HP Z Turbo Drive installation

Printed in

763075-002

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Second Edition: September 2014

First Edition: April 2014

Document Part Number: 763075-002

HP Z Turbo Drive installation

Introduction

This document describes how to install the HP Z Turbo Drive into the HP Z230, Z420, Z440, Z620, Z640, Z820, and Z840 series Workstations.

Kit contents

- HP Z Turbo Drive
- Half-height bracket (use with HP Z230 SFF only)
- LED cable
- Installation instructions
- Warranty information

Required tools

- The HP Z230 SFF installation requires a small Phillips screwdriver.

Before you begin

To view QuickSpecs and determine the compatibility of this product with your HP computer, see http://www.hp.com/go/productbulletin.

The minimum BIOS revision for the HP Z230 Workstation is 1.20. The minimum BIOS revision for the HP Z420, Z620, and Z820 Workstation is 3.69. If these requirements are not met, the computer will not recognize the drive.

The HP Z440, Z640, and Z840 do not have a minimum BIOS revision. The HP Z Turbo drive is automatically enabled.

If you are installing an operating system image on the drive, remove all other storage devices. Install this drive in the primary PCIe slot indicated for your workstation and install the operating system image before installing a second drive of the same type or reinstalling the other storage devices. The preferred slots are noted in the installation instructions for each computer. If you will be using the drive as a data drive, you do not need to remove the other storage devices.

Warnings and cautions

WARNING! Any surface or area of the equipment marked with this symbol indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists. To reduce the risk of injury from a hot component, enable the surface to cool before touching.

WARNING! Any surface or area of the equipment marked with this symbol indicates the presence of an electrical shock hazard. To reduce the risk of injury from electrical shock, do not open any enclosed area marked with this symbol.

WARNING! To reduce the risk of electric shock or damage to your equipment:

— Do not disable the power cord grounding plug. The grounding plug is an important safety feature.

— Plug the power cord in a grounded (earthed) outlet that is easily accessible at all times.

— Disconnect power from the equipment by unplugging the power cord from the electrical outlet.

WARNING! To reduce the risk of serious injury, read the *Safety & Comfort Guide*. It describes proper computer setup, posture, health, and work habits for computer users, and provides important electrical and mechanical safety information. This guide is located at http://www.hp.com/ergo and on the documentation CD (if one is included with the product).

WARNING! If a product is shipped in packaging marked with this symbol, the product must always be lifted by two persons to avoid personal injury due to product weight.

CAUTION: Static electricity can damage the electronic components of the computer. Before beginning these procedures, be sure you discharge static electricity by briefly touching a grounded metal object.

CAUTION: To prevent damage to the computer, observe the following Electrostatic Discharge (ESD) precautions while performing the system parts removal and replacement procedures:

— Work on a static-free mat.

— Wear a static strap to ensure that any accumulated electrostatic charge is discharged from your body to the ground.

— Create a common ground for the equipment you are working on by connecting the static-free mat, static strap, and peripheral units to that piece of equipment.

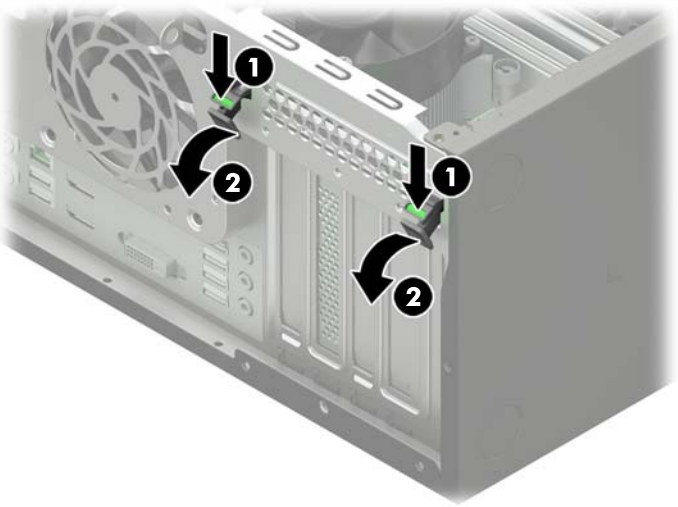
NOTE: HP accessories are for use in HP computer products. They have been extensively tested for reliability and are manufactured to high quality standards.

Accessing the internal components of the computer

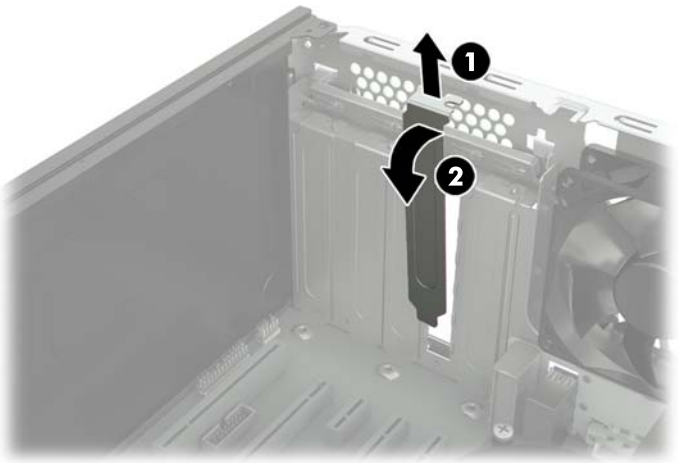
1. If you need help preparing the computer for this installation, consult the removal and replacement procedures in the service guide for your computer at http://www.hp.com/support/manuals.
2. Power down the workstation, and then disconnect the power cord.
3. Power down all external devices, and then disconnect them from the workstation.
4. Remove the access panel by lifting up on the release latch and raising the panel from the chassis.

Installing the drive in an HP Z230 CMT Workstation

1. Press down on the two green PCI retention clips (1) located inside the workstation until they release (2).

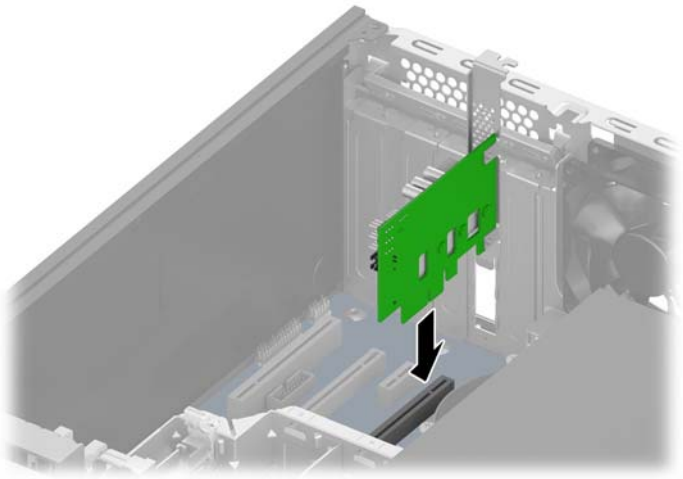


2. Remove the slot cover to access PCIe slot 4.



3. Align the connectors on the drive with the socket on the system board and install the drive into the socket.

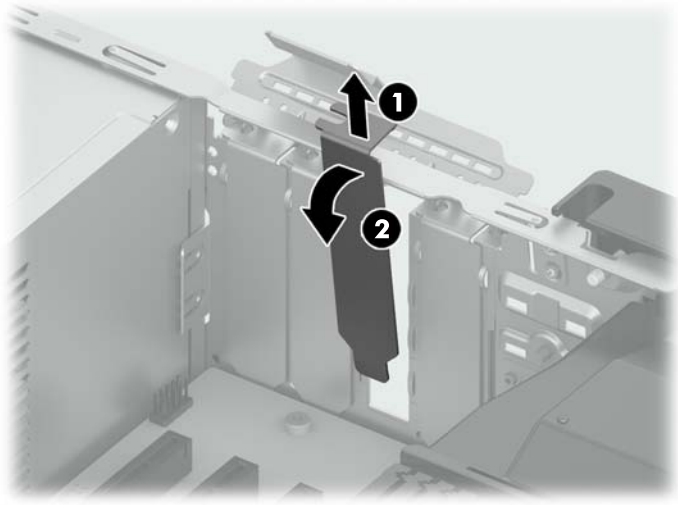
NOTE: The drive may be used only in the PCIe slot 4.



4. Press the two green PCI retention clamp tabs on the rear of the chassis up until they lock into place.

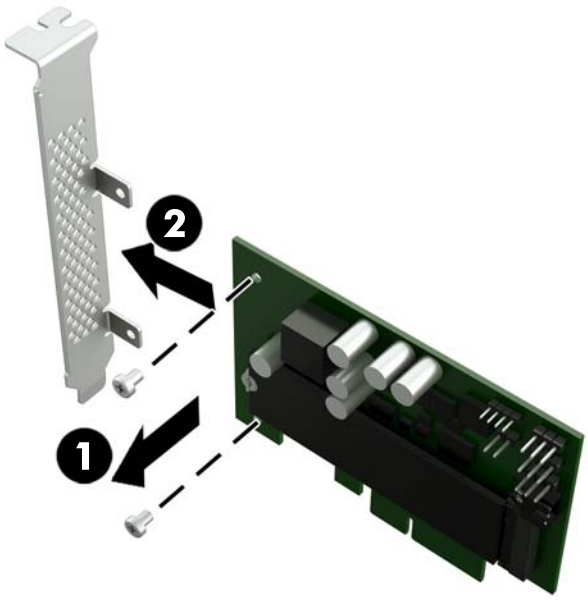
Installing the drive in an HP Z230 SFF Workstation

1. Remove the slot cover to access PCIe slot 4.



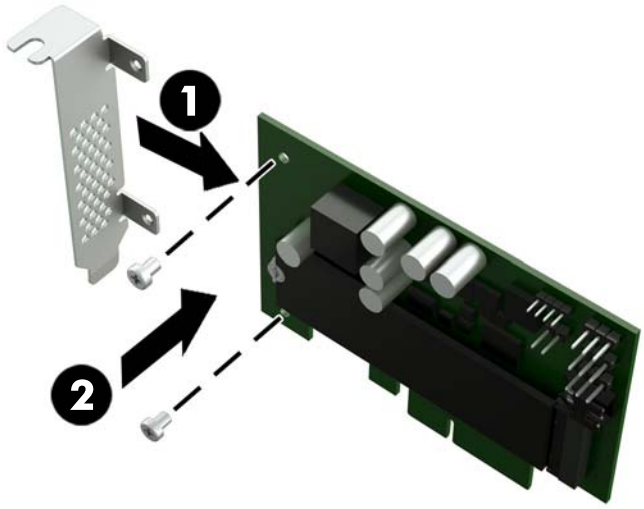
2. Remove the full-height bracket from the drive and install the half-height bracket using the following procedure.

   a. Using a small Phillips screwdriver, remove the two Phillips screws that secure the full-height bracket to the drive (1). Remove the bracket (2).



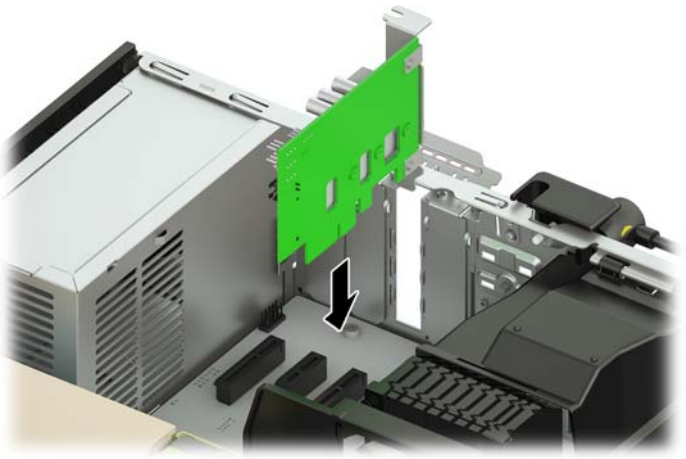
   b. Align the half-height bracket with the drive, making sure that the screw holes on the bracket are aligned with the holes on the bottom of the drive (1).

c. Use the two Phillips screws to secure the half-height bracket to the drive (2).

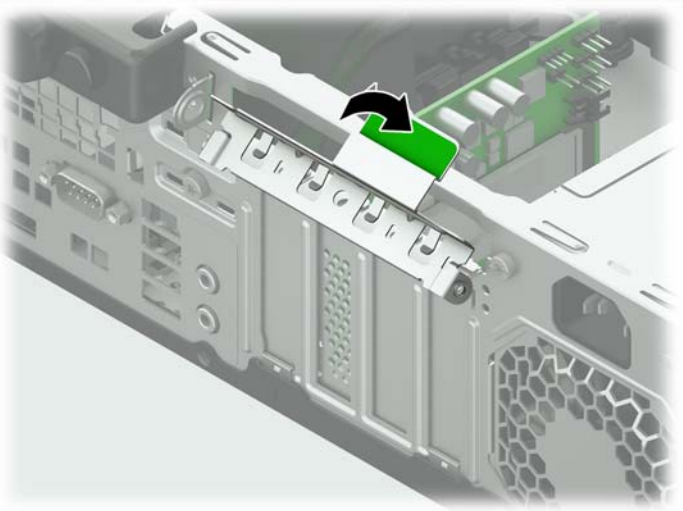


3. Align the connectors on the PCIe drive with the socket on the system board and install the drive into the socket.

NOTE: The drive may be used only in the PCIe slot 4.



4. Rotate the PCI retention clamp down over the PCI bulkhead.

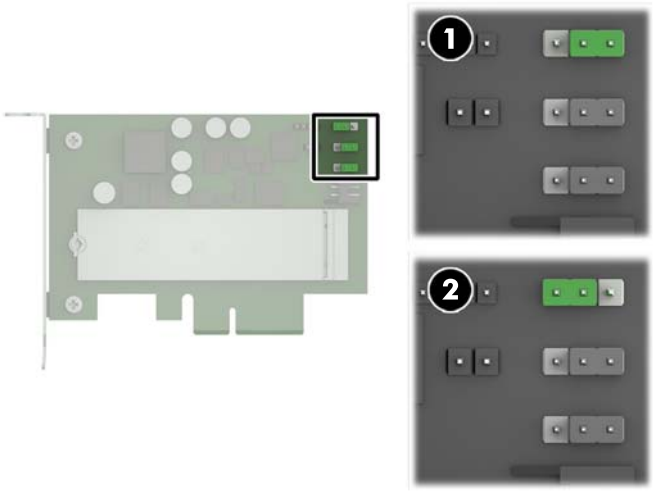


Installing the drive in an HP Z420 or HP Z440 Workstation

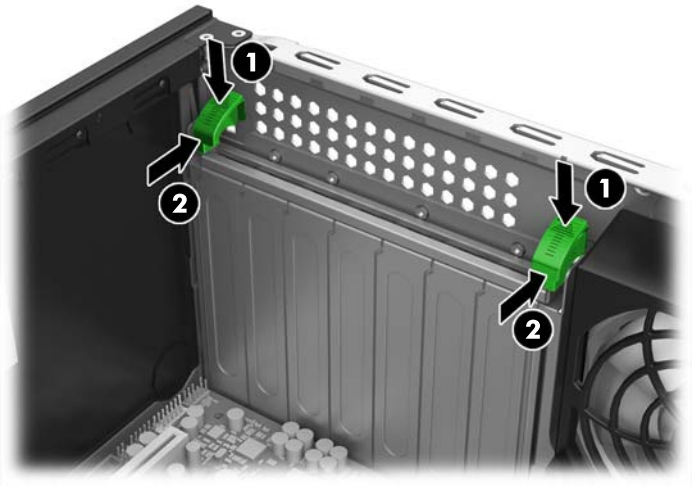
NOTE: If more than one HP Z Turbo Drive is installed in a workstation, the J2 jumper on one of the drives (1) must be moved to the other position (2).

Eight drives can be identified uniquely with the three jumpers, and all drives in the workstation must be unique.

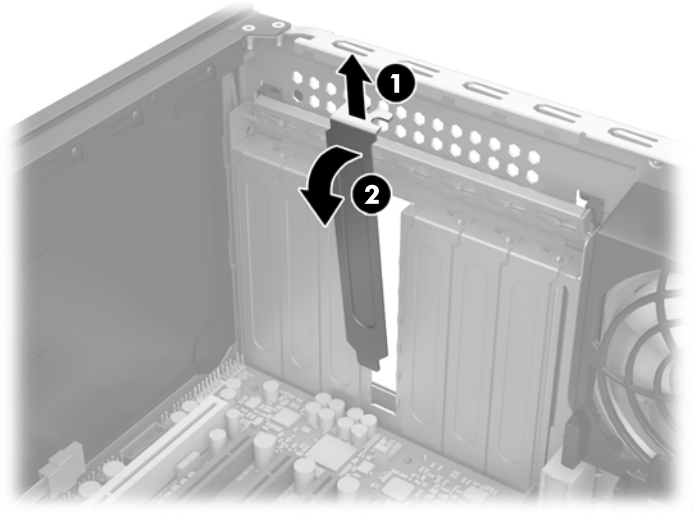
The HP Z420 and HP Z440 support two drives only.



1. Press down on the two green PCI retention clips (1) located inside the workstation until they release, and then rotate them down to raise the retention clamp (2).

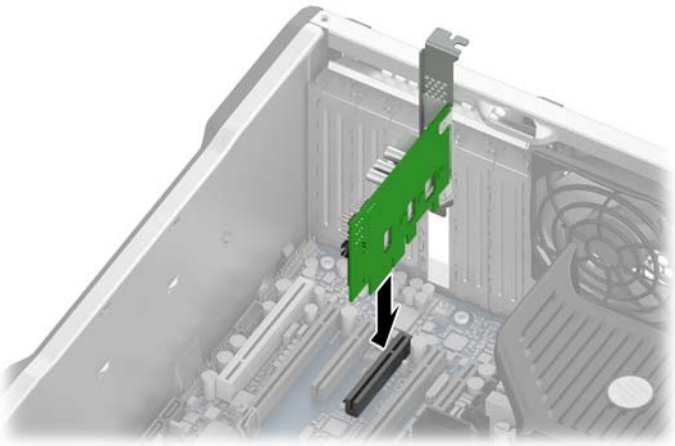


2. Raise the slot cover (1) and rotate it towards the inside of the chassis (2) to access either PCIe slot 4 or slot 5. If both slot 4 and slot 5 are occupied, use slot 3.



3. Align the connectors on the PCIe drive with the socket on the system board and install the drive into the socket.

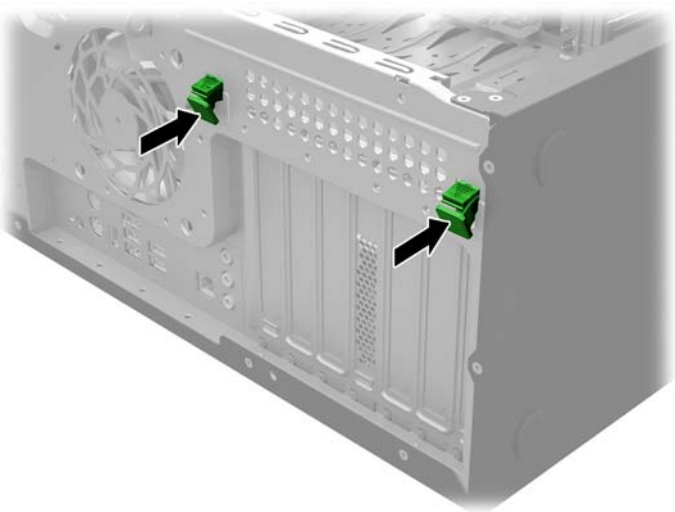
NOTE: The drive may be used only in PCIe slot 3, slot 4, or slot 5. Only use slot 3 if slot 4 and slot 5 are occupied.



4. Connect the LED cable to the HDD activity header on the PCIe drive, which is marked HDDACT1. Then, connect the other end of the LED cable to the HDD LED connector on the system board.

NOTE: To locate the HDD LED connector on the system board, see the *System Board Overview* on the service panel.

5. Press the two green PCI retention clamp tabs on the rear of the chassis up until they lock into place.

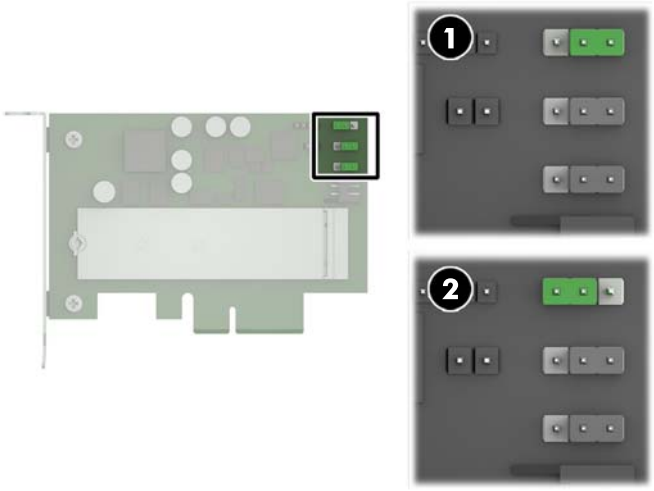


Installing the drive in an HP Z620 or HP Z640 Workstation

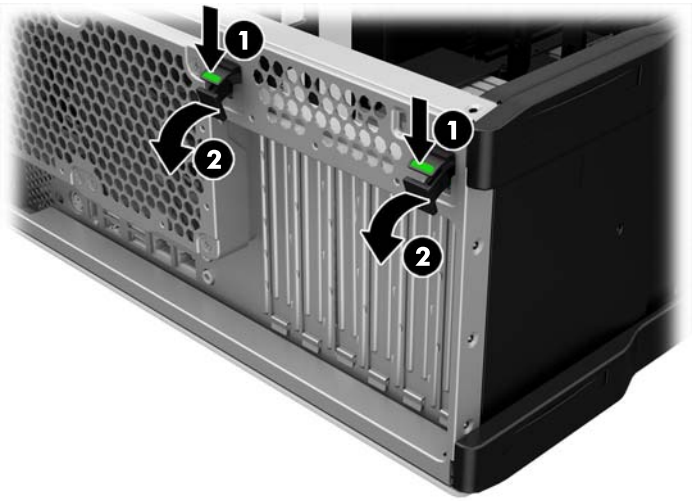
NOTE: If more than one HP Z Turbo Drive is installed in a workstation, the J2 jumper on one of the drives (1) must be moved to the other position (2).

Eight drives can be identified uniquely with the three jumpers, and all drives in the workstation must be unique.

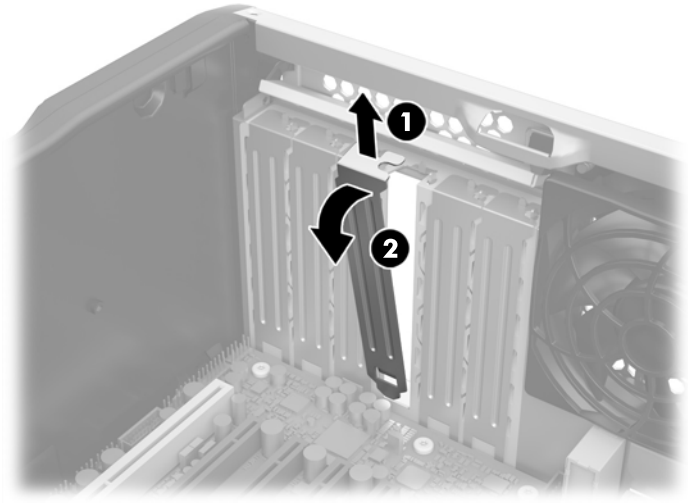
The HP Z620 and HP Z640 support two drives only.



1. Press down on the two green PCI retention clips located on the rear of the chassis (1) until they release, then rotate the clips down to raise the retention clamp from the slot covers (2).

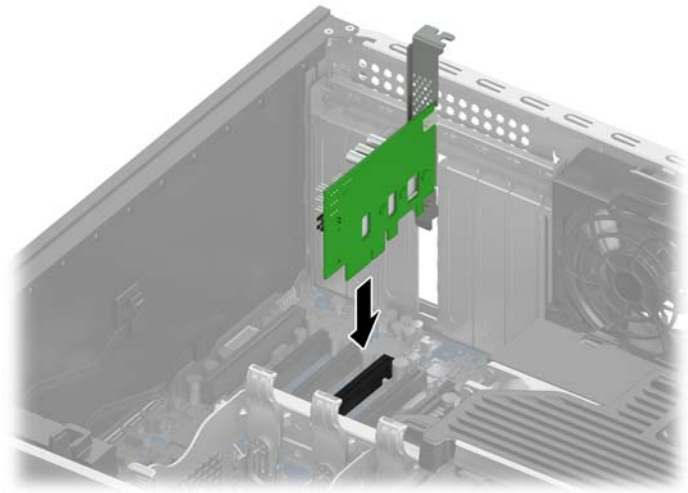


2. Raise the slot cover (1) and rotate it (2) towards the inside of the chassis to access either PCIe slot 4 or slot 5. If both slot 4 and slot 5 are occupied, use slot 3.



3. Align the connectors on the PCIe drive with the socket on the system board and install the drive into the socket.

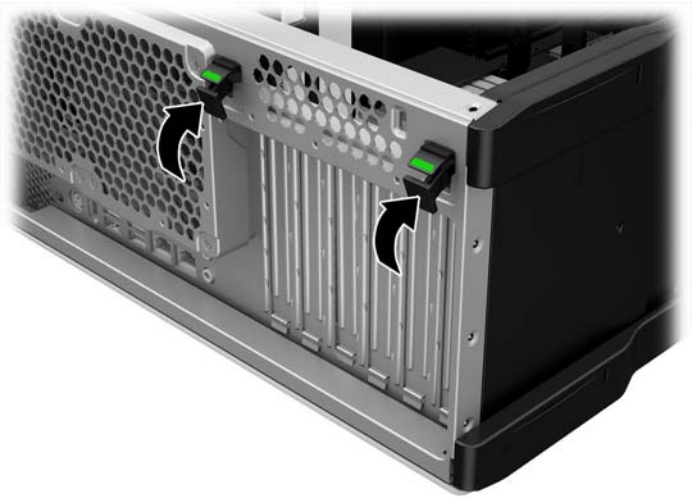
NOTE: The drive may be used only in PCIe slot 3, slot 4, or slot 5. Only use slot 3 if slot 4 and slot 5 are occupied.



4. Connect the LED cable to the HDD activity header on the PCIe drive, which is marked HDDACT1. Then, connect the other end of the LED cable to the HDD LED connector on the system board.

NOTE: To locate the HDD LED connector on the system board, see the *System Board Overview* on the service panel.

5. Press the two green PCI retention clamp tabs on the rear of the chassis up until they lock into place.

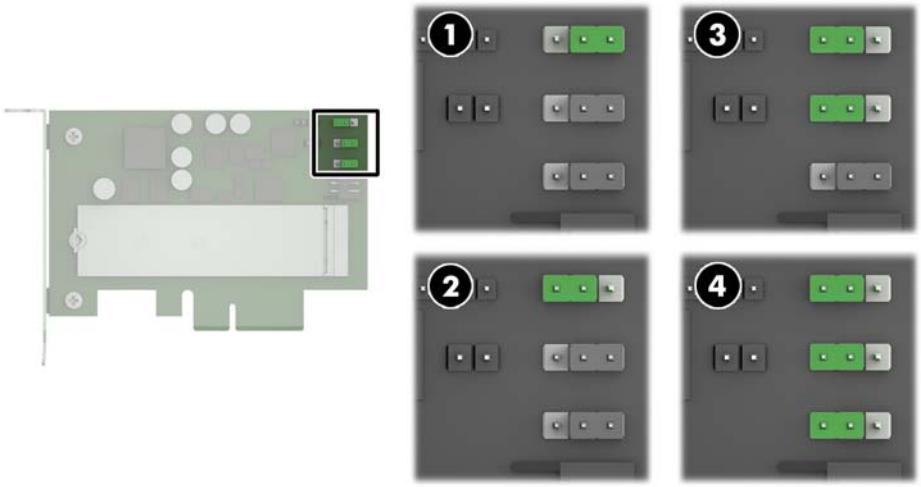


Installing the drive in an HP Z820 or HP Z840 Workstation

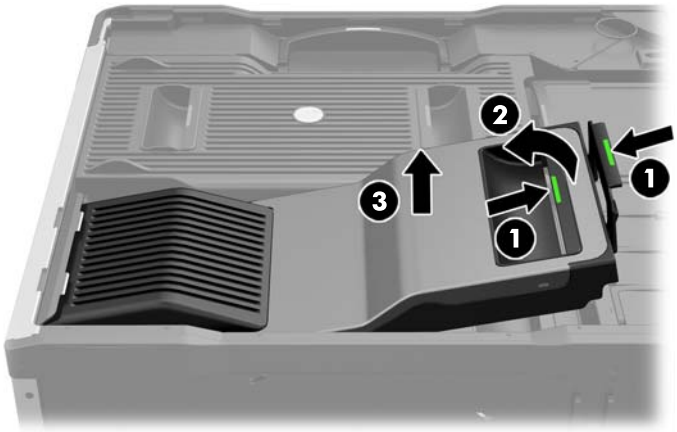
NOTE: If more than one HP Z Turbo Drive is installed in a workstation, the J2 jumper on one of the drives (1) must be moved to the other position (2).

Eight drives can be identified uniquely with the three jumpers, and all drives in the workstation must be unique.

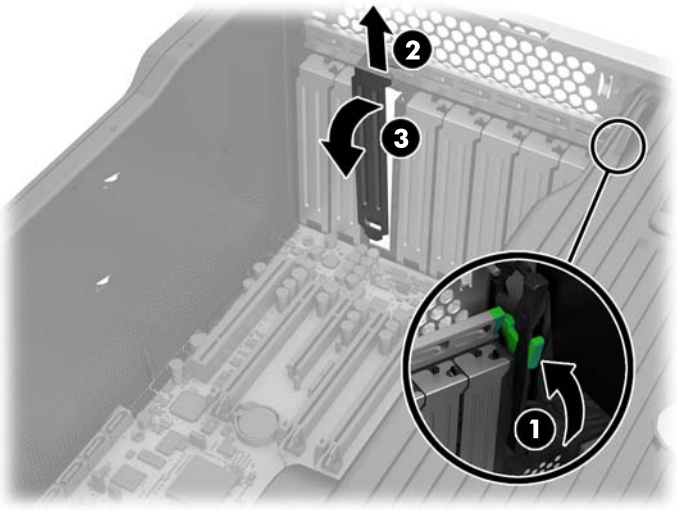
The HP Z820 and HP Z840 support four drives only.



1. Squeeze the two green tabs together to release the retainer (1), rotate the PCI retainer (2) up, and lift it out of the chassis (3).

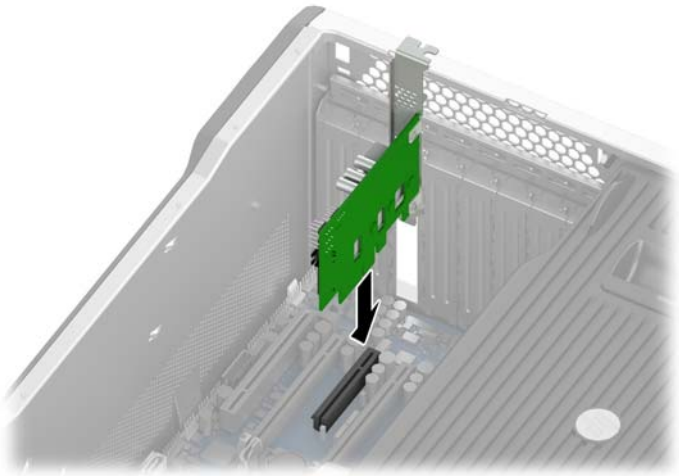


2. Lift the green lever to rotate the retention bracket (1) out of the way, raise the slot cover (2), and then rotate the slot cover towards the inside of the chassis (3) to access either PCIe slot 1, slot 3, slot 4, or slot 6.



3. Align the connectors on the PCIe drive with the socket on the system board and install the drive into the socket, then lower the retention bracket into place.

NOTE: If the computer has one CPU installed, the drive may be used only in PCIe slot 1 or slot 6. If the computer has a second CPU installed, the drive may also be used in slot 3 or slot 4.

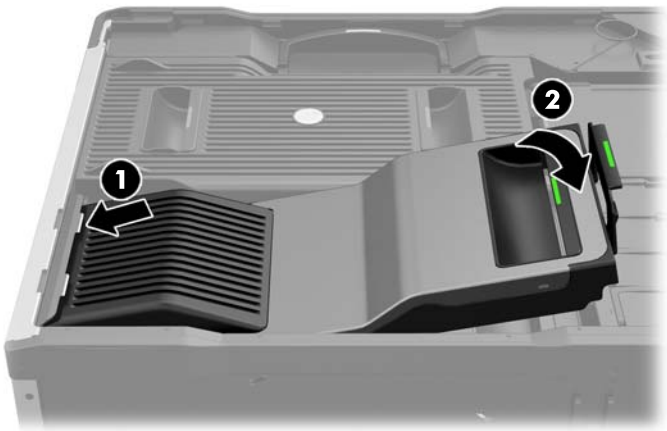


4. Connect the LED cable to the HDD activity header on the PCIe drive, which is marked HDDACT1. Then, connect the other end of the LED cable to the HDD LED connector on the system board.

NOTE: To locate the HDD LED connector on the system board, see the *System Board Overview* on the service panel.

5. Insert the hooks on the back end of the PCI retainer into the slots on the back of the chassis (1) and lock the retainer in place by rotating it down into position (2).

NOTE: The PCI retainer locks the PCI retention clamp in place.



Completing the installation

1. Reinstall the access panel.
2. Reconnect the AC power cord and turn on the workstation.

Configuring the computer

When powering up the computer after installation, a new hard drive identifies itself as uninitialized storage. See the operating system documentation for information about how to set up the new drive.

CAUTION: If you are installing an operating system image on the drive, remove all other storage devices. Verify that you installed this drive in the primary PCIe slot indicated for your workstation, and then install the operating system image before installing a second drive of the same type or reinstalling the other storage devices. The preferred slots are noted in the installation instructions for each computer. If you are using the drive as a data drive, you do not need to remove the other storage devices.

NOTE: Some operating systems automatically schedule defragmenting sessions. This offers no benefit for an SSD; therefore, the user can remove the automatic scheduling. This will also save energy.