



Replacing a Power-Fan CRU in the CSM200 Drive Module

May 2011

51572-00, Rev. A



Revision History

Version and Date	Description of Changes
51572-00, Rev. A, May 2011	Initial release of the document.

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Document Number: 51572-00, Rev. A
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Replacing a Power-Fan CRU in the CSM200 Drive Module

Use this procedure to replace a power-fan CRU in the CSM200 drive module. The CSM200 drive module can be connected to either an AC power supply or the optional DC power supply (–48 VDC). You need antistatic protection and either a replacement AC power-fan CRU or a replacement DC power-fan CRU for this procedure.

You can determine whether you have a failed power-fan CRU in two ways:

- The Recovery Guru directs you to replace a failed power-fan CRU.
- You locate the failed power-fan CRU by checking the Power-Fan Service Action Required LED.

ATTENTION Potential damage to a component – To prevent damage from overheating, replace a failed power-fan CRU within 15 minutes of removal. If replacing the power-fan CRU will take longer than 15 minutes, stop all I/O activity to the drive module, and turn off the power until you complete the replacement procedure.

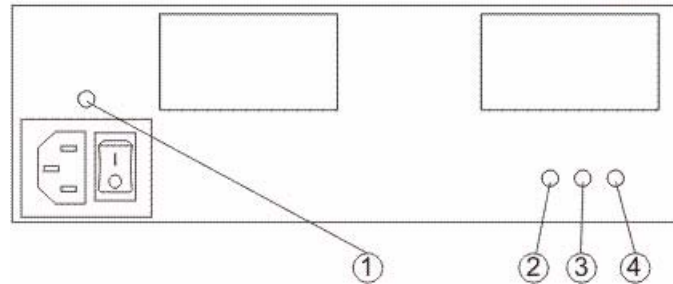
IMPORTANT Before turning off the power switches on any module in the storage array, determine whether the module is connected to the standard AC power source or the optional DC power source (–48 VDC). For DC-powered modules, you must disconnect the two-pole 20-amp circuit breaker before turning off any power switches. If the CSM200 drive module is connected to the 6580/6780 controller module, the DC power option is not available for either module.

ATTENTION Possible hardware damage – To prevent electrostatic discharge damage to the module, use proper antistatic protection when handling module components.

- 1 If possible, use the storage management software to create, save, and print a new storage array profile.
- 2 Did the Recovery Guru direct you to replace a failed power-fan CRU?
 - **Yes** – Go to step 3.
 - **No** – Run the Recovery Guru to identify the failed power-fan CRU, and go to step 3.
- 3 Put on antistatic protection.

- 4 If applicable, turn off the audible alarm by pressing the Alarm Mute button on the front of the drive module.
- 5 Unpack the new power-fan CRU.
- 6 Turn off the Power switch on the new power-fan CRU.
- 7 Check the Power-Fan Service Action Required LED to locate the failed power-fan CRU. If a fault is detected, the amber Power-Fan Service Action Required LED is on (Figure 1).

Figure 1 LEDs on the CSM200 Drive Module Power-Fan CRU



- 1 Power-Fan AC Power LED (Green)
- 2 Power-Fan Service Action Allowed LED (Blue)
- 3 Power-Fan Service Action Required LED (Amber)
- 4 Power-Fan AC Power LED (Green)

- 8 Verify that the blue Power-Fan Service Action Allowed LED is on. Do not remove the power-fan CRU if this LED is off.

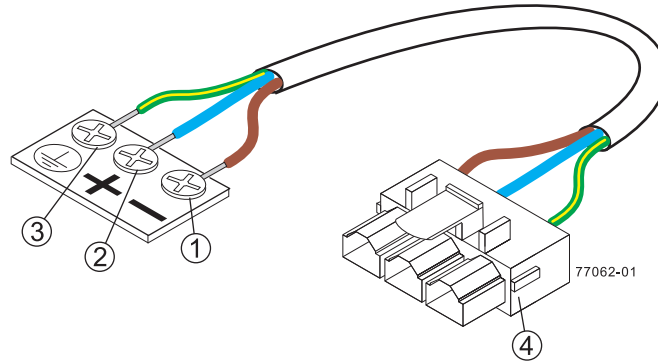


WARNING (W02) **Risk of electrical shock** – Before removing or installing a power supply, turn off the Power switch, and unplug the power cord.

- 9 To turn off the power to the drive module with the failed power-fan CRU, choose one of the following actions:
 - **The drive module is connected to the standard AC power source** – Go to step 19.
 - **The drive module is connected to the optional DC power source** – Go to step 10.



WARNING (W12) **Risk of electrical shock** – This unit has more than one power source. To remove all power from the unit, all DC MAINS must be disconnected by removing all power connectors (item 4 below) from the power supplies.



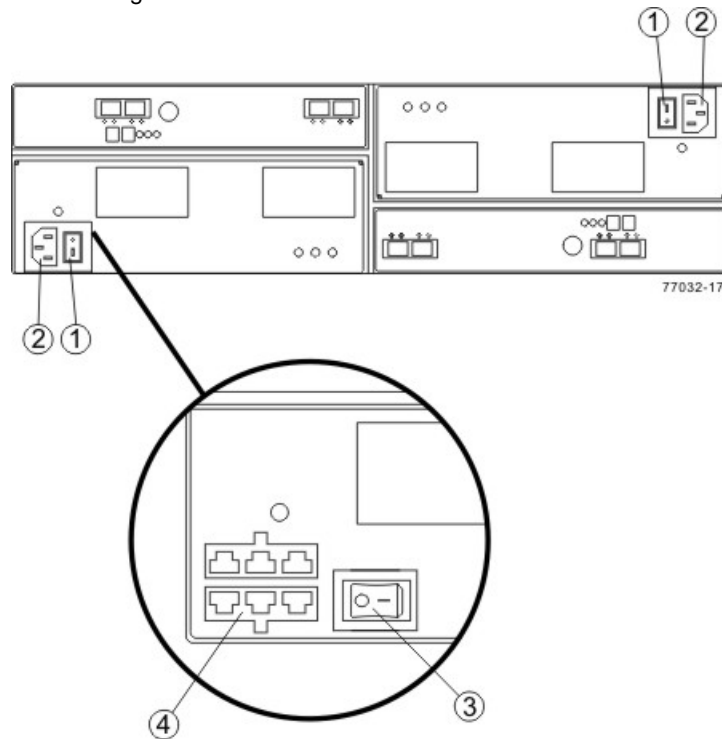
- 1 Supply (Negative), Brown Wire, -48 VDC
- 2 Return (Positive), Blue Wire
- 3 Ground, Green and Yellow Wire
- 4 DC Power Connector



CAUTION (C05) **Electrical grounding hazard** – This equipment is designed to permit the connection of the DC supply circuit to the earthing conductor at the equipment.

- 10** Disconnect the two-pole 20-amp DC circuit breaker.
- 11** Turn off both of the DC Power switches on all DC-powered modules in the storage array ([Figure 2](#)).

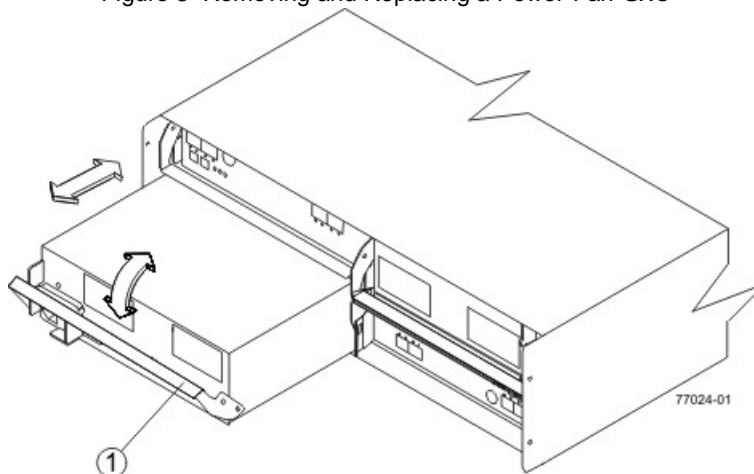
Figure 2 Power Switches and Power Connectors



- 1 AC Power Switch
- 2 AC Power Connector
- 3 Optional DC Power Switch
- 4 Optional DC Power Connectors

- 12** Unplug the DC power connector cable from the failed DC power-fan CRU.
- 13** Lift the latch on the failed DC power-fan CRU. Pull the latch, and remove the power-fan CRU ([Figure 3](#)).

Figure 3 Removing and Replacing a Power-Fan CRU



- 1 Latch

- 14** Slide the new DC power-fan CRU into the empty slot, and close the latch.
- 15** Plug the DC power connector cable into the new DC power-fan CRU.

- 16** Connect the two-pole 20-amp DC circuit breaker.
- 17** Turn on both of the Power switches on the DC-powered drive modules in the storage array, and wait for the drives to spin up.
- 18** Turn on both of the Power switches on the DC-powered controller-drive modules in the storage array, and go to step [23](#).
- 19** Turn off the AC Power switch, and unplug the power cord from the failed AC power-fan CRU (see Figure 2 on page 4).
- 20** Lift the latch on the failed AC power-fan CRU. Pull the latch, and remove the power-fan CRU (Figure 3 on page 4).
- 21** Slide the new AC power-fan CRU into the empty slot, and close the latch.
- 22** Plug in the AC power cord, and turn on the AC Power switch on the new power-fan CRU.
- 23** Check the Power-Fan Power LED and the Power-Fan Service Action Required LED on the new power-fan CRU.
- 24** Based on the status of the Power-Fan Power LED and the Power-Fan Service Action Required LED, perform one of these actions:
 - **The Power-Fan Power LED is off or the Power-Fan Service Action Required LED is on** – The new power-fan CRU might be installed incorrectly (start at step [9](#)). Reinstall the power-fan CRU, and go to step [25](#).
 - **The Power-Fan Power LED is on and the Power-Fan Service Action Required LED is off** – Go to step [26](#).
- 25** Did the action correct the problem?
 - **Yes** – Go to step [26](#).
 - **No** – If the problem is not resolved, contact your Sun Customer Care Center representative.
- 26** Complete any remaining Recovery Guru procedures, if needed.
- 27** Using the LEDs and the storage management software, check the status of all of the modules in the storage array.
- 28** Does any component have a Needs Attention status?
 - **Yes** – Click the **Recovery Guru** toolbar button in the Array Management Window, and complete the recovery procedure. If a problem is not resolved, contact your Sun Customer Care Center representative.
 - **No** – Go to [step 29](#).
- 29** Remove the antistatic protection.
- 30** Create, save, and print a new storage array profile.

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