HPE ProLiant DL20 Gen10 Server - Parts Support Guide

Part Number: Internal
Published: 2020
Edition: 1

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Abstract
This document will help you identify parts of the product and also gives a step-by-step instruction on how to remove and replace the components.

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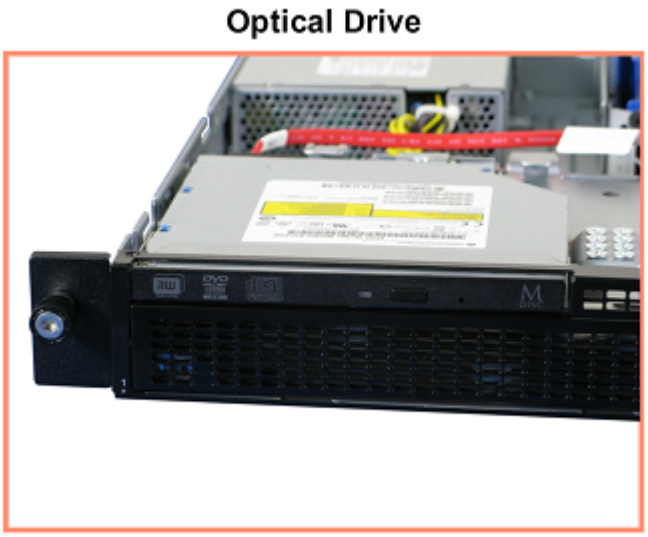
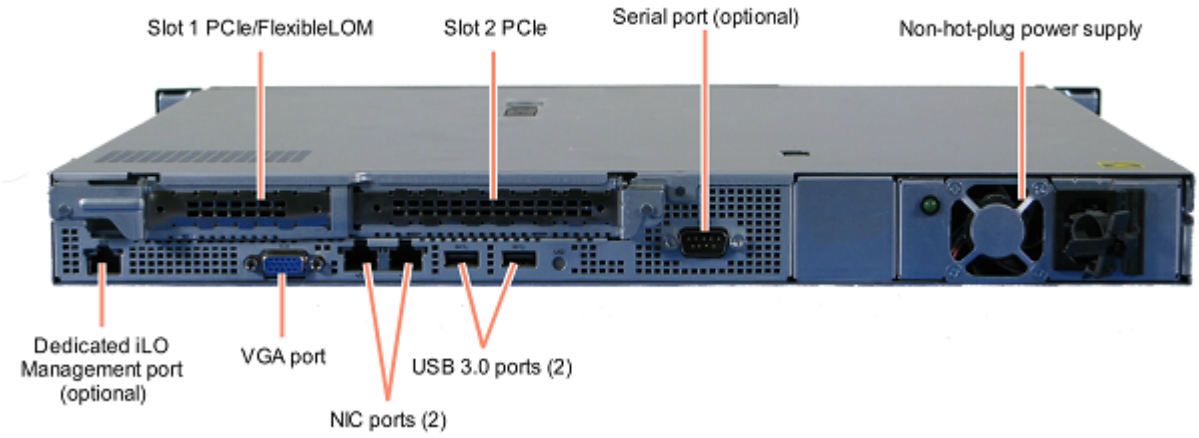
Front View



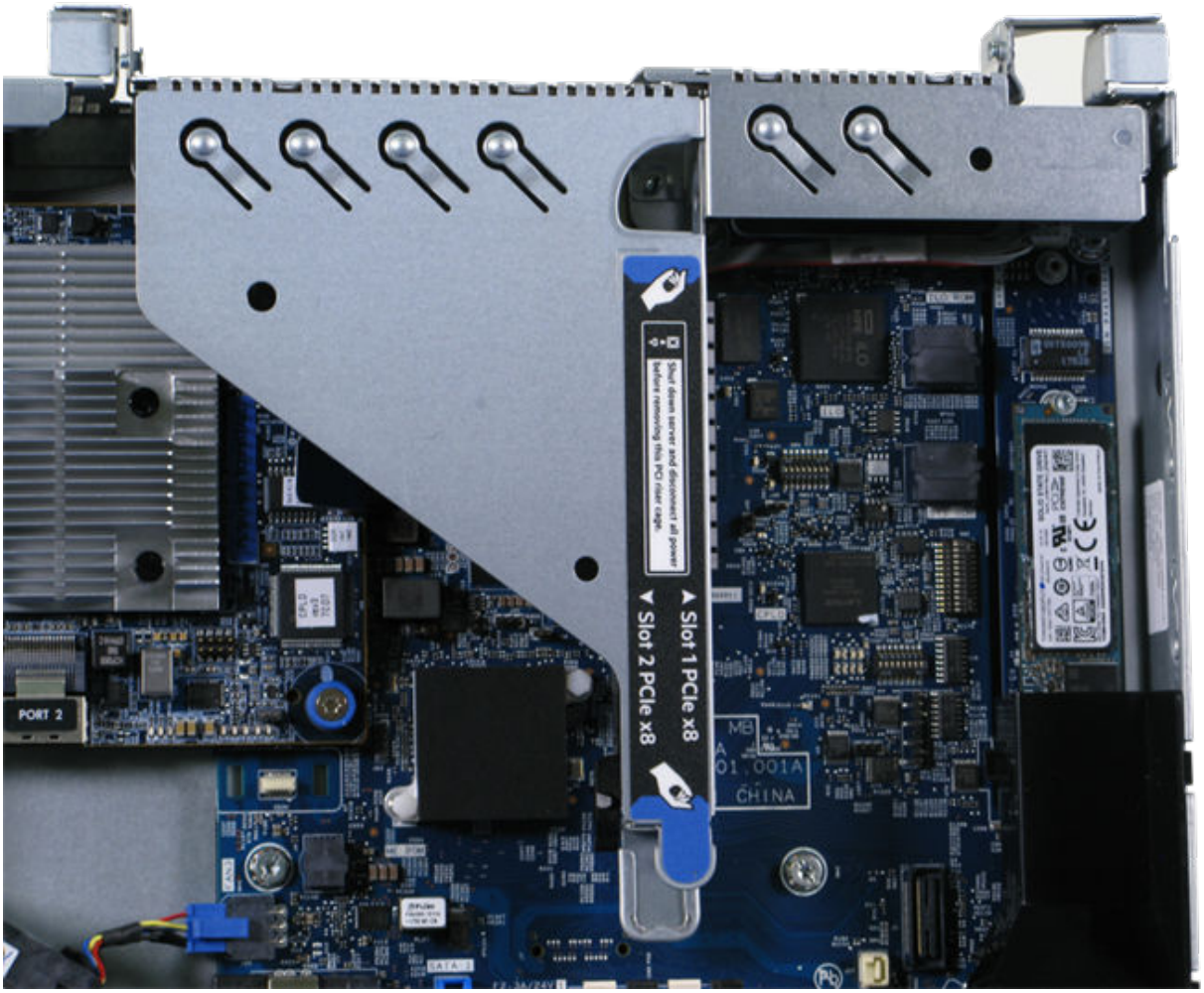
Optical Drive



Back View

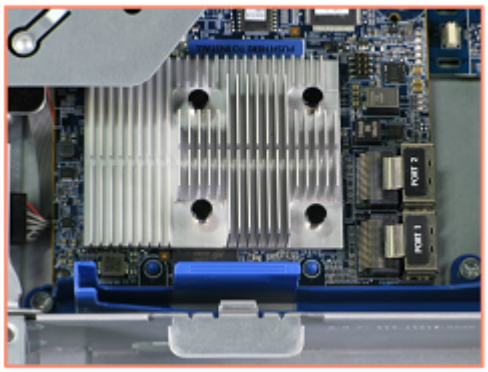


Internal View



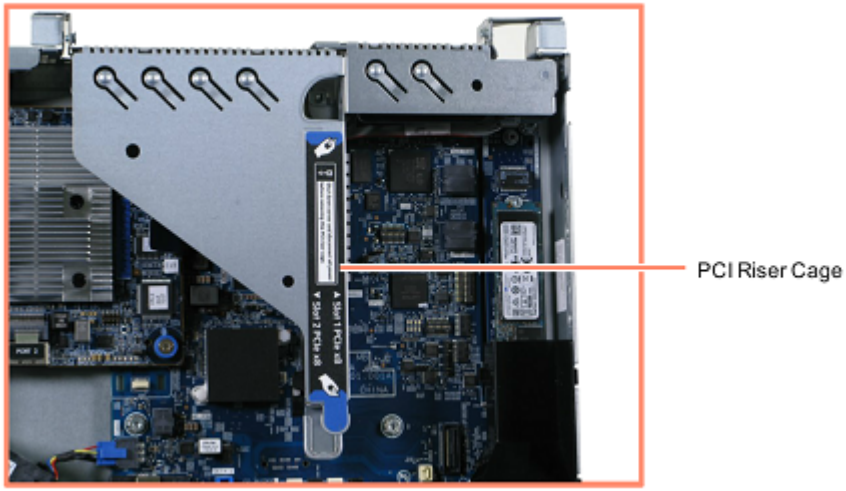
AROC

Smart Array modular controller type-a (AROC)



PCI Riser Cage

PCI Riser Cage



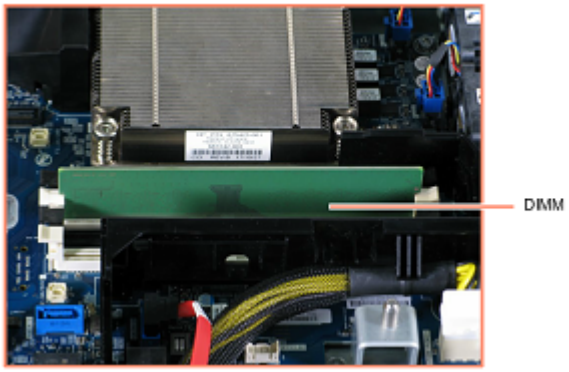
M 2 Solid State Drive

M.2 Solid State Drive



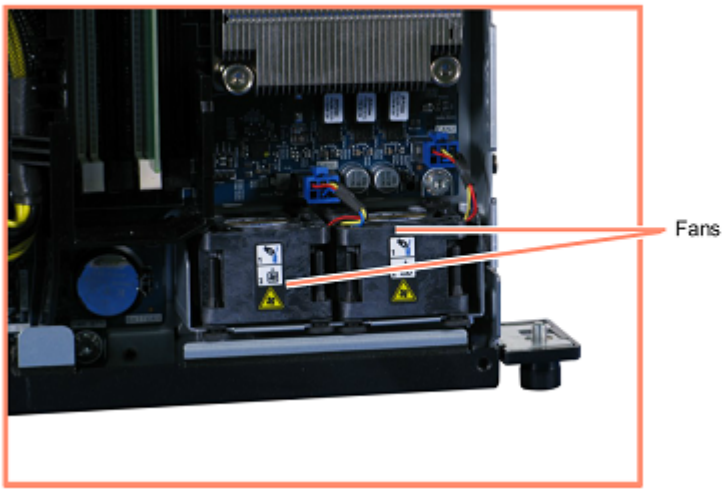
DIMMs

DIMMs



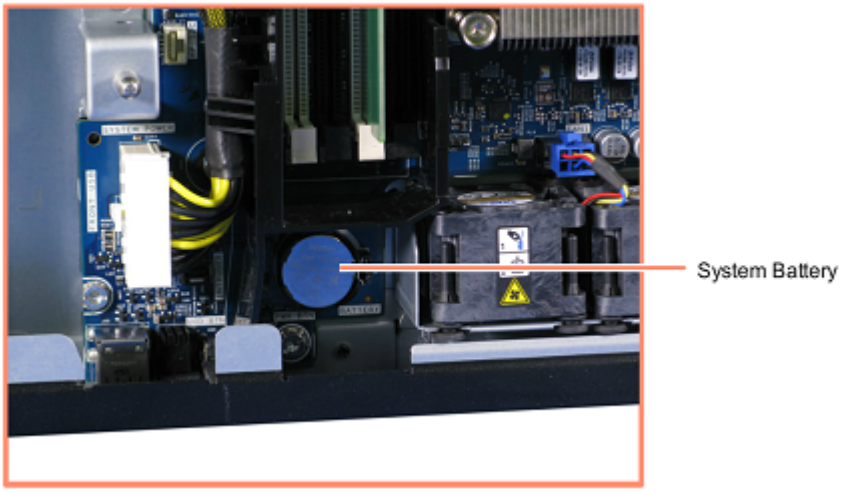
Fans(3)

Fans



System Battery

System Battery



Precautions

To prevent damage to the unit, protect data, and avoid personal injury, review and follow these precautions.

Before you begin

1. If the unit contains heated components, wait until the components have cooled off before proceeding. Refer to the service manual for details on how long each component requires to adequately cool off.
2. Put on your electrostatic discharge (ESD) wrist or shoe strap to avoid damaging any circuitry.
3. Place an ESD mat on a suitably grounded surface, and then place the unit on the mat.
4. Remove any devices from the unit being serviced, such as diskettes, tape cartridges, or CD-ROMs.
5. Power off the unit and any peripheral devices that are connected to it.**Note: Replacing a hot-plug device does not require powering down the unit.**
6. Disconnect the power cord from the electrical outlet and then from the unit. When a unit is plugged into an AC power source, voltage is always applied to the unit. You must therefore disconnect the power cord from the power source before opening the unit.
7. Disconnect all peripheral device cables from the unit.

Static electricity

Static electricity can damage electrical components. Before removing or replacing a component, observe the following precautions to prevent damage to electric components and accessories:

- Remove all ESD-generating materials from your work area.
- To avoid hand contact, transport and store all electrostatic parts and assemblies in conductive or approved ESD packaging such as ESD tubes, bags, or boxes.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free stations. Before removing items from their containers, place the containers on a grounded surface.
- Do not take the new component out of its ESD package or handle any component before connecting your ESD wrist or shoe strap to a suitably grounded surface.
- Always use an ESD-protected work station when servicing the unit. If an ESD work station is not available, ground yourself to discharge body static by touching the metal chassis of the unit you are servicing.
- Avoid contact with pins, leads, or circuitry.
- Use the ESD package provided with the new part to return the old part.

Disassembly

Ensure that you take the following precautions when disassembling a unit:

- Label each cable as you remove it, noting its position and routing. This will make replacing the cables much easier and will ensure that the cables are rerouted properly.
- Keep all screws with the component removed, if applicable. The screws used in each component can be of different thread sizes and lengths. Using the wrong screw in a component could damage the unit.
- If the unit contains light-sensitive components such as toner cartridges, store the component in its original packaging or in a dark location to avoid damage.

Tools And Materials

Tools used in removal and replacement

Ensure that you have the tools you need before you begin. These should include:

- Torx-15 Screwdriver
- Phillips Screwdriver

Hot Plug Drives

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Hot Plug Drives

Before you begin:

1. Review and follow Precautions.
2. Back up all data on the drive.
3. Determine the status of the drive from the drive LED definitions.

Hot Plug Drives removal

1. **NOTE: This unit can be configured with either LFF or SFF hot-plug drives. The following procedures are accurate for both configurations.**
2. Press the ejector button to release the handle.

3. Grasp the handle and slide the hard drive out of the drive bay.

Hot Plug Drives replacement

1. With the handle extended, slide the drive into the bay until it stops.
2. Push the handle in to lock the drive in place.

Drive Blanks

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Drive Blanks

Before you begin: 1. Review and follow Precautions.

Drive Blanks removal

1. **NOTE: This unit can be configured with either LFF or SFF hot-plug drives. The following procedures are accurate for both configurations.**
2. Grasp the drive blank by the finger slots.
3. Squeeze the release latch and slide the blank out of the hard drive bay.

Drive Blanks replacement

1. Slide the blank into the bay until it locks in place.

Access Panel

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Access Panel removal

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.

Access Panel removal

1. Press the release button and slide the access panel back until it stops.
2. Lift the access panel off of the module.

Access Panel replacement

1. Align the access panel guide pins with the slots in the module sides.
2. Slide the access panel forward until it locks in place.

LFF Non-Hot Plug Drives

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LFF Non-Hot Plug Drives

Before you begin:

1. Review and follow Precautions.
2. Back up all data on the drive.
3. Power down the server.
4. Remove the server from the rack.
5. Remove the access panel.
6. Remove the optical drive.

LFF Non-Hot Plug Drives removal

1. Disconnect all cables from the drive.
2. Remove the two Torx-15 screws securing the drive cage to the server.
3. Slide the drive cage back and lift up to remove it.
4. Remove the four Phillips screws securing the drive to the drive cage.
5. Remove the drive.

LFF Non-Hot Plug Drives replacement

1. Slide the drive into the drive cage.
2. Replace the four Phillips screws securing the drive to the drive cage.
3. Lower the drive cage into the server, and push it forward.
4. Replace the two Torx-15 screws securing the drive cage to the server.
5. Re-connect all cables to the drive.

Air Baffle

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Air Baffle

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.

Air Baffle removal

1. Noting the orientation for replacement, grasp the air baffle and lift it out of the server

Air Baffle replacement

1. Noting the orientation from removal, lower the air baffle into the server.

Optical Drive

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Optical Drive

Before you begin:

1. Review and follow Precautions.
2. If installed, remove the security bezel.
3. Power down the server.
4. Remove all power from the server.
5. Remove the server from the rack.
6. Remove the access panel.

Optical Drive removal

1. Disconnect the cable from the optical drive.
2. Remove the Torx T10 screw securing the drive to the drive bracket.
3. Slide the optical drive out of the bay.

Optical Drive replacement

1. Slide the optical drive into the bay.
2. Replace the Torx T10 screw.

3. Connect the cable to the optical drive.

2 SFF Enablement Option

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2 SFF Enablement Option

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.

2 SFF Enablement Option removal

1. Remove all cables connected to the 2 SFF Enablement option.
2. Remove the two Torx-10 screws securing the 2 SFF enablement option to the server.
3. Remove the 2 SFF enablement option from the server.

2 SFF Enablement Option replacement

1. Slide the 2 SFF enablement option into the server.
2. Replace the two Torx-10 screws securing the 2 SFF enablement option to the server.
3. Re-connect all cables to the 2 SFF Enablement option.

2 SFF Backplane

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2 SFF Backplane

Before you begin:

1. Review and follow Precautions.
2. If installed, remove the security bezel.
3. Power down the server.
4. Remove all power from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove the 2 SFF Enablement option

2 SFF Backplane removal

1. Remove the Torx T15 screw securing the backplane to the drive cage.
2. Slide the backplane to the right to disengage it from the aligning pins.
3. Lift the backplane out of the chassis.

2 SFF Backplane replacement

1. Align the key holes in the backplane with the aligning pins on the drive cage and slide the backplane to the left.
2. Replace the Torx T15 screw securing the backplane to the drive cage.

Storage Controller

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Storage Controller

Before you begin:

1. Review and follow Precautions.
2. If installed, remove the security bezel.
3. Power down the server.
4. Remove all power from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove the PCI Riser cage

Storage Controller removal

1. Disconnect the cables from the storage controller.
2. Loosen the two Tor-10 captive thumbscrews that secure the storage controller to the system board.
3. Pull up on the blue tab to disconnect the storage controller from the system board and then lift to remove.

Storage Controller replacement

1. Align the holes in the storage controller with the guide pins on the system board and lower it into place.
2. Press the storage controller down at the touch point until it is fully seated.
3. Tighten the two Torx-10 screws.
4. Re-connect the cables to the storage controller.

PCI Riser Cage

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PCI Riser Cage

Before you begin:

1. Review and follow Precautions.
2. Power down the server.

3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.

PCI Riser Cage removal

1. Disconnect any cables attached to the expansion boards.
2. Grasp the riser cage at the touch points and lift it straight up and out of the slot on the system board.

PCI Riser Cage replacement

1. Align the riser board with the PCIe slot and alignment pins on the rear chassis.
2. Press down on the riser cage until the board is fully seated.
3. Connect any cables needed to the expansion boards.

PCIe Riser Boards

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PCIe Riser Boards

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.
6. Remove the PCI riser cage.

PCIe Riser Boards removal

1. Remove the two Torx T15 screws securing the riser board to the riser cage.
2. Remove the riser board.

PCIe Riser Boards replacement

1. Align the riser board with the standoffs on the riser cage.
2. Replace the two Torx T15 screws securing the riser board to the riser cage.

Drive Backplanes

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Drive Backplanes

Before you begin:

1. Review and follow Precautions.
2. If installed, remove the security bezel.
3. Power down the server.
4. Remove all power from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove all drives.

Drive Backplanes removal

1. **NOTE: This unit can be configured with either LFF or SFF hot-plug drives. The following procedures are applicable for all configurations.**
2. Disconnect the cables from the backplane.
3. Remove the Torx T15 screw securing the backplane to the drive cage.
4. Slide the backplane to the right to disengage it from the aligning pins.

5. Lift the backplane out of the chassis.

Drive Backplanes replacement

1. Align the key holes in the backplane with the aligning pins on the drive cage and slide the backplane to the left.
2. Replace the Torx T15 screw securing the backplane to the drive cage.
3. Re-connect the cables to the backplane.

M.2/ ILO Enablement Board

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M.2/ iLO Enablement Board

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the PCI Riser Cage

M.2/ iLO Enablement Board removal

1. Disconnect the cable from the M.2/iLO enablement board.
2. Remove the Torx T15 screw securing the M.2/iLO enablement board to the server.
3. Grasp the M.2/iLO enablement board and remove it from the chassis.

M.2/ iLO Enablement Board replacement

1. Insert the M.2/iLO enablement board into the slot on the system board.
2. Replace the Torx T15 screw securing the M.2/iLO enablement board to the server.
3. Re-connect the cable from the M.2/iLO enablement board.

M.2 SSD

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M.2 SSD

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the PCI Riser Cage

M.2 SSD removal

1. Remove the Torx-10 screw securing the M.2 SSD to the enablement board.
2. Grasp the M.2/ SSD remove it from the server.

M.2 SSD replacement

1. Insert the M.2 SSD into the slot on the enablement board.
2. Rotate the M.2 SSD down and replace the Torx-10 screw securing it to the enablement board.

Fan Modules

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Fan modules

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.

Fan modules removal

1. Disconnect the fan cables from the system board.
2. Lift the fan module out of the server.

Fan modules replacement

1. Making sure to align the fan with the notches in the server, lower the fan module into the server.
2. Connect the fan cables to the system board.

DIMMs

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DIMMs

Before you begin:

1. Review and follow Precautions.
2. Power down the server.

3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.

DIMMs removal

1. Push down and out on the DIMM slot latches to release the DIMM.
2. Remove the DIMM from the slot.

DIMMs replacement

1. Ensure the DIMM slot latches are open.
2. Align the notch in the DIMM with the DIMM slot key.
3. Push the DIMM down firmly into the slot until the latches snap into place and the DIMM is fully seated.

System Battery

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System Battery

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.

System Battery removal

1. Pull back on the retaining clip to release the battery.
2. Lift the battery out of the socket.

System Battery replacement

1. Slide the battery into the socket with the plus (+) sign facing the DIMMs.

Non-Hot Plug Power Supply

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Non-Hot Plug Power Supply

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Disconnect or move any cables hindering access to the power supply cables.

Non-Hot Plug Power Supply removal

1. Disconnect the power cables from the system board.
2. Remove the two Torx T10 screws that secure the left side of the power supply to the chassis pan.
3. Remove the two Torx T10 screws that secure the right side of power supply to the chassis wall.
4. Lift and remove the power supply.

Non-Hot Plug Power Supply replacement

1. Lower the power supply into the chassis and align the screw holes.
2. Replace the two Torx T10 screws that secure the right side of power supply to the chassis wall.
3. Replace the two Torx T10 screws that secure the left side of the power supply to the chassis pan.
4. Replace all power cables to the system board.

Heatsink And Processor

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Heatsink and Processor

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.

Heatsink and Processor removal

1. Loosen the four captive Torx T15 screws in a diagonal pattern to release the heatsink from the system board.
2. Lift and remove the heatsink.
   Note: If you are reusing the processor or heatsink, remove the thermal grease with an alcohol swab.
3. Push down and out on the processor load lever and allow it to rise to the spring tension position.
4. Lift the load plate until it is fully open.
   Important! Before removing the processor, take special note of the gold triangle on one corner and the notches on two sides of the processor. The processor must be installed in the same orientation in which it was removed or it may be destroyed.

5. Grasp the processor and lift it straight up out of the processor socket.

Heatsink and Processor replacement

1. Align the processor in the correct orientation and carefully place it straight down into the socket.
2. Lower the load plate over the processor socket.
3. Lower the load lever and place it securely into its latch.
4. Apply thermal grease in a pattern of five big dots on the processor.
5. Position the heat sink over the processor and align the four retaining screws with the mounting holes.
6. Tighten the four retaining screws in a diagonal pattern.

System Board

https://internal.support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001449en_us&noframe

System Board

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the PCI riser cage
8. Remove the Storage Controller
9. Remove the M.2/iLO expansion board
10. Remove the DIMMs.
11. Remove the system battery

.2. Remove the heatsink and processor.

System Board removal

1. Disconnect all cables from the system board noting their location for reinstallation.
2. Remove the ten Torx T15 screws that secure the system board to the chassis pan.
3. Remove the three Torx-10 screws securing the chassis ear to the server and remove the chassis ear.
4. Repeat the process for the other chassis ear.
5. Remove the two Torx-10 screws on each end of the security bezel.
6. Remove the Torx-10 on the bottom of the security bezel.
7. Remove the security bezel.
8. Remove the DIMM guard.
9. Lift the system board up slide it toward the front of the chassis to disengage it from the rear I/O panel.
.0. Remove the system board.

System Board replacement

1. Lower the system board into the chassis.
2. Slide the system board to the rear of the chassis to align the screw holes.
3. Replace the security bezel.
4. Replace the DIMM guard
5. Replace the Torx-10 on the bottom of the security bezel.
6. Replace the two Torx-10 screws on each end of the security bezel.
7. Replace the chassis ear and replace the three Torx-10 screws securing the chassis ear to the server.
8. Repeat the process for the other chassis ear.
9. Replace the ten Torx T15 screws securing the system board to the chassis pan.
.0. Reconnect all cables to the system board.

Serial Port Cable

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Serial Port Cable

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Remove all power from the server.
4. Remove the server from the rack.
5. Remove the access panel.
6. Remove the PCI riser cage

Serial Port Cable removal

1. Disconnect the cable from the M.2/iLO enablement board.
2. Remove the two Torx-15 screws securing the Serial Port cable to the server.
3. Noting orientation for replacement, grasp the Serial Port cable and remove it.

Serial Port Cable replacement

1. Noting orientation from remocal, replace the Serial Port cable on the server.
2. Replace the two Torx-15 screws securing the Serial Port cable to the server.
3. Re-connect the cable to the M.2/iLO enablement board.