



Western Digital

Fan Housing Brackets Installation

Ultrastar® Data60, Ultrastar Data102

Regulatory Models H4060-J and H4102-J
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Revision History

Date	Revision	Comment
September 2022	01	Initial release
October 2022	02	<ul style="list-style-type: none">Added revision historyAdded Rework Kit Contents (page 3)Updated Fan Housing Bracket Installation, Active Optical Cables (page 5) and Fan Housing Bracket Installation, Passive Copper Cables (page 18) to add parts to list of equipment needed and to include instructions for adhesive film.

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Overview

The topic(s) in this section provide an overview of the purpose and scope of this work instruction.

In This Chapter:

- Rework Processes for Fan Grommet Field Failures..... 2
- Rework Kit Contents..... 3

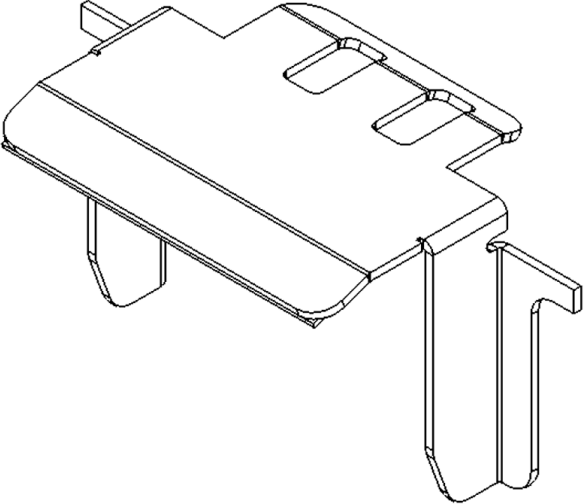
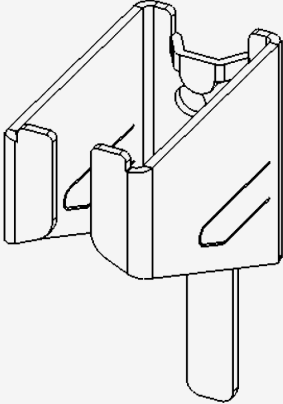
1.1 Rework Processes for Fan Grommet Field Failures

The work instructions in this document define two separate rework processes for field failures of Ultrastar Data60 and Ultrastar Data102 rear fan grommets. Failing grommets may cause the rear fans to pitch or rotate away from the enclosure's rear bulkhead. Both rework processes consist of installing fan housing brackets to secure the fans in their proper position.

- The first rework process applies only to enclosures using active optical cables (AOCs). Please see [Fan Housing Bracket Installation, Active Optical Cables \(page 5\)](#).
- The second process applies only to enclosures using passive copper cables. Please see [Fan Housing Bracket Installation, Passive Copper Cables \(page 18\)](#).

1.2 Rework Kit Contents

The fan rework kit includes the following items.

Description	Qty.	Image/Details
Upper Bracket (with adhesive film)	1	
Lower Bracket	2	
Cable Tie	1	N/A



Enclosures with Active Optical Cables

This section contains instructions for installing upper and lower fan housing brackets on Ultrastar Data60 and Data102 enclosures with installed active optical cables. For enclosures with passive copper cables, see [Fan Housing Bracket Installation, Passive Copper Cables \(page 18\)](#).

In This Chapter:

- Fan Housing Bracket Installation, Active Optical Cables.....5

2.1 Fan Housing Bracket Installation, Active Optical Cables

This procedure provides instructions for installing upper and lower fan housing brackets on Ultrastar Data60 and Ultrastar Data102 enclosures with installed active optical cables.

Equipment & Parts Needed for Rework

- (1) T15 Torx Driver (recommend shaft length of 8" or longer)
- (1) T15 Torx Torque Driver (recommend shaft length of 8" or longer)
- (1) #2 Philips Head Driver
- (1) #2 Philips Head Torque Driver
- (1) 3/16" Flat Head Driver
- (1) Upper Bracket (with adhesive film)
- (2) Lower Brackets
- (1) Zip Tie

Preparation

Step 1: If access to the rear of the rework unit is hindered by the unit above, the upper unit should be moved forward (out of the rack) about 1 foot to provide access. If the upper unit is an Ultrastar Data60 or Ultrastar Data102, follow the instructions in this step to move the unit forward.



Tip: If the upper unit is not an Ultrastar Data60 or Ultrastar Data102, follow the manufacturer's recommendations for moving the unit forward. Then proceed to step 2 ([page 6](#)).

- a. Completely loosen the captive screws (x3), and remove the shipping bracket screw (x1) from both left and right sides using a T15 Torx driver.



- b. Set aside the shipping screws (x2) for reuse.
- c. Slide the enclosure directly above the rework unit forward (out of the rack) about 1 foot, or until the CMA tray (at the rear) is out of the way of the rework unit below.

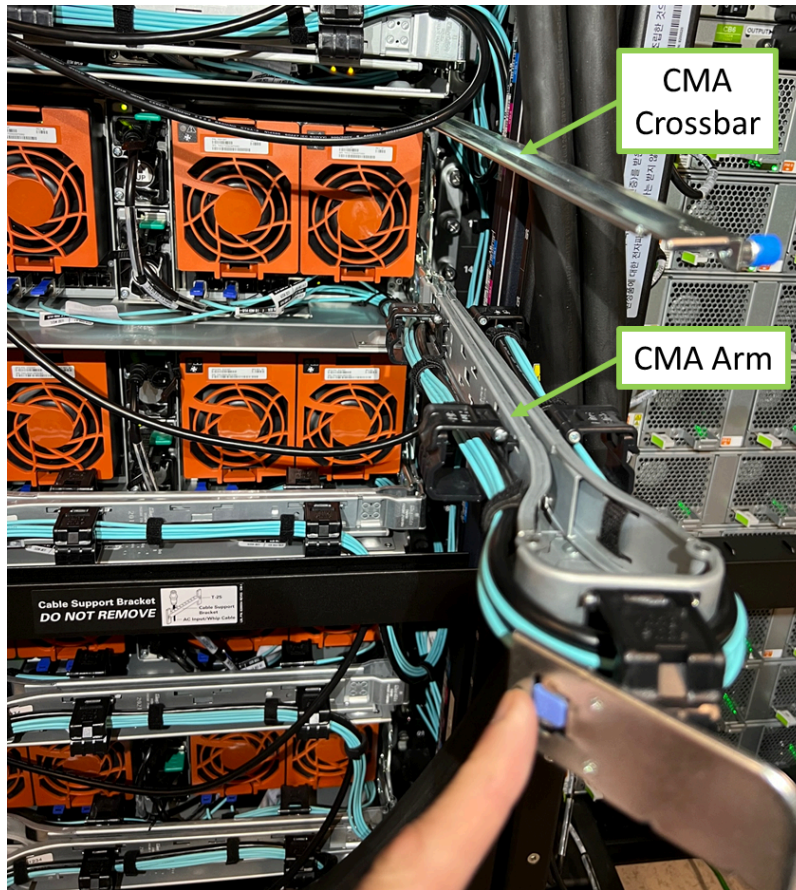


Step 2: On the rework unit, move the CMA crossbars and arm(s).

- a. Using a #2 Phillips screwdriver, loosen the CMA crossbar captive screw.

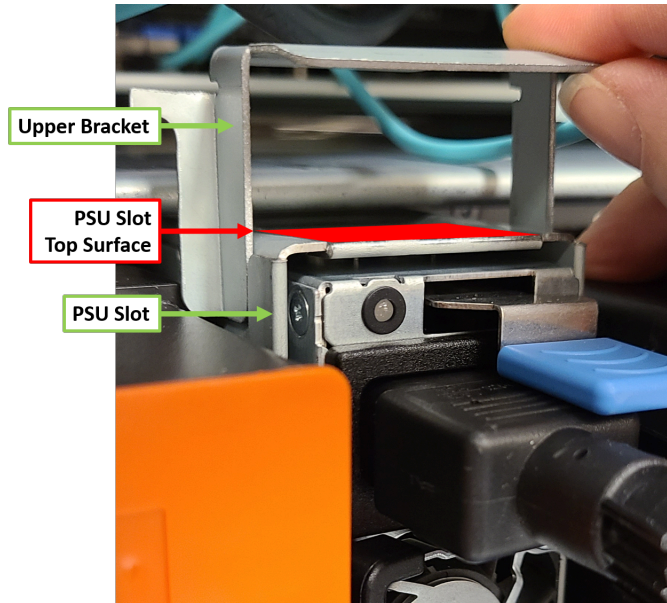


- b. Swing the CMA crossbar and CMA arm(s) to the side and out of the way.



Install Upper Bracket

Step 3: The upper bracket will be adhered to the top surface of the PSU slot (colored red in the following image). Ensure that this surface is free from oil or debris before installing the bracket.



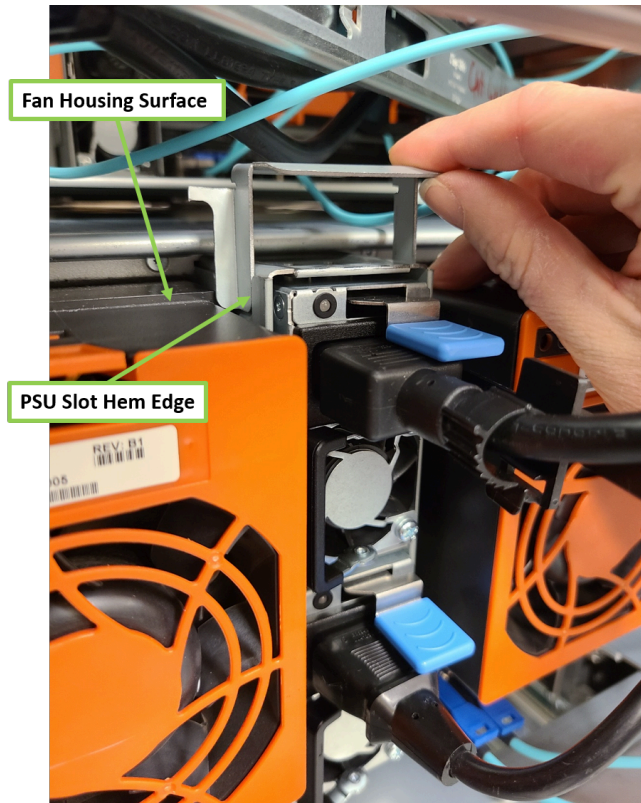
Step 4: Remove the backer material from the upper bracket's adhesive film.



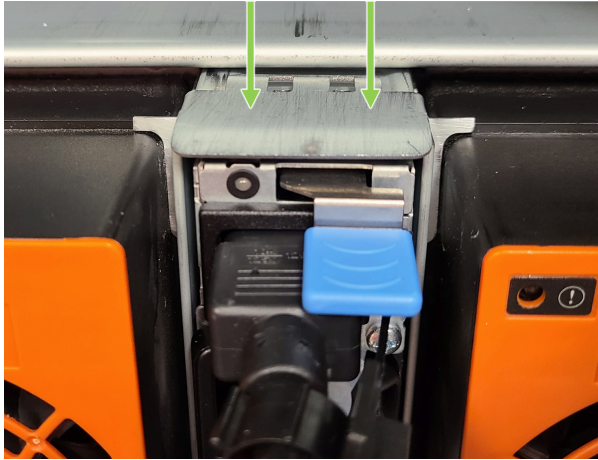
Step 5: Position the upper bracket on the rear bulkhead so that its sides are situated between the fan housings and the edges of the PSU slot hems, as shown in the following image.



Tip: You may need to push the fan housings toward the rear bulkhead to create enough space for the bracket.



Step 6: Slide the bracket down until the adhesive film contacts the top surface of the PSU slot. Press the bracket down to ensure that the adhesive film bonds to the surface.



Caution: To ensure that the adhesive film is sufficiently bonded to the PSU slot, wait 60 minutes before changing the rework enclosure's position (pulling it out of the rack or pushing it back into the rack).

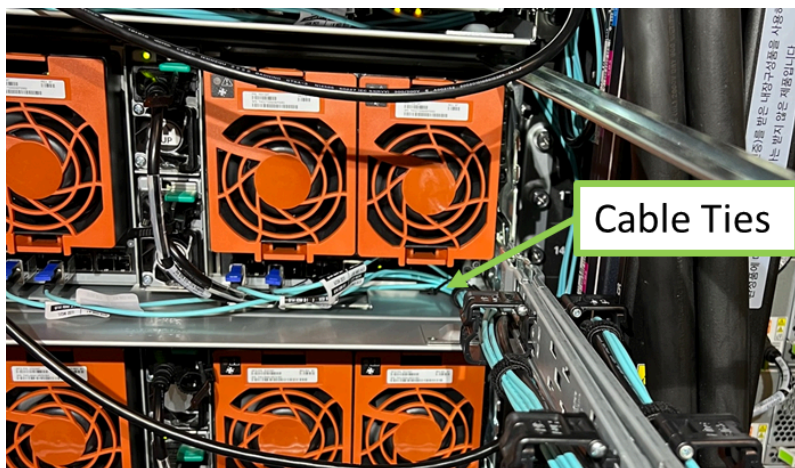
Step 7: Ensure fan housings are secure.



Note: If the enclosure above the rework unit was moved forward, it can be returned to its fully installed position after the upper bracket installation — as described in step 14 (page 16) — instead of waiting until the end of this procedure.

Install Lower Brackets

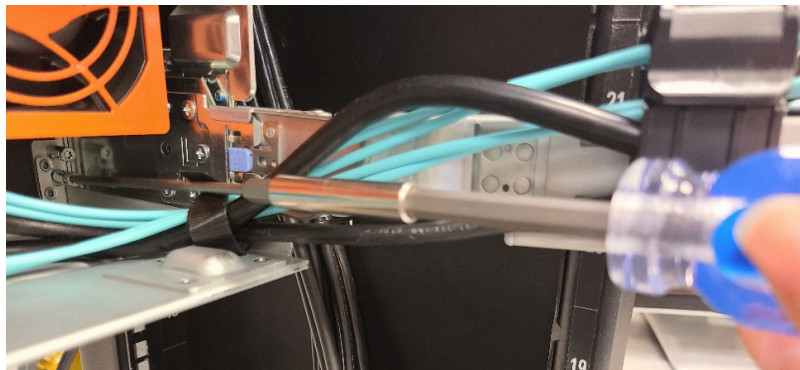
Step 8: Remove the zip tie that attaches the power cable to the CMA tray.



Step 9: Remove the CMA tray by loosening its captive screws (x4) using a T15 screwdriver (8" or longer shaft recommended).

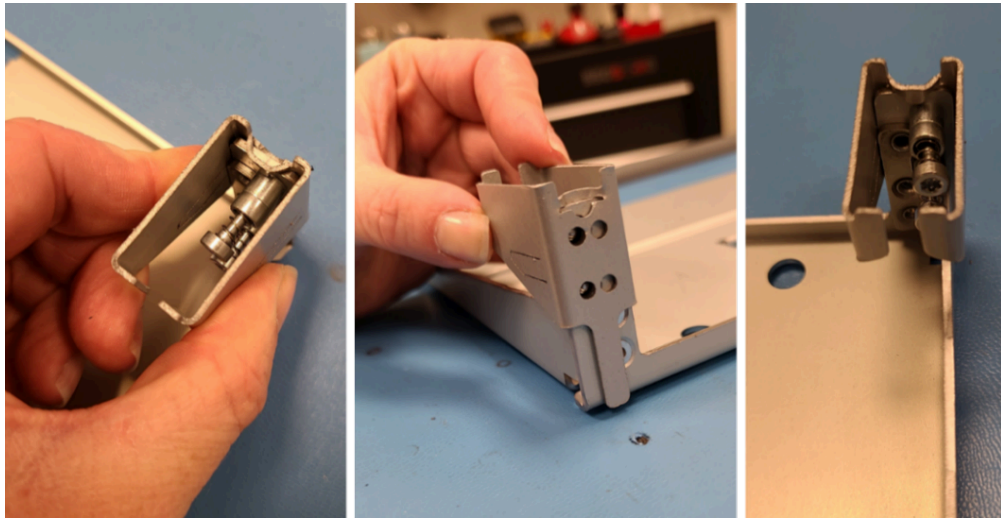


Note: If needed, hold the CMA out while loosening the captive screws to increase access to the hardware.

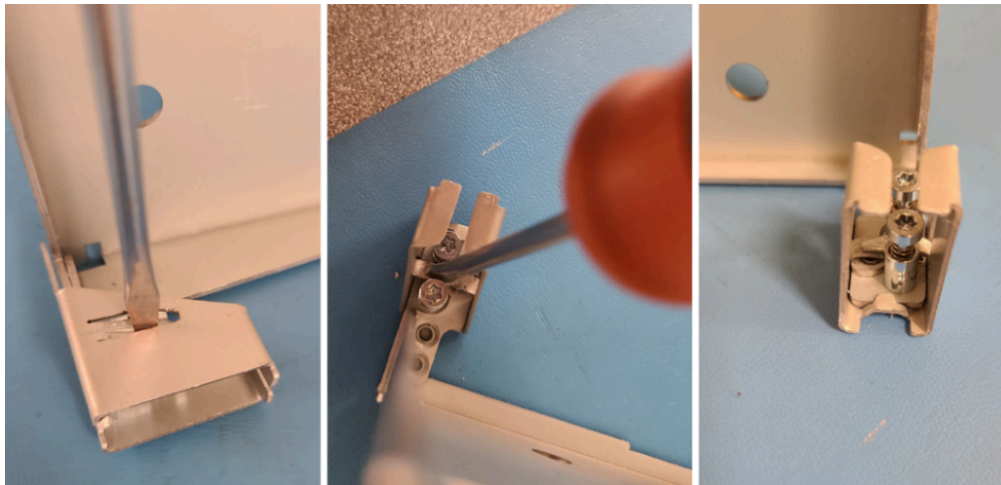


Step 10: Install the lower brackets onto the CMA tray.

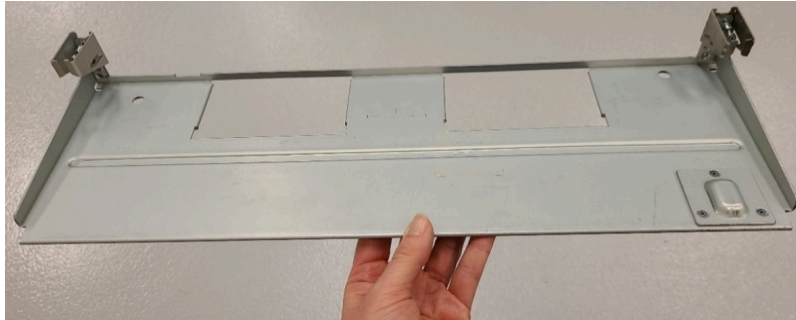
- a. Slide a lower bracket onto the tray from above until it rests securely on the corner of the tray.



- b. Rest the tray on a flat surface.
- c. Using a 3/16" flat-head screwdriver, fold the bracket tabs inward, as shown in the following image. Then flatten both tabs from inside the bracket, securing them between the captive screws.



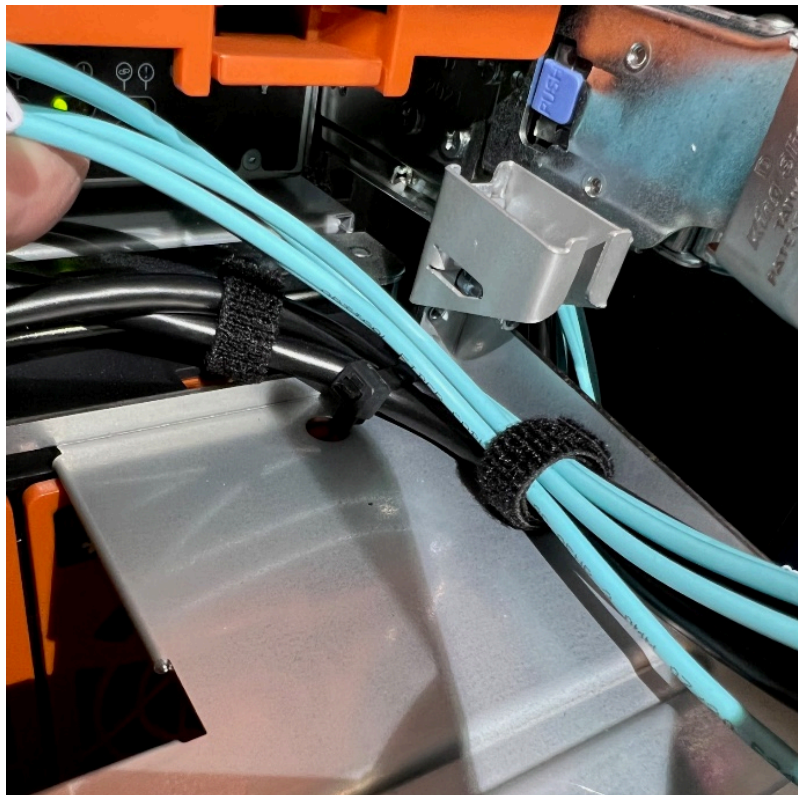
- d. Repeat these steps on the other side of the tray to install the second lower bracket.



Note: These lower brackets support the fan housings from below and prevent them from pitching out and away from the chassis.

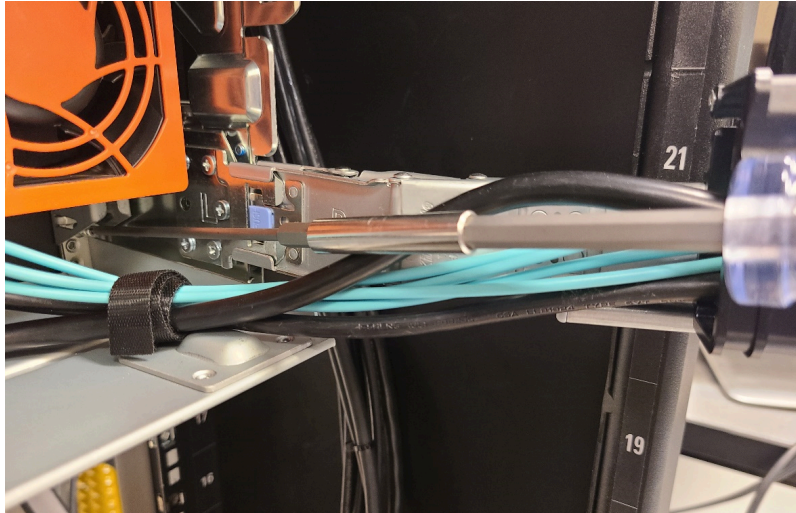
Reassemble

- Step 11:** Reattach the power cable to the CMA tray using a new zip tie.



Step 12: Reattach the CMA tray (with brackets).

- a. Reattach the CMA tray to the rear of the chassis with a T15 Torx screwdriver using its captive screws (x4). Hand-tighten the screws until the heads are flush with the shoulder of the captive screw base.



Step 13: Re-latch the CMA crossbar and arm(s).

- a. Swing the CMA crossbar back into place and secure it with its captive screw. **Torque the screw to 6 in-lbs.**



- b. Ensure all cables are fully plugged in.
- c. Swing the CMA arm(s) back into place and secure it (them) with the latch(es).



Step 14: If the enclosure above the rework unit was moved forward, return the upper enclosure to its original position. If the upper unit is an Ultrastar Data60 or Ultrastar Data102, follow the instructions in this step to do so.



Tip: If the upper unit is not an Ultrastar Data60 or Ultrastar Data102, follow the manufacturer's recommendations for returning the unit to its original position.

- a. Slide the enclosure directly above the rework unit back into its fully installed position in the rack.
- b. Reinstall the left and right shipping brackets by tightening their captive screws (x6) and reinstalling the shipping screws (x2). **Torque the screws to 30-32 in-lbs.**



Note: Use the shipping screws previously set aside, unless they're damaged. If damaged, use new screws.

Result: The fan housing brackets have now been installed.



Enclosures with Passive Copper Cables

This section contains instructions for installing upper and lower fan housing brackets on Ultrastar Data60 and Data102 enclosures with installed passive copper cables. For enclosures with active optical cables, see [Fan Housing Bracket Installation, Active Optical Cables \(page 5\)](#).

In This Chapter:

- Fan Housing Bracket Installation, Passive Copper Cables..... 18

3.1 Fan Housing Bracket Installation, Passive Copper Cables

This procedure provides instructions for installing upper and lower fan housing brackets on Ultrastar Data60 and Data102 enclosures with installed passive copper cables.

Equipment & Parts Needed for Rework

- (1) T15 Torx Driver (recommend shaft length of 8" or longer)
- (1) T15 Torx Torque Driver (recommend shaft length of 8" or longer)
- (1) #2 Philips Head Driver
- (1) #2 Philips Head Torque Driver
- (1) 3/16" Flat Head Driver
- (1) Upper Bracket (with adhesive film)
- (2) Lower Brackets

Preparation

Step 1: If access to the rear of the rework unit is hindered by the unit above, the upper unit should be moved forward (out of the rack) about 1 foot to provide access. If the upper unit is an Ultrastar Data60 or Ultrastar Data102, follow the instructions in this step to move the unit forward.



Tip: If the upper unit is not an Ultrastar Data60 or Ultrastar Data102, follow the manufacturer's recommendations for moving the unit forward. Then proceed to step 2 ([page 19](#)).

- a. Completely loosen the captive screws (x3), and remove the shipping bracket screw (x1) from both left and right sides using a T15 Torx driver.



- b. Set aside the shipping screws (x2) for reuse.
- c. Slide the enclosure directly above the rework unit forward (out of the rack) about 1 foot, or until the CMA tray (at the rear) is out of the way of the rework unit below.

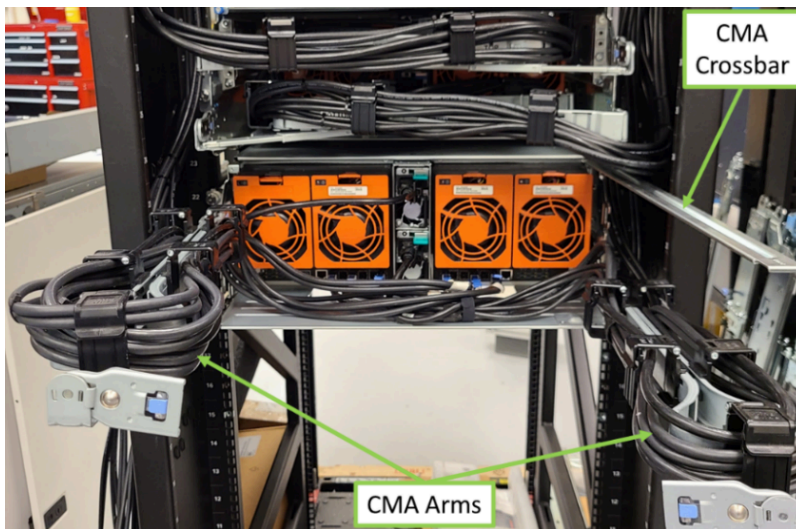


Step 2: On the rework unit, move the CMA crossbars and arm(s).

- a. Using a #2 Phillips screwdriver, loosen the CMA crossbar captive screw.

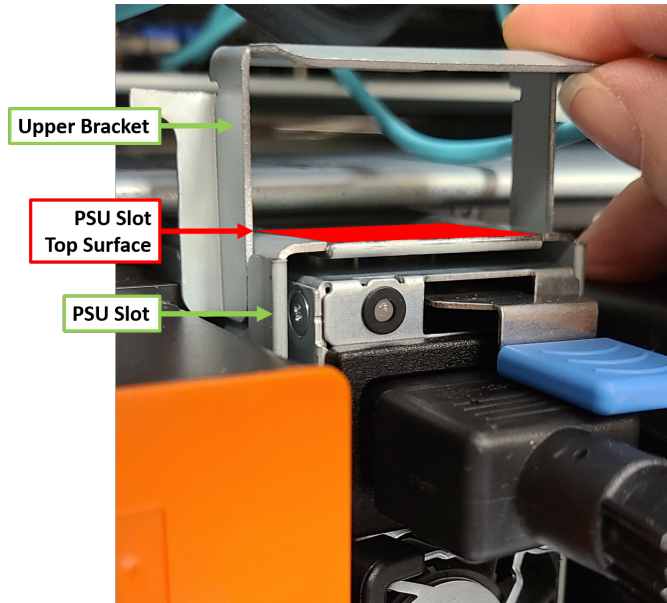


- b. Swing the CMA crossbar and CMA arm(s) to the side and out of the way.



Install Upper Bracket

Step 3: The upper bracket will be adhered to the top surface of the PSU slot (colored red in the following image). Ensure that this surface is free from oil or debris before installing the bracket.



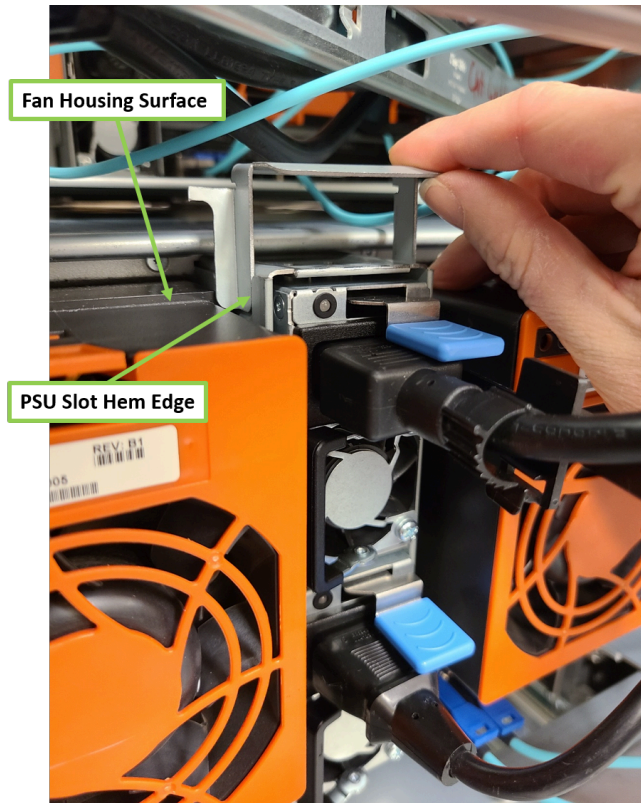
Step 4: Remove the backer material from the upper bracket's adhesive film.



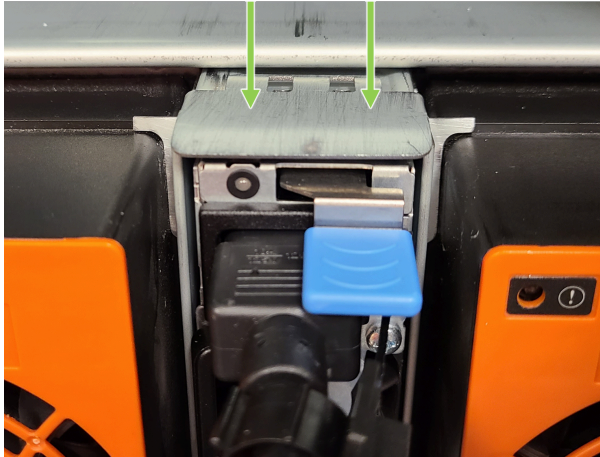
Step 5: Position the upper bracket on the rear bulkhead so that its sides are situated between the fan housings and the edges of the PSU slot hems, as shown in the following image.



Tip: You may need to push the fan housings toward the rear bulkhead to create enough space for the bracket.



Step 6: Slide the bracket down until the adhesive film contacts the top surface of the PSU slot. Press the bracket down to ensure that the adhesive film bonds to the surface.



Caution: To ensure that the adhesive film is sufficiently bonded to the PSU slot, wait 60 minutes before changing the rework enclosure's position (pulling it out of the rack or pushing it back into the rack).

Step 7: Ensure fan housings are secure.



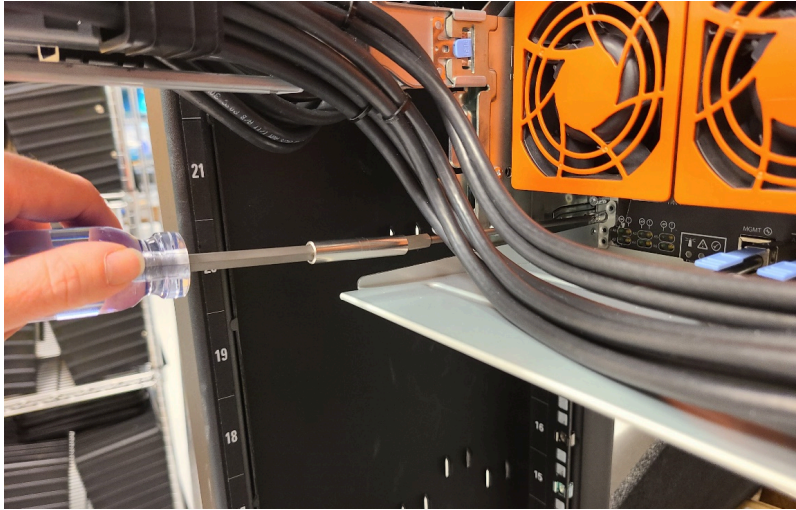
Note: If the enclosure above the rework unit was moved forward, it can be returned to its fully installed position after the upper bracket installation — as described in step 14 (page 28) — instead of waiting until the end of this procedure.

Install Lower Brackets

Step 8: Unfasten the hook-and-loop strips that attach the data and power cables to the CMA tray.



Step 9: Remove the CMA tray by loosening its captive screws (x4) using a T15 screwdriver (8" or longer shaft recommended).

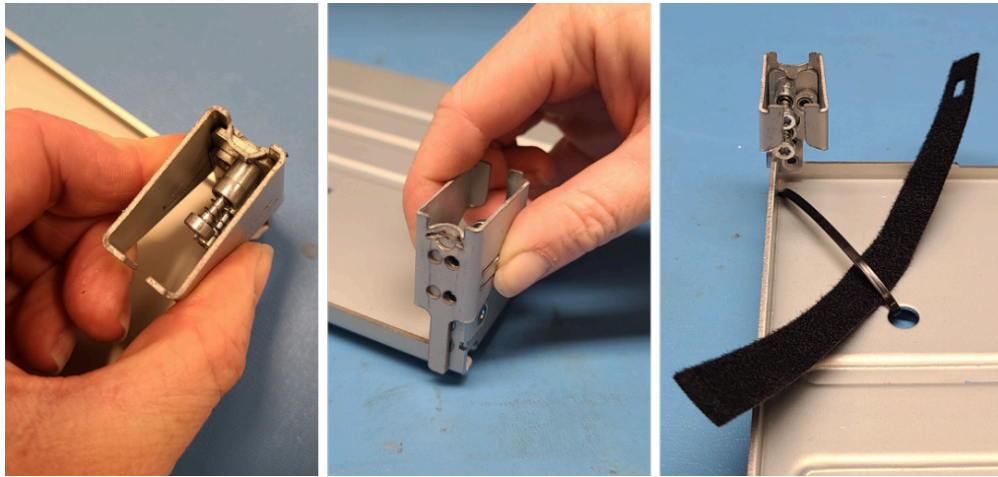


Note: If needed, hold the CMA out while loosening the captive screws to increase access to the hardware.

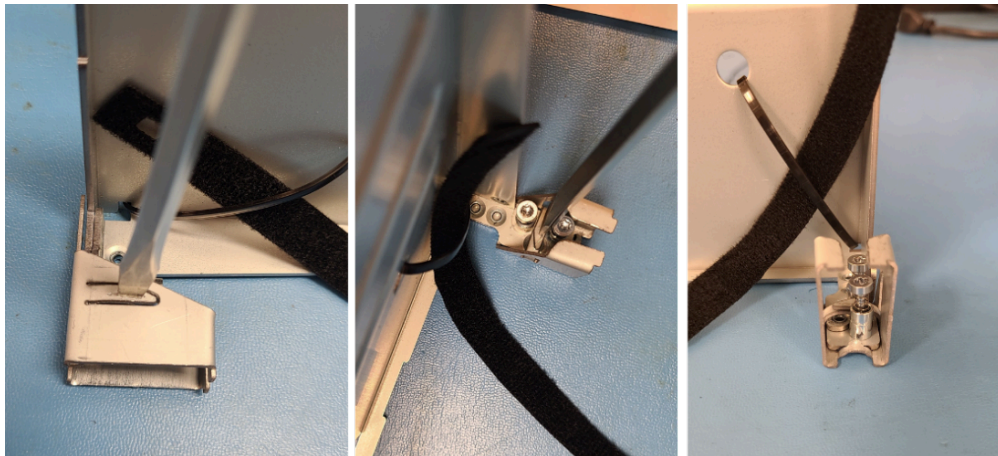


Step 10: Install the lower brackets onto the CMA tray.

- a. Slide a lower bracket onto the tray from above until it rests securely on the corner of the tray.



- b. Rest the tray on a flat surface.
c. Using a 3/16" flat-head screwdriver, fold the bracket tabs inward, as shown in the following image. Then flatten both tabs from inside the bracket, securing them between the captive screws.



- d. Repeat these steps on the other side of the tray to install the second lower bracket.



Note: These lower brackets support the fan housings from below and prevent them from pitching out and away from the chassis.

Reassemble

Step 11: Reattach the CMA tray (with brackets).

- a. Reattach the CMA tray to the rear of the chassis with a T15 Torx screwdriver using its captive screws (x4). Hand-tighten the screws until the heads are flush with the shoulder of the captive screw base.



Step 12: Secure the data and power cable(s) to the CMA tray using the hook-and-loop strips.



Step 13: Re-latch the CMA crossbar and arm(s).

- a. Swing the CMA crossbar back into place and secure it with its captive screw. **Torque the screw to 6 in-lbs.**



- b. Ensure all cables are fully plugged in.
- c. Swing the CMA arm(s) back into place and secure it (them) with the latch(es).



Step 14: If the enclosure above the rework unit was moved forward, return the upper enclosure to its original position. If the upper unit is an Ultrastar Data60 or Ultrastar Data102, follow the instructions in this step to do so.



Tip: If the upper unit is not an Ultrastar Data60 or Ultrastar Data102, follow the manufacturer's recommendations for returning the unit to its original position.

- a. Slide the enclosure directly above the rework unit back into its fully installed position in the rack.

- b. Reinstall the left and right shipping brackets by tightening their captive screws (x6) and reinstalling the shipping screws (x2). **Torque the screws to 30-32 in-lbs.**



Note: Use the shipping screws previously set aside, unless they're damaged. If damaged, use new screws.

Result: The fan housing brackets have now been installed.