

# PCI Express/Graphics Card Replacement Instructions

Follow the instructions in this document carefully. Failure to follow these instructions could damage your equipment and void its warranty.

**Note:** These instructions apply to different cards and Mac Pro models. While your card or computer may look slightly different from the ones shown in the illustrations, the replacement steps for the cards are the same.

## Tools Required

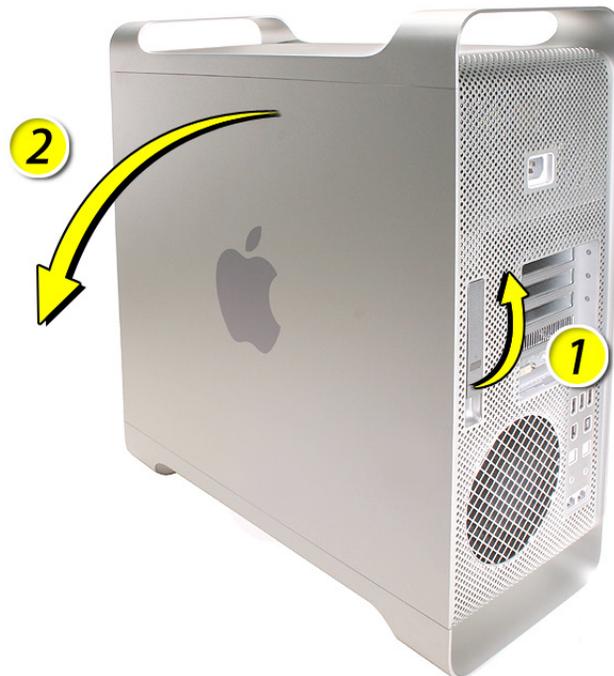
The only tool required for this procedure is a Phillips #1 screwdriver.

## Opening the Computer

1. Shut down the computer.  
**Warning: Always shut down the computer before opening it to avoid damaging its internal components or the components you are installing. Do not open the computer or attempt to install items inside it while it is on.**
2. Wait 5 to 10 minutes to allow the computer's internal components to cool.  
**Warning: After you shut down the system, the internal components can be very hot. You must let the computer cool down before continuing.**
3. Unplug all external cables from the computer except the power cord.
4. Touch the metal PCI access covers on the back of the computer to discharge any static electricity from your body.  
**Important: Always discharge static before you touch any parts or install any components inside the computer. To avoid generating static electricity, do not walk around the room until you have finished working and closed the computer.**



5. Unplug the power cord.
6. Hold the side access panel and lift the latch on the back of the computer.  
**Warning: The edges of the access panel and the enclosure can be sharp. Be very careful when handling them.**
7. Remove the access panel and place it on a flat surface covered by a soft, clean cloth.



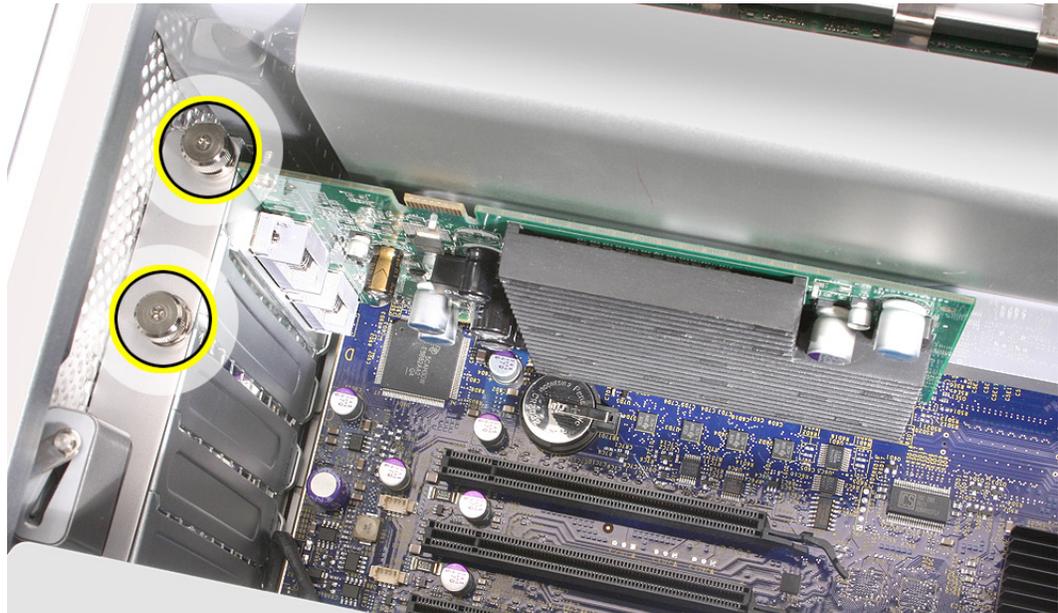
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## Removing the Installed PCI Express/Graphics Card

1. Carefully lay the computer on its side so that the open side faces up.
2. Locate the PCI Express/graphics card.

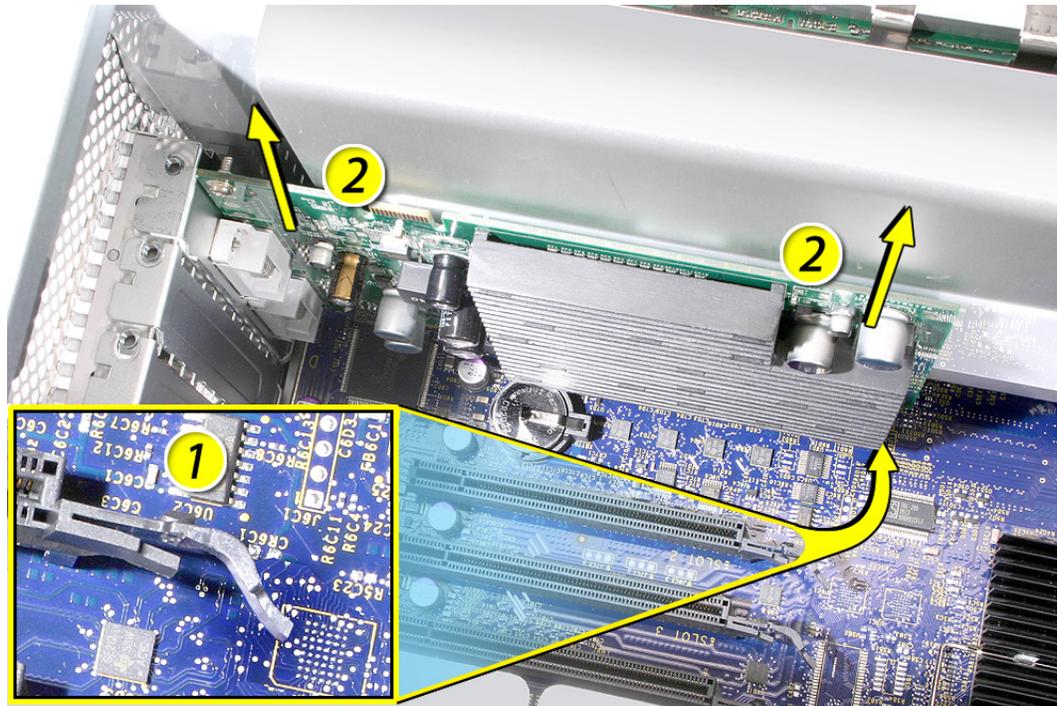


3. Loosen the two captive screws that secure the PCI bracket to the enclosure and remove the bracket.



**Warning:** When removing or installing a card, handle it only by the edges. Do not touch its connectors or any of the components on the card. Lift the card straight out from the connector to remove it, and insert it straight into the connector to install it. Do not rock the card from side to side and don't force the card into the slot. Once the replacement card is installed, pull on it gently to check that it is properly connected.

4. Release the small locking clip at the front of the card's logic board connector by pushing the clip up toward the media shelf.
5. Holding the card by the top corners, pull up the card and remove it from its expansion slot.



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## Installing the Replacement PCI Express/Graphics Card

1. Align the card's connector with the expansion slot and press the card straight down until its connector is inserted all the way into the slot.
  - Don't rock the card from side to side; instead, press the card straight into the slot.
  - Don't force the card. If you meet a lot of resistance, pull the card out. Check the connector and the slot for damage or obstructions, then try inserting the card again.
  - Pull the card gently to see if it is properly connected. If it resists and stays in place and its gold connectors are barely visible, the card is connected.
2. Replace the PCI bracket and tighten its two mounting screws.

## Closing the Computer

1. Replace the access panel.

**Note:** Make sure the latch is in the up position before replacing the access panel. If the latch is down, the access panel will not seat correctly in the enclosure.
2. Push the latch down to close and secure the access panel.

**Warning:** Never turn on the computer unless all of its internal and external parts are in place and it is closed. Operating the computer when it is open or missing parts can damage it or cause injury.

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