Western Digital.

# EcoDesign Disclosures

## Ultrastar® Data60

Regulatory Model H4060-J
Document D018-000245-000
Revision 02
September 2022

# Table of Contents

# Revision History

| Date | Revision | Comment |
|---|---|---|
| February 2020 | 1.0 | Initial release |
| March 2020 | 1.1 | Updated the Notices section |
| September 2021 | 01 | Changed document number from 1ET2154 to D018-000245-000 |
| September 2022 | 02 | Updated document branding |

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# EU EcoDesign Disclosures

This document provides information and instructions related to the 's disclosures for the EU's ecodesign requirements.

## In This Chapter:

## 1.1 EcoDesign Overview

This document provides information about the Ultrastar Data60 related to its manufacturing and operation, and instructions for secure data deletion and disassembly.

## 1.2 Ultrastar Data60 EcoDesign Specifications

| | |
|---|---|
| **Product Type** | Onilne Data Storage Product |
| **Manufacturer's Name** | Western Digital |
| **Manufacturer's Registered Trade Name** | Western Digital® |
| **Manufacturer's Registered Trade Address** | 5601 Great Oaks Parkway<br>San Jose, CA 95119<br>USA |
| **Product Model Number** | H4060-J |
| **Starting Year of Manufacture** | 2018[1] |
| **PSU efficiency at 20%, 50%, 100% of rated output power** | 20% load = 90%<br>50% load = 94%<br>100% load = 91% |
| **Power Factor at 50% Rated Load Level** | Minimum Power Factor = 0.95 |
| **Declared Operating Condition Class** | A2 |
| **Neodymium Content in HDDs** | 5g to 25g<br>(for drive models HC310, HC320, HC510, HC520, and HC530) |
| **Cobalt Content in Batteries** | N/A |

## 1.3 Instant Secure Erase / Secure Erase

This section provides conceptual information and instructions for using the Instant Secure Erase (ISE) or Secure Erase (SE) features included with Western Digital drives.

### Data Erasure Options

Western Digital provides several options for securely erasing data from its drives. The appropriate method depends upon many factors, including the following:

- Erase Configuration (ISE or SE)
- Drive Type (HDD or SSD)
- Interface Type (SAS, SATA, or NVMe™ )
- Encryption (none, TCG, or FIPS)

1. This value is the original date of product manufacture. For the specific manufacture date of your platform, check the agency label attached to the platform. There will be a 4 digit date code on that label.

For more information on the `sanitize` command for specific drive models, please see the drive model's specification, contact Western Digital technical support, or download the following whitepaper for details: https://documents.westerndigital.com/content/dam/doc-library/en_us/assets/public/western-digital/collateral/tech-brief/tech-brief-instant-secure-erase....

## ISE / SE Overview

Instant Secure Erase (ISE) is Western Digital's implementation of the industry standard T10 (SAS)/T13 (SATA) `sanitize` command, allowing users to instantly erase both user-accessible data and hidden user data from Western Digital drives.

The `sanitize` command supports three options:

1. **Crypto Scramble (SATA) / Crypto Erase (SAS)**: deletes the encryption key of a self-encrypting drive.
2. **Overwrite (HDDs)**: overwrites the data on the drive with a supplied value.
3. **Block Erase (SSDs)**: electrically erases each storage element by modifying their voltage levels.

Secure Erase (SE) is a subset of ISE, where the *Crypto Scramble / Erase* option has been disabled, allowing only the *Overwrite* or *Block Erase* options.

## Requirements

To perform secure deletion, the following versions are the minimal recommended/supported utilities for each drive interface required on the host. For other versions, please verify the arguments/parameters in the appropriate man pages.

- **SAS**: sg_sanitize version 1.00 20151219 (included in sg3_utils 1.42[2])
- **SATA**: hdparm version 9.58
- **NVMe**: nvme-cli version 1.13

## Erase Methods

The following methods cover all erasure options and storage technologies for Western Digital drives. For more information on the `sanitize` command for specific drive models, please see the drive model's specification.

**Note:** If a RAID adapter or software is in use, remove the drives from a RAID set before erasure.

**Note:** If a drive is encrypted (TCG or FIPS), unlock the drive before executing any `sanitize` commands.

**Note:** In the following commands, replace the generic reference of `<dev>` with the specific device reference appropriate for your operating system (i.e. `sgX` for Linux®, `SCSIX:X,X,X` for Windows).

### SAS

**Note:** In the following `sg_sanitize` commands, the `--quick` option starts the deletion immediately. If the `--quick` option is not specified, the drive's `inquiry` response strings are printed in case the wrong device has been specified, and the user is given 15 seconds to reconsider whether they wish to erase all the data on the drive.

2. For details on how to use the sg3_utils v1.42 utility, visit http://sg.danny.cz/.

- ISE - Crypto Erase - HDD/SSD:

```
# sg_sanitize --crypto --quick <dev>
```

- SE - Overwrite - HDD:

```
# sg_sanitize --overwrite --quick --zero <dev>
```

- Block Erase - SSD:

```
# sg_sanitize --block --quick <dev>
```

**SATA**

- ISE - Crypto Erase - HDD/SSD:

```
# hdparm --yes-i-know-what-i-am-doing --sanitize-crypto-scramble <dev>
```

- SE - Overwrite - HDD:

```
# hdparm --yes-i-know-what-i-am-doing --sanitize-overwrite hex:11111111 <dev>
```

- Block Erase SSD:

```
# hdparm --yes-i-know-what-i-am-doing --sanitize-block-erase <dev>
```

**NVMe**

- 

```
# nvme format –s <option> /dev/<nvme_namespace>
```

**Note:** The `-s` option triggers Secure Erase mode.

```
Value    Definition
0        No secure erase operation requested
1        User Data Erase: All user data shall be erased, contents of the
         user data after the erase is indeterminate (e.g., the user data
         may be zero filled, one filled, etc). The controller may
         perform a cryptographic erase when a User Data Erase is
         requested if all user data is encrypted.
2        Cryptographic Erase: All user data shall be erased
         cryptographically. This is accomplished by deleting the
         encryption key.
```

# 1.4 Ultrastar Data60 Disassembly

This task provides instructions for disassembling an Ultrastar Data60 to meet the EU's ecodesign requirements.

*Table 3: Procedure Requirements*

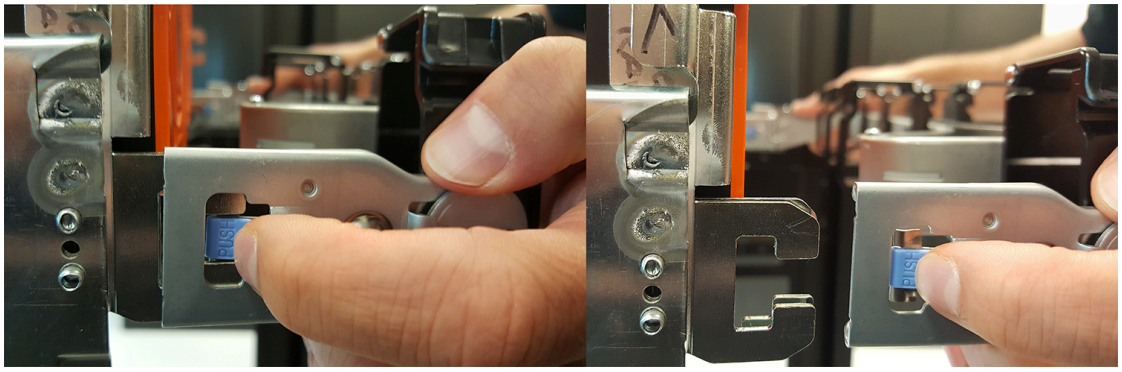
| Required Tools | # of People Required | Time Required |
|---|---|---|
| T7, T8, T10 Torx Screwdrivers<br>#2 Phillips Screwdriver | 2[3] | 2 hours |

## Opening the CMA(s)

**Step 1:** Place the CMA(s) into service position.

**a.** Unlatch the CMA(s) from the rail at the elbow connector by pressing the blue release button.

*Figure 1: Unlatching a CMA Connector*

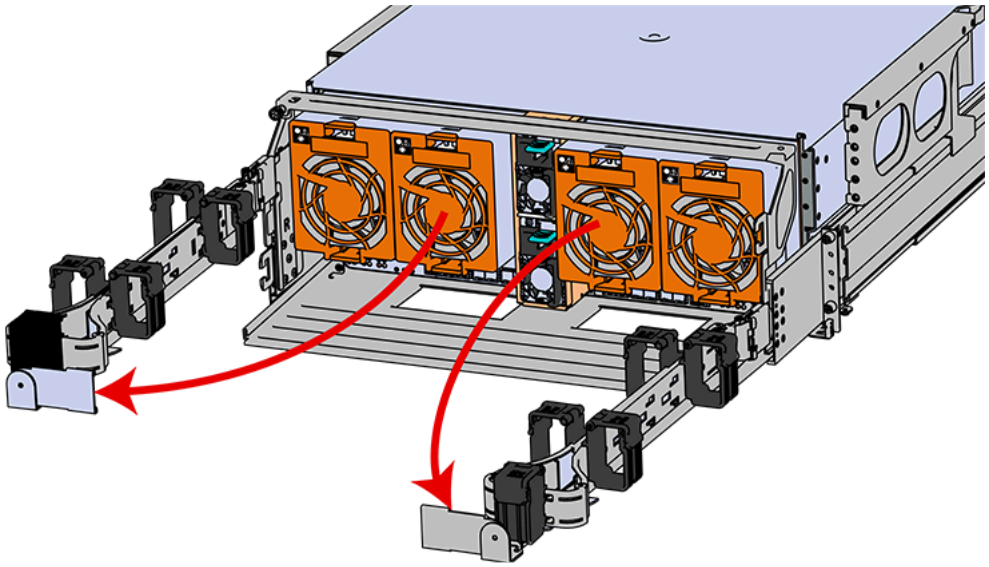



**b.** Swing the CMA(s) away from the enclosure.

**c.** The arm(s) should be extended away from the enclosure as shown in the following example.

3. Two people required for lifting enclosure; only one required for disassembly

*Figure 2: CMA(s) in service position (Cables not shown)*



## Powering Down the Enclosure

**Step 2 :** Disconnect the Enclosure from power.

**a.** Locate the redundant PSUs at the rear of the enclosure.

**b.** Detach the cable retention mechanism from both power cords.

*Figure 3: Clip-Style Cable Retention*

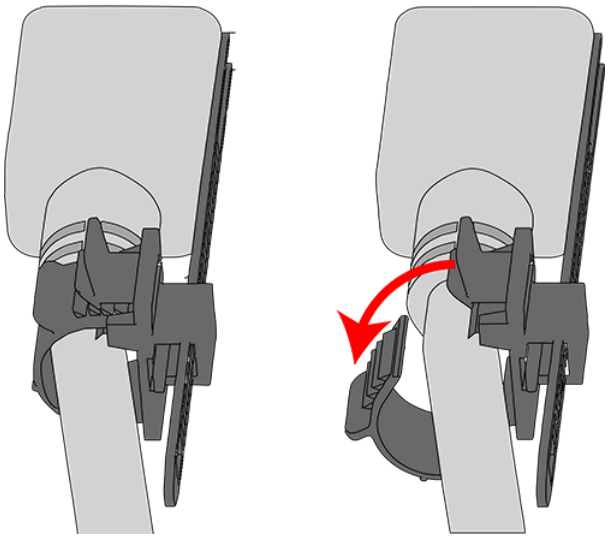
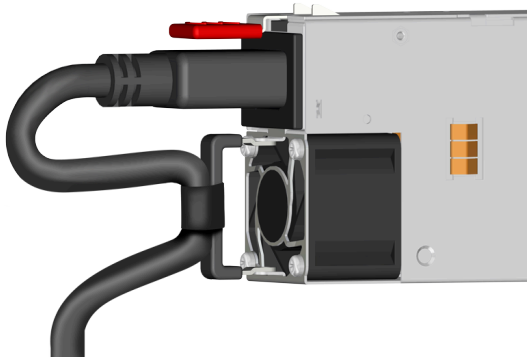


*Figure 4: Strap-Style Cable Retention*



**c.** Power down the enclosure by disconnecting both power cables, one from each PSU.

## Removing the Cables

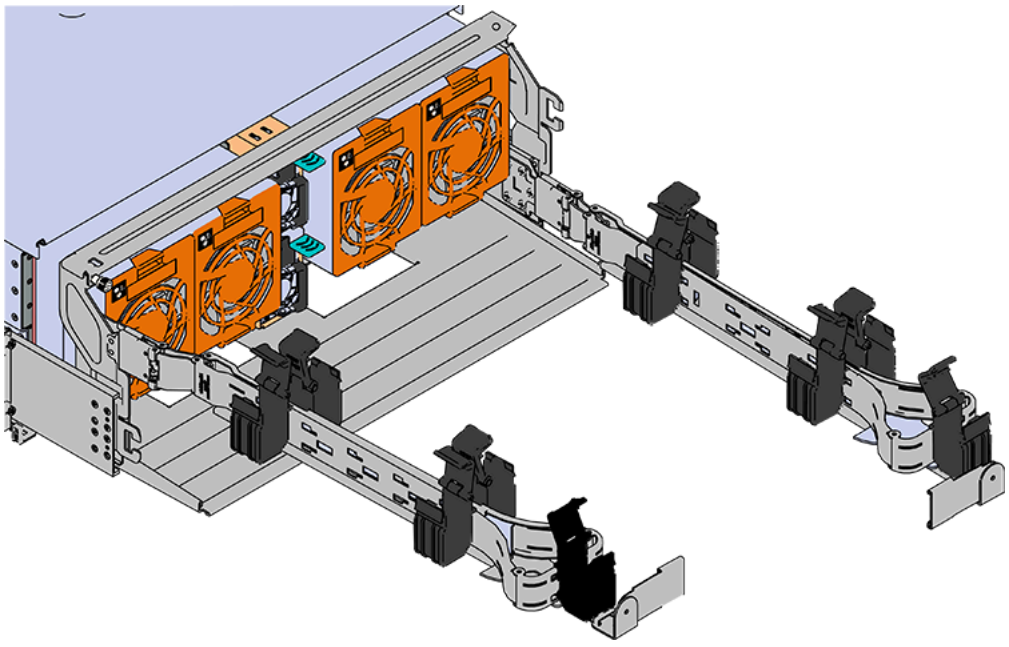
**Step 3 :** Disconnect the HD Mini-SAS cables from the rear of the enclosure by pulling (don't jerk) on the blue tab that is extending outward from the connector. This will free the cable from the port. Make sure each cable is labeled or label them yourself to ensure that they will be plugged back into the same location.

**Step 4 :** Unplug the Ethernet cables from the out-of-band management ports.

**Step 5 :** Uncable the CMA(s).

**a.** Open all of the basket clips on the CMA(s).

*Figure 5: Open Baskets*



**b.** Remove one cable at a time from the arm, making sure not to put too much strain on the arm.

## Removing the CMA(s)

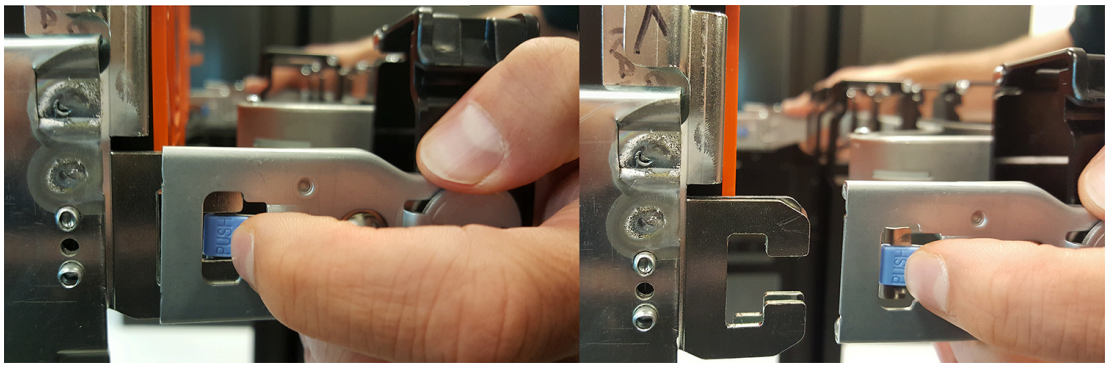
**Step 6 :** Remove the CMA(s).

**a.** Release all of the connectors that attach the CMA(s) to the enclosure and the rail.

There are three total connections that need to be released, one at the elbow and two at the opposite end.

**b.** To release a connector, press the blue latch release button and pull the connector free.

*Figure 6: Unlatching a CMA Connector*

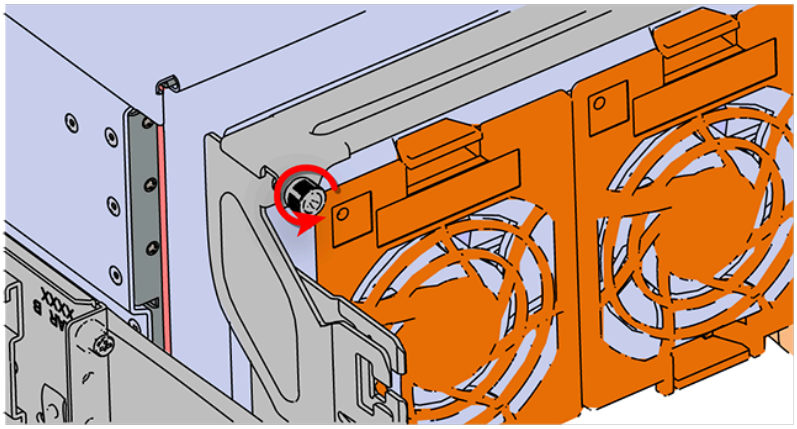



## Removing the Crossbar

**Step 7 :** Uninstall the crossbar from the CMA mounting bracket.

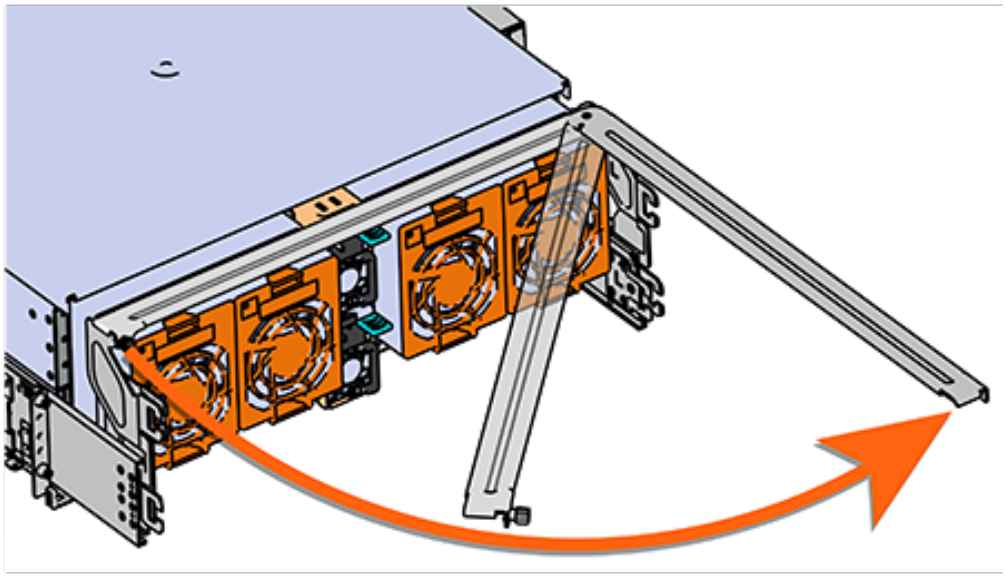
**a.** Locate the crossbar thumbscrew that secures the crossbar to the CMA mounting brackets and unscrew it.

*Figure 7: Unscrew Thumbscrew*



**b.** Swing the crossbar away from the enclosure.

*Figure 8: Crossbar Swinging Out*



**c.** Once the crossbar is straight it should easily come free from the mounting bracket.

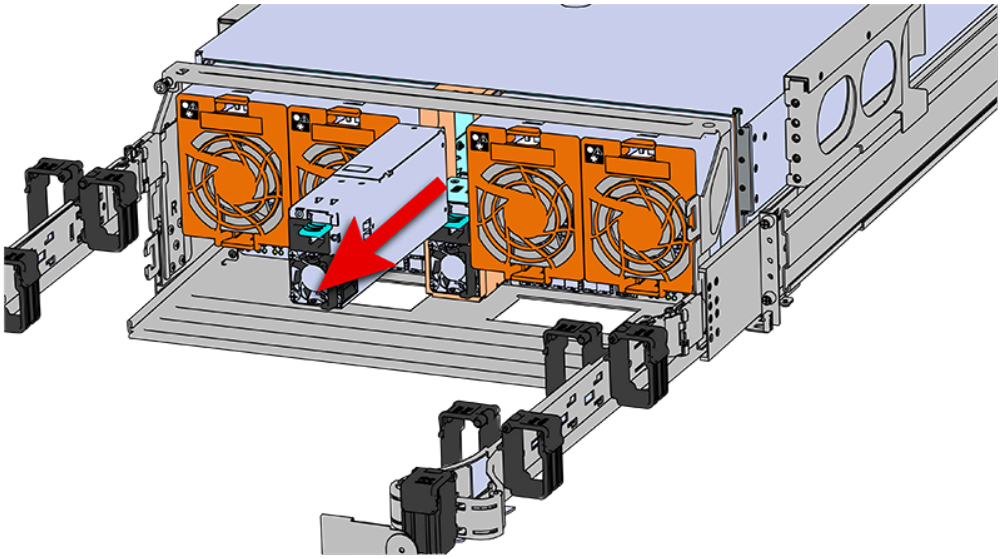
## Uninstalling the PSUs

**Step 8 :** Uninstall the PSU.

**a.** Grasp the PSU handle and release lever in a downward pinching motion to release the latching mechanism.

**b.** Pull the PSU straight out with even pressure.

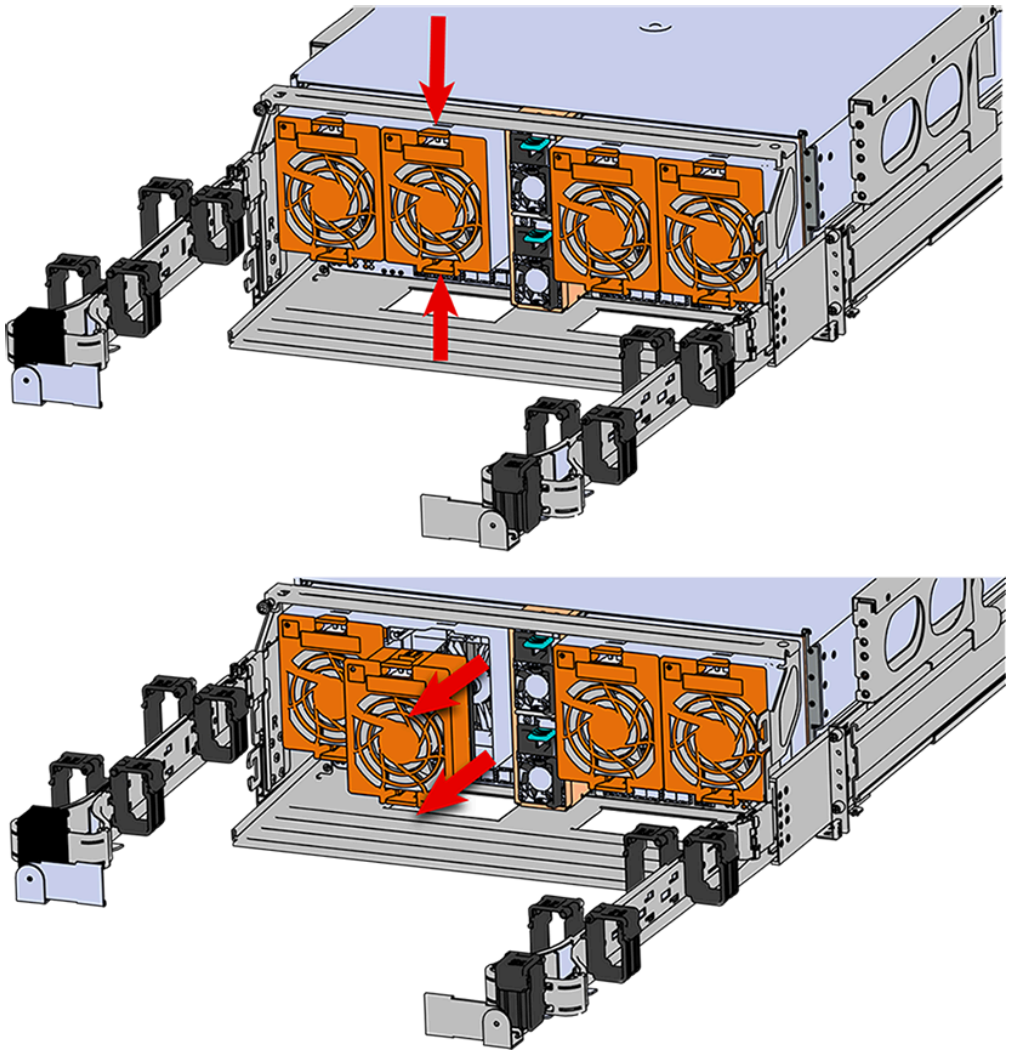
*Figure 9: Uninstalling the PSU (Delta PSU shown)*



## Uninstalling the Rear Fans

**Step 9 :** To unlatch the rear fan from the fan housing, use one hand to press the clip at the top and bottom of the fan and pull to free it from the chassis and remove it.

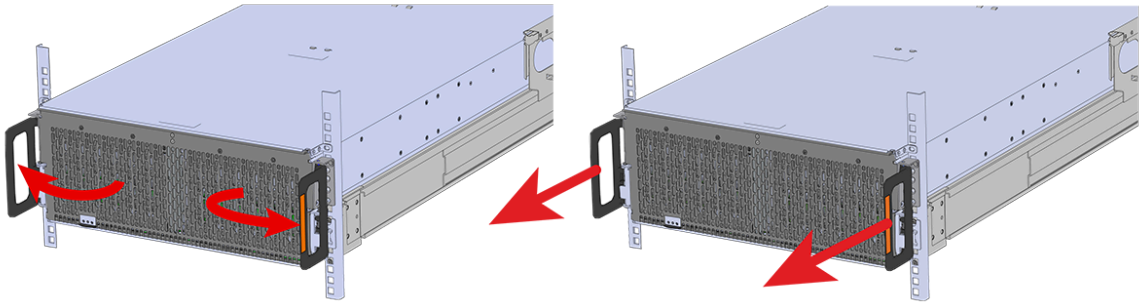
*Figure 10: Uninstalling the Rear Fan*



## Extending the Enclosure

**Step 10 :** Grasp both handles at the front of the enclosure and pull with even pressure to extend the chassis out of the rack until it is stopped by the safety latches. The safety latches will prevent the enclosure from coming out of the rack completely and the cover will remain in the rack attached to the rear alignment brackets.

*Figure 11: Chassis Handle Operation*



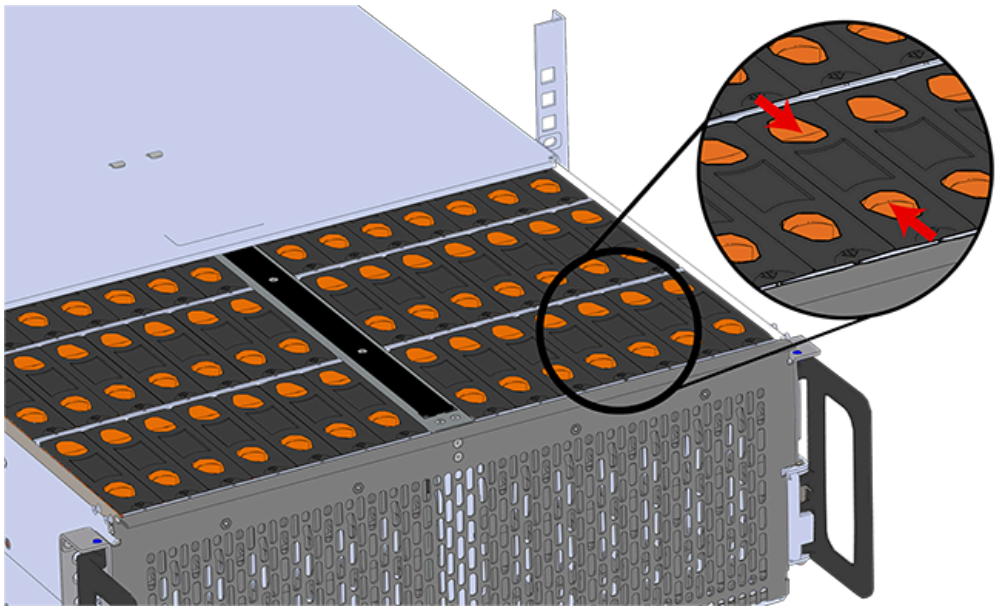
## Removing the Drives

**Step 11 :** Follow these steps to remove a 3.5in HDD Assembly.

**a.** Find the latch release mechanism on the 3.5in HDD Assembly being removed.

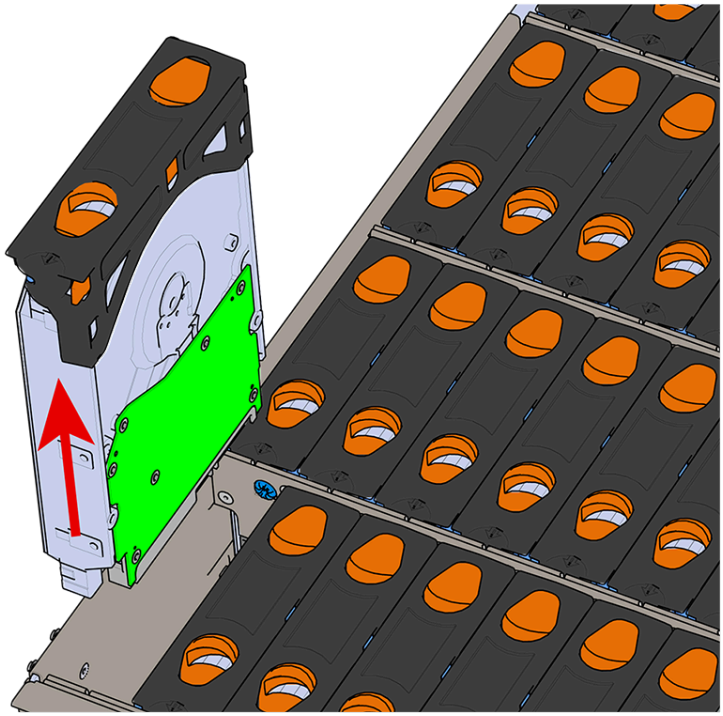
**b.** Insert a finger and a thumb into the latch release and pinch to unlatch the 3.5in HDD Assembly.

*Figure 12: Unlatch Drive Carrier (IOM Not Shown)*



**c.** Lift the 3.5in HDD Assembly free from the enclosure.

*Figure 13: Removing 3.5in HDD Assembly*



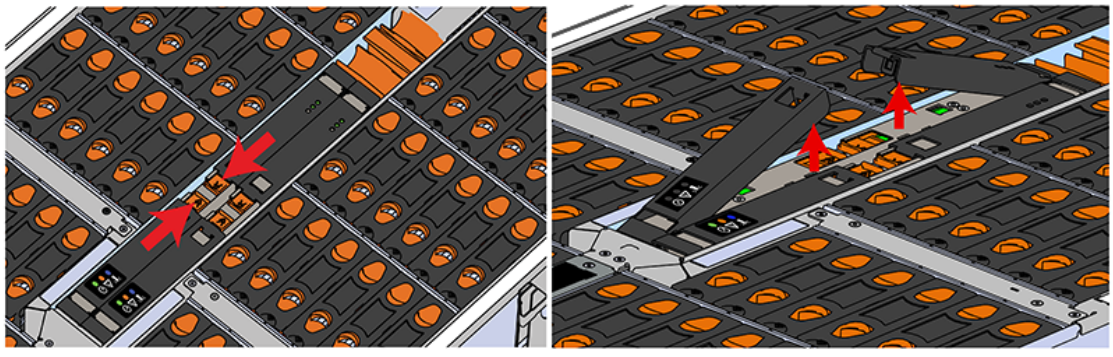
**Step 12 :** Repeat these steps to remove all the drive assemblies from the enclosure.

## Removing the IOMs

**Step 13 :** Uninstall the IOM(s).

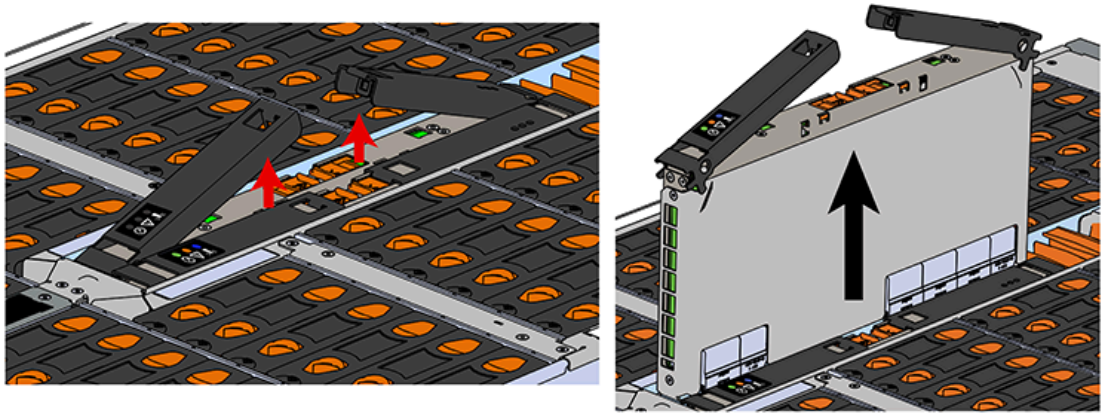
**a.** Locate the latch release on the IOM and press it in the direction shown in the following image.

*Figure 14: Unlatching the IOM*



**b.** Grasp both handles, one handle in each hand, and lift evenly with both hands to ensure the IOM comes out straight. This will prevent any damage to the pins on the internal connectors.

*Figure 15: Removing IOM*

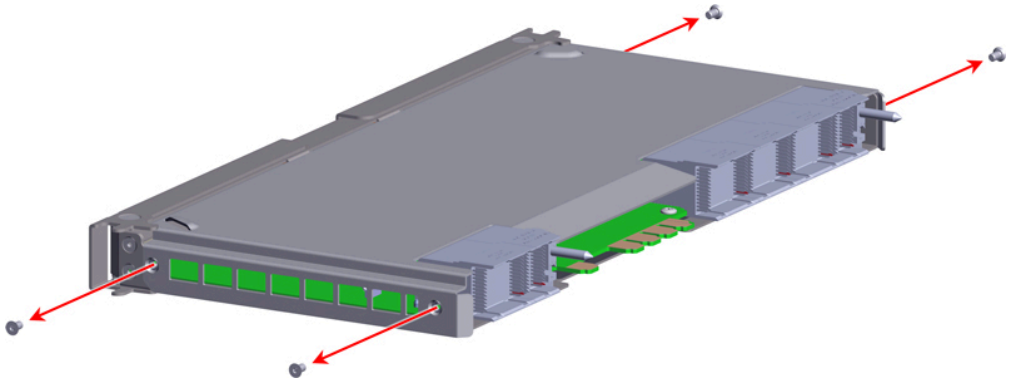


**Step 14 :** Repeat these steps to remove the remaining IOM from the enclosure.

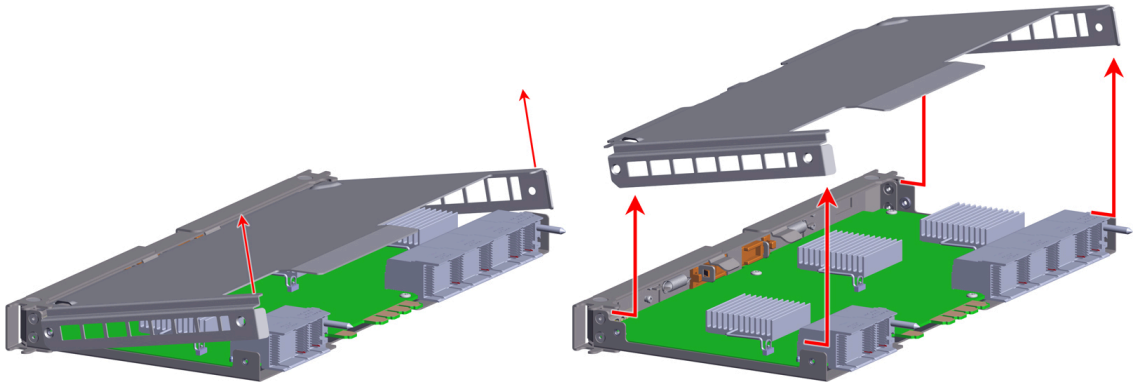
## Disassembling the IOMs

**Step 15 :** Lay one of the IOMs on its side.

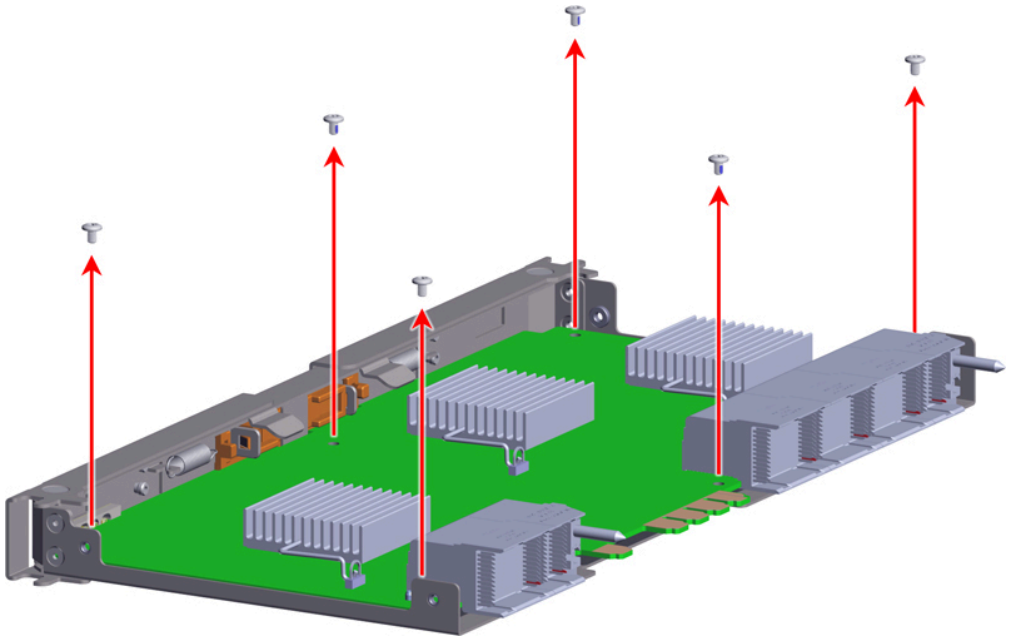
**Step 16 :** Using a T7 Torx screwdriver, remove the four (4) M3 6mm screws from the ends of the IOM:



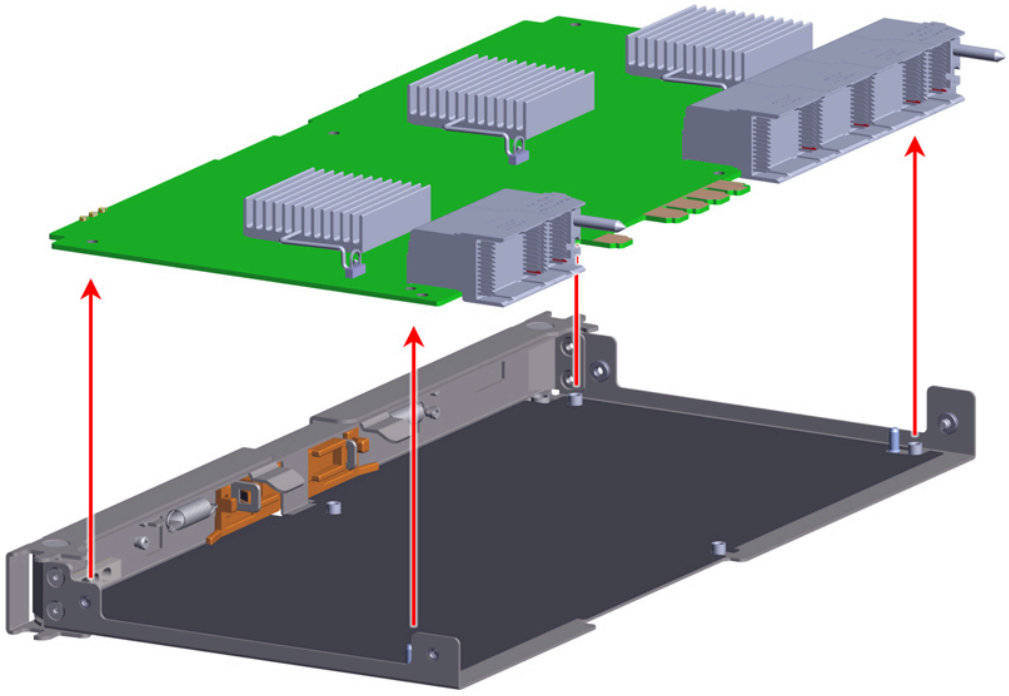
**Step 17 :** Lift the bottom edge of the side-panel. Then slide the panel toward the bottom of the IOM before lifting it upward to remove it from the IOM:



**Step 18 :** Using a T10 Torx screwdriver, remove the six (6) M3 4mm pan-head screws securing the circuit board to the other side-panel:



**Step 19 :** Pull the circuit board upward to remove it from the IOM:



**Step 20 :** If applicable, repeat these steps to remove the circuit board from the other IOM.

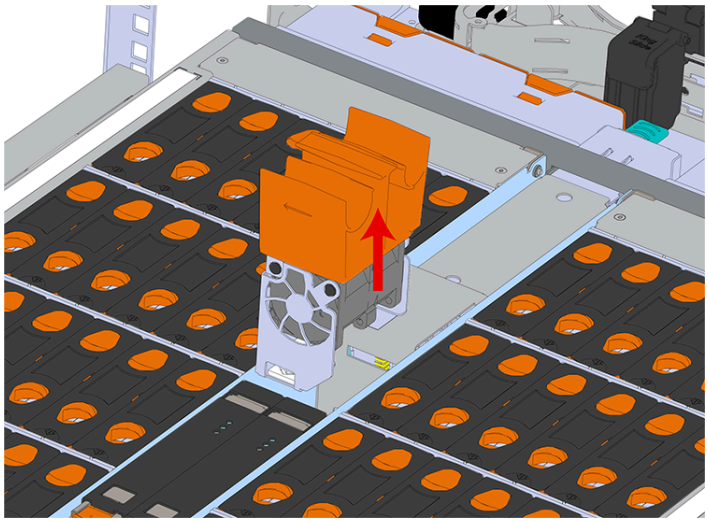
## Removing the IOM Fan

**Step 21 :** Remove the IOM Fan.

**a.** With one hand, grasp around the center square of the fan housing as shown in the following image.

**b.** Pinch the IOM fan housing to release the latching mechanism and pull it straight out from the chassis.

*Figure 20: Removing IOM Fan*



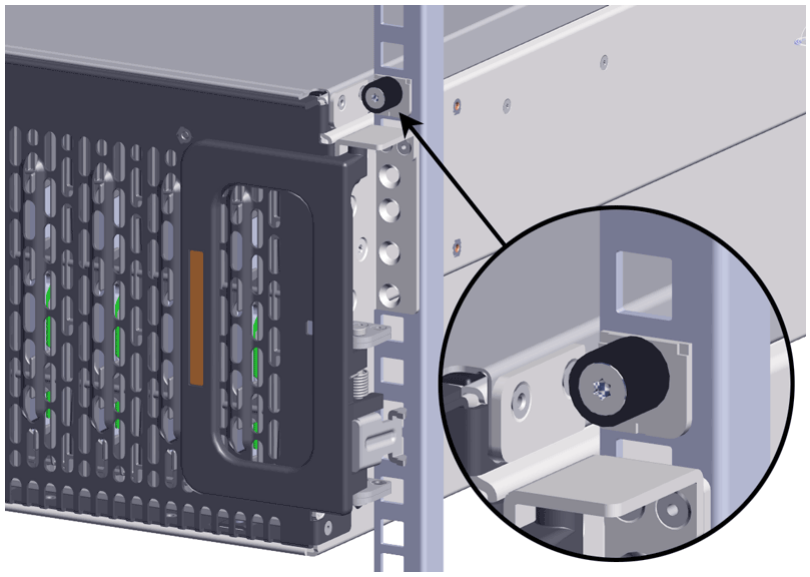
## Releasing the Chassis Cover From the Rack

**Step 22 :** Release the safety latch on the inner rails on each side of the chassis as shown in the following image.

*Figure 21: Inner Rail Safety Latch Release*

**Step 23 :** Push the chassis back into the rack.

**Step 24 :** Locate the M5 thumb-screws on the top cover of the enclosure that keep it in place when the drawer is extended, and unscrew them using a T15 Torx screwdriver. This will allow the top cover to move freely with the enclosure when the enclosure is removed.



## Removing the Enclosure from the Rack

**Step 25 :** Grasp both handles at the front of the enclosure and pull with even pressure to extend the chassis out of the rack until it is stopped by the safety latches. Make sure that the top cover comes with the chassis as it is extended out of the rack. The safety latches will prevent the enclosure from coming out of the rack completely.

**Step 26 :** Remove the chassis from the rack.

**a.** Be prepared to support the enclosure once it is free of the rails by having a second person or a lift to support the enclosure

**b.** Grasp both handles at the front of the enclosure and pull with even pressure until the enclosure will not extend further.

**Warning:** The handles on the front of the chassis are not intended to be used to support the weight of the Ultrastar Data60 . Lifting the unit by the chassis handles or trying to support the unit on the handles can cause them to fail. This can cause serious damage to the unit or serious bodily harm to those handling the unit. Always team lift the chassis by gripping the underside of the unit, and never try to lift a chassis that is filled with drives.

**c.** Locate the safety catches on the inner rails attached to the enclosure.

*Figure 23: Safety Latch Release*

**d.** Depress the latch release lever for the safety latches on the rail and push the chassis very slightly forward. The chassis is now unsecured from the rack.

**e.** Ensure that you have the proper support mechanism to hold the chassis in position, whether that be a team lifting partner or an appropriate lift.

**Warning:** Do not lift the chassis by the Cable Tray while removing the chassis from the rack OR while installing it into a rack. This can cause serious damage to the unit or serious bodily harm to those handling the unit. Always team lift the chassis by gripping the underside of the unit, and never try to lift a chassis that is filled with drives.

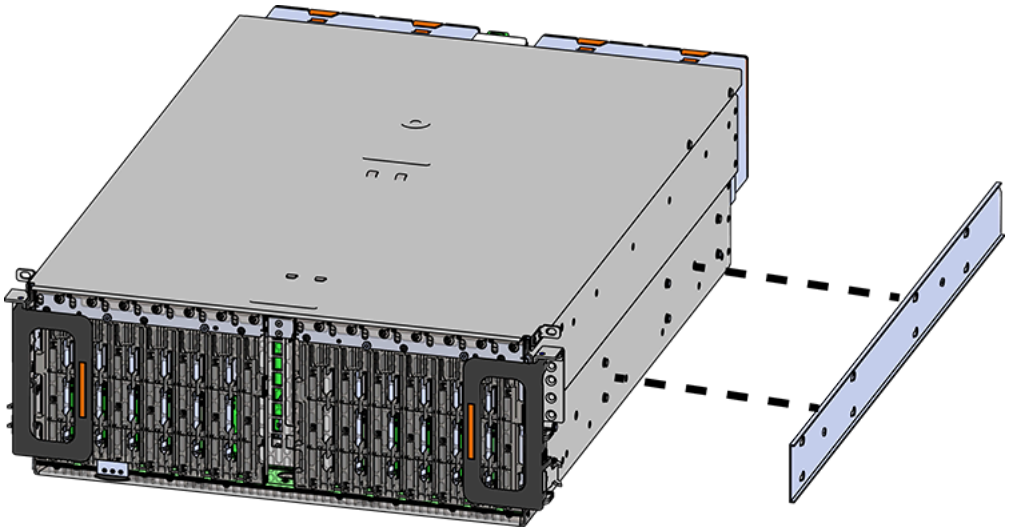
**f.** Slide the chassis forward to free it from the rails. Place the chassis in a safe location to avoid damage.

## Removing the Chassis Rails

**Step 27 :** Uninstall the inner rails from the sides of the chassis.

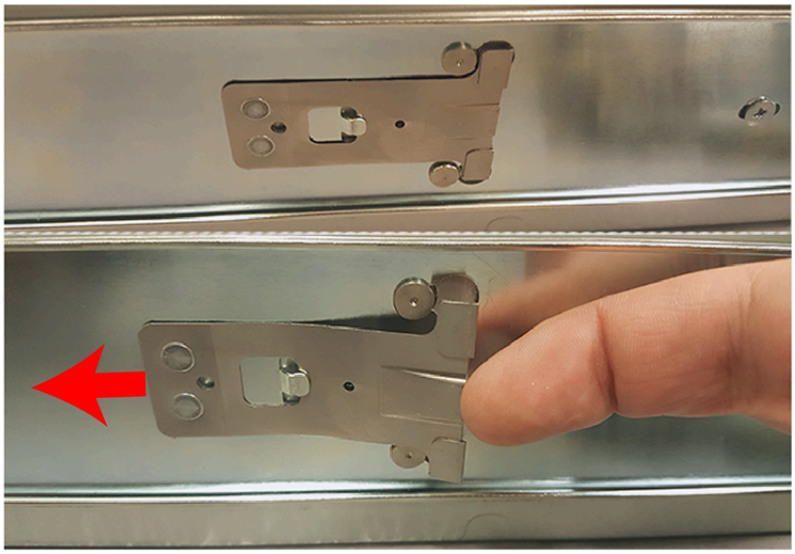
**a.** Unscrew the two Low-Profile M4 x 3.2mm Philips screws that attach the inner rails to the chassis using a #2 Philips head screwdriver.

*Figure 24: Remove Inner Rail*



**b.** Locate and unlatch the springlock on the side of the inner rail.

*Figure 25: Inner Rail Spring Latch*



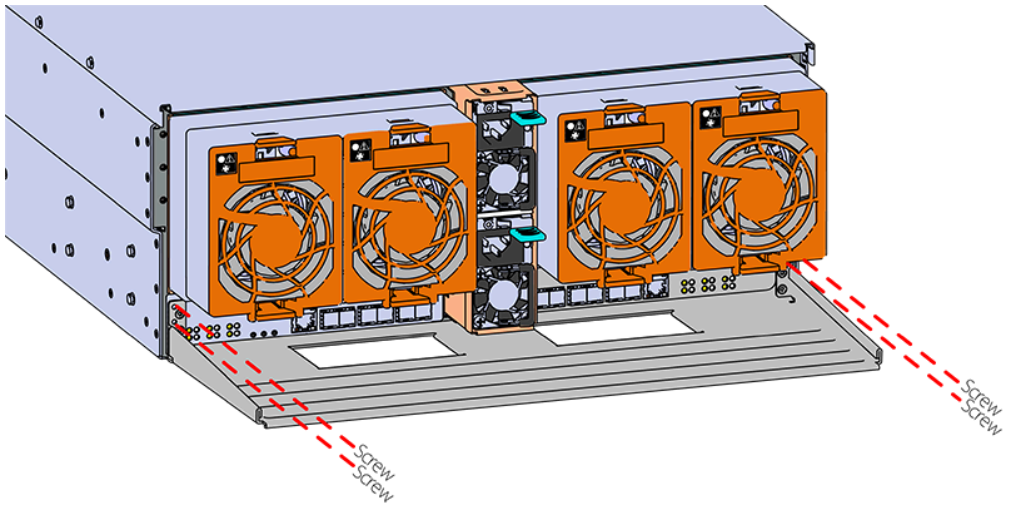
**c.** Slide the inner rail toward the front of the enclosure to unlock it from the pegs that secure it to the sidewall and pull it free.

## Removing the Cable Tray

**Note:** Only follow this step if the cable tray is installed.

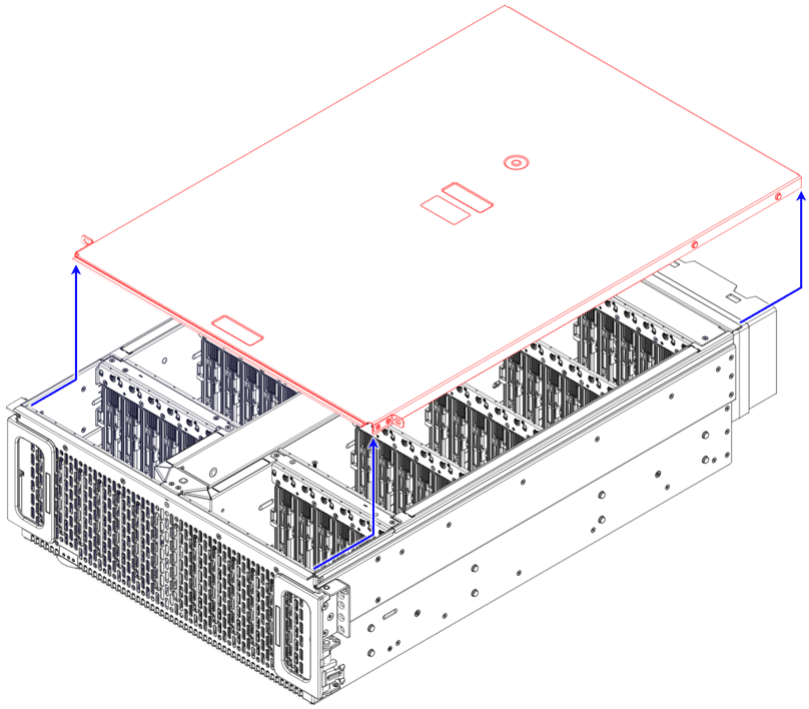
**Step 28 :** Uninstall the Cable Tray by removing the M3 x 8mm screws using the long T10 Torx head screwdriver.

*Figure 26: Uninstalling the Cable Tray*




## Removing the Chassis Cover from the Enclosure

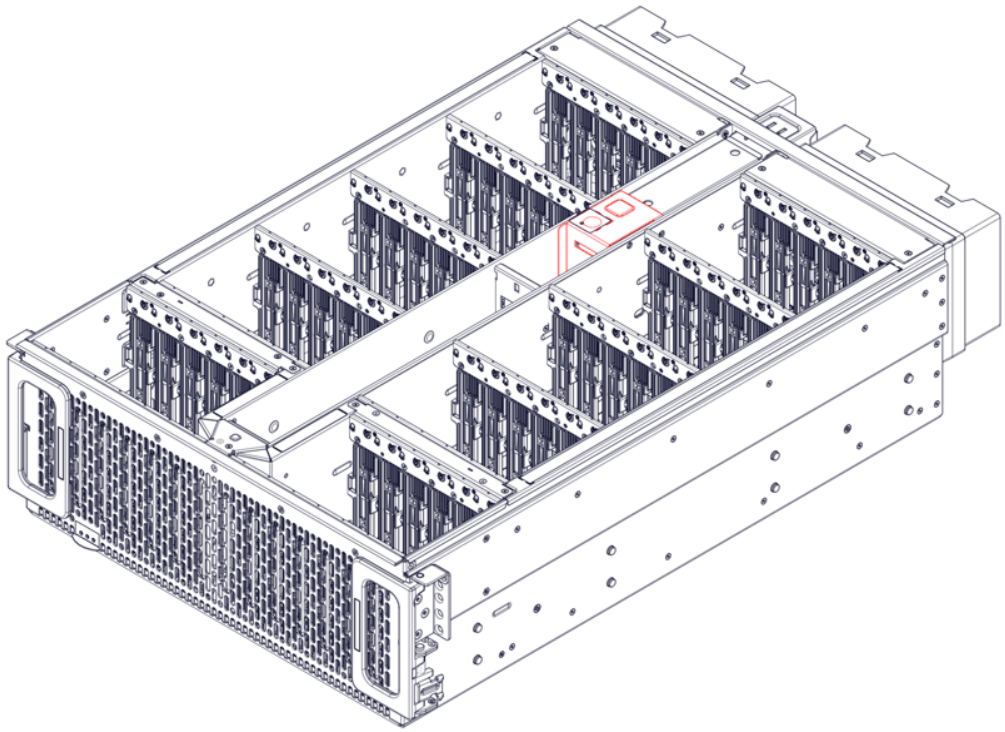
**Step 29 :** Slide the chassis cover toward the rear of the enclosure. Then lift it up to remove it from the chassis:



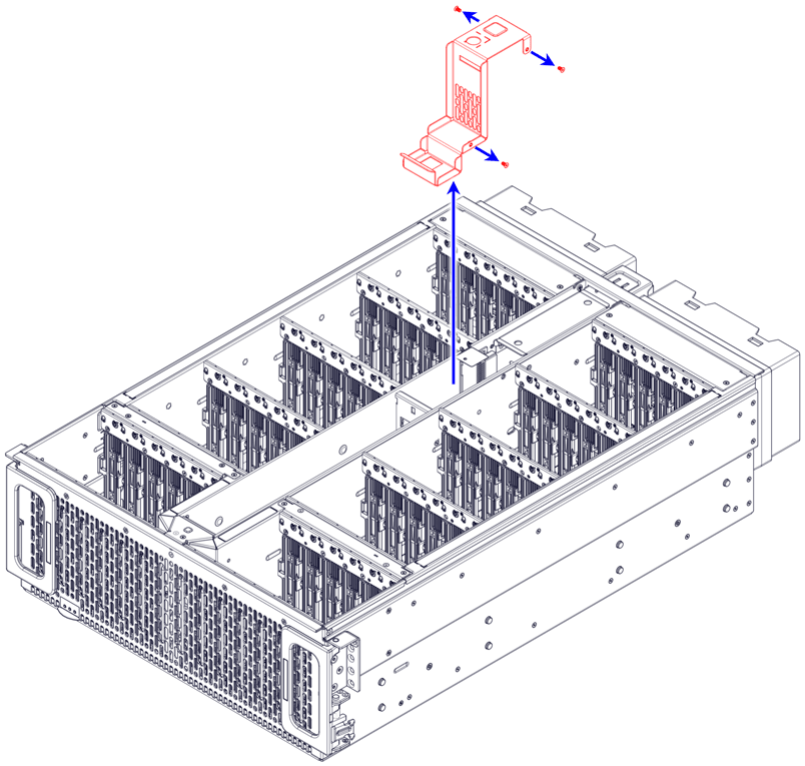
## Removing the PDB Cover

The PDB cover is shown in red in the following image:

*Figure 28: PDB Cover Location*



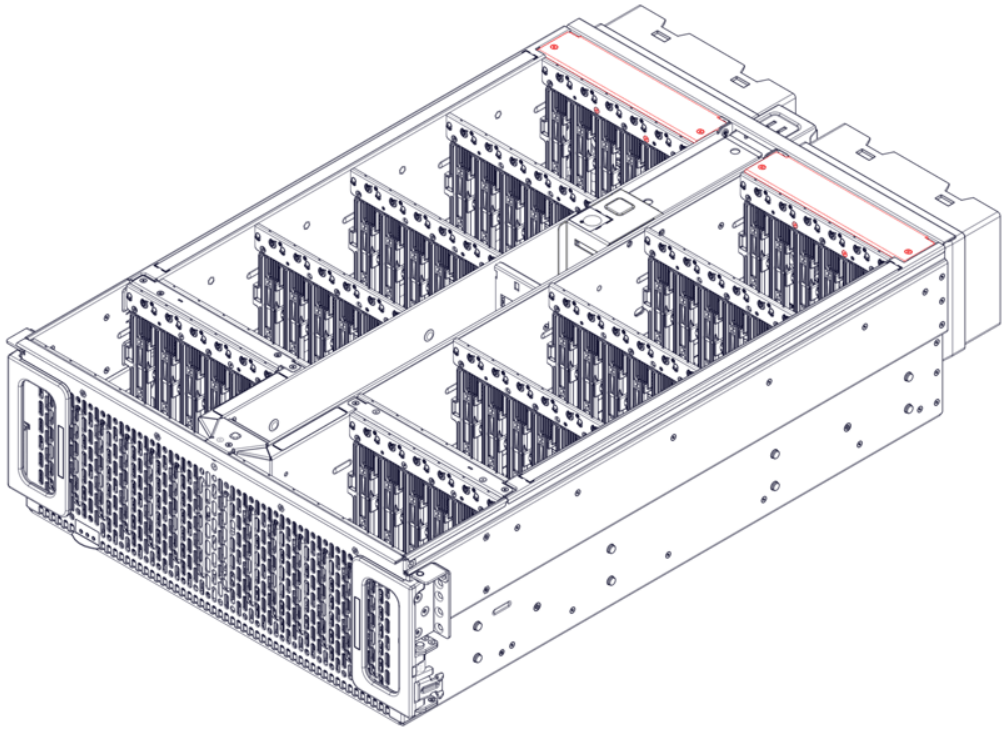
**Step 30 :** Use a T7 Torx screwdriver to remove the three (3) M3 6mm screws securing the PDB cover to the left and right drive housings. Then pull up on the PDB cover to remove it from the chassis:



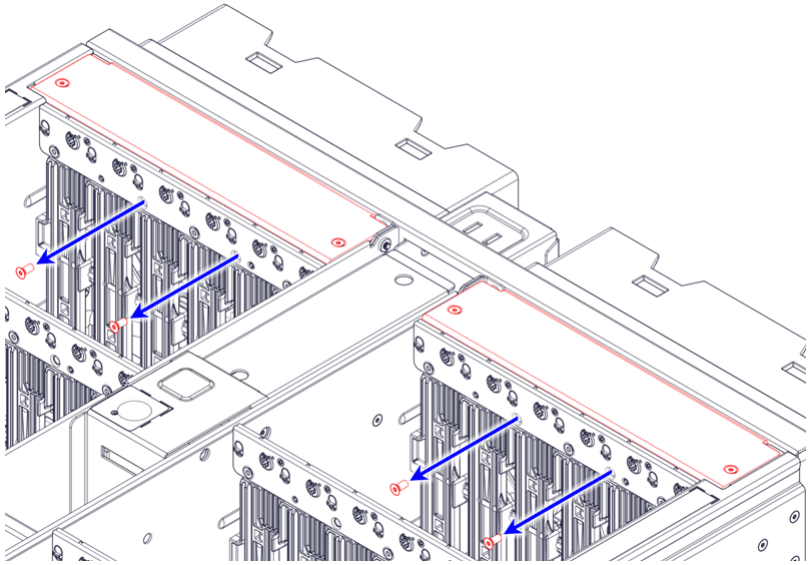
## Removing the Plenum Covers

The plenum covers are shown in red in the following image:

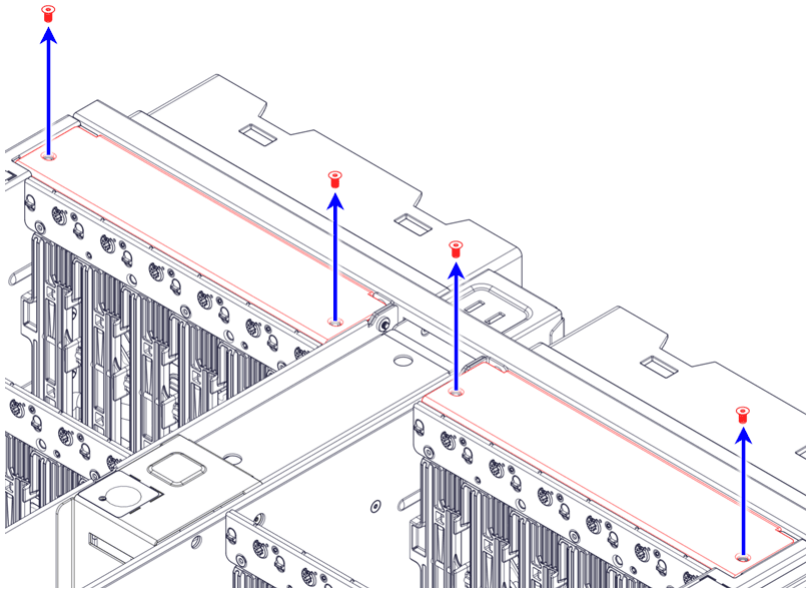
*Figure 30: Plenum Covers Location*



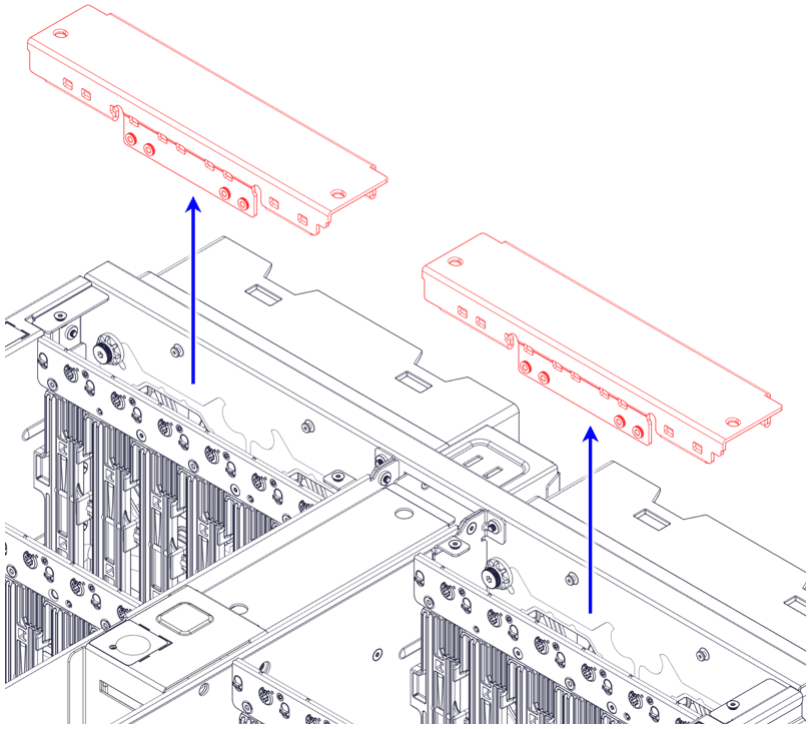
**Step 31:** Use a T7 Torx screwdriver to remove the four (4) M3 6mm screws securing the plenum covers to the left and right drive housings:



**Step 32:** Remove the four (4) M3 7mm screws securing the plenum covers to the fan housing:



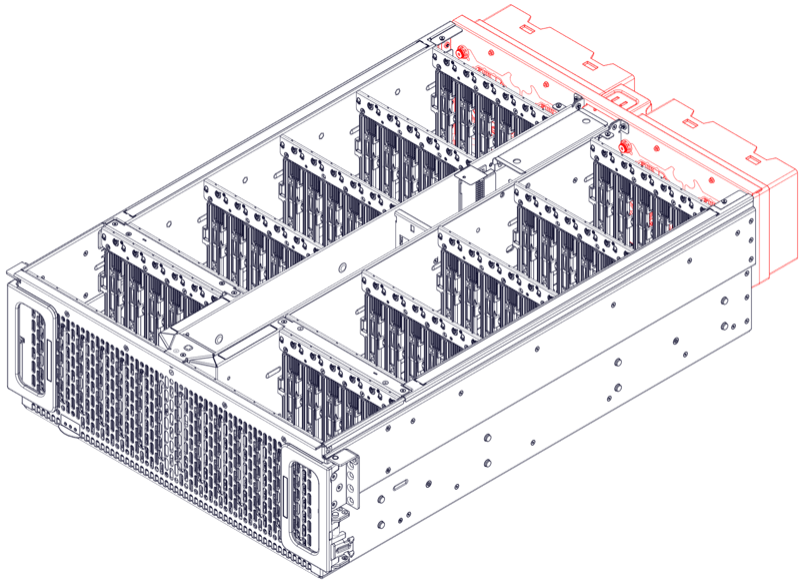
**Step 33 :** Pull up on the plenum covers to remove them from the chassis:



## Removing the Fan Housing Assembly

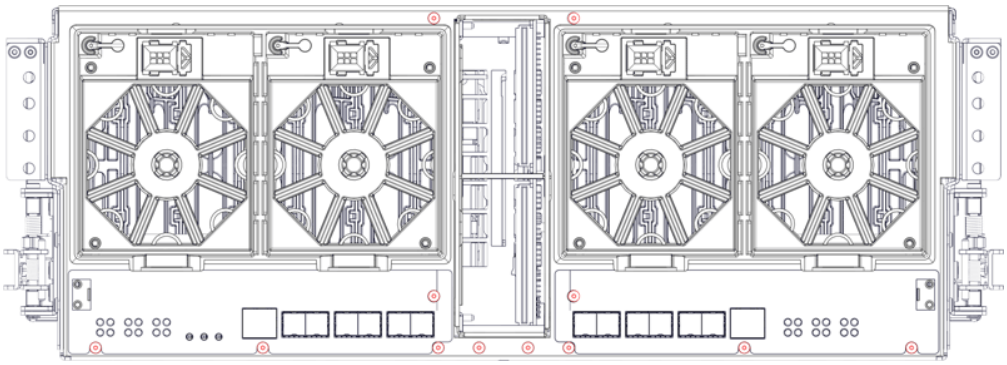
The fan housing assembly is shown in red in the following image:

*Figure 34: Fan Housing Assembly Location*

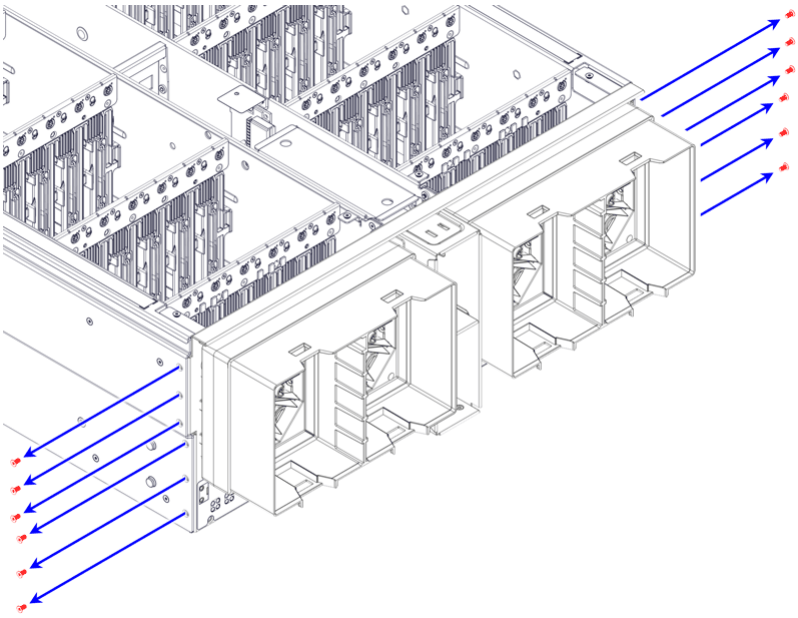


**Step 34 :** Use a T7 Torx screwdriver to remove the twelve (12) M3 6mm screws securing the back of the fan housing assembly to the back of the chassis. The screws are shown in red in the following image:

*Figure 35: Fan Housing, As Viewed from the Rear*

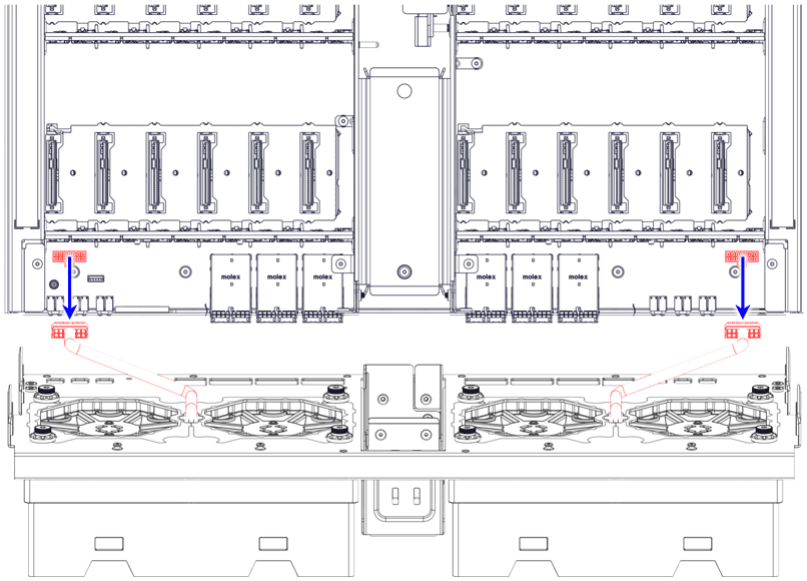


**Step 35 :** Use a T7 Torx screwdriver to remove the twelve (12) M3 6mm screws securing the sides of the fan housing assembly to the sides of the chassis:

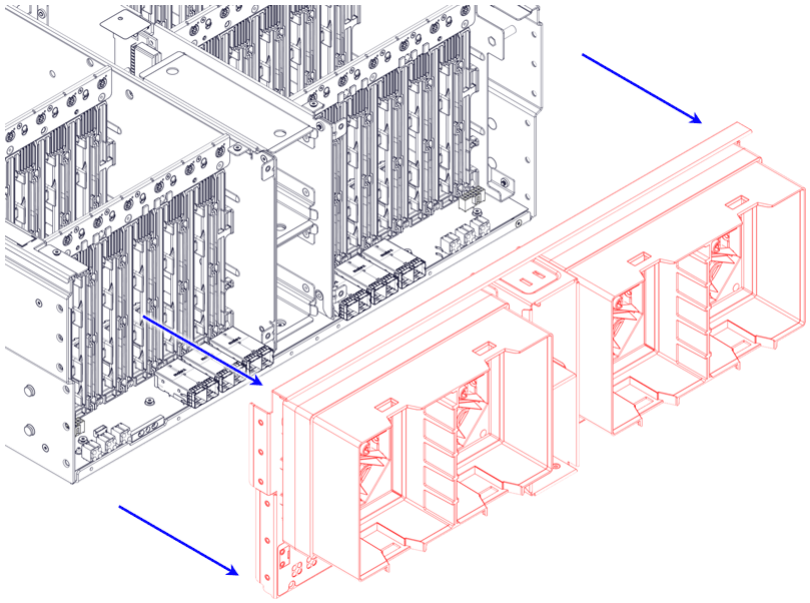


**Step 36 :** Pull the fan housing assembly away from the chassis, just far enough to unplug the fan cable connectors from their receptacles on the baseboard. The fan cables, connectors, and receptacles are shown in red in the following image:

*Figure 37: Fan Cable Connectors, As Viewed from the Top-Rear*



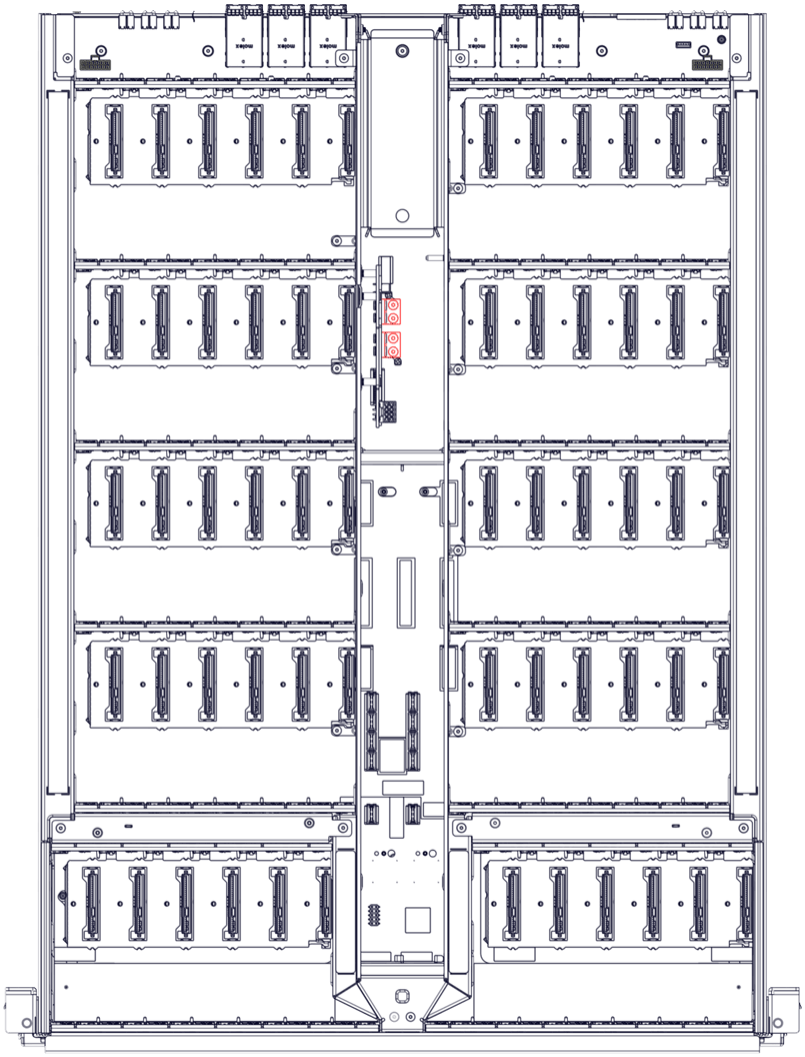
**Step 37 :** Remove the fan housing assembly from the chassis:



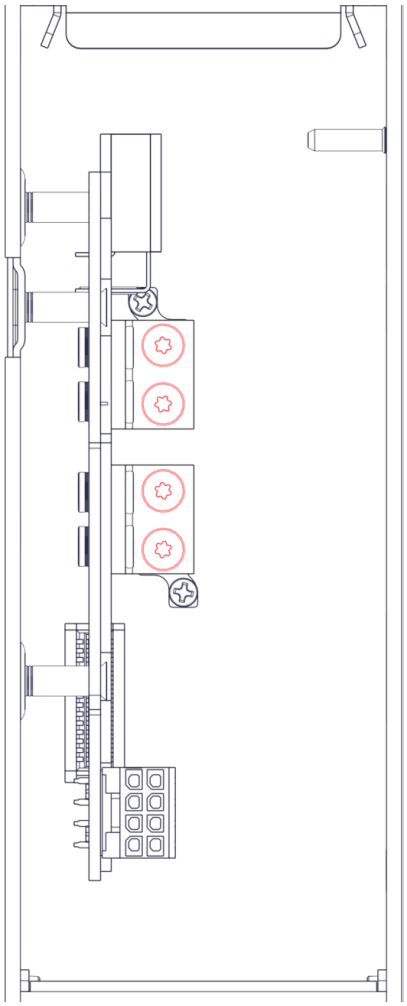
### Removing the PDB Bus-Bar Screws

The PDB bus-bar and screws are shown in red in the following image:

*Figure 39: PDB Bus-Bar Screws, As Viewed from the Top-Front*



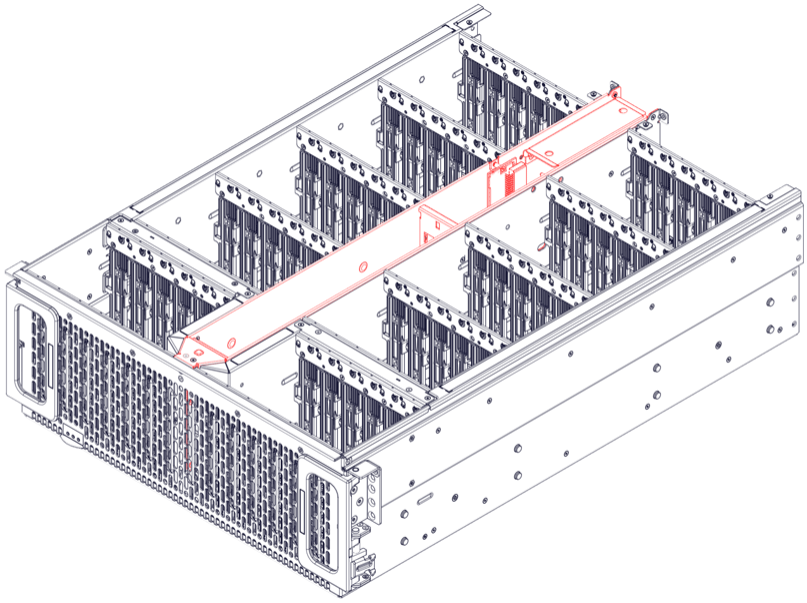
**Step 38 :** Use a T8 Torx screwdriver to remove the four (4) M3 6mm screws securing the PDB to the baseboard. The screws are shown in red in the following image:



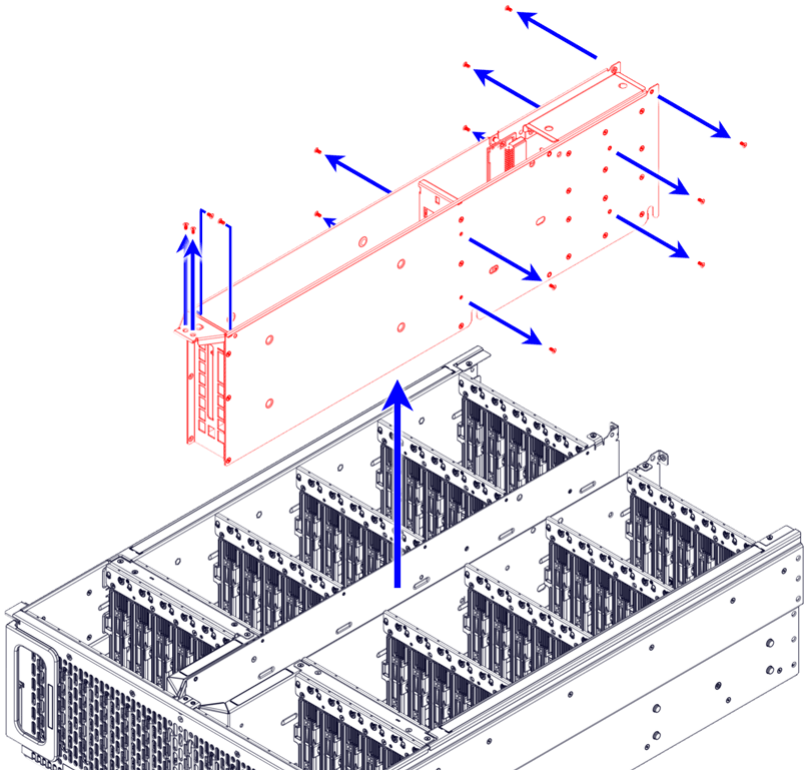
## Removing the IO Housing

The IO housing is shown in red in the following image:

*Figure 41: IO Housing Location*



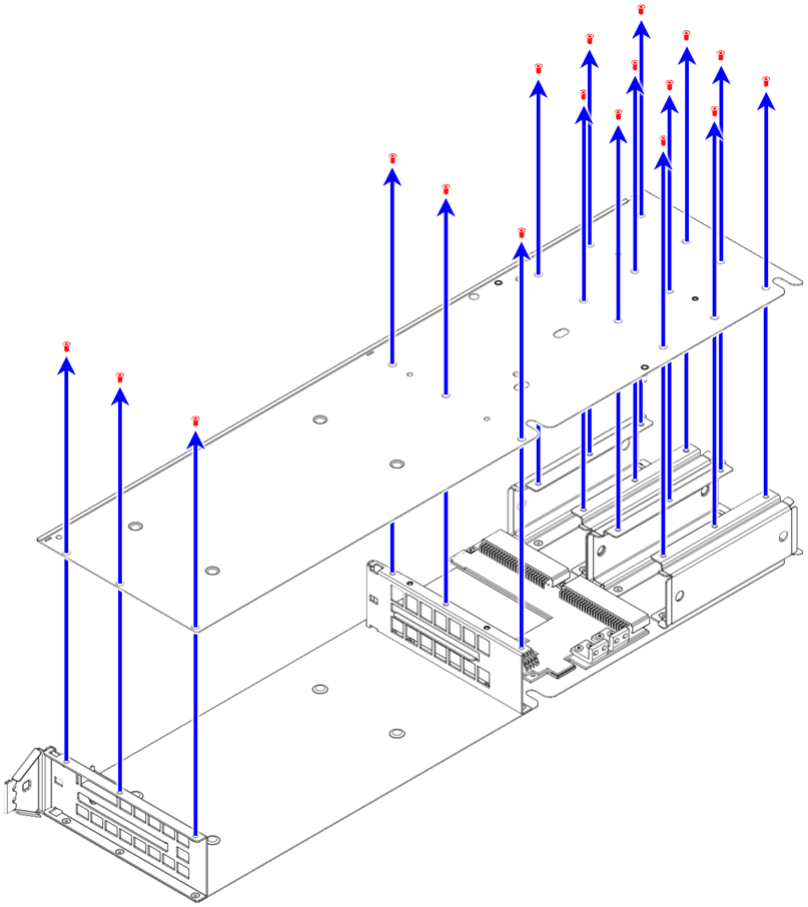
**Step 39 :** Use a T7 Torx screwdriver to remove the fourteen (14) M3 6mm screws securing the IO housing to the drive housings and chassis. Then pull the IO housing up to remove it from the chassis:



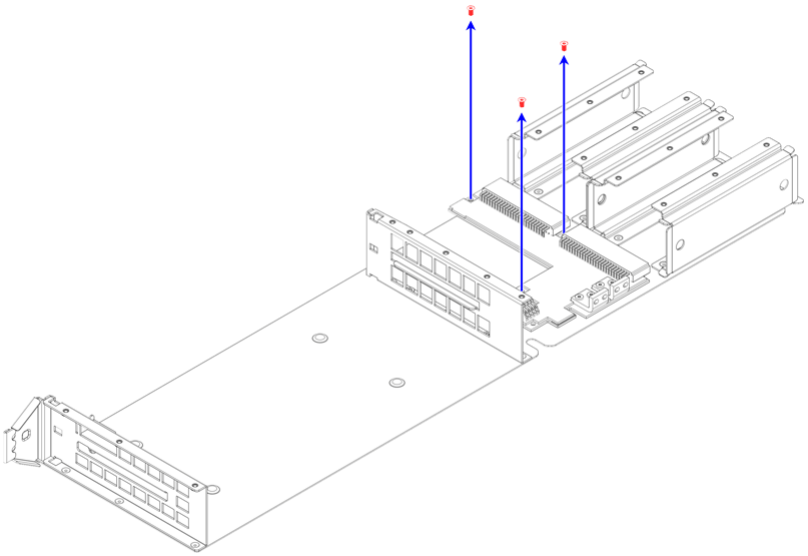
## Removing the PDB from the IO Housing

**Step 40 :** Lay the IO housing on its side.

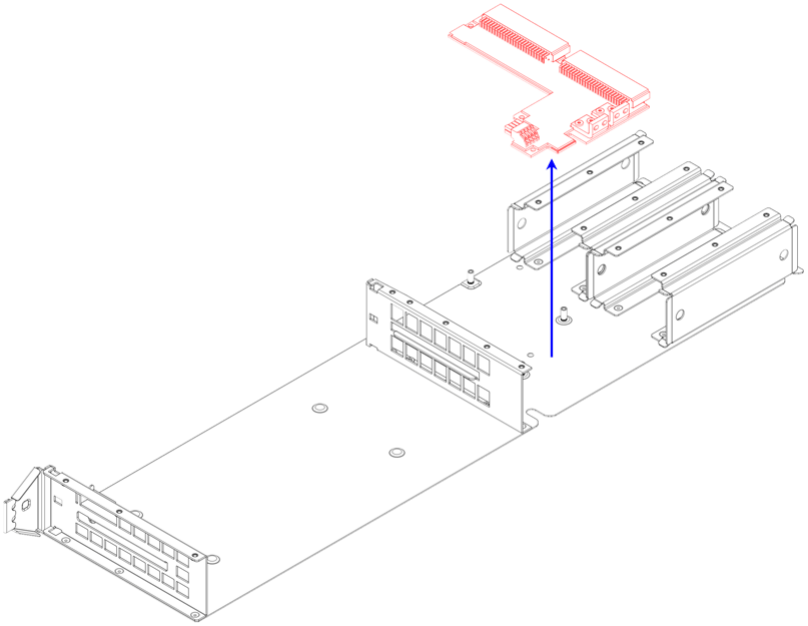
**Step 41 :** Use a T7 Torx screwdriver to remove the eighteen (18) M3 6mm screws securing the right side panel of the IO housing. Then remove the right side panel:



**Step 42 :** Use a T7 Torx screwdriver to remove the three (3) M3 6mm screws securing the PDB to the left side panel of the IO housing:



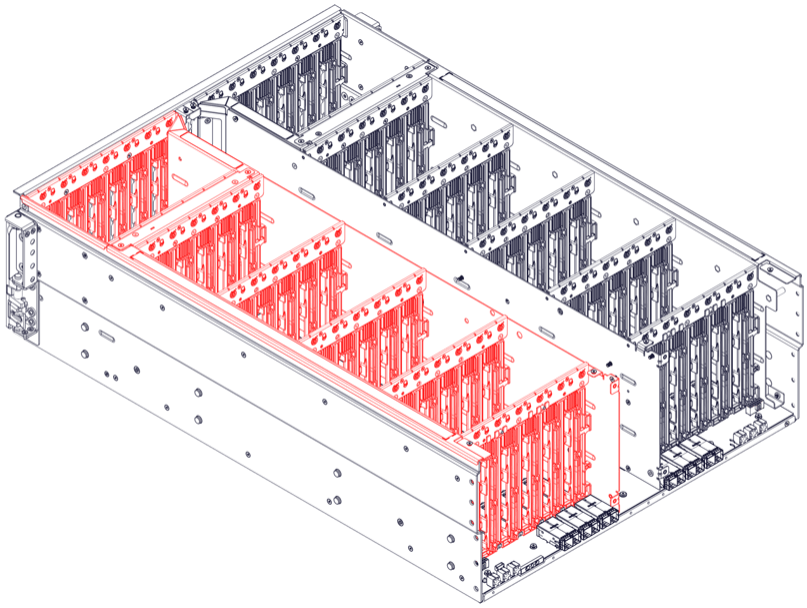
**Step 43 :** Lift the PDB to remove it from the IO housing:



### Removing the Drive Housings

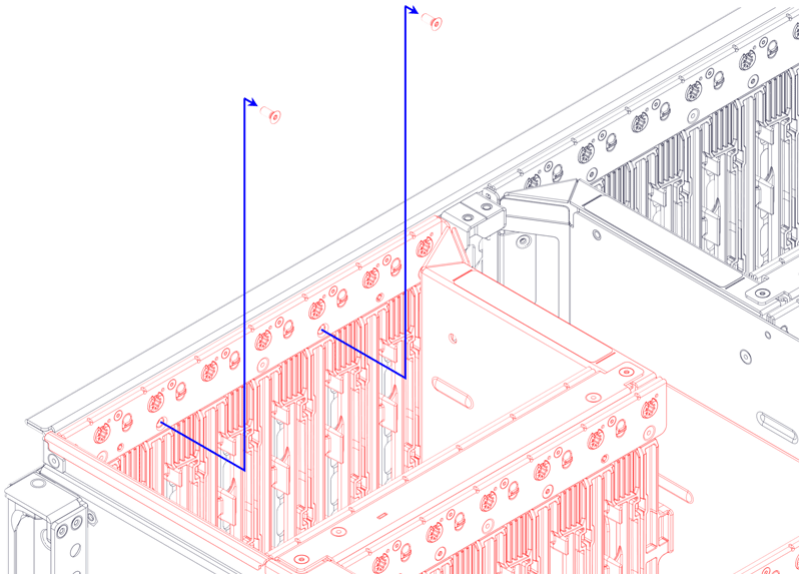
The right drive housing is shown in red in the following image.

*Figure 46: Right Drive Housing, As Viewed from the Right-Rear-Top*



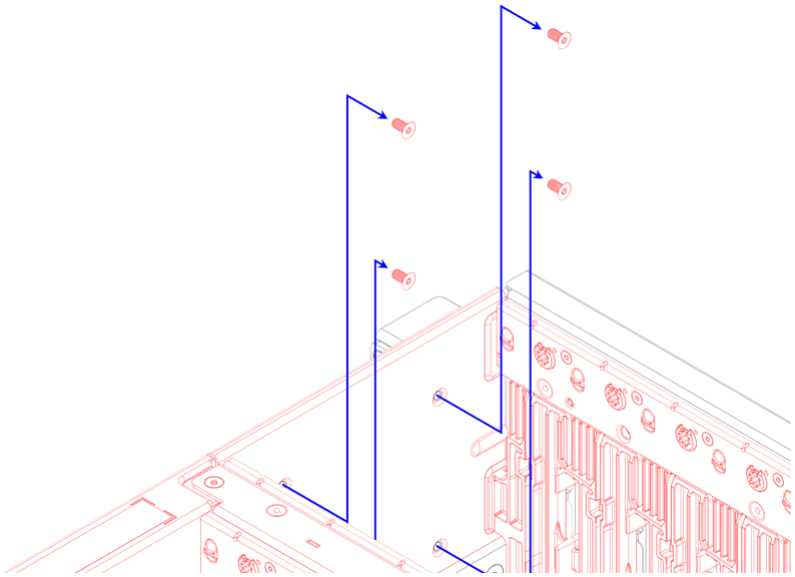
**Step 44 :** At the front of the chassis, use a T7 Torx screwdriver to remove the two (2) M3 7mm screws securing the right drive housing to the front of the chassis:

*Figure 47: Right-Front Inside Corner, As Viewed from the Right-Rear-Top*



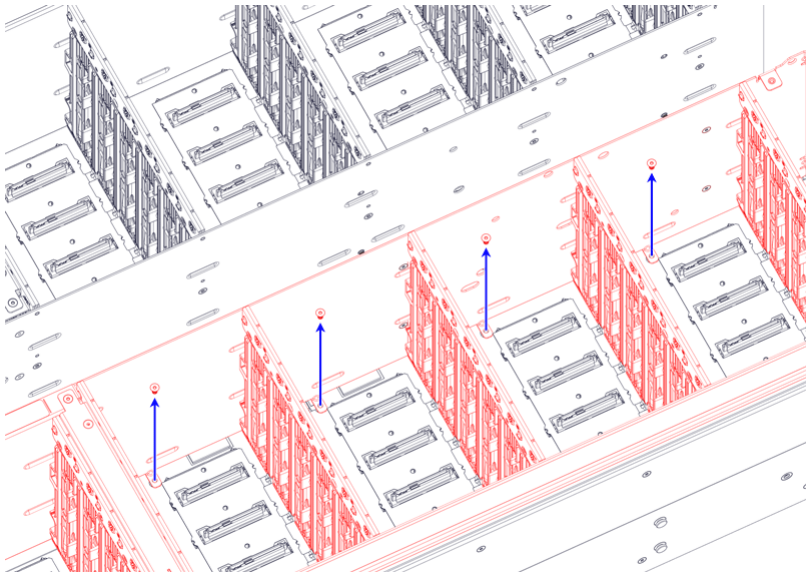
**Step 45 :** At the front of the chassis, use a T7 Torx screwdriver to remove the four (4) M3 6mm screws securing the right drive housing to the side of the chassis:

*Figure 48: Right-Front Inside Corner, As Viewed from the Left-Rear-Top*



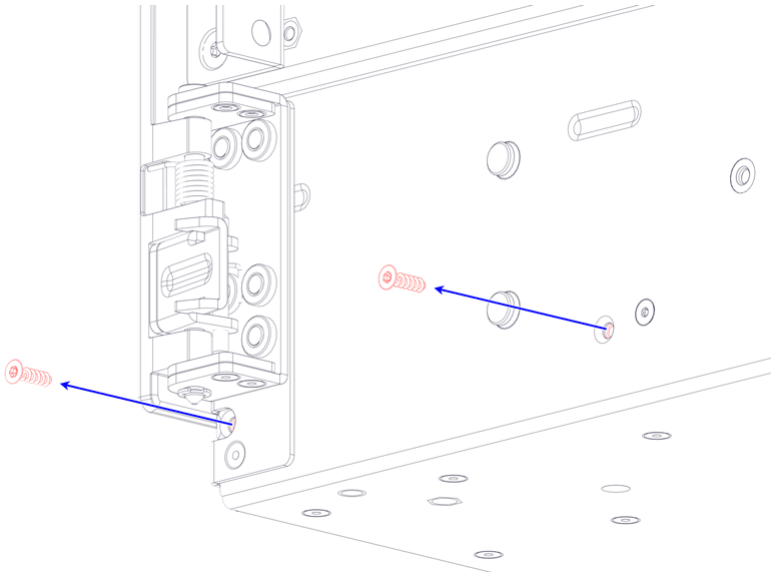
**Step 46 :** Inside the drive bays of the right drive housing, use a T7 Torx screwdriver to remove the four (4) M3 6mm screws securing the drive housing to the baseboard:

*Figure 49: Right Drive Bays, As Viewed from the Right-Front-Top*



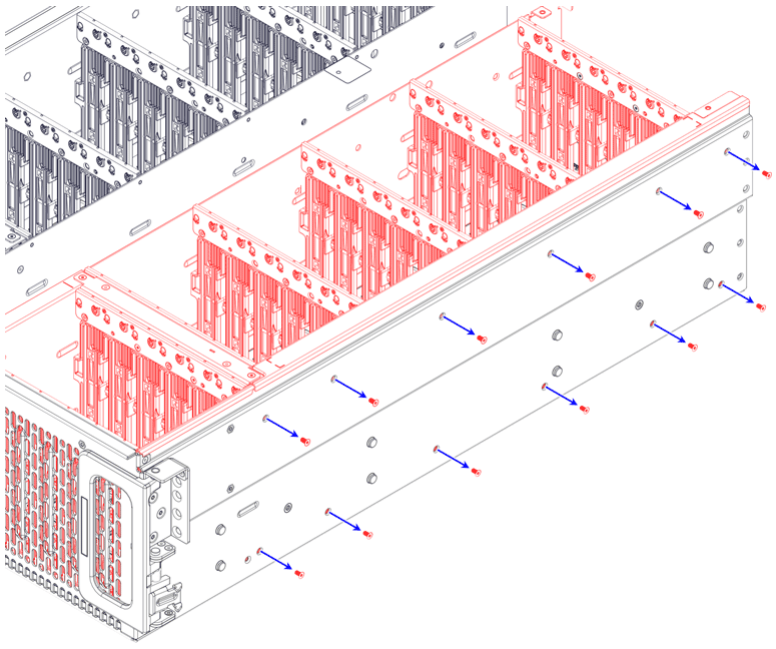
**Step 47 :** On the side of the chassis, use a T8 Torx screwdriver to remove the two (2) K30 10mm screws securing the drive housing to the side of the chassis:

*Figure 50: Right-Front Outside Corner, As Viewed from the Right-Rear-Bottom*

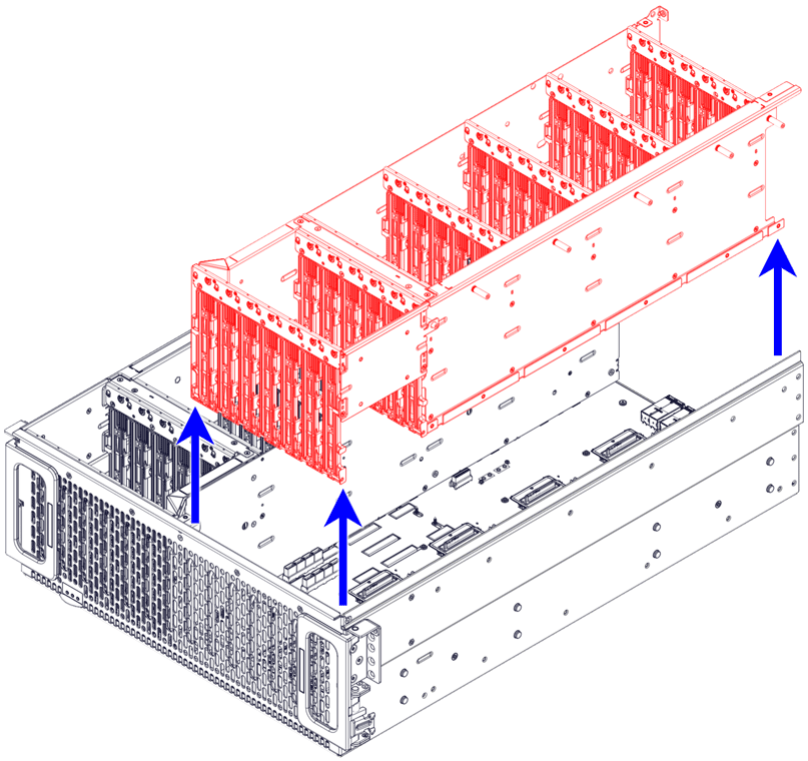


**Step 48 :** On the side of the chassis, use a T7 Torx screwdriver to remove the twelve (12) M3 6mm screws securing the drive housing to the side of the chassis:

*Figure 51: Right-Front Corner, As Viewed from the Right-Front-Top*



**Step 49 :** Pull up on the right drive housing to remove it from the chassis:

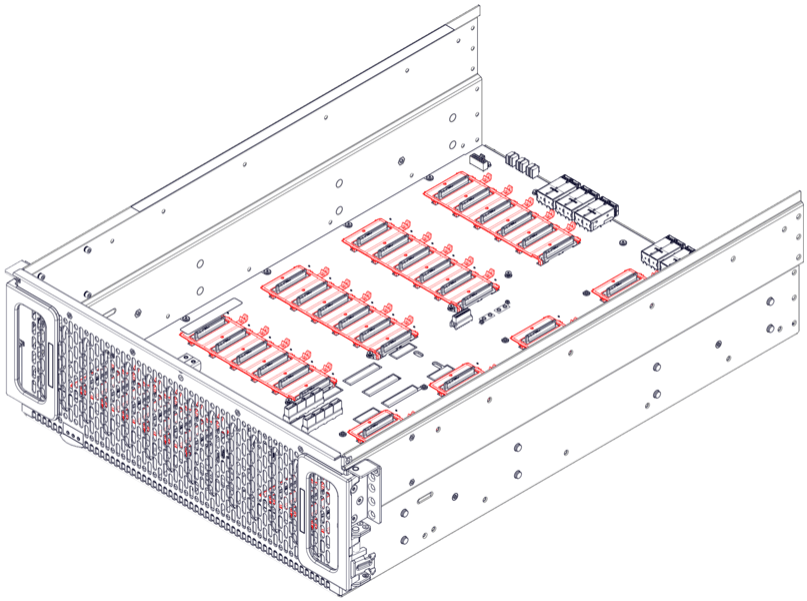


**Step 50 :** Repeat these steps to remove the left drive housing.

## Removing the HDD Limiters

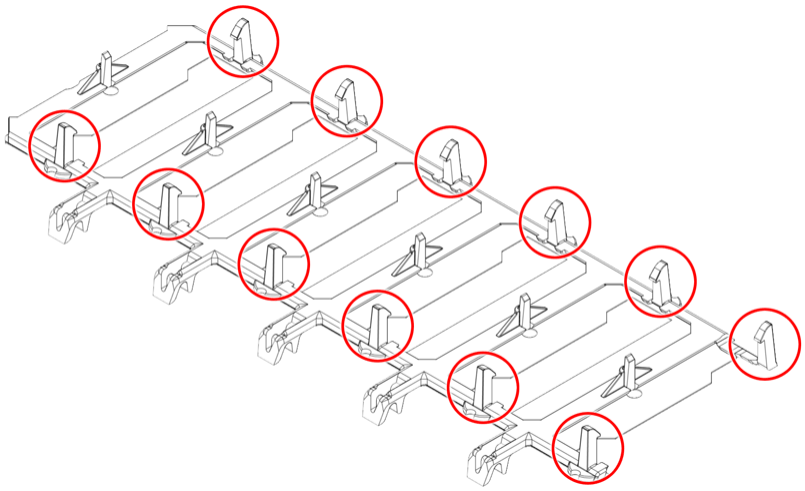
The HDD limiters are shown in red in the following image.

*Figure 53: HDD Limiters Location*

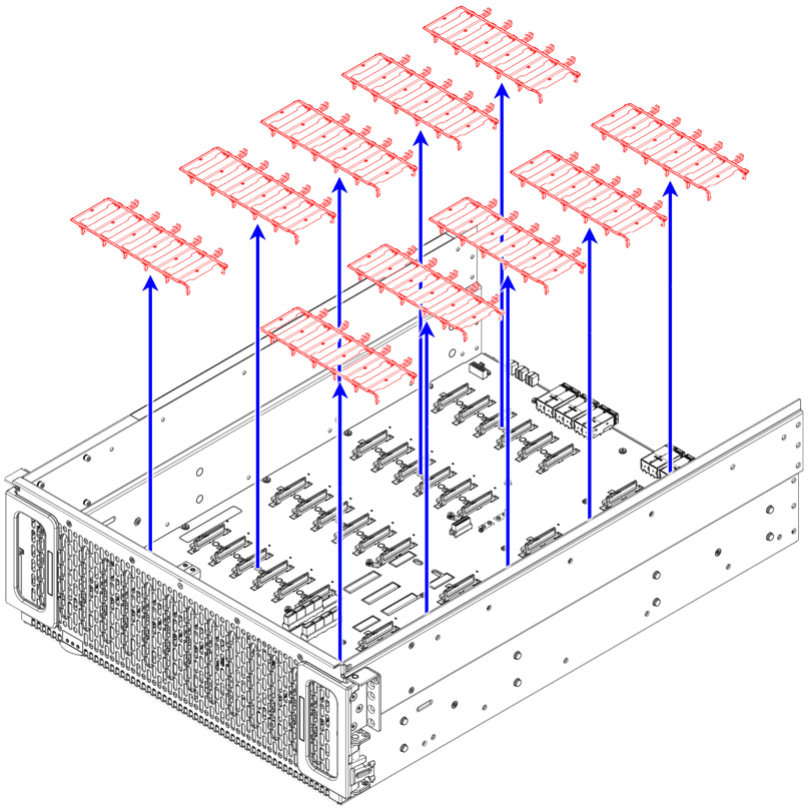


The bottom side of each limiter has twelve (12) clips that hold it to the baseboard; these clips must be disengaged from the baseboard in order to remove the limiter:

*Figure 54: HDD Limiter, Bottom Side Clips*

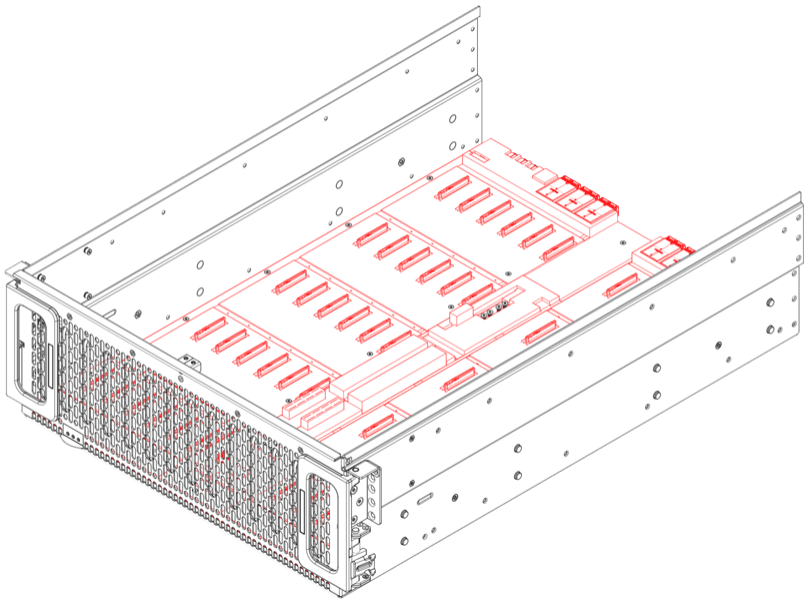


**Step 51:** Use your fingers—or a flat object (flat-head screwdriver, etc.)—to pry up the 10 HDD limiters at their clip locations, and remove the limiters from the baseboard:



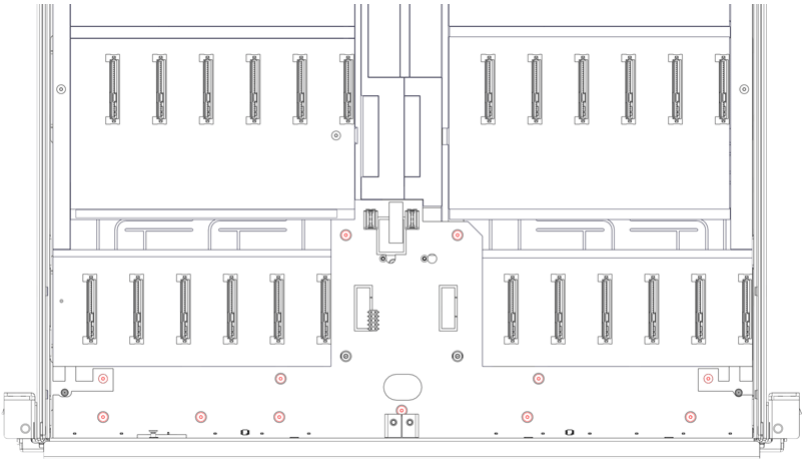
## Removing the Baseboards

The baseboards are shown in red in the following image:



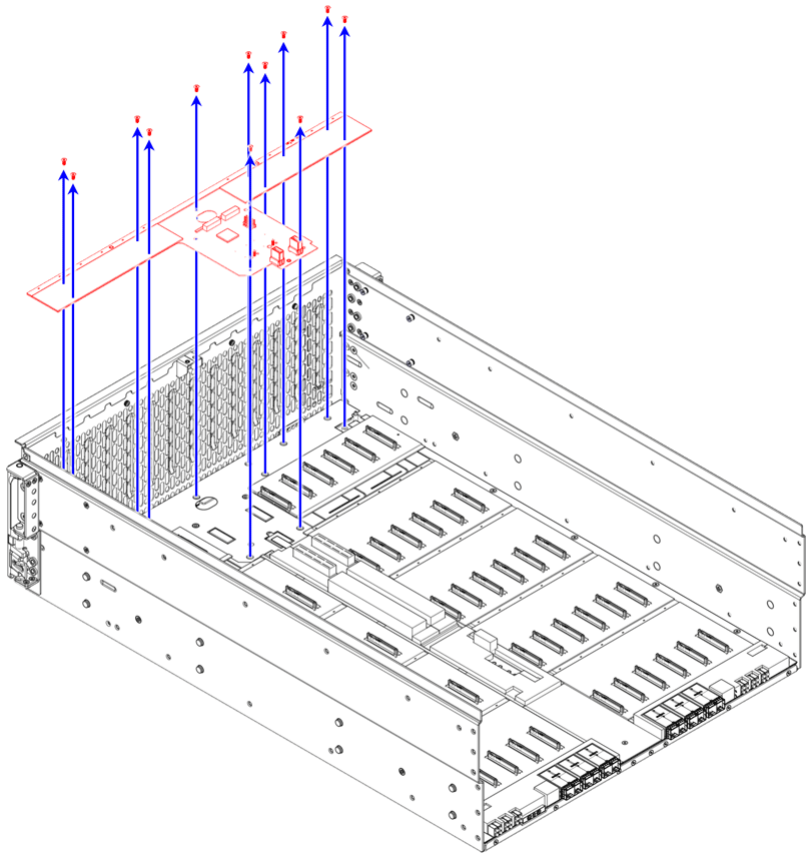
**Step 52 :** Use a T7 Torx screwdriver to remove the twelve (12) M3 6mm screws securing the smaller, front baseboard to the chassis. The screws are shown in red in the following image:

*Figure 57: Enclosure Front, As Viewed from the Front-Top*



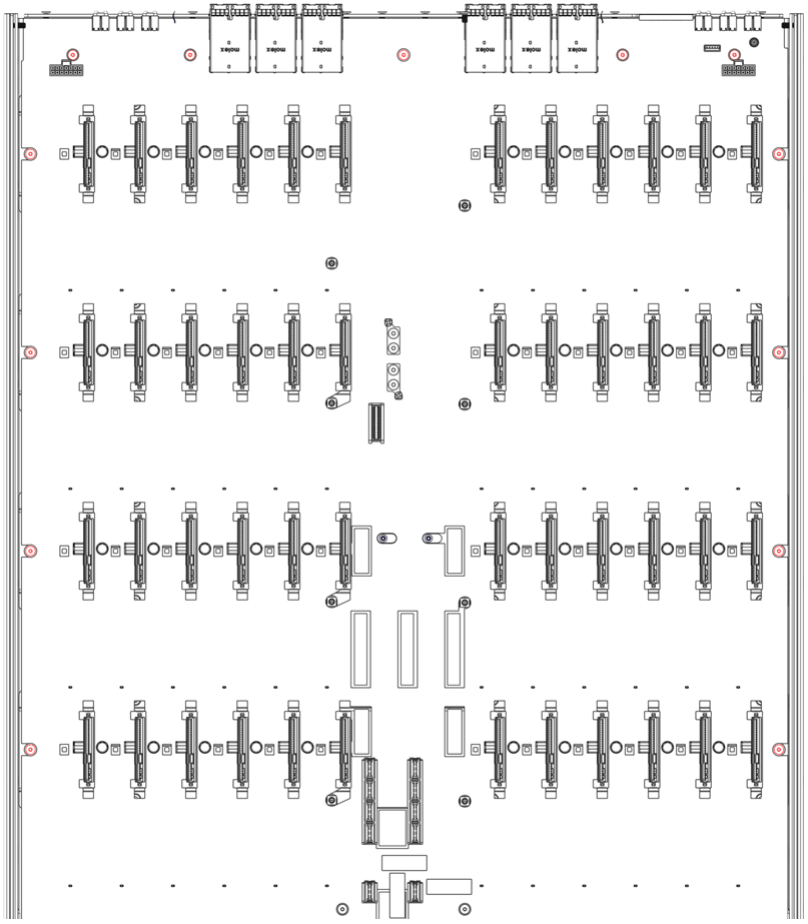
**Step 53 :** Pull up to remove the smaller, front baseboard from the chassis:

*Figure 58: Front Baseboard, As Viewed from the Right-Rear-Top*



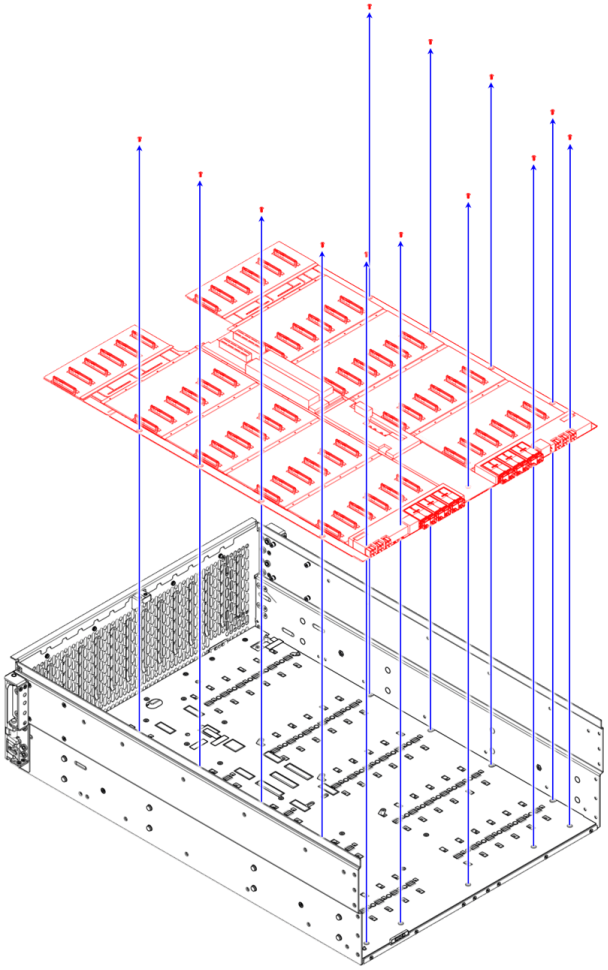
**Step 54 :** Use a T7 Torx screwdriver to remove the thirteen (12) M3 6mm screws securing the larger, rear baseboard to the chassis. The screws are shown in red in the following image:

*Figure 59: Enclosure Rear, As Viewed from the Front-Top*



**Step 55 :** Pull up to remove the larger, rear baseboard from the chassis:

*Figure 60: Rear Baseboard, As Viewed from the Right-Rear-Top*



**Result:** The disassembly is now complete.