How to Replace the DC-to-DC Converter on a Sun Fire™ V880 750 MHz CPU/Memory Board

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How to Replace the DC-to-DC Converter on a Sun Fire V880 750MHz CPU/Memory Board

This document describes the procedure for replacing the DC-to-DC converter on a 750 MHz CPU/Memory board (part number 501-5818-05) for the Sun Fire™ V880 server.

You must replace the DC-to-DC converter on every -05 CPU/Memory board that has not had work order WO_23160 performed on it. This must be done for every -05 CPU/Memory board in a system. A -05 CPU/Memory board that already has the replacement DC-to-DC converter on it is identified by the work order label WO_23160 affixed to the front label of the board, as shown in the following illustration.

Note – You do not have to replace the DC-to-DC converter on the -07 750 MHz CPU/Memory board, part number 501-5818-07.

Inventory

This kit includes the following parts:

- Replacement DC-to-DC converter, part number 300-1437-04

Note – The replacement DC-to-DC converter can be identified by the label on the back of the converter with the printed number 143704*xxxx*. The replacement converter has the numbers 04 in the 5th and 6th digits.

- Work Order Label, WO_23160
- *How to Replace the DC-to-DC Converter on a Sun Fire V880 750 MHz CPU/Memory Board* (This document)

How to Replace the DC-to-DC Converter

Before You Begin

For further information about powering on and off the system, avoiding electrostatic discharge, and removing and installing a CPU/Memory board, see the *Sun Fire 880 Server Service Manual*, part number 806-6597-10, included on the documentation CD that ships with the system. This service manual is also available at the following url:

```
http://www.sun.com/products-n-solutions/hardware/docs/Servers/
Workgroup_Servers/Sun_Fire_V880/index.html
```

Note – Ensure that the CPU/Memory board has not had the DC-to-DC converter on it replaced. CPU/Memory boards that have the replacement DC-to-DC converter have the work order label WO_23160 on them, affixed to the board's front label as shown in the illustration on the previous page. Do not replace the DC-to-DC converters on CPU/Memory boards that have the label WO_23160 affixed to them.

Complete these tasks:
(These tasks are described in the *Sun Fire 880 Server Service Manual*)

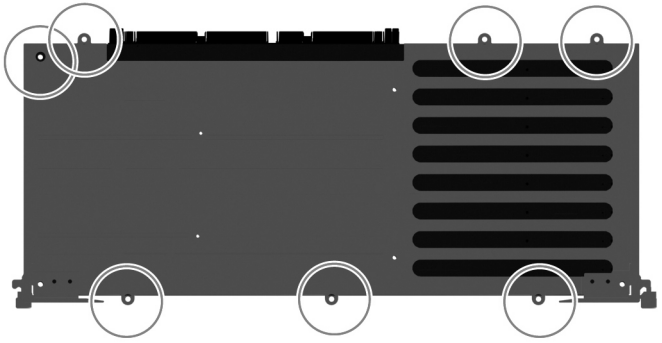
- "How to Power Off the System"
- "How to Open and Remove a Side Door"
- "How to Avoid Electrostatic Discharge"
- "How to Remove a CPU/Memory Board"

What to Do

Caution – CPU/Memory boards are made of electronic components that are extremely sensitive to static electricity. Static electricity from your clothes or your work environment can destroy the CPU/Memory board. Always wear a grounding strap when you handle the board. Place the board on an antistatic mat while you are working on it.

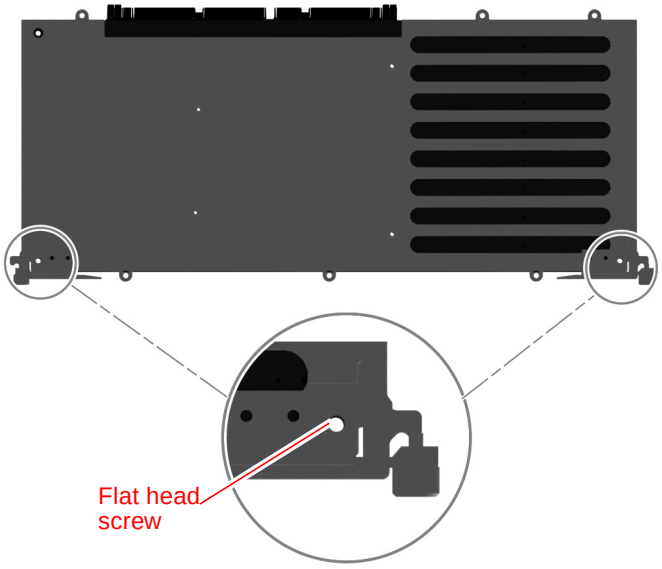
1. **Carefully place the CPU/Memory board down on a antistatic mat on its lexan plastic cover.**
2. **Using a Phillips No 2. screwdriver, remove the seven M4 Phillips screws securing the plastic cover to the CPU/Memory board.**

   Set aside the screws so that you can replace the cover later.



3. **Using a Phillips No 2. screwdriver, remove the two flat head Phillips screws securing the plastic cover to the CPU/Memory board.**

   Set aside the screws so that you can replace the cover later.



4. **Turn the CPU/Memory board over and place it on its metal backplate on an antistatic mat.**

5. **Remove the plastic cover.**

Caution – Do not damage any circuitry or components on the board.

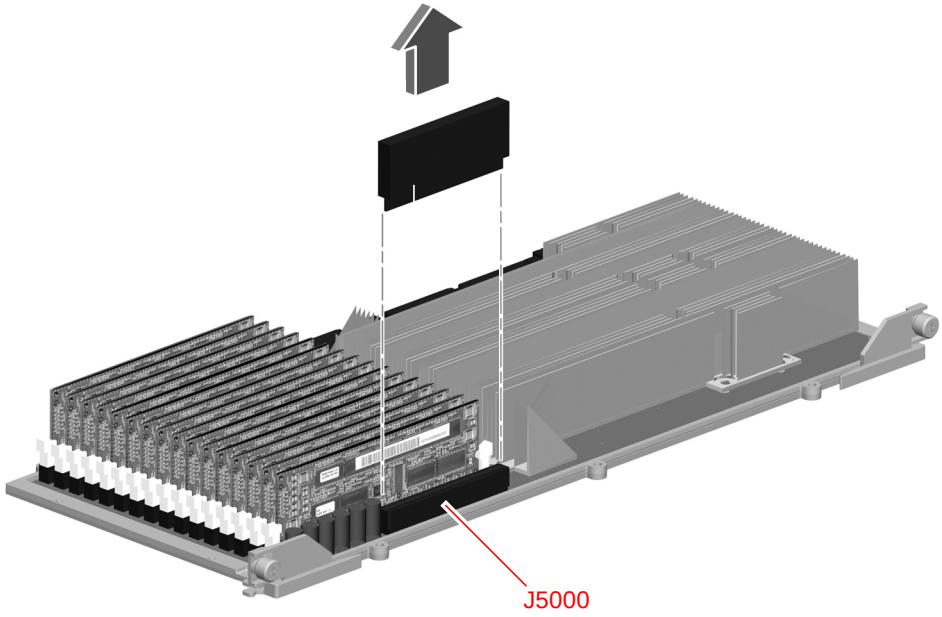
6. **Locate the DC-to-DC converter on the CPU/Memory board.**

   Refer to the illustration on the next page. The converter is located in slot J5000 on the CPU/Memory board.

7. **Remove the DC-to-DC converter.**

   a. **Grasp the DC-to-DC converter on the left- and right- side edges with the fingers of one hand, while holding the module steady with the other hand.**

b. Carefully pull the DC-to-DC converter straight up from its socket.



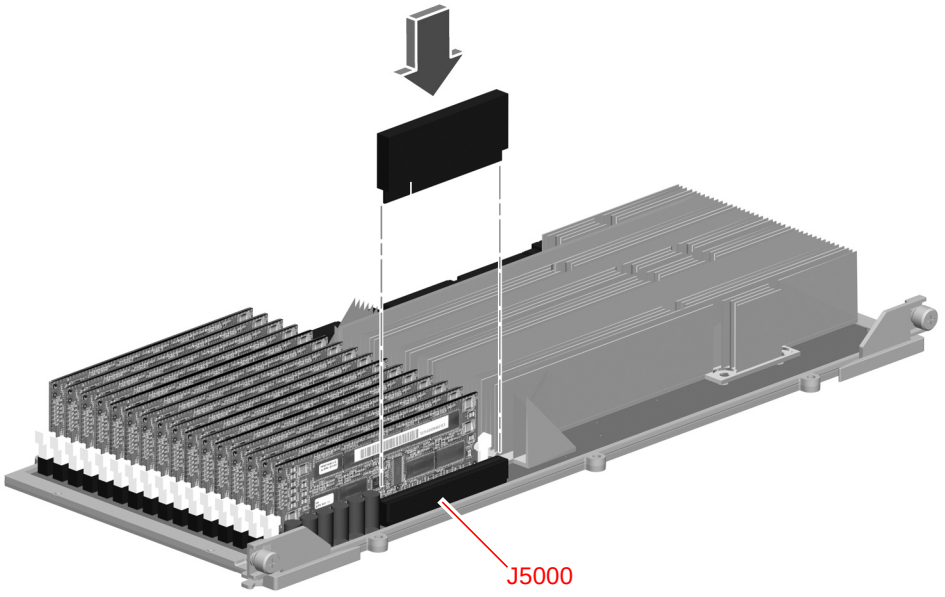
8. Remove the replacement DC-to-DC converter from its antistatic bag.

9. **Replace the DC-to-DC converter.**

   a. **Align the converter with its socket on the CPU/Memory board.**

      The converter is keyed to fit into the socket in only one way.

   b. **Grasping the converter by its edges, carefully place the converter in the socket and push straight down until the converter is fully seated in the socket.**



10. **Carefully replace the plastic cover on the CPU/Memory board, taking care to align the screwholes in the plastic cover with the backplate.**

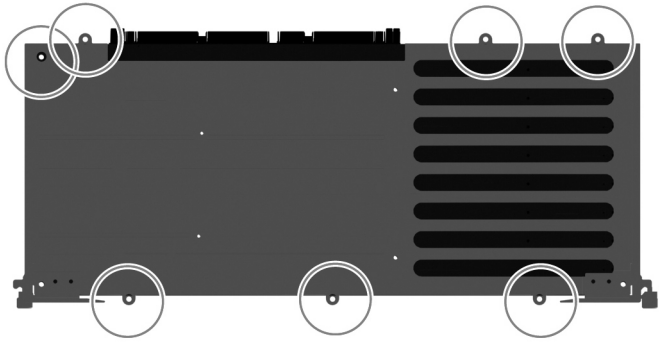
Caution – Do not damage any circuitry or components on the board.

11. **Turn the CPU/Memory board and the plastic cover over and rest them on the plastic cover on an antistatic mat.**

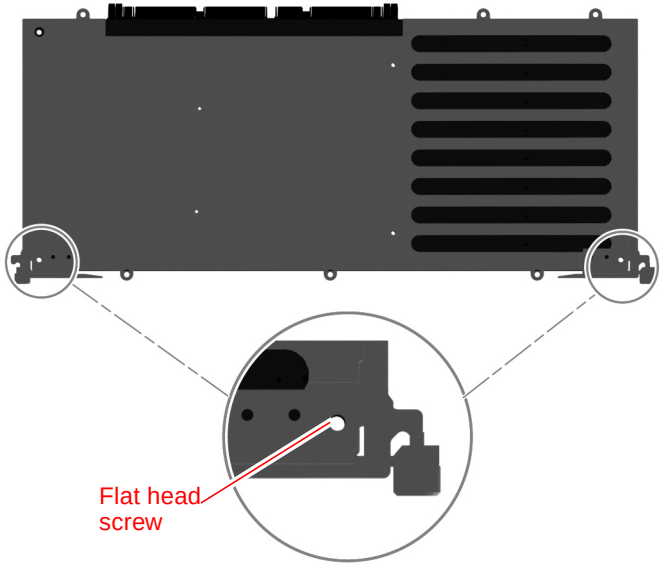
    Hold the board and the cover together as you turn them over.

12. **If needed, reposition the CPU/Memory board so that the screw holes on the plastic cover are aligned with the holes on the board.**

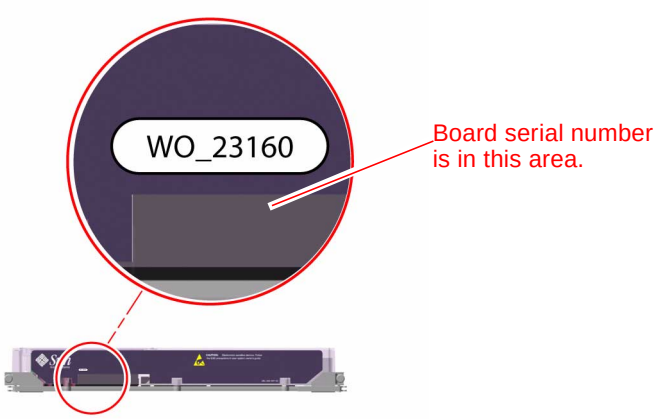
13. **Using a Phillips No. 2 screwdriver, replace the seven M4 Phillips screws that secure the plastic cover to the CPU/Memory board. Fully tighten the screws.**



14. **Using a Phillips No. 2 screwdriver, replace the two flat head Phillips screws that secure the plastic cover to the CPU/Memory board. Fully tighten the screws.**



15. **Affix the CPU/Memory board work order label on the CPU/Memory board as shown, above the serial number.**



16. **Repeat this procedure to replace the DC-to-DC converter for every CPU/Memory board in a system.**

What Next

To reassemble the system, complete this task:

- "How to Replace a CPU/Memory Board," described in the next section of this document. *It is important that the procedure is followed as described*; if you do not install the CPU/Memory board as described, the CPU/Memory board may not get seated fully or correctly on the system motherboard. In this case, you may get errors from POST or OpenBoot diagnostics indicating that the CPU/Memory board has failed, or, that there is no CPU/Memory board in a slot where you have installed a CPU/Memory board.

How to Install a CPU/Memory Board

What to Do

1. **Locate the CPU/Memory board slot into which you want to install the CPU/Memory board.**

Note – If your are installing more than one CPU/Memory board, install them from the bottom up, in the lowest available slot on the system.

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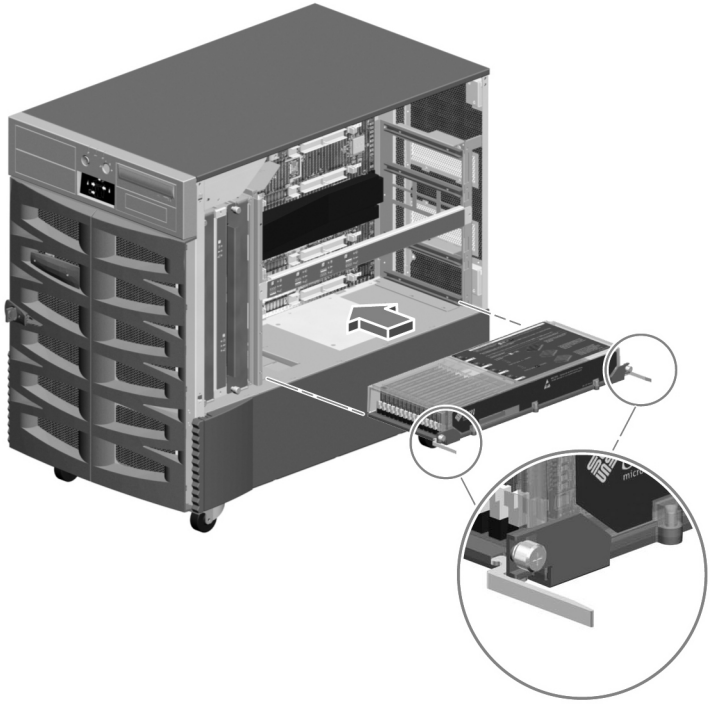
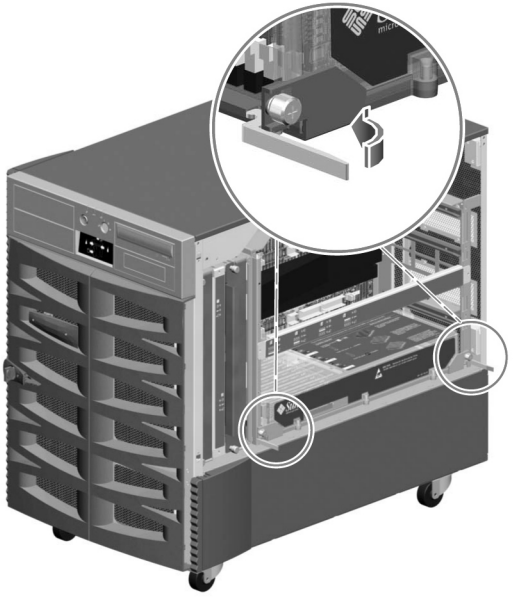
2. **Make sure that the ejection levers on the CPU/Memory board are rotated out 90 degrees.**



3. **Slide the CPU/Memory board into the guides in the chassis.**

   Slide the board into the system until the connectors on the board begin to engage the sockets on the motherboard and the ejection levers begin to contact the bracket.

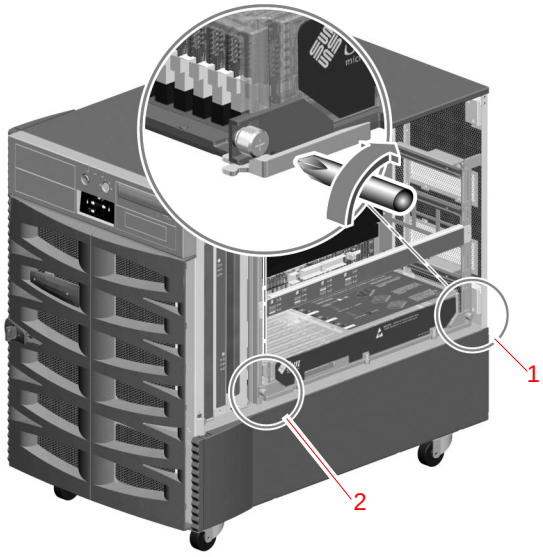
4. **Push in the two ejection levers simultaneously until the board is fully engaged in its slot.**



5. **Hand-tighten the two captive screws on the CPU/Memory board.**

6. **Using a No. 2 Phillips screwdriver, fully tighten the right-side captive screw and repeat for the left-side screw.**

Note – To correctly seat the CPU/Memory board in its socket on the motherboard, it is important that you fully tighten the right-side captive screw before you tighten the left-side captive screw with a screwdriver.



What Next

To reassemble the system, complete this task:

- "How to Close a Side Door," described in the *Sun Fire 880 Server Service Manual*

Note – Be sure to run POST and OpenBoot Diagnostics tests to verify that the system functions correctly with the CPU/Memory board you have just installed. For maximum test coverage, set the OpenBoot configuration variable `diag-level` to `max` prior to starting the diagnostic tests. For more information on POST and OpenBoot Diagnostics, refer to the "Diagnostics and Troubleshooting" chapter in the *Sun Fire 880 Server Service Manual*. If the CPU/Memory board you just installed fails these tests, or if the board is not recognized by the system, first try removing the board and then reseating the board as described in Steps five and six above.