

Sonnet eSATA Extender

SATA-to-eSATA Extension Cable for Mac® Pro

Installation Instructions for eSATA Extender

You Should Have

The following items should be included in your product package:

- One Sonnet eSATA SATA-to-eSATA extension cable

The following items may be required for installation:

- Medium Phillips screwdriver (magnetic tip suggested)
- Flexible metal putty knife (for use in pre-2008 Mac Pro installations)

System Requirements

The Sonnet eSATA Extender requires the following in order to install into your system:

- One available PCI Express (PCIe) slot back panel opening

How to Identify Which Mac Pro You Have

The Sonnet eSATA Extender works in all Mac Pro computers, but the installation procedure differs based on the design. The installation instructions section of this document is broken into two sections; instructions for the original Mac Pro design (pre-2008) and the current model (Early 2008).

The simplest way to identify which model you have is to look at the memory riser cards (where the RAM is installed). In pre-2008 Mac Pro computers, the memory riser card components are oriented the same direction (see **Figure 6** on page 3), while in Early 2008 Mac Pro computers, the components are oriented in opposite directions (see **Figure 30** on page 11).

Instructions for pre-2008 Mac Pro start on the next page; instructions for Early 2008 Mac Pro start on page 10.

Usage Information

Connecting drives:

- *You must power on and connect drive enclosures to the Sonnet eSATA Extender before you turn on your computer.* Your computer will not recognize the drives if you connect them or power on the enclosures after startup.
- *This product does not support drive enclosures with port multipliers.* The Sonnet eSATA Extender merely enables you to connect additional hard disk drives to the Mac Pro's logic board, which does not support multipliers. Use only enclosures with direct connections (one eSATA cable per drive).

Swapping drives:

- *This product does not support drive hot-swapping or hot-plugging.* The Mac Pro's logic board does not support drive swapping; you must shut down the computer before changing drives.

Disconnecting drives:

- *You must shut down your computer before you power off or disconnect drive enclosures from the Sonnet eSATA Extender.* Your computer will not recognize the drives if you connect them or power on the enclosures after startup.

Powering Off drives:

- *DO NOT power off a drive connected to the Sonnet eSATA Extender while the computer is on, even if you have "ejected" it (selected Eject from a menu or dragged the drive to the eject icon in the dock).* Your computer may experience a kernel panic.

Identifying drives connected to the Sonnet eSATA Extender:

- *System Profiler and Disk Utility identify drives connected to the eSATA Extender as internal drives, but do not assign them bay numbers.* However, Disk Utility will identify the drives as "Drive 4" and "Drive 5"; drives mounted in the computer are assigned numbers 0-3.



Remember to register your product online at <http://registration.sonnettech.com> to be informed of future upgrades and product releases.

Software updates and links are available from the Sonnet web site at www.sonnettech.com. • Online support form available at <http://supportform.sonnettech.com>.

Sonnet Technologies Customer Service hours are Mon.-Fri., 7 a.m.-4 p.m. Pacific Time • Customer Service Phone: 1-949-472-2772 • E-mail: support@sonnettech.com

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PRE-2008 MAC PRO INSTALLATION

Shut Down and Open Computer

1. Shut down your Mac Pro. If the computer has been on for a while, allow a five to ten minutes for it to completely cool before beginning the installation.
2. If you need to move the computer to a different area where you can work freely, disconnect any connected cables, move the computer, then reconnect the power cord to the computer and an electrical outlet.
3. Touch the top of the computer to discharge any potentially damaging static electricity.



Support Note: To avoid generating a static charge in your body, do not walk around the room until after you finish installing the eSATA extender and close the computer.

4. Disconnect the power cord, and if necessary, any remaining cables, from the computer.
5. While supporting the side panel, lift up the locking latch on the back of the computer (**Figure 1**).
6. Pull out the top of the side panel, and lift it up and away from the computer (**Figure 2**). Set aside the side panel.
7. With the front of the computer facing left, lay the Mac Pro down on a soft, clean towel or blanket on top of your work surface.



WARNING: When handling computer products, take care to prevent components from being damaged by static electricity; avoid working in carpeted areas. Handle processor upgrade cards only by their edges and avoid touching connector traces and component pins. Also, avoid touching the logic board and any of its components.

Remove Parts to Access Logic Board's SATA Connectors

1. Remove the left two hard drive carriers (1 and 2) from the computer's drive bays (**Figure 3**). **Note:** Make sure the locking latch on the back of the computer is in the open position before attempting to remove the carriers.

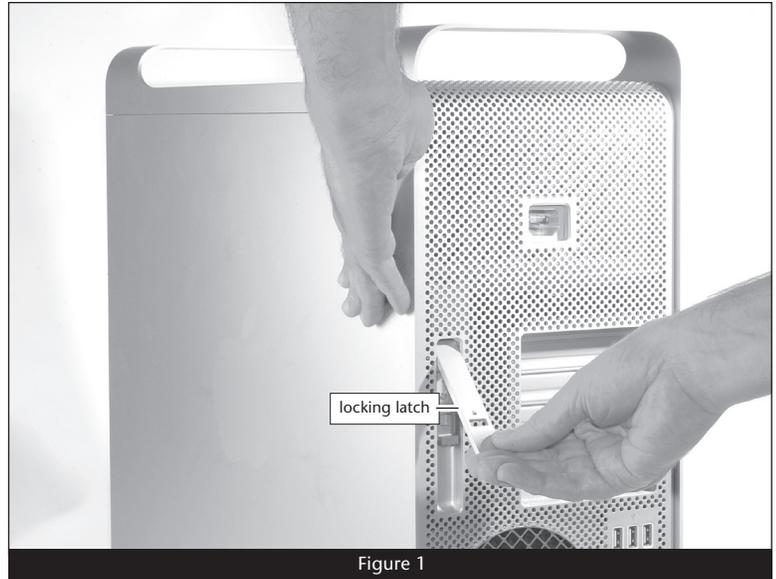


Figure 1

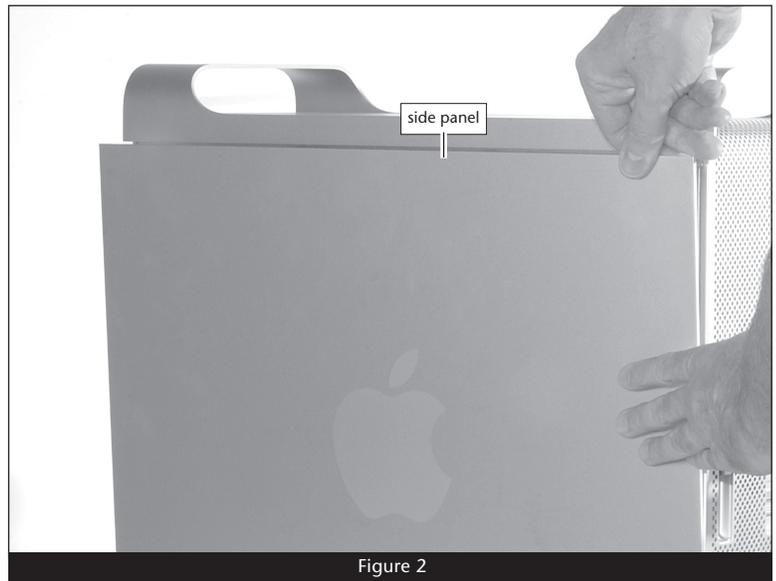


Figure 2

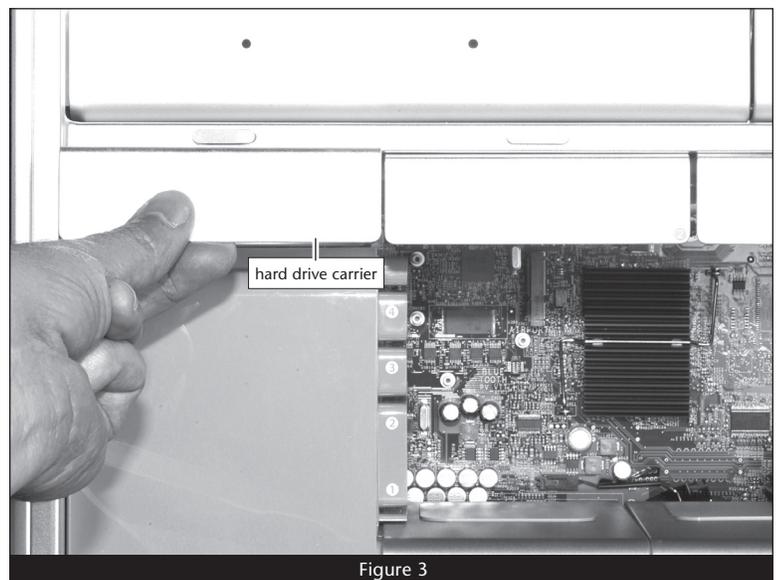


Figure 3

PRE-2008 MAC PRO INSTALLATION

2. Unscrew the PCI bracket retainer's captive screws, and then remove the retainer and set it aside (**Figure 4**).



Support Note: If your computer's graphics card has a separate power cable, disconnect it before proceeding to the next step.

3. While pulling the PCIe slot release tab, carefully remove the graphics card from the computer, handling it only by its edges (**Figure 5**). Set aside the graphics card with the heat sink (or fan) face down. *Please note that if your computer has any full length PCIe cards installed (long enough to extend all the way to the fan assembly), you must also remove them before proceeding to the next step.*

4. Grasping it by its finger holes, gently but firmly pull on the top memory riser card to remove it from the computer (**Figure 6**), and then set it aside on a soft, clean cloth with the DIMMs facing up. Repeat the process with the bottom memory riser card.

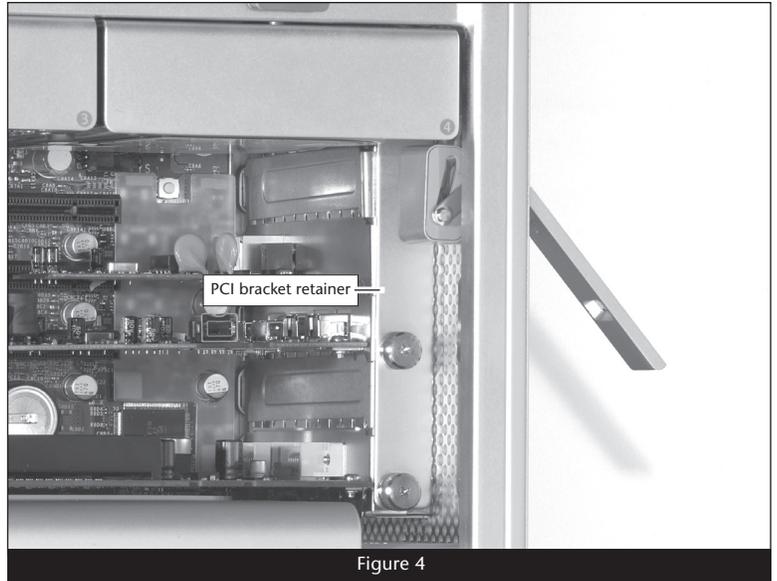


Figure 4

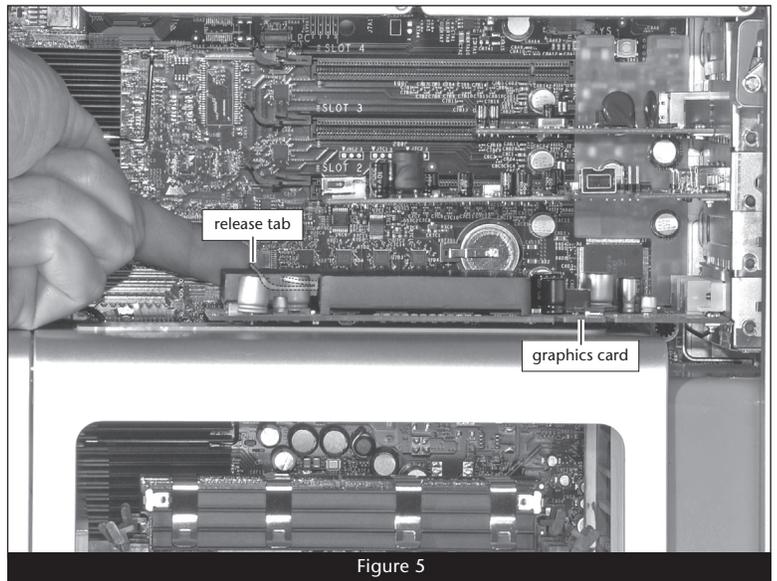


Figure 5

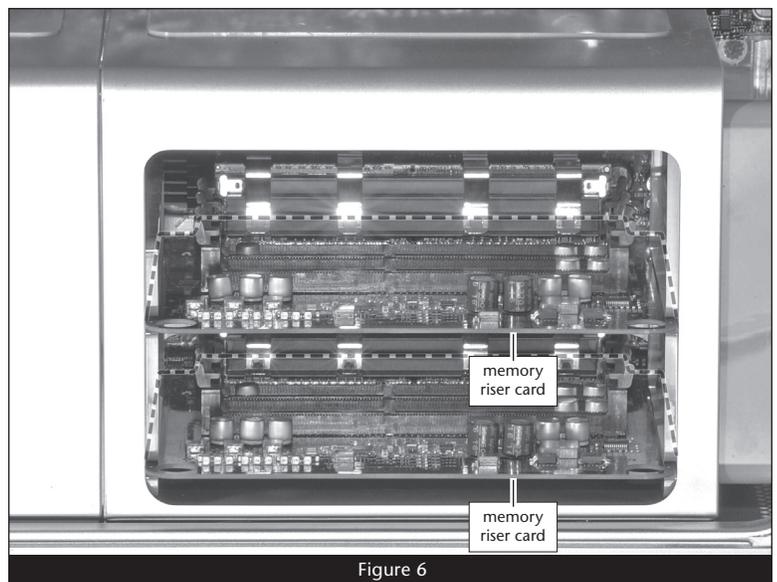


Figure 6

PRE-2008 MAC PRO INSTALLATION



WARNING: Some early-production, pre-2008 Mac Pro computers were assembled with threadlocker (e.g. Loctite®) applied incorrectly to the two screws that secure the memory riser card compartment to standoffs attached to the bottom of the computer. If the bottom screws continue to turn without loosening when you attempt to remove them, stop! Contact Sonnet Customer Support for further assistance.

5. Locate and remove the four screws securing the memory riser card compartment to the rest of the computer (Figure 7).

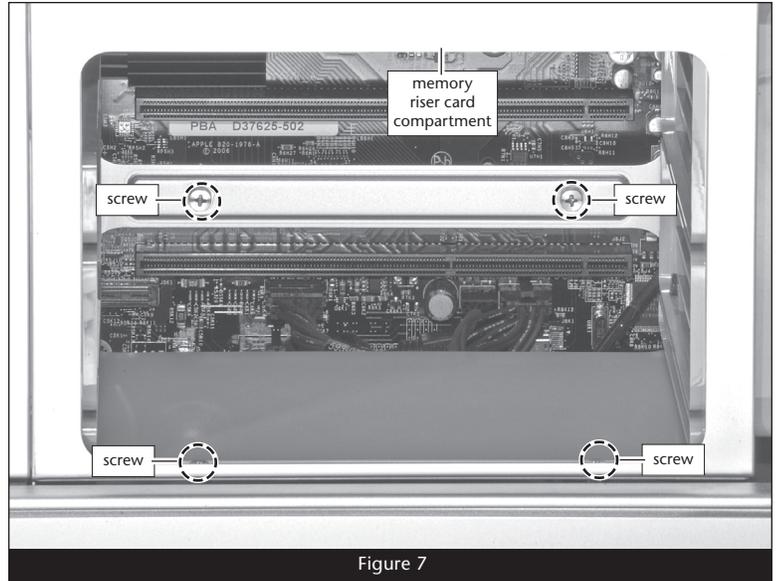


Figure 7

6. Slide the memory riser card compartment about $\frac{1}{8}$ inch (3mm) to the right to disengage it from the heat sink cover (Figure 8).

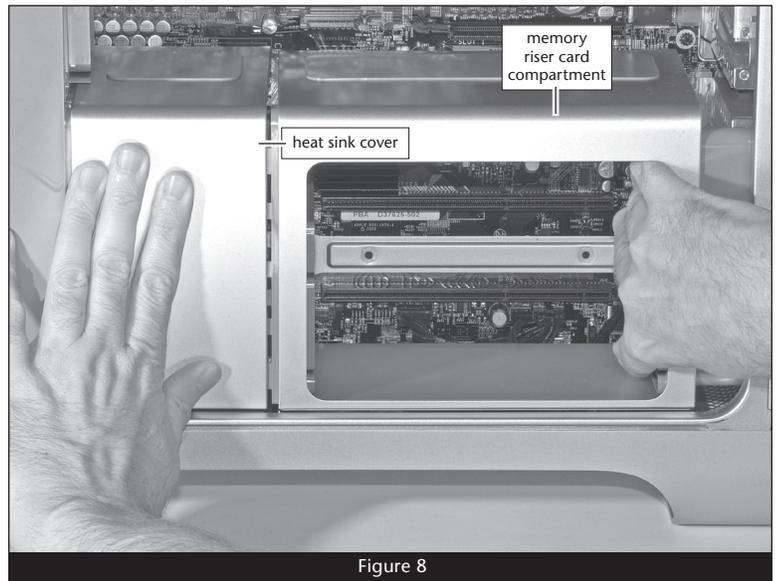


Figure 8

7. Carefully lift up the right edge of the heat sink cover and rotate it slightly as shown to disengage it from the fan assembly (Figure 9). Pull the cover away from the fan assembly, remove it, and then set it aside.

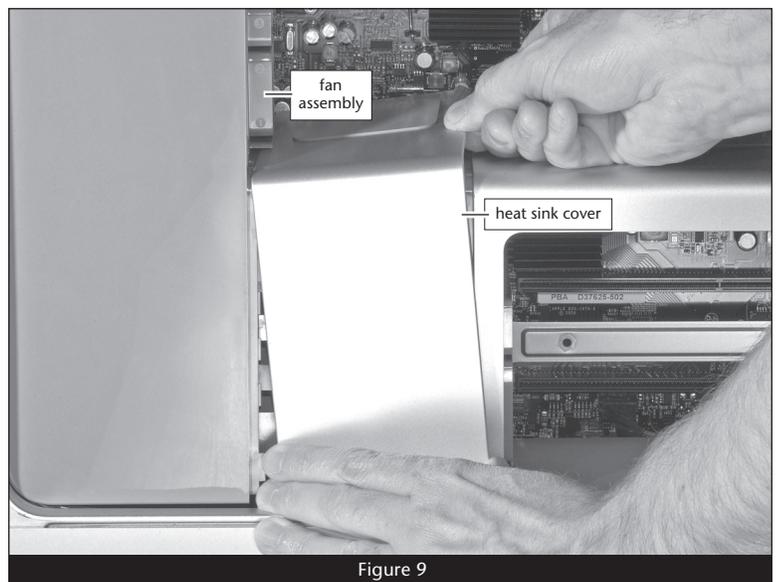


Figure 9

PRE-2008 MAC PRO INSTALLATION

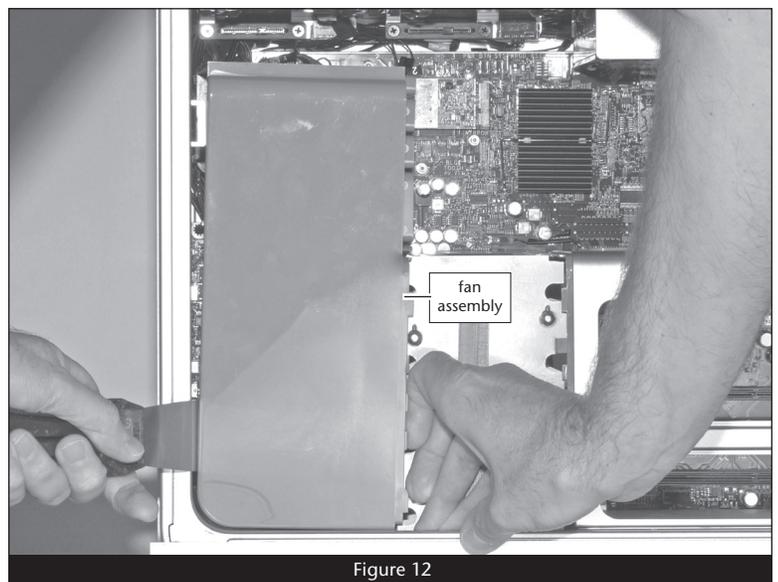
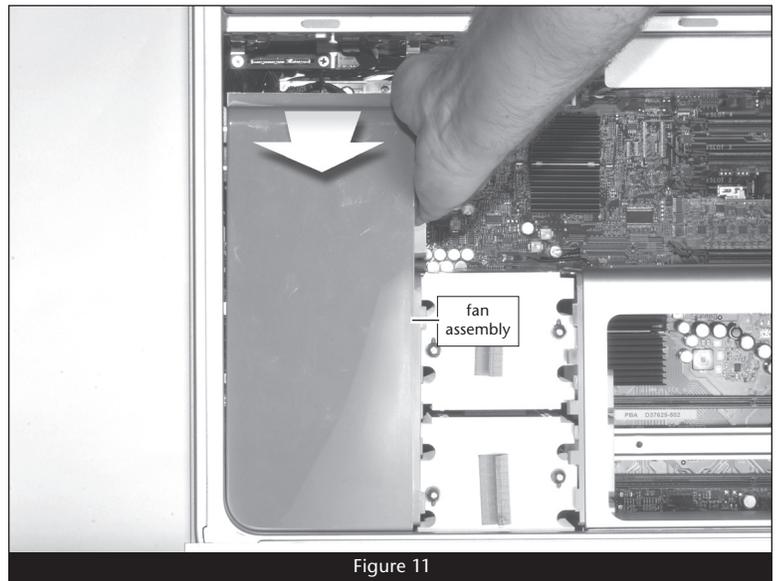
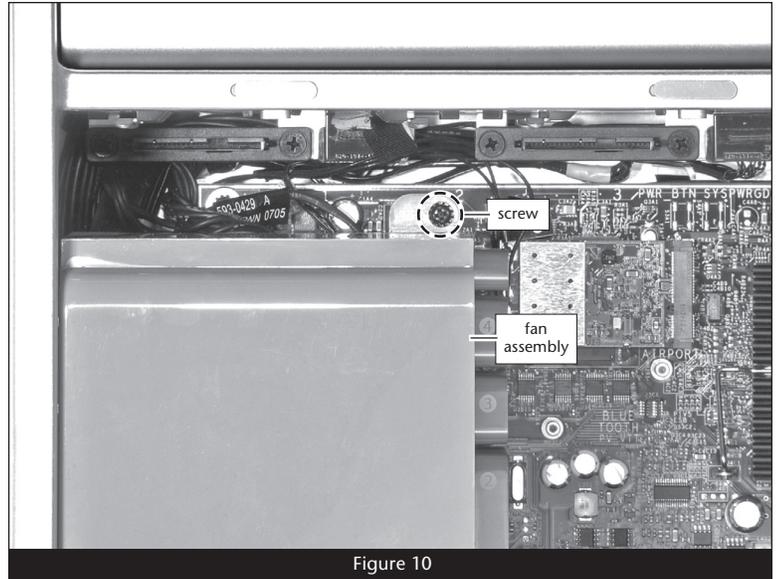
8. Locate and remove the screw securing the top of the fan assembly to the logic board (Figure 10).



Support Note: The fan assembly is plugged in directly to the logic board, and secured to the bottom of the computer by guide rails. When removing the assembly, it is important to pull it straight up.

9. To disconnect its connector from the logic board, gently, but firmly pull the top of the fan assembly toward you until you feel the connectors separate (Figure 11).

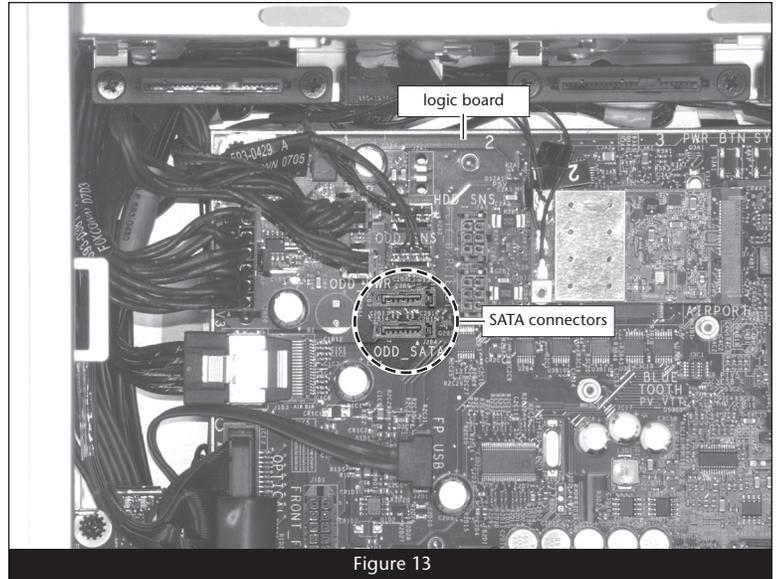
10. Using a putty knife to assist, pull the fan assembly straight up out of the computer (Figure 12). Please note that you may need to rock the fan assembly a bit in order to loosen it from the guide rails.



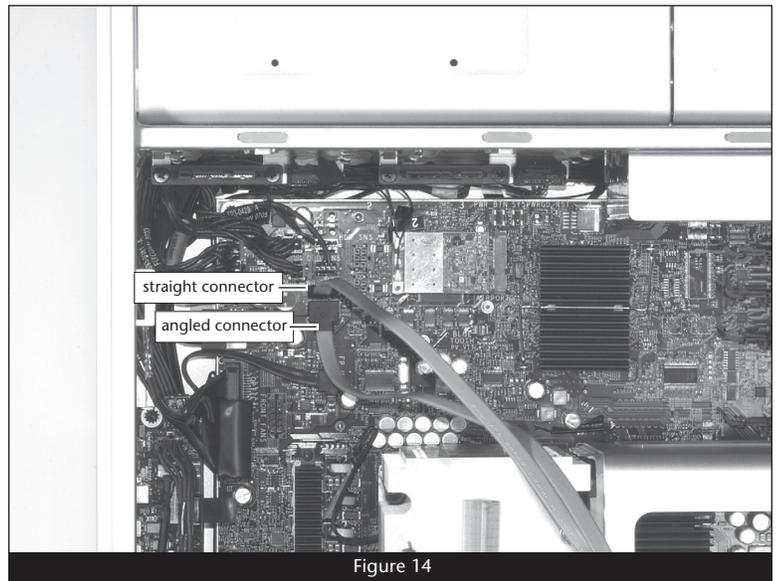
PRE-2008 MAC PRO INSTALLATION

Install eSATA Extender

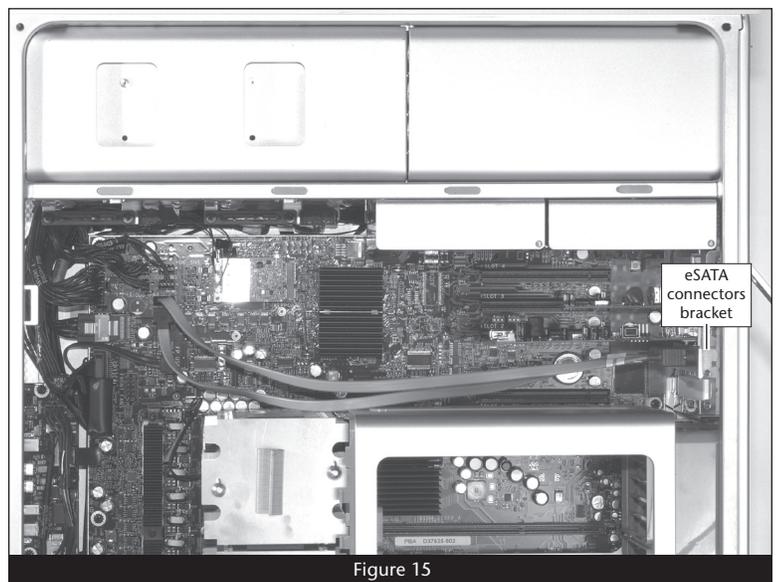
1. Locate the two SATA connectors in the upper left corner of the logic board labeled “ODD_SATA” (Figure 13).



2. Connect the eSATA Extender's cables to the SATA connectors on the logic board, plugging in the straight connector on the top, the angled connector on the bottom; verify the connectors are plugged in securely (Figure 14).



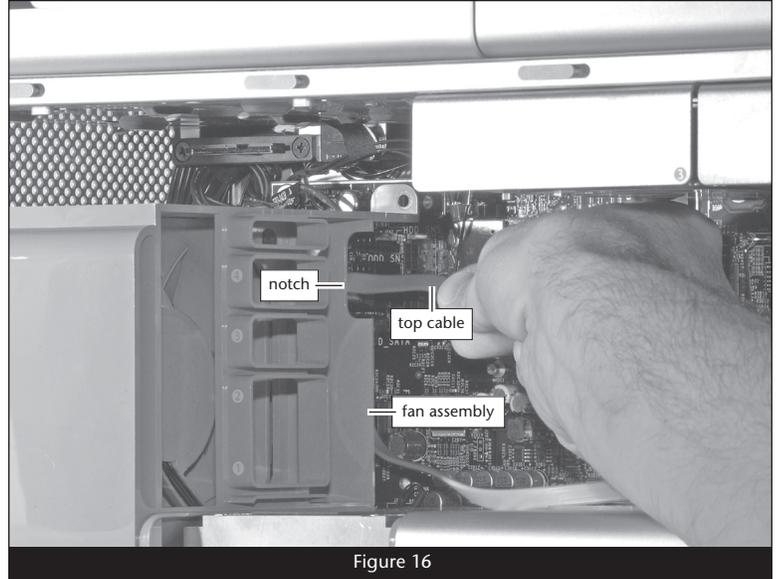
3. Locate an available PCI Express slot inside your computer and remove its access cover. If your Mac Pro is equipped with a thin graphics card, you may be able to use the empty space above the slot it occupies.
4. Insert the eSATA connector bracket into the open space (Figure 15).



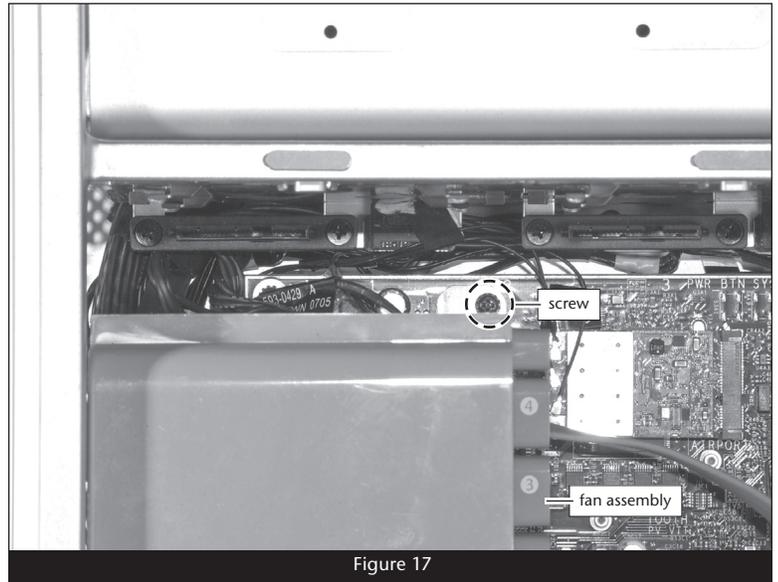
PRE-2008 MAC PRO INSTALLATION

Reassemble Computer

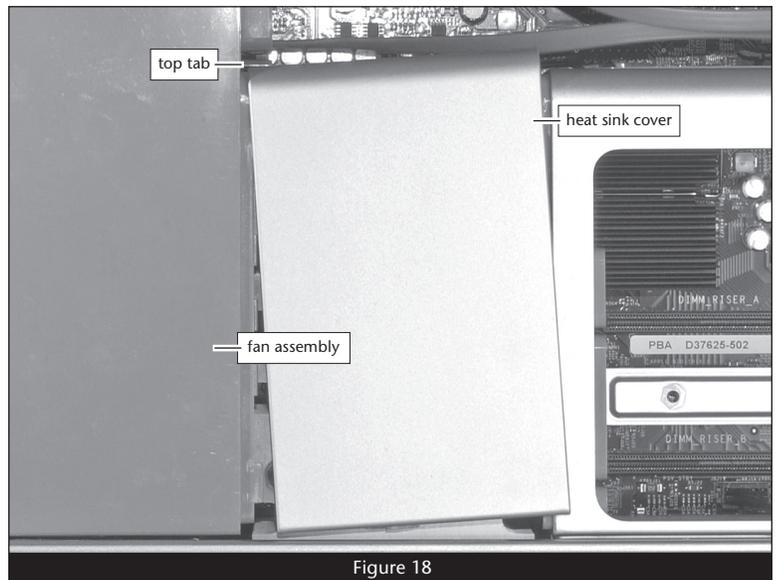
1. Insert the bottom of the fan assembly into the guides in the bottom of the computer case, and then slide the assembly in part way. Route the top eSATA Extender cable through the notch in the assembly, and then push the assembly all the way in until the connectors are connected; **verify the connector is plugged in securely (Figure 16).**



2. Secure the fan assembly to the logic board with the screw you removed previously (Figure 17).



3. Insert the edge of the heat sink cover under the top tab on the fan assembly, and then rotate the cover down so that the tabs on the fan assembly and cover join together (Figure 18).



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- Slide the memory riser card compartment to the left so that the tabs on the compartment and the heat sink cover join together (Figure 19).

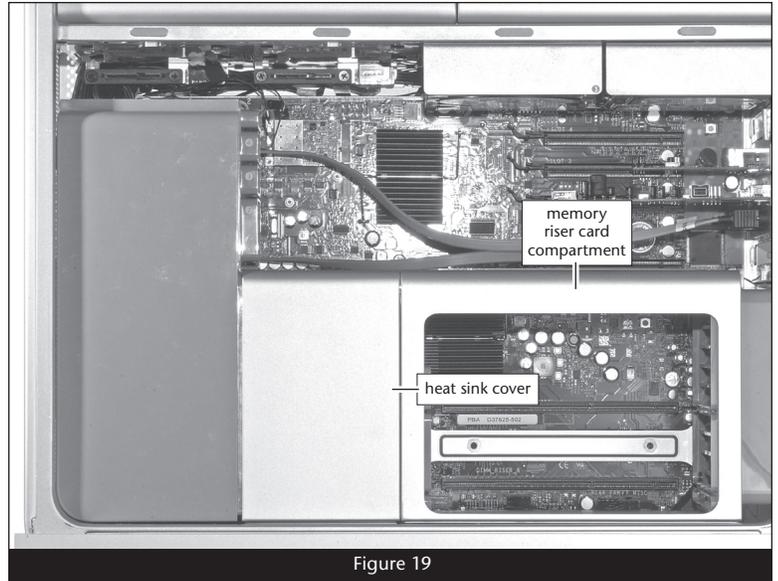


Figure 19

- Move the memory riser card compartment so that the screw holes in it, and on the logic board and computer case line up.
- Secure the memory riser card compartment using the screws you removed previously; **do not overtighten the screws** (Figure 20).

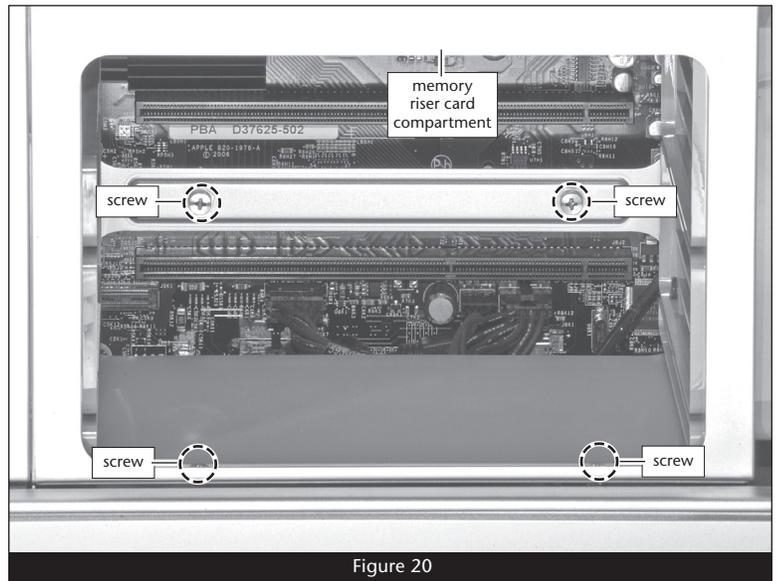


Figure 20

- Handling them by their edges, insert the memory riser cards back into their slots; **make sure the cards are fully seated** (Figure 21).

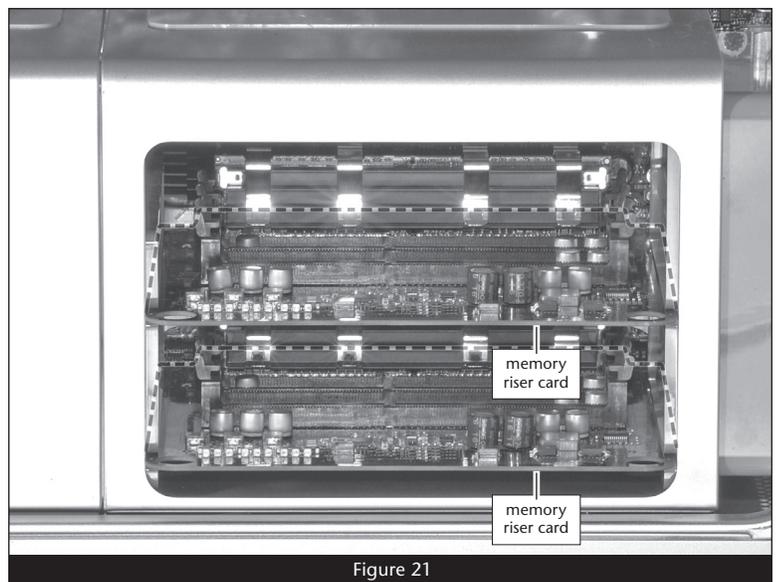


Figure 21

PRE-2008 MAC PRO INSTALLATION

8. Handling it by its edges, install the graphics card into its slot; **make sure the card is fully seated** (Figure 22). If you disconnected a power cable from the graphics card when you disassembled the computer, connect it now.
9. Install any full-length PCIe cards you removed when you disassembled the computer.

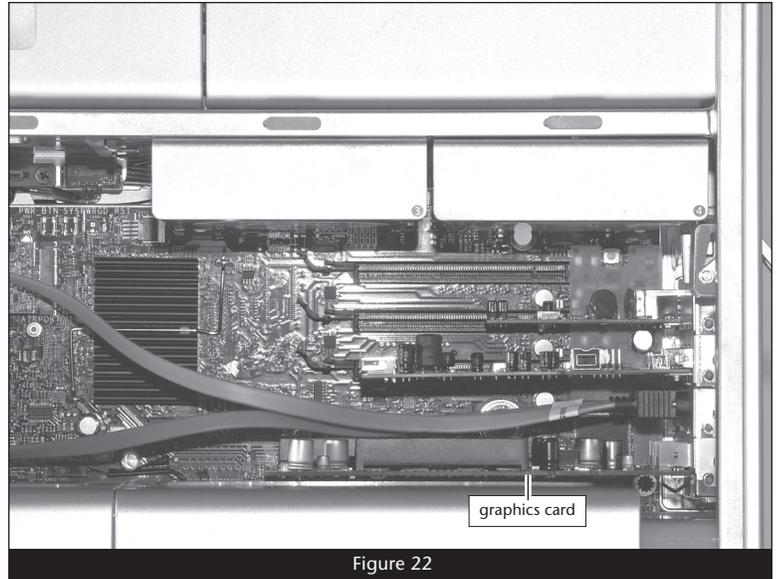


Figure 22

10. Secure the PCI Express cards with the PCI bracket retainer, turning the captive screws finger-tight (Figure 23).

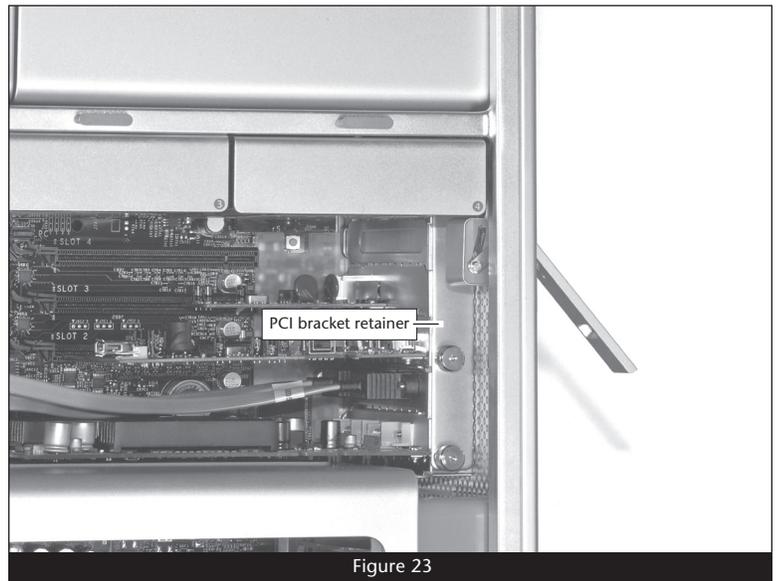


Figure 23

11. Carefully insert the hard drive carriers back into the drive bays, making sure any attached drives are plugged in securely (Figure 24).
12. Lift the Mac Pro back into the upright position, and then insert the side panel back into place.
13. While supporting the side panel, press down on the locking latch to secure the panel in place.
14. Reconnect your computer and turn it on to verify everything is working properly. If everything works properly, your installation is complete.

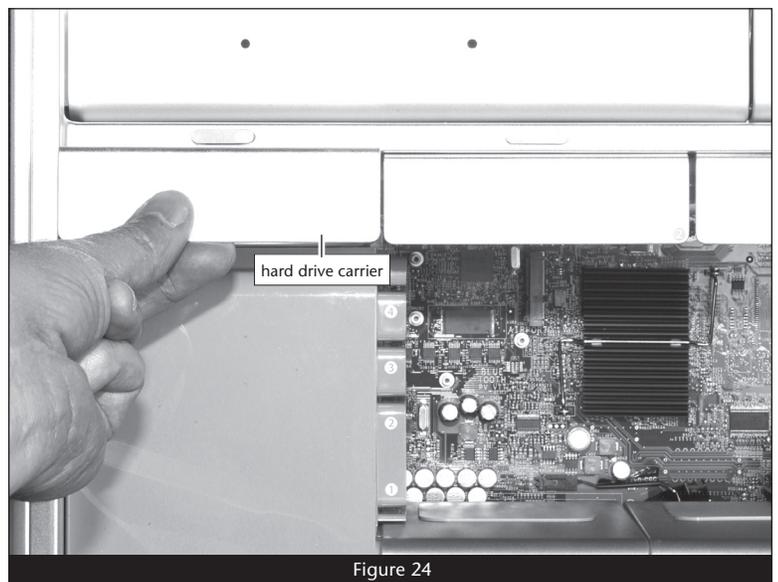


Figure 24

EARLY 2008 MAC PRO INSTALLATION

Shut Down and Open Computer

1. Shut down your Mac Pro. If the computer has been on for a while, allow a five to ten minutes for it to completely cool before beginning the installation.
2. If you need to move the computer to a different area where you can work freely, disconnect any connected cables, move the computer, then reconnect the power cord to the computer and an electrical outlet.
3. Touch the top of the computer to discharge any potentially damaging static electricity.



Support Note: To avoid generating a static charge in your body, do not walk around the room until after you finish installing the eSATA extender and close the computer.

4. Disconnect the power cord, and if necessary, any remaining cables, from the computer.
5. While supporting the side panel, lift up the locking latch on the back of the computer (**Figure 25**).
6. Pull out the top of the side panel, and lift it up and away from the computer (**Figure 26**). Set aside the side panel.
7. With the front of the computer facing left, lay the Mac Pro down on a soft, clean towel or blanket on top of your work surface.



WARNING: When handling computer products, take care to prevent components from being damaged by static electricity; avoid working in carpeted areas. Handle processor upgrade cards only by their edges and avoid touching connector traces and component pins. Also, avoid touching the logic board and any of its components.

Remove Parts to Access Logic Board's SATA Connectors

1. Remove the left two hard drive carriers (1 and 2) from the computer's drive bays (**Figure 27**). **Note:** Make sure the locking latch on the back of the computer is in the open position before attempting to remove the carriers.

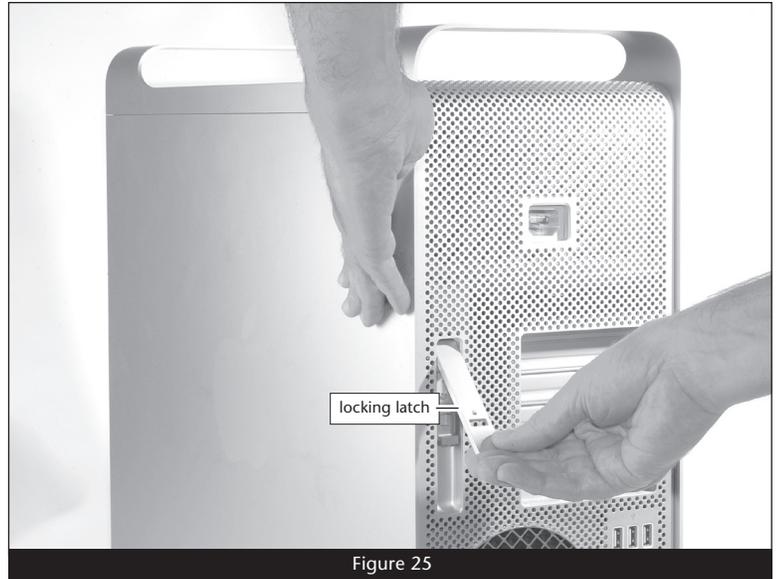


Figure 25

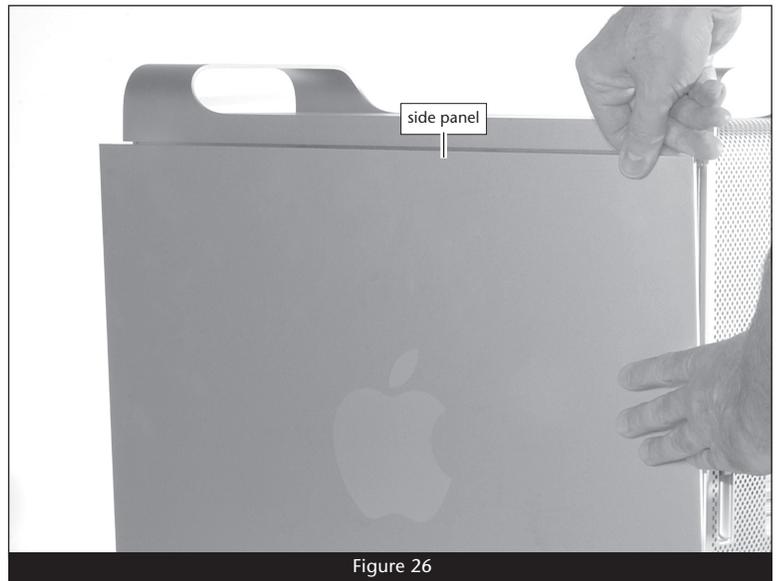


Figure 26

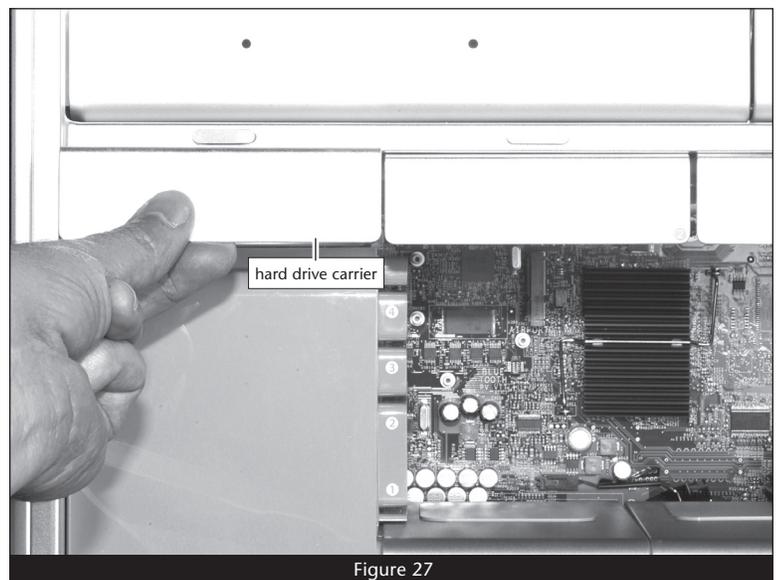


Figure 27

EARLY 2008 MAC PRO INSTALLATION

2. Unscrew the PCI bracket retainer's captive screws, and then remove the retainer and set it aside (**Figure 28**).



Support Note: If your computer's graphics card has a separate power cable, disconnect it before proceeding to the next step.

3. While pulling the PCIe slot release tab, carefully remove the graphics card from the computer, handling it only by its edges (**Figure 29**). Set aside the graphics card with the heat sink (or fan) face down. *Please note that if your computer has any full length PCIe cards installed (long enough to extend all the way to the fan assembly), you must also remove them before proceeding to the next step.*

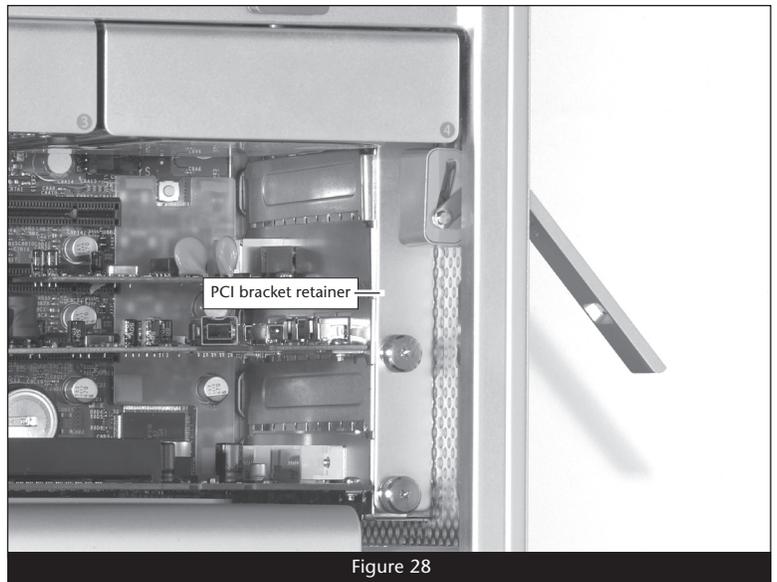


Figure 28

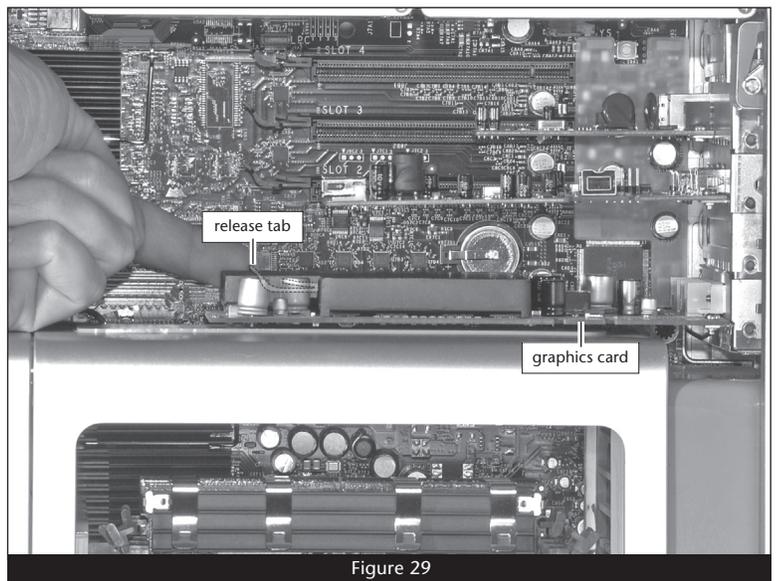


Figure 29

4. Carefully lift up the back edge of the heat sink cover and pull it toward you; the cover will pop free from the magnets securing it (**Figure 30**). Remove the cover, and then set it aside.

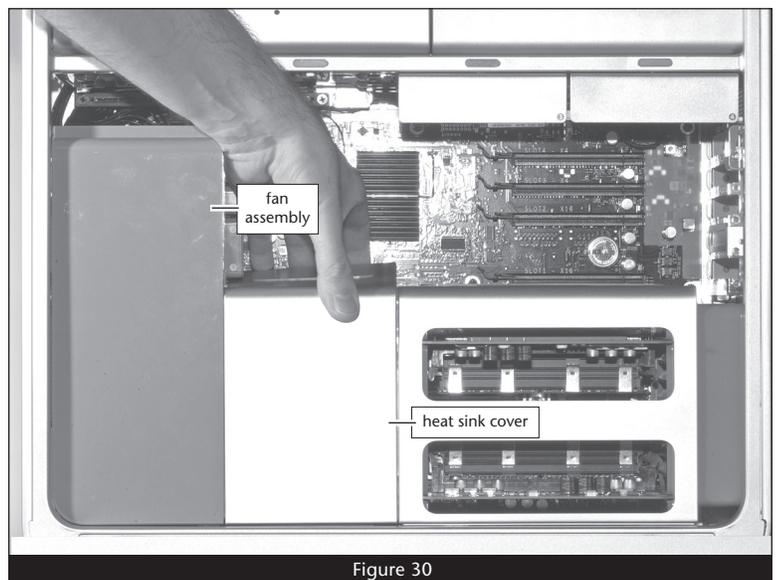
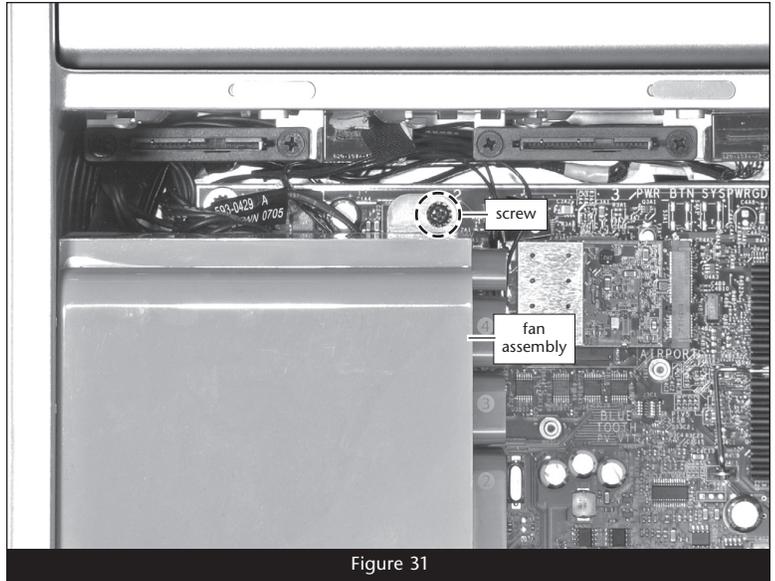


Figure 30

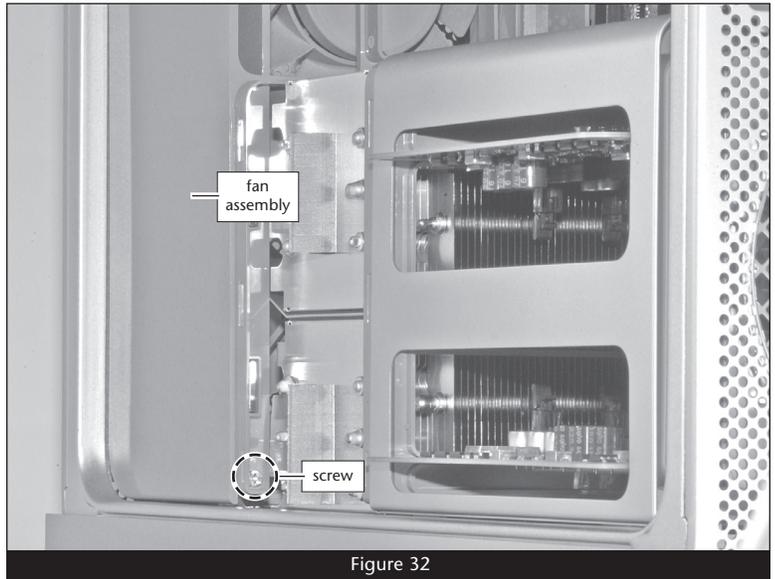
EARLY 2008 MAC PRO INSTALLATION

5. Locate and remove the screw securing the top of the fan assembly to the logic board (Figure 31).

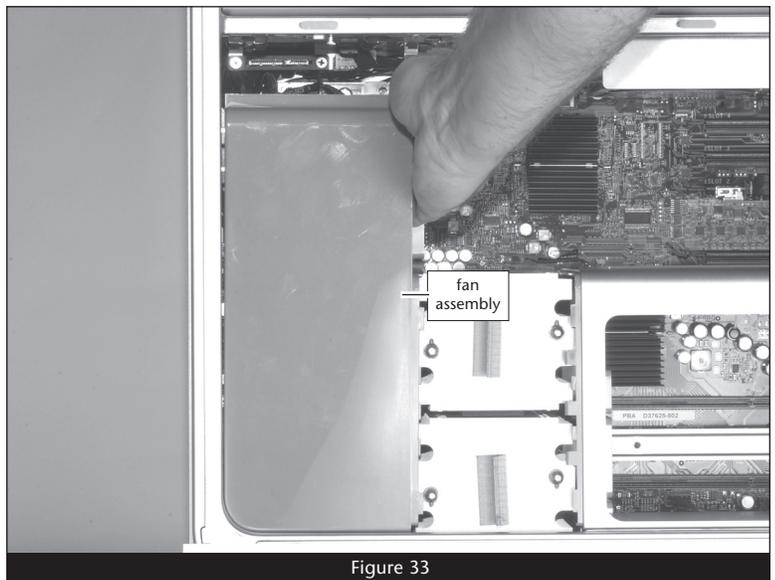


 **Support Note:** The fan assembly is plugged in directly to the logic board, and secured to the bottom of the computer by guide rails. When removing the assembly, it is important to pull it straight up.

6. Locate and remove the screw securing the bottom of the fan assembly to the logic board (Figure 32).



7. Pull the fan assembly straight out of the computer (Figure 33).



EARLY 2008 MAC PRO INSTALLATION

Install eSATA Extender

1. Locate the two SATA connectors in the upper left corner of the logic board labeled “ODD_SATA” (Figure 34).

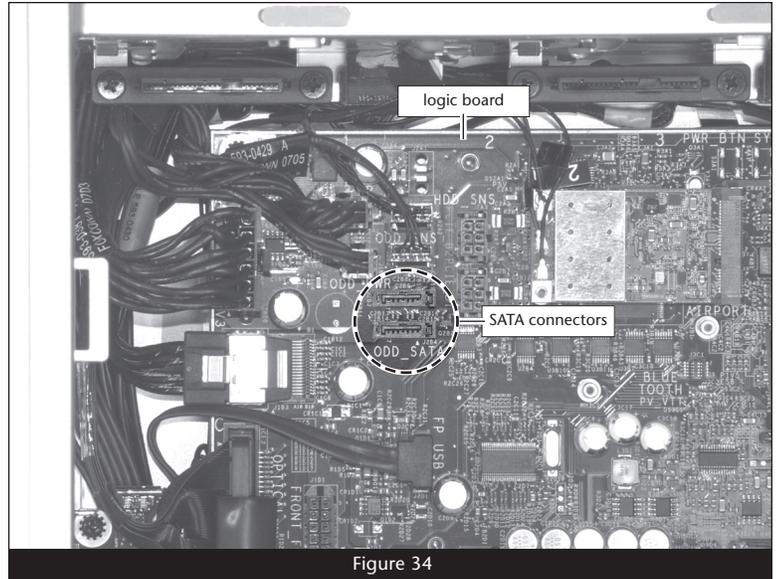


Figure 34

2. Connect the eSATA Extender's cables to the SATA connectors on the logic board, plugging in the straight connector on the top, the angled connector on the bottom; verify the connectors are plugged in securely (Figure 35).

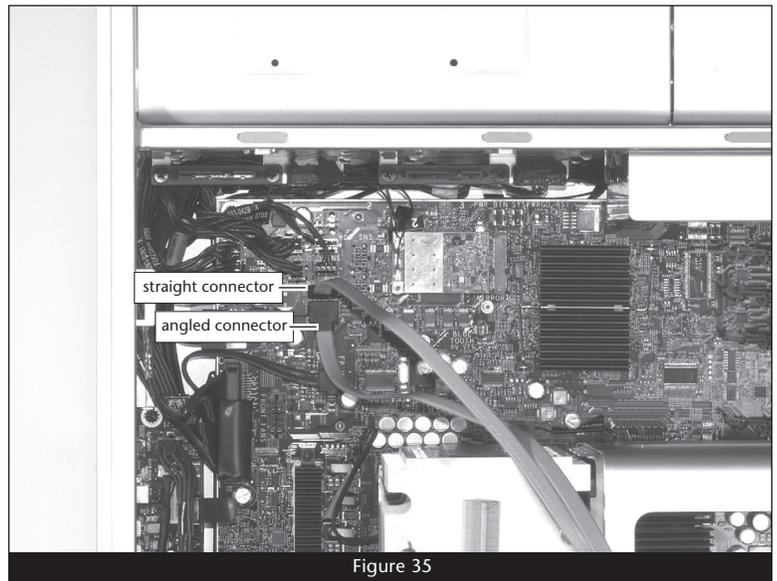


Figure 35

3. Locate an available PCI Express slot inside your computer and remove its access cover. If your Mac Pro is equipped with a thin graphics card, you may be able to use the empty space above the slot it occupies.
4. Insert the eSATA connector bracket into the open space (Figure 36).

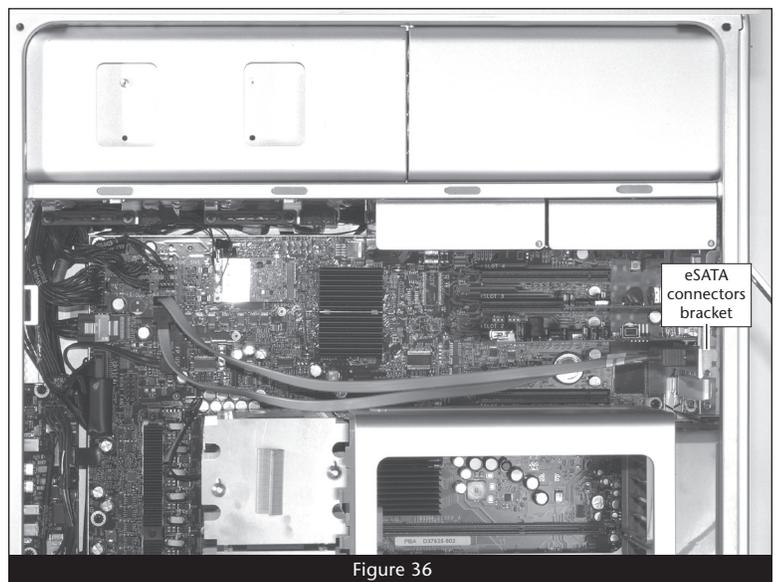
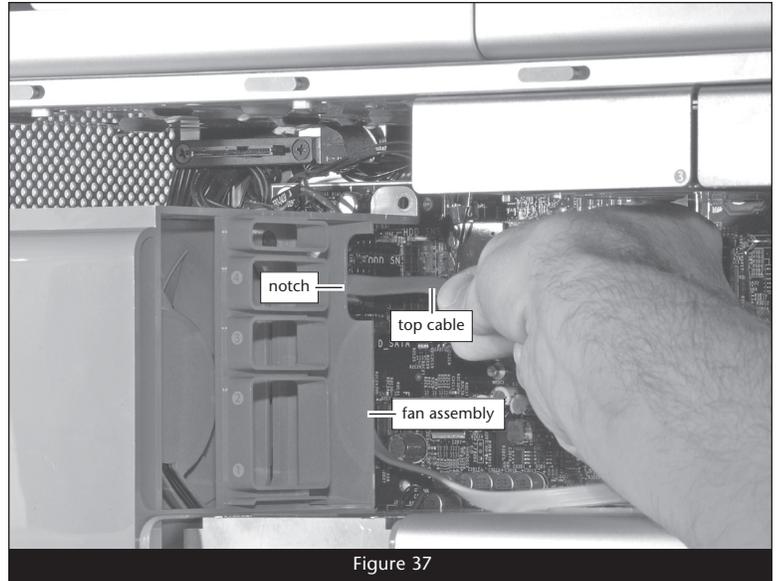


Figure 36

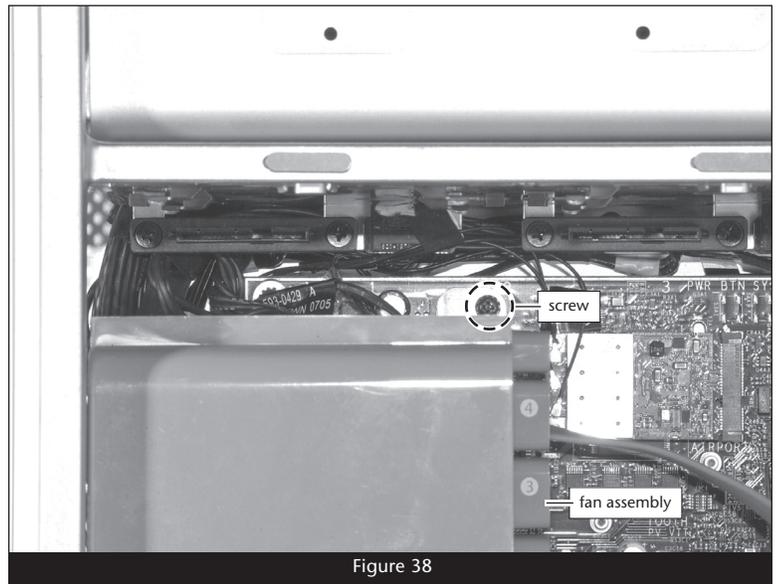
EARLY 2008 MAC PRO INSTALLATION

Reassemble Computer

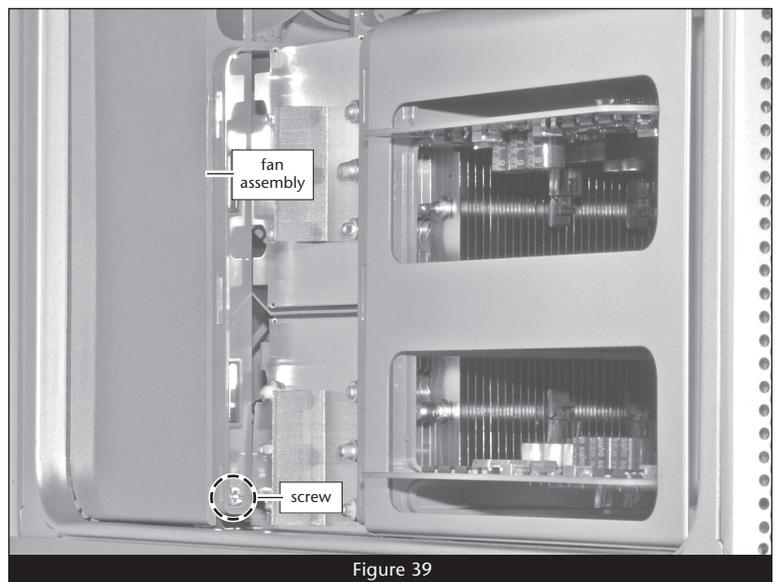
1. Insert the bottom of the fan assembly into the guides in the bottom of the computer case and slide the assembly in part way. Route the top eSATA Extender cable through the notch in the assembly, and then push the assembly in the rest of the way until the connectors are connected; **verify the connector is plugged in securely (Figure 37).**



2. Secure the top of the fan assembly to the logic board with the screw you removed previously (Figure 38).



3. Secure the bottom of the fan assembly to the logic board with the screw you removed previously (Figure 39).



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4. Replace the heat sink cover, making sure that its tabs snap into the holes in the fan assembly and memory riser card compartment (Figure 40).

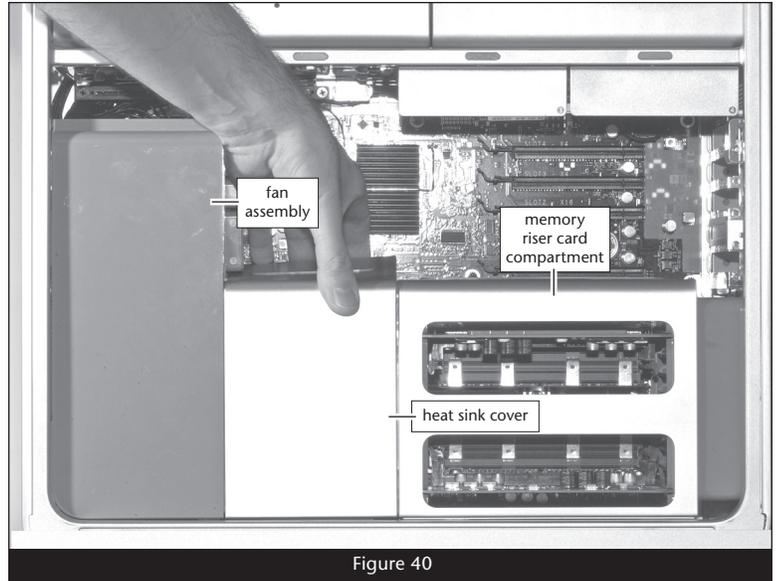


Figure 40

5. Handling it by its edges, install the graphics card into its slot; **make sure the card is fully seated** (Figure 41). If you disconnected a power cable from the graphics card when you disassembled the computer, connect it now.
6. Install any full-length PCIe cards you removed when you disassembled the computer.

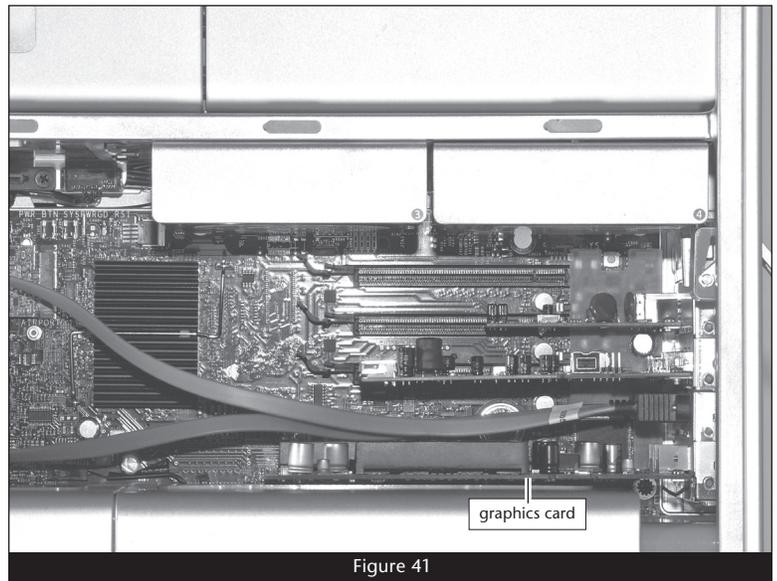


Figure 41

7. Secure the PCI Express cards with the PCI bracket retainer, turning the captive screws finger-tight (Figure 42).

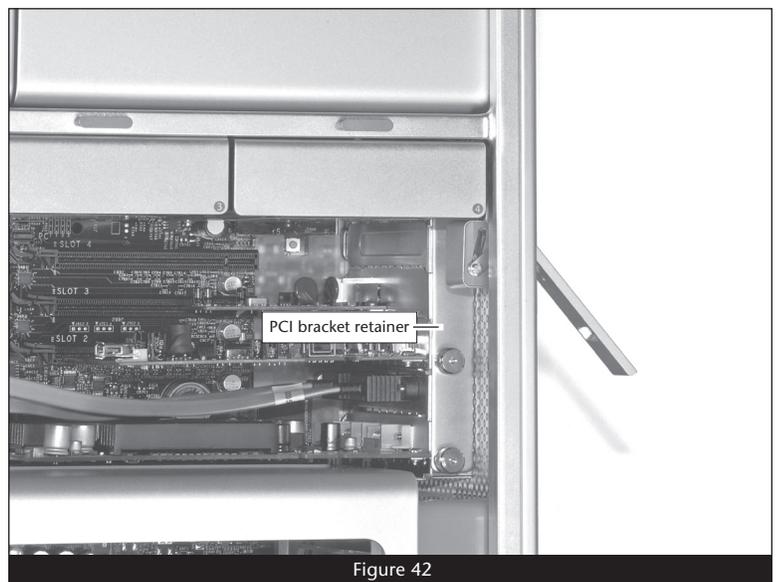


Figure 42

EARLY 2008 MAC PRO INSTALLATION

8. Carefully insert the hard drive carriers back into the drive bays, making sure any attached drives are plugged in securely (**Figure 43**).
9. Lift the Mac Pro back into the upright position, and then insert the side panel back into place.
10. While supporting the side panel, press down on the locking latch to secure the panel in place.
11. Reconnect your computer and turn it on to verify everything is working properly. If everything works properly, your installation is complete.

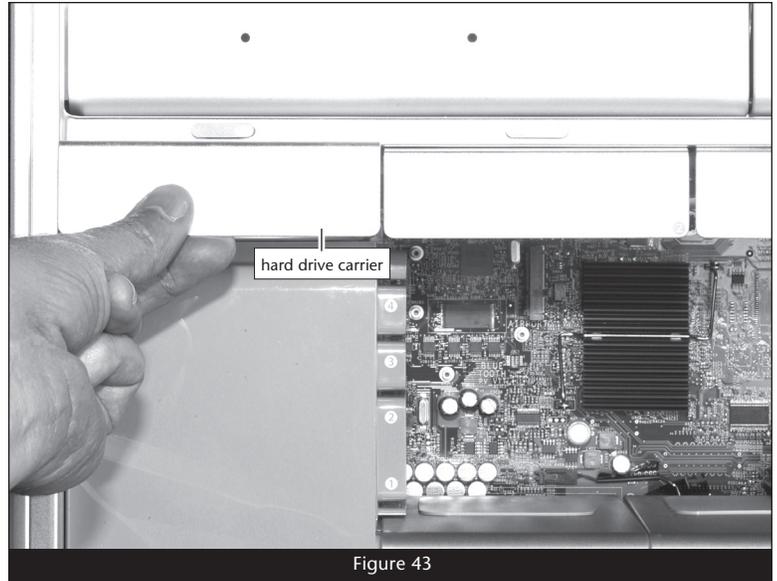


Figure 43