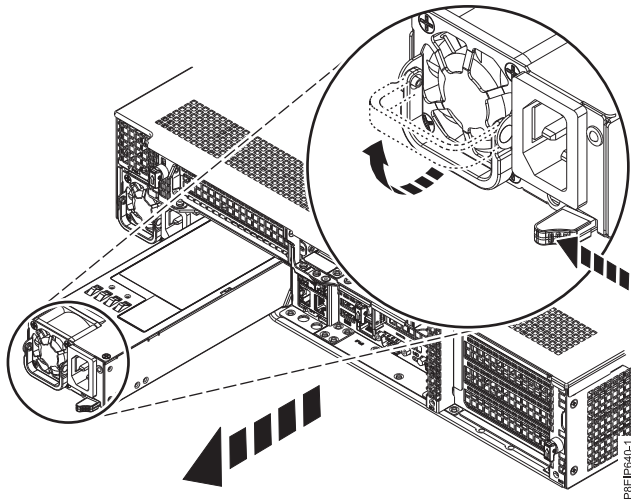


Figure 5. Removing a power supply from the system

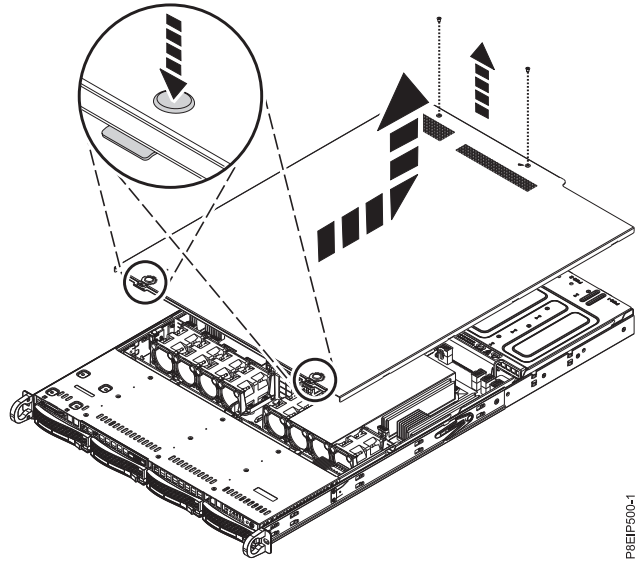


Figure 6. Releasing and opening the cover

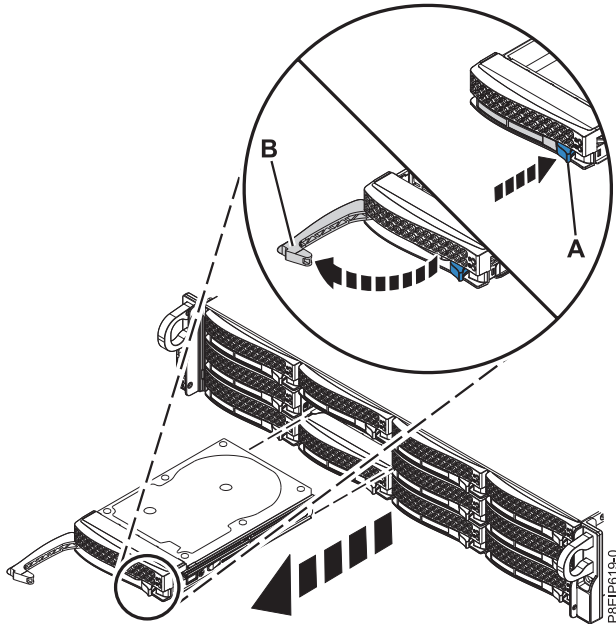


Figure 7. Removing a drive

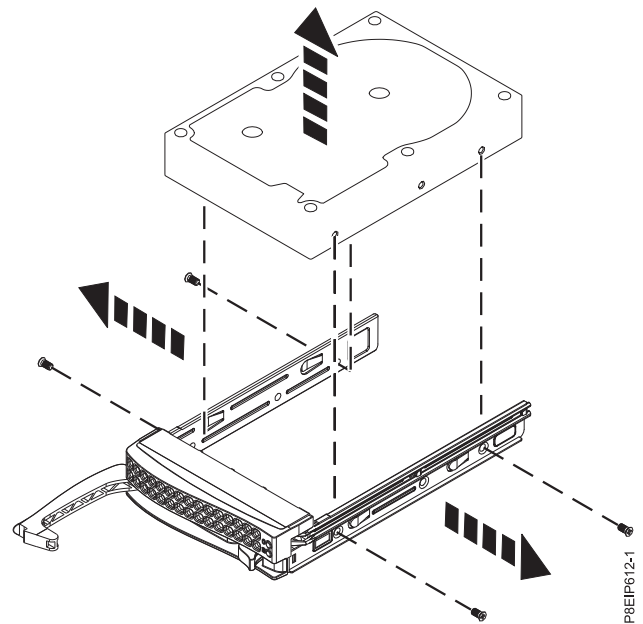


Figure 8. Removing the 3.5-inch drive from the tray

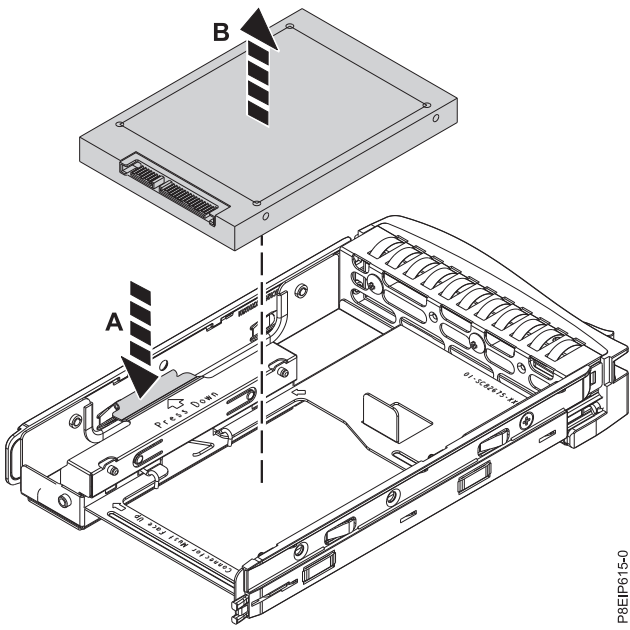


Figure 9. Removing the 2.5-inch drive from the tray

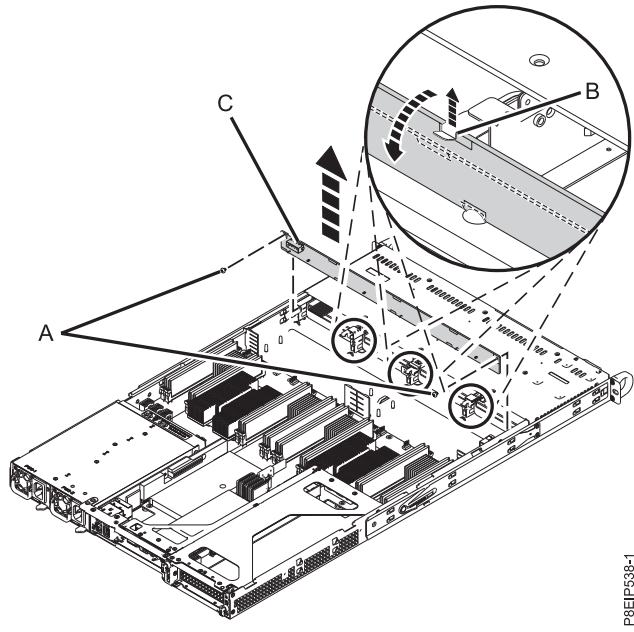


Figure 10. Removing the disk drive backplane and screws

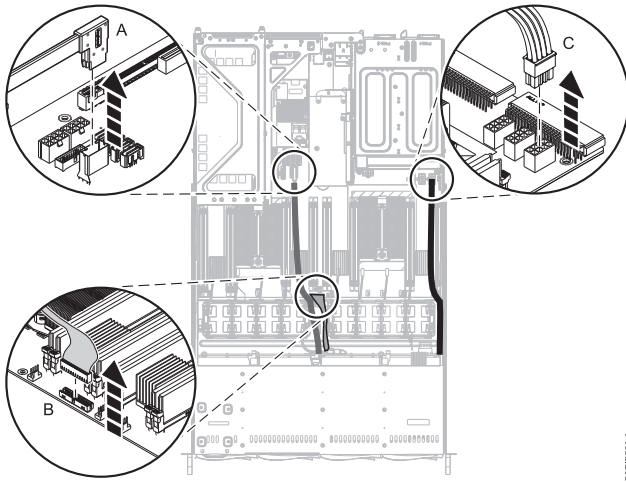


Figure 11. Disconnecting the drive signal and power cables

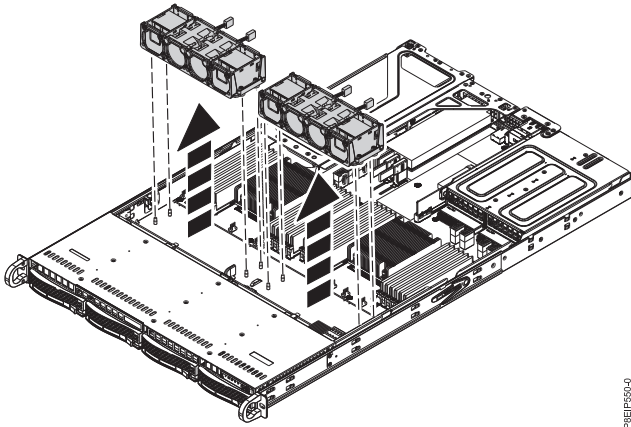


Figure 12. Removing the fan holder

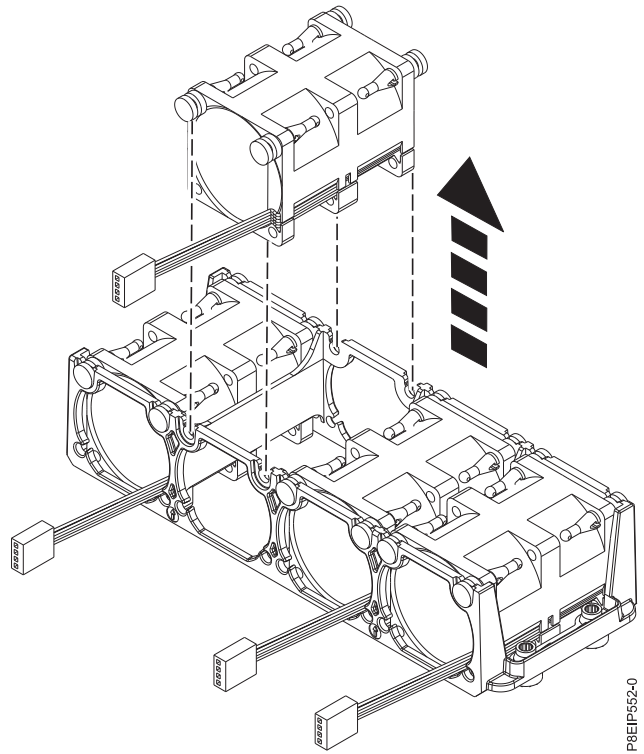


Figure 13. Removing a fan

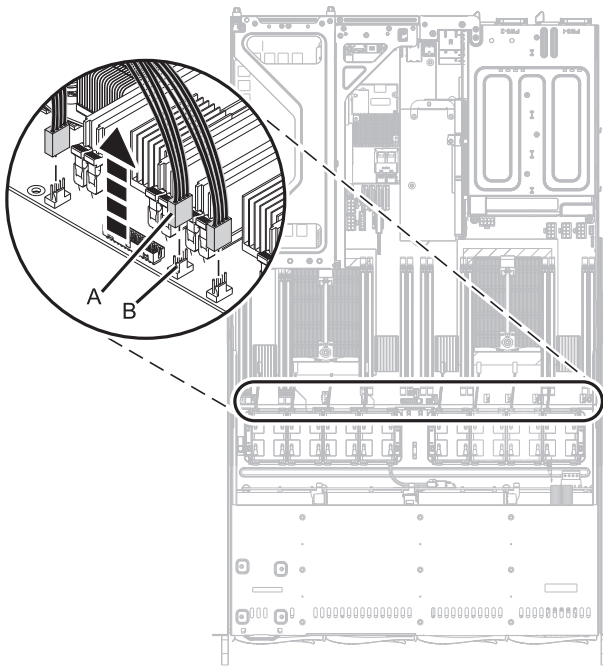


Figure 14. Disconnecting the fan cable

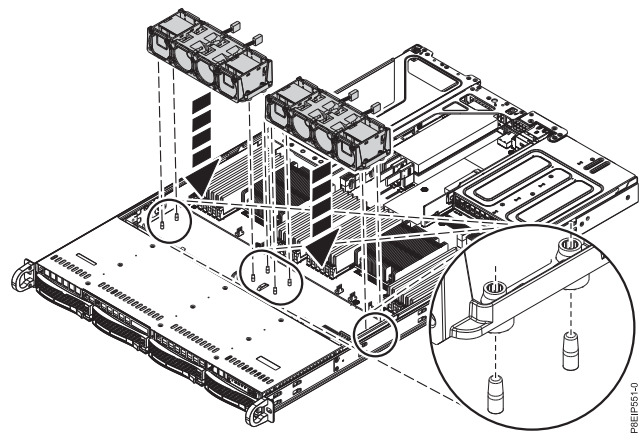


Figure 15. Aligning the fan holder

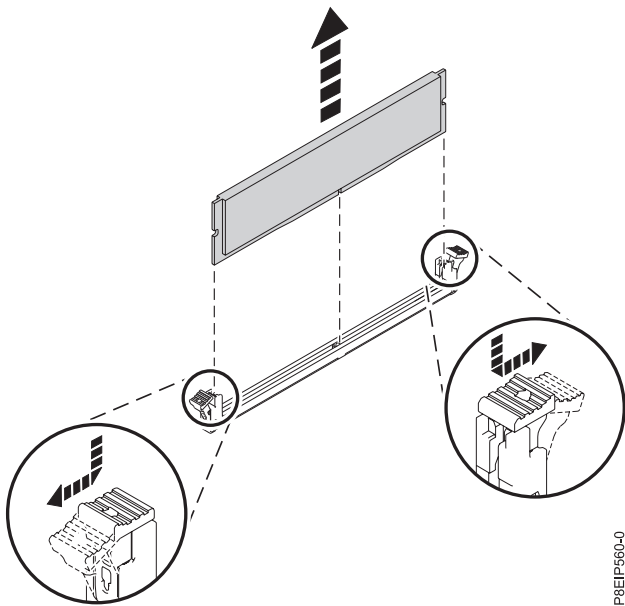


Figure 16. Removing the memory DIMM

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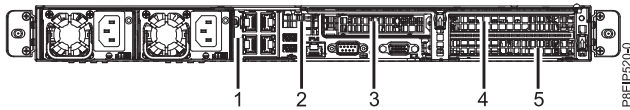


Figure 18. 8001-12C PCIe adapter positions

P8EIP520-0

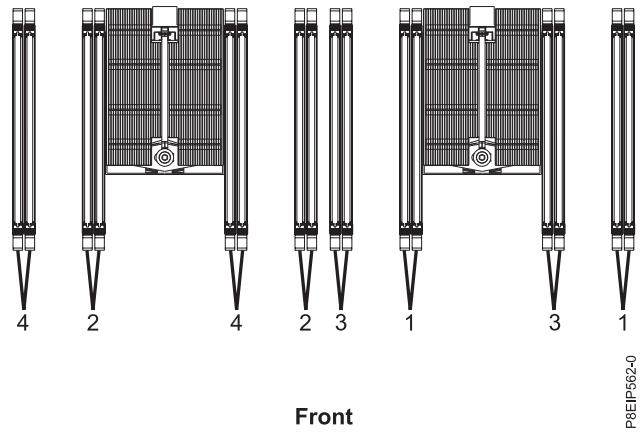


Figure 17. Memory slot locations and plugging sequence

P8EIP562-0

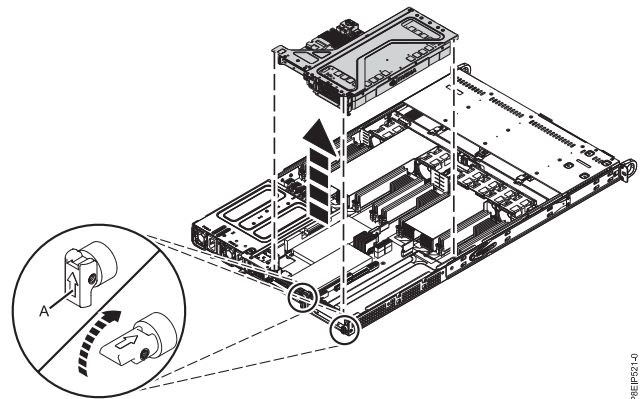


Figure 19. Removing the PCIe riser

P8EIP521-0

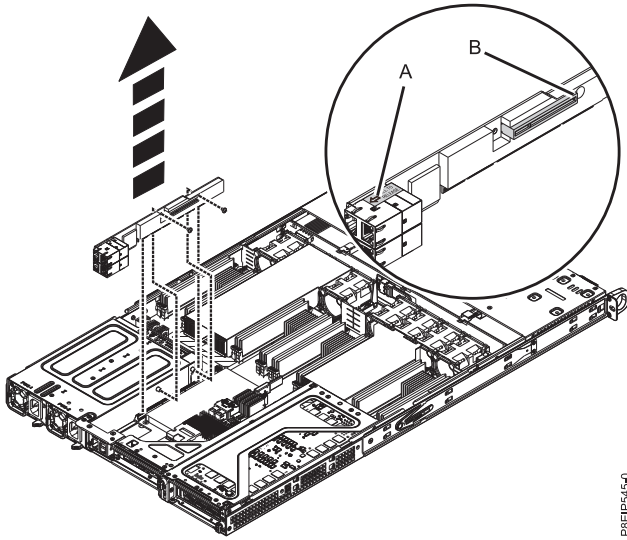


Figure 20. Removing the PCIe riser screws

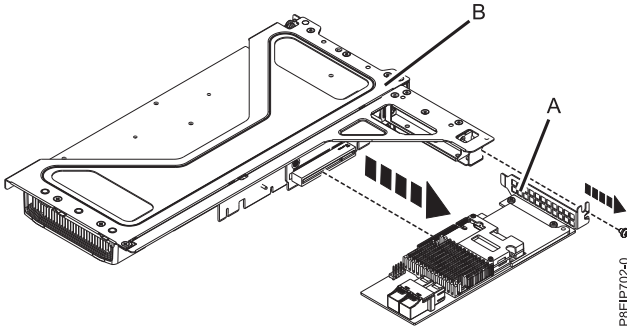


Figure 22. Removing a PCIe adapter from position 3 of the riser

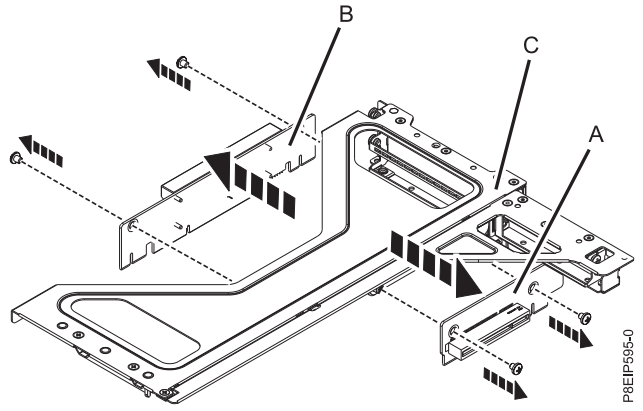


Figure 21. Removing the PCIe riser cards from the adapter cage

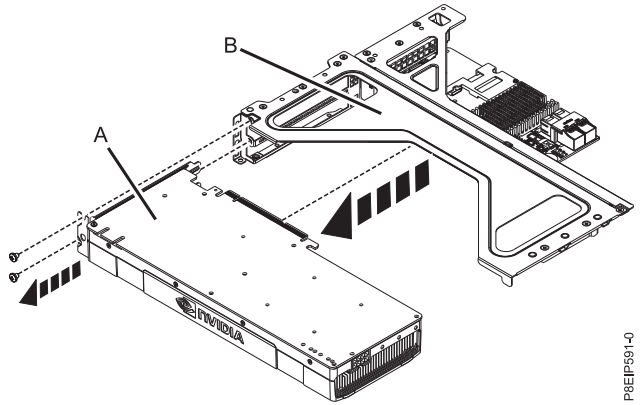


Figure 23. Removing the GPU from the riser

P8EIP595-0

P8EIP545-0

P8EIP702-0

P8EIP591-0

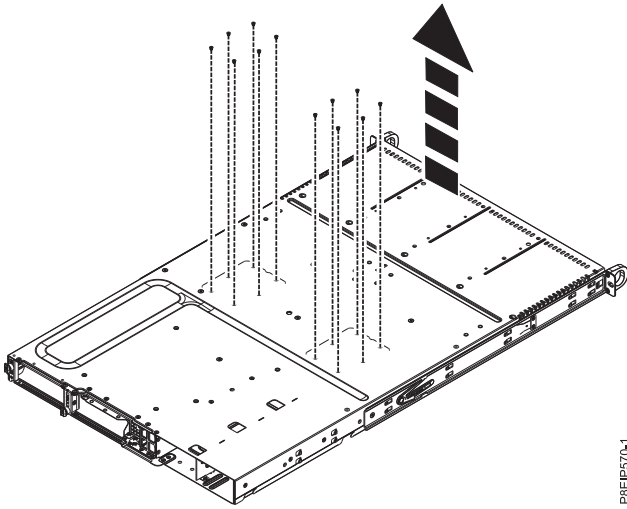


Figure 24. Processor socket screws on bottom of chassis

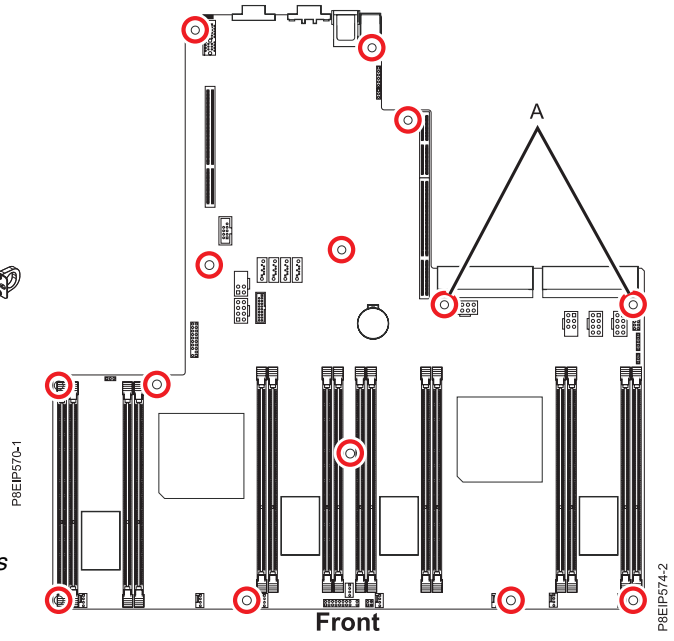


Figure 25. Screw locations

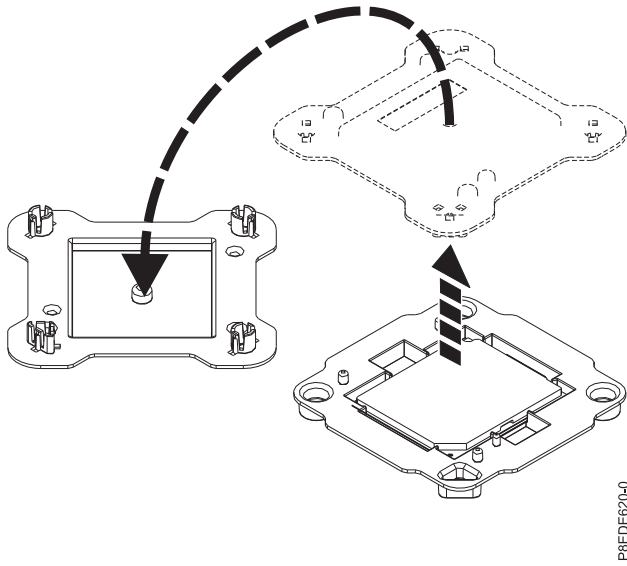


Figure 26. Opening the system processor module packaging

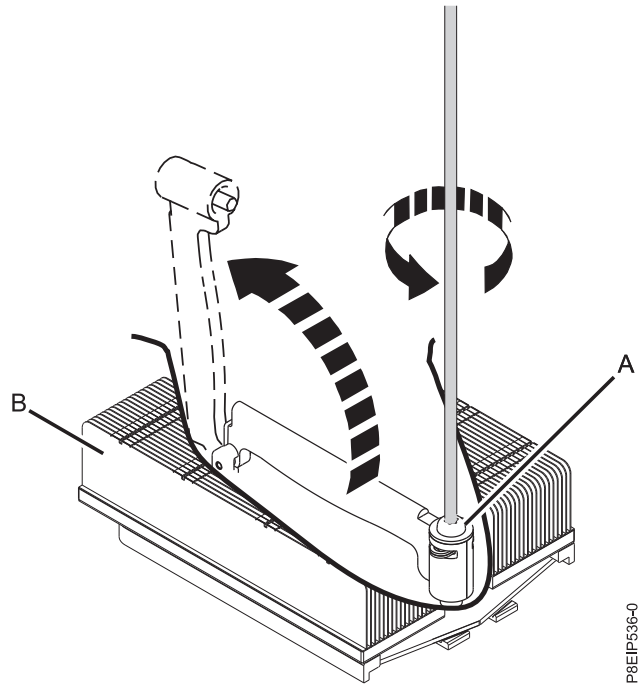


Figure 27. Loosening heat sink load arm screw

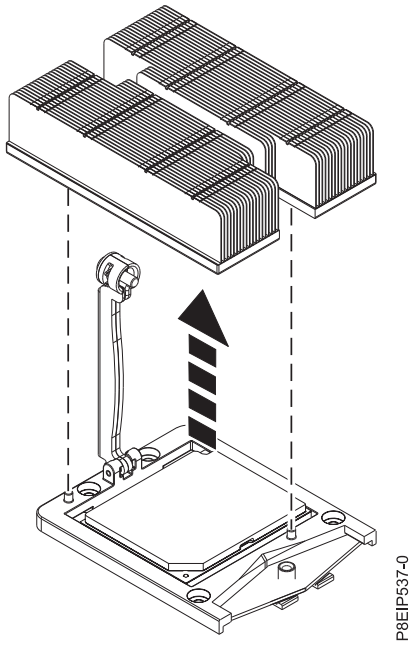


Figure 28. Removing the heat sink

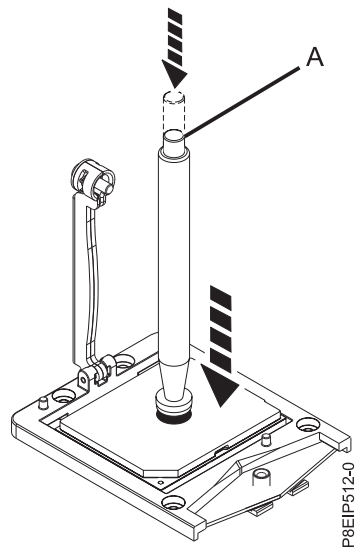


Figure 29. Locking the vacuum pen to the system processor module

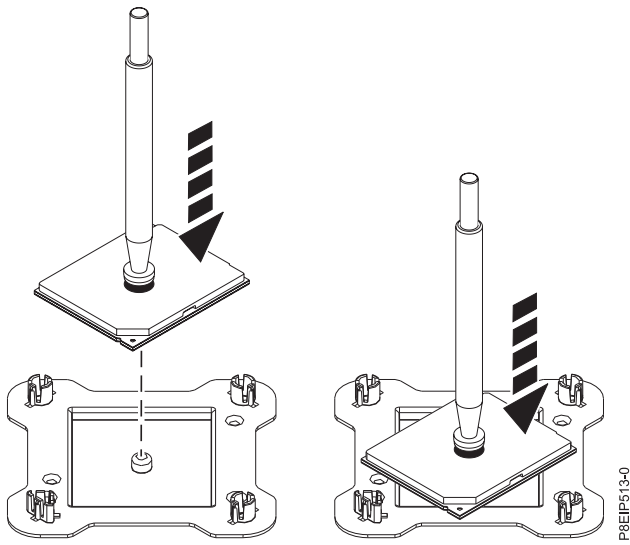


Figure 30. Placing the processor at an angle on the top cover of the packaging

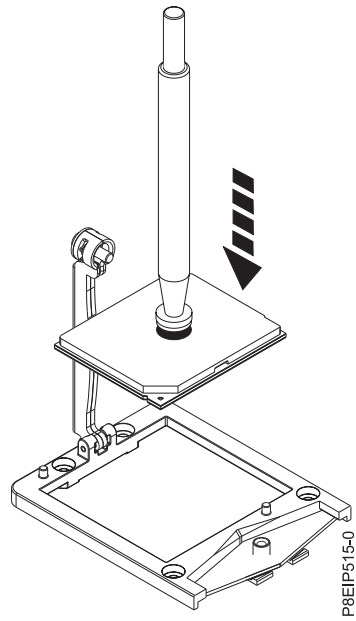


Figure 31. Lowering the processor into the socket

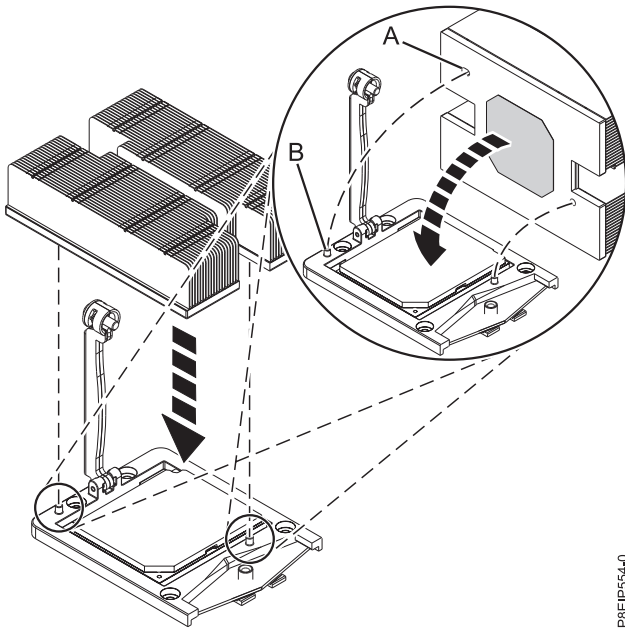


Figure 32. Installing the heat sink

P8EIP554-0

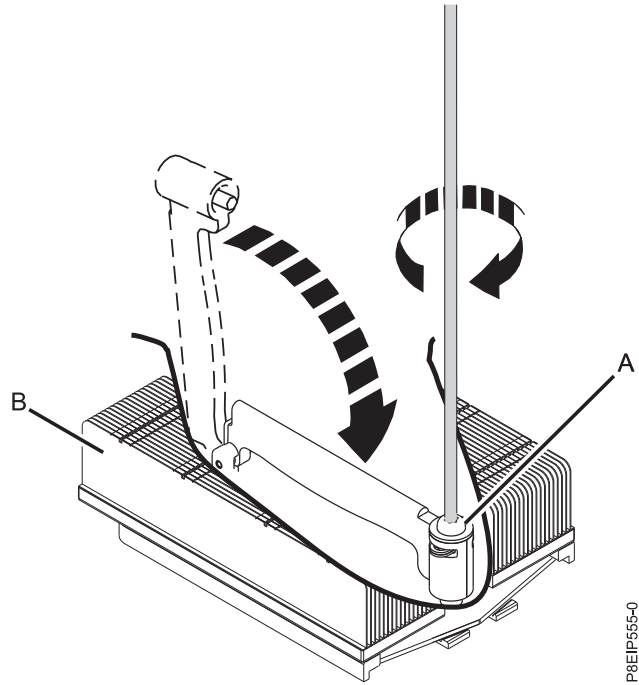


Figure 33. Tightening the load arm screw

P8EIP555-0

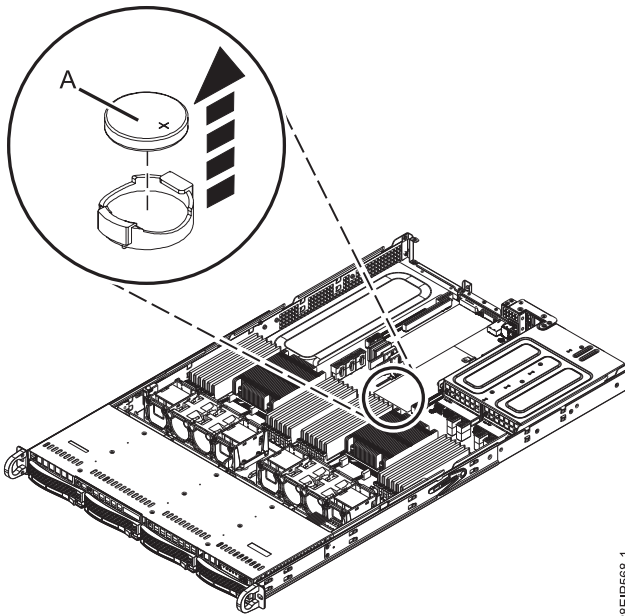


Figure 34. Time-of-day battery location

P8EIP568-1

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