Intel® PSU Cage Replacement Process Support Guide

A Guide for Technically Qualified Assemblers of Intel® 2U ATX Products

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1 Replacement Instructions

Before You Begin

Before working replacing the power supply unit (PSU) cage, pay close attention to the following instructions.

Required Tools

- Phillips* (cross head) screwdrivers (#1 bit and #2 bit)
- Wire cutters

Effective Handling Practices

- Electrostatic Discharge Damage (ESD)
  - — Always use an anti-static wrist strap and wear ESD shoes.
  - — Always test personnel wrist straps and shoes on a daily basis.
  - — Remove all static-charged products from the work area.
- Do not wear any jewelry in the work area.

Handling in Assembly

- Do not apply pressure to the Printed Circuit Board Assembly (PCBA)
- Make sure tools do not contact the PCBA.
- Do not bump or knock the drives when working with the equipment.

Note: *For clarity, the motherboard is not shown in some pictures.*

DO NOT REMOVE THE MOTHERBOARD AT **ANY** STAGE IN THE PROCESS!

Replacing the PSU Cage

The following instructions show you how to remove the power supply unit (PSU) cage from 2U ATX products.

Note: *Before you begin this process, you must remove the top cover to get to the PSU cage. Once the process is completed, you must put the top cover back on.*

Removing the PSU Cage

1. Remove the CPU air baffle.

Figure 1. CPU Air Baffle

Note the location of the cables you will remove from the board (Figure 2)

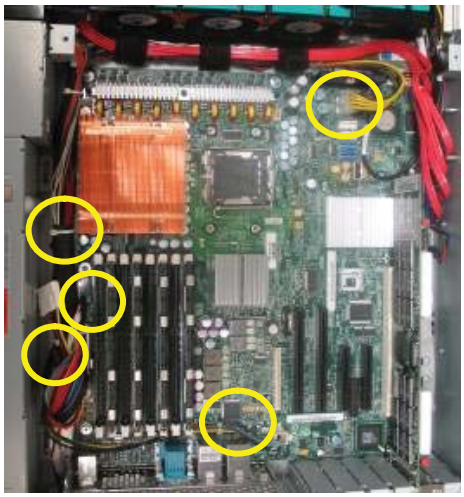

Figure 2. Cable Locations

2. Remove the PSU units.

Figure 3. PSU Removal

3. Remove the six screws holding the PSU cage in place. The PSU cage has four screws on the side of the chassis (Figure 4), and two screws in the rear (Figure 5).

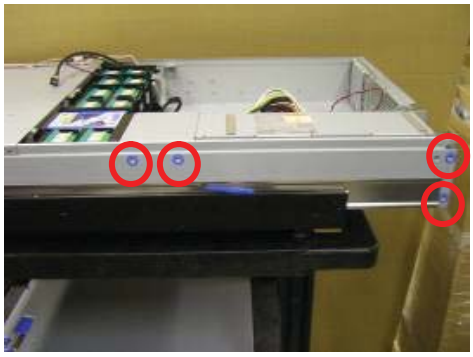

Figure 4. Side of Chassis

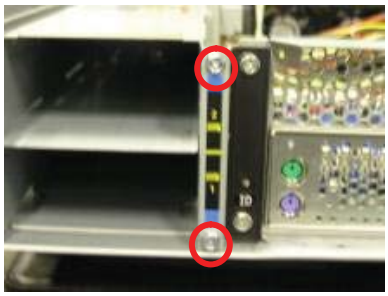

Figure 5. Rear of Chassis

4. Push/slide the cage forward in the direction shown in Figure 6 to release the locking system.

Figure 6. Sliding the Cage to Release the Locking System

Note: *The pin and PSU cage is now disengaged from the chassis. Refer to Figure 7.*

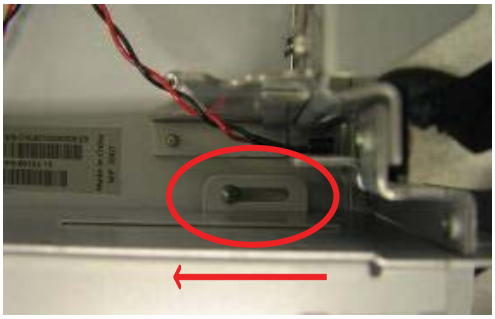

Figure 7. Pin and PSU Disengaged

As mentioned previously, the motherboard is not featured in the pictures for this support guide.

DO NOT REMOVE THE MOTHERBOARD AT **ANY** STAGE IN THE PROCESS!

5. Undo the Velcro* wraps.

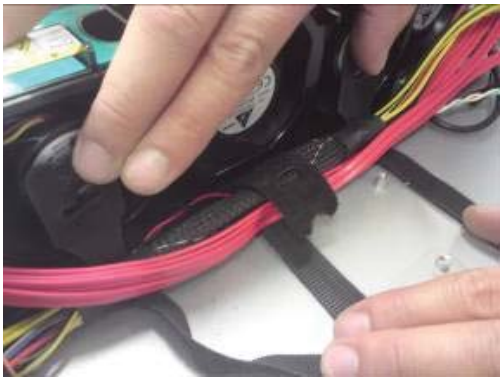

Figure 8. Velcro* Wraps

Note: *Do not remove the Velcro* wraps completely from the chassis.*

Figure 9. Velcro* Wraps Near Chassis

6. Carefully remove the cable ties ((Figure 10 and Figure 11) and ensure the cable is not removed with the bundle (Figure 12 and Figure 13).

Figure 10. Removing the Cable Tie

Figure 11. Removing the Cable Tie (Close-Up)

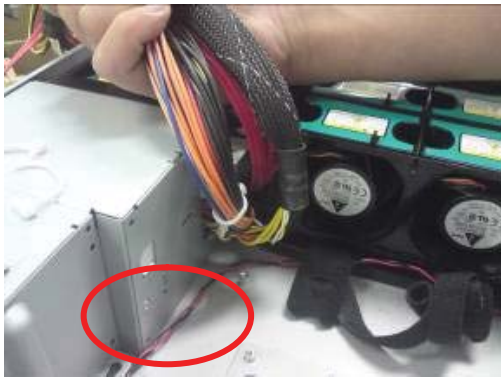

Figure 12. Cable Not Removed From Bundle

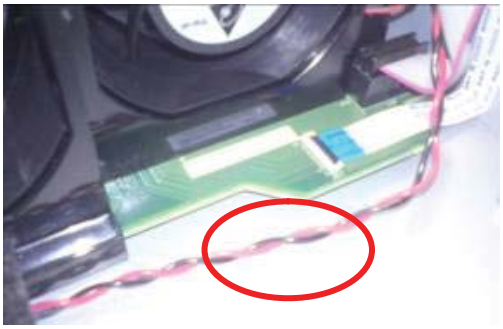

Figure 13. Cable Not Removed From Bundle (Close-Up)

Fitting the Replacement PSU Cage

Note: *Before you insert the PSU cage into the chassis, make sure the cabling leaves the cage with P2 and P4B to the right (Figure 15) and P1, P3, P4A, P5, and the two-pin cable to the left (Figure 14).*

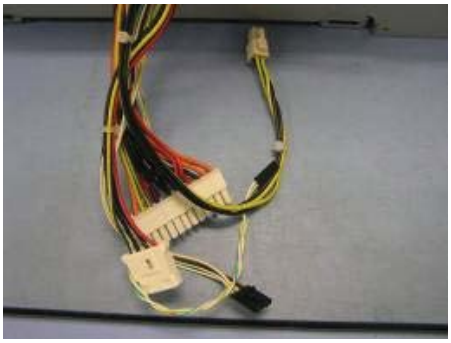

Figure 14. Cabling

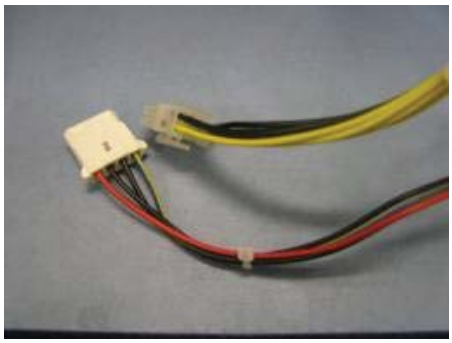

Figure 15. P2 and P4B Cables

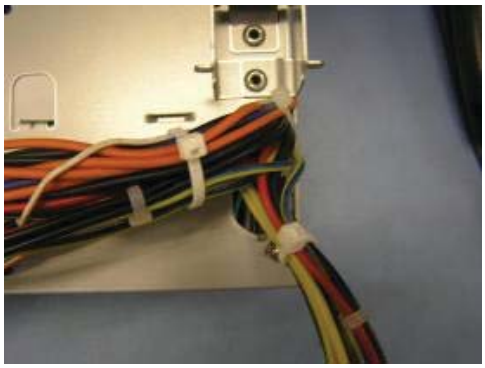

Figure 16. Cabling Tied-Up

1. Lift out the PSU cage and replace it with the new PSU cage.

2. Lower the PSU cage into the chassis, aligning the four slots as shown in Figure 17.

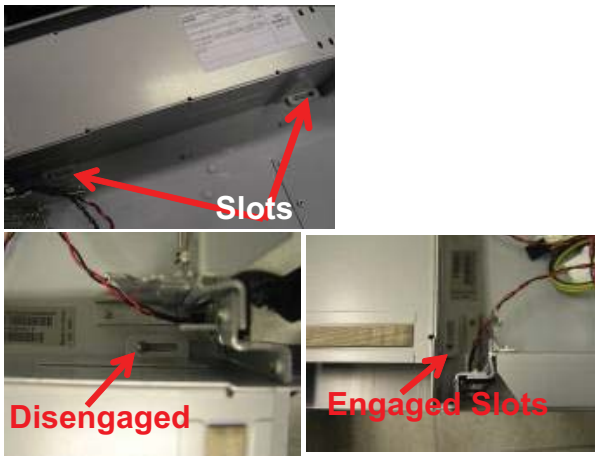

Figure 17. PSU Cage Slots

3. Once all slots are aligned, push the PSU cage towards the front of the chassis until the gap shown in Figure is closed.

Figure 18. Engaged PSU Cage

4. Once engaged, secure in place at the rear with the two screws.

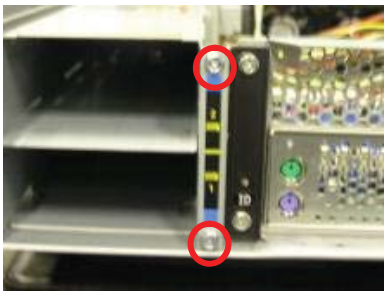

Figure 19. Rear of Chassis

5. Fasten the remaining four screws on the side.

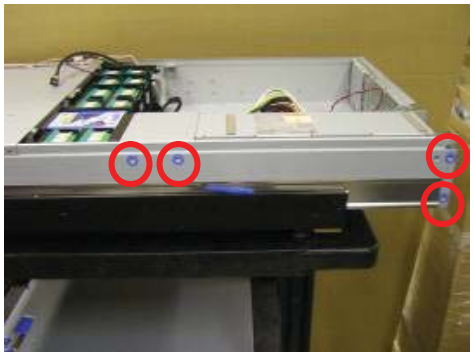

Figure 20. Side of Chassis

Cabling the Motherboard Cables

Note: *Make sure all PSU cables are plugged and clipped into place.*

1. Fit cables P1 and P5.

   The clip on each connector only allows the cables to fit in one direction. Ensure the PSU cables are securely clipped into place.

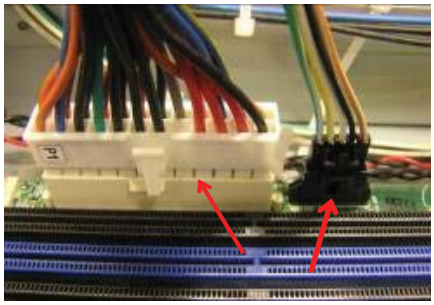

Figure 21. Cables Clipped Into Place

2. Fit cable P2 down into the connector.

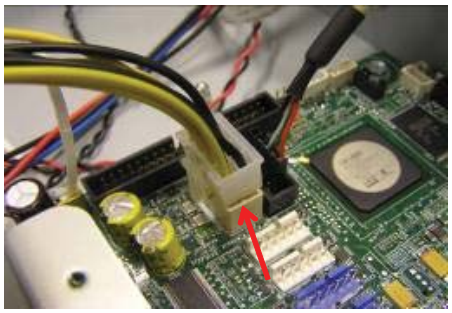

Figure 22. P2 Cable Clipped Into Place

3. When fitting cable P3, route cable around the DIMM slots.

   Make sure the cable is pressed flat to aid with airflow.

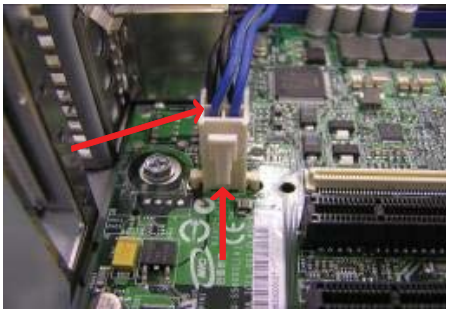

Figure 23. Proper Routing of P3 Cable

4. Route cable P4B between the enclosure management card and motherboard using the Velcro* wraps on the fan housing.

Figure 24. Routing Cables P4A and P4B

You must tie-wrap the PSU loom in the position shown in Figure 25 to ensure the wrap is facing upwards. The Velcro* wrap must be in-line with the heat sink on the board.

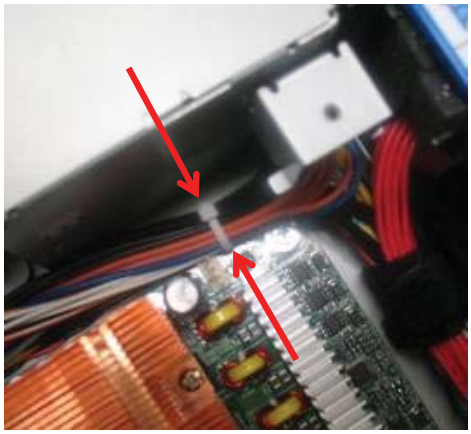

Figure 25. Tie Wrap Firmly in Place

5. Neatly tuck the secured Velcro* wraps as shown in Figure 26. This helps to ensure unobstructed airflow.

Figure 26. Velcro* Tie Wraps Tucked Into Place

Correct Connection of SATA Cables

Note: *The following information only applies to Non-RAID SKUs. For more information, refer to the user documentation.*

The following instructions explain how to fit the on-board RAID to the SAS card cable.

1. Fit cable: drive_0 to motherboard port SATA-2/SAS-0.
2. Fit cable: drive_1 to motherboard port SATA-3/SAS-1.
3. Fit cable: drive_2 to motherboard port SATA-4/SAS-2.
4. Fit cable: drive_3 to motherboard port SATA-5/SAS-3

Figure 27 shows the correct connection for the SATA cables using the labels mentioned in the previous instructions (Steps 1 through 4).

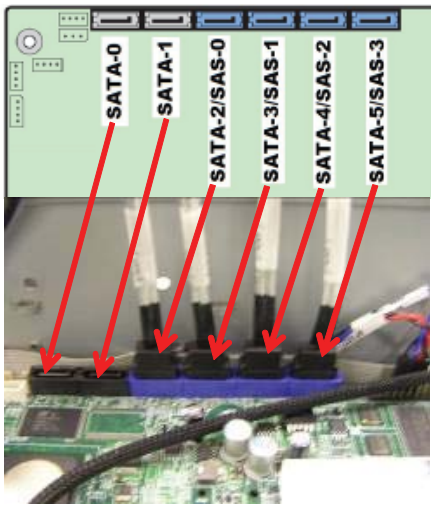

Figure 27. SATA Cables Correctly Connected

Note: *If you have not already done so, put the top cover back on to protect your system's hardware.*

This concludes the support documentation for the Intel® PSU Cage Replacement Process.