VTrak J5960

Quick Start Guide

P/N G6102J596000000

Unpacking

The VTrak J5960 is shipped in protective outer packaging that consists of cardboard caps on the top and bottom and an outer sleeve surrounding

the sides. Edge protectors reinforce the top cap, while plastic banding surrounds the packaging and secures it all to the shipping pallet.

The inner contents of the VTrak J5960 packaging consists of three layers: the accessory tray (top), the chassis box (middle), and the drive boxes (bottom).

1. Make sure that all of the necessary parts and equipment are available, including any equipment necessary to support the enclosure during installation. To verify the list of necessary parts, see VTrak J5960 Packaging Overview.

2. Using a box cutter, cut the straps that secure the packaging to the pallet.

3. Remove and discard the top cap and the outer sleeve.

4. From the accessory tray, open the boxes for the rails, CMA arms, and top cover alignment brackets. Remove these parts and set them aside.

5. Open the chassis box and remove the top cushions from the front and rear of the chassis

6. With assistance, and without using the system handles, remove the chassis from the chassis box and set it aside.

7. Open the drive boxes and verify their contents. Depending on the version of the VTrak J5960 being unpacked, seven boxes should contain fourteen drive assemblies (in the form of HDDs, SSDs, or blanks), and one box should contain four drive assemblies. Once the contents are verified, leave them in the boxes. This will protect them from damage until they are installed in the enclosure.

CAUTION

The chassis weighs ~35 kg without drives installed. Three people are required to lift, mount and guide this 4U chassis into a rack enclosure when using the procedures in this document.

CAUTION

Do not lift the chassis by the system handles. The handles are designed only for sliding the enclosure out of the rack on its rails.

Setup Summary

The setup process is summarized as follows:

1. Unpack the VTrak J5960 and hardware
2. Remove the Install rack hardware and place chassis into approved rack system.
3. Assemble and Insert Hard Disk Drives (HDD) in the drive carriers.

Packing List

The shipping package ensemble includes the following components. Each component is packaged in their own nested packaging material:

1. One VTrak J5960 chassis assembled with all internal components except hard disk drives (HDD).
2. Hard Disk Drives (HDD)
3. Sliding rail system hardware and fasteners (components described in separate section below)
4. Two power cables (2m)
5. Two MiniSAS HD cables (2m)
6. One Cable Management Assembly (CMA)

Rack System Instructions

The following or similar rack-mount instructions are included with the installation instructions:

- Elevated Operating Ambient – If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

- Reduced Air Flow – Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

- Mechanical Loading – Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

- Circuit Overloading – Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

- Reliable Earthing – Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (for example, use of power strips).

CAUTION

Slide/rail mounted equipment must not be used as a shelf or workspace.

Safety Warnings and Cautions

To avoid personal injury or property damage, before you begin installing the product, read, observe, and adhere to all of the following safety instructions and information.

CAUTION

Electrostatic discharge can harm delicate components inside PROMISE products.

Electrostatic discharge (ESD) is a discharge of stored static electricity that can damage equipment and impair electrical circuitry. It occurs when electronic components are improperly handled and can result in complete or intermittent failures.

Wear an ESD wrist strap for installation, service and maintenance to prevent damage to components in the product. Ensure the antistatic wrist strap is attached to a chassis ground (any unpainted metal surface). If possible, keep one hand on the frame when you install or remove an ESD-sensitive part.

Before moving ESD-sensitive parts place them in ESD static-protective bags until you are ready to install the part.

CAUTION

Elevated Operating Ambient Temperature: If the server is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment might be greater than room ambient temperature. Therefore, install the equipment only in an environment compatible with the maximum ambient temperature (Tma) specified for the device.

CAUTION

Circuit Overloading: Do not overload the power supply circuits. Before connecting the server to the supply circuit, review the equipment nameplate power ratings and consider the effect that circuit overloading might have on overcurrent protection and supply wiring.

CAUTION

Reliable Grounding: Maintain reliable grounding of rackmounted equipment. Give particular attention to supply connections other than direct connections to the branch circuit (for example, use of power strips).

CAUTION

Equipment Loading: Always load equipment into a rack from the bottom up so that the rack does not become top-heavy and tip over. Deploy the rack's anti-tilt bar to prevent the rack from tipping during equipment installation.

CAUTION

Reduced Air Flow: Install the equipment in a rack so that the amount of air flow is adequate for the safe operation of the equipment.

CAUTION

Do not use slide rail mounted equipment as a shelf or a work space.

Restricted Access Location

The VTrak J5960 is intended for installation in a server room or computer room where at least one of the following conditions apply:

- access can only be gained by service persons or by users who have been instructed about the restrictions applied to the location and about any precautions that shall be taken and/or
- access is through the use of a tool or lock and key, or other means of security, and is controlled by the authority responsible for the location.

Optimizing Location

Failure to recognize the importance of optimally locating your product and failure to protect against electrostatic discharge (ESD) when handling your product can result in lowered system performance or system failure.

Do not position the unit in an environment that has extreme high temperatures or extreme low temperatures. Be aware of the proximity of the unit to heaters, radiators, and air conditioners.

Position the unit so that there is adequate space around it for proper cooling and ventilation. Consult the product documentation for spacing information.

Keep the unit away from direct strong magnetic fields, excessive dust, and electronic/electrical equipment that generate electrical noise.

Installation Procedure for Rack Mounting

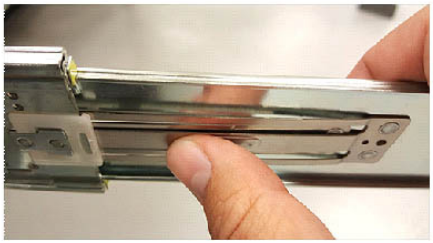
Follow the instructions below to install the chassis in a 19" equipment rack.

Step 1 : Remove the inner rail that is nested inside the rack rails.

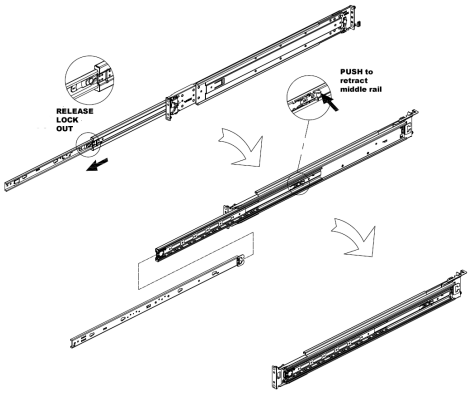
There are Right and Left rails and they must be installed as a set. Each inner rail will read "R" for the right or "L" for the left embossed on the inside. Each outer rail will read "R-Front" for the right or "L-Front" for the left. Right and Left refer to when you are facing the front of the rack.

a. Start by sliding the inner rail out of the outer/rack rail until the safety latch engages and the inner rail will not extend further. It will only slide one way.

Rail Safety Latch



Slide Inner Rail Out



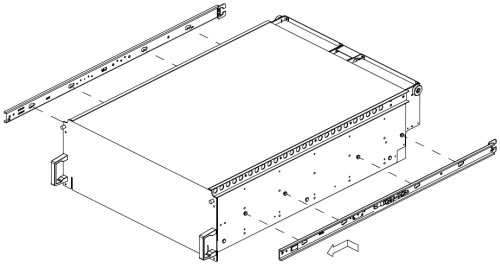
b. Press on the safety latch release spring located on the side of the rail and slide the inner rail out the rest of the way.

Step 2: Install the inner rail onto the chassis making sure they are installed on the correct side. Each inner rail will read "R" for the right or "L" for the left embossed on the side that faces away from the chassis. Right and Left are with reference to looking at the front of the enclosure.

a. Orient the inner rails so that the flat side is facing the enclosure and the side with the grooves is facing away from the enclosure.

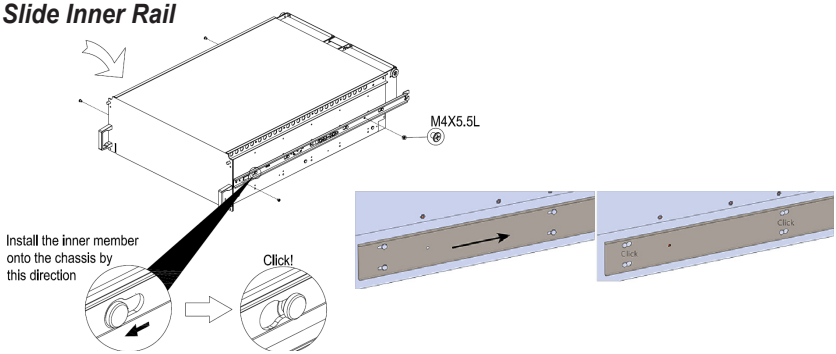
b. Align the keyholes on the inner rail to the mounting pegs on the side of the enclosure and press the inner rail flush against the chassis. If the keyholes don't line up with the pegs, flip the rail length-wise to see if this will align them.

Inner Rail Attachment



c. Slide the inner rail toward the rear of the chassis to lock it in place. There will be an audible click and the mounting pegs will cover the front part of the keyhole.

Slide Inner Rail



d. Install the three special screws provided in the rail hardware kit package to secure the inner rail to the chassis. ***Use the screws provided for this purpose. Using the incorrect screw can damage the chassis.***

e. Follow these steps for the second inner rail on the opposite side of the enclosure.

Step 3 : Set the vertical rack rail depth to between 32” and 36”.

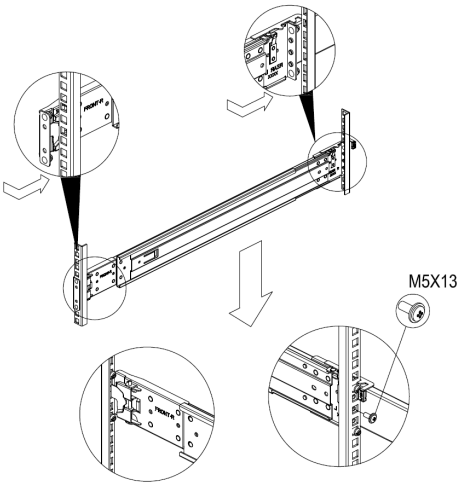
Ensure that all of the vertical rails are set to the same depth using a tape measure.

Step 4: Install the outer rails into the rack. Pay special attention to which side is being installed. The embossed R is for the right side and L is for the left side. Right and Left refer to when you are facing the front of the rack.

a. Move to the rear of the rack.

b. Orient the rail so that the word “REAR” that is embossed into the metal of the rail is at the rear end of the rack, and the release latch is facing the inside of the rack posts as shown in the following image.

Screw Outer Rail Into Rack



c. Align the rail on the rack posts at the U-height desired for installation. The bottom of the rail will be the lower most U of the total 4U height.

d. Pull the rail toward the rack post until the latching mechanism engages the rack. The latching mechanism may need to be pulled open to get around the rack post.

e. Move to the front of the rack.

f. Align the front of the rail with the holes on the rack posts that will receive the rails and pull the rail toward the holes until the latching mechanism engages the rack.

If necessary, unscrew the rack post fasteners to enable the latching mechanism to engage. Screw the rack post fasteners back into the proper holes.

g. Use a level to make sure that the rails are aligned properly.

h. Follow these steps for the other outer rail.

CAUTION

Always install the top cover onto the enclosure before installing the chassis into a rack. Not having the top cover installed may damage the alignment brackets.

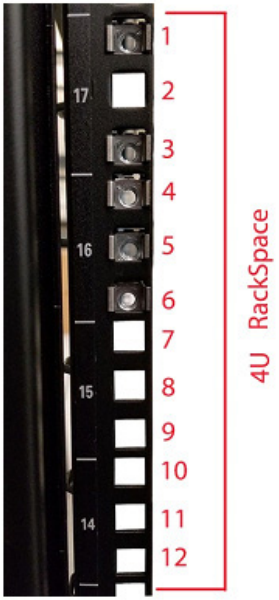
Step 5: Install the rail mounting hardware, starting with the uppermost rack mounting hole of the 4U space on the front of the rack.

CMA Standard:

a. Install one cagenut at the uppermost mounting hole of the 4U space that the enclosure will occupy.

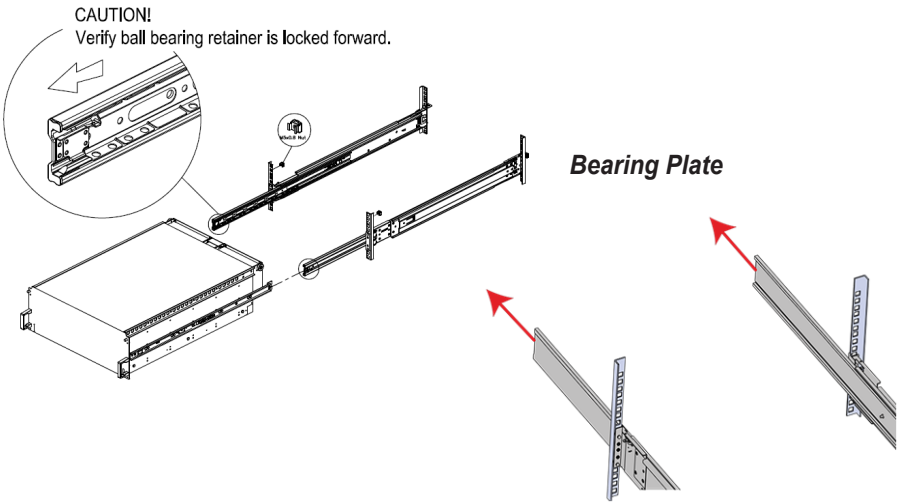
b. If the VTrak J5960 will be installed in a rack for shipping purposes, install four more M5 cage nuts in the holes 3-6 of the 4U space. These will receive the M5 x 12mm T15 Flat Head Torx screws that secure the enclosure to the rack with the shipping bracket.

Cage Nut Spacing



Step 5: Extend the mid-rails out of the rack so that they are protruding from the front of the rack and the safety latches engage.

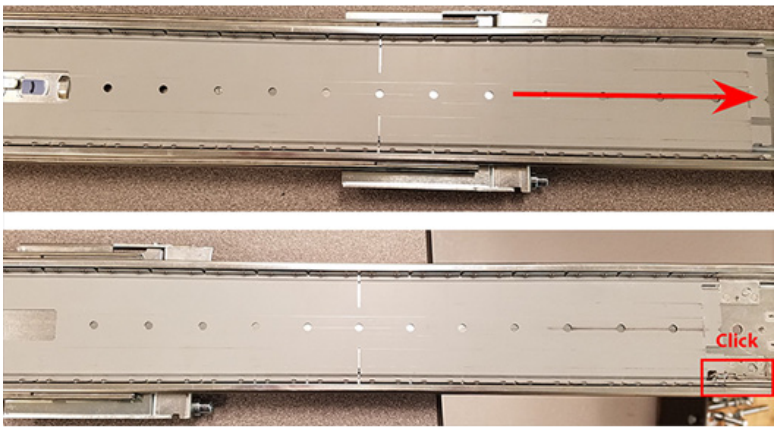
Extend Mid-Rails



Step 6: Install the chassis into the rails.

a. Extend the bearing plates on the inside of the mid-rails until they are fully forward (detent has engaged). This prevents potential damage due to improper mating of the rails.

Bearing Plate



CAUTION

This step in the installation requires a minimum of 3 individuals to install safely, two to lift and one to guide the others who may have difficulty seeing because the enclosure is in the way. Ensure that the appropriate measures are taken to safely support the enclosure during installation. The enclosure MUST have no drives installed and requires a two person team lift to install. Do not attempt to lift the system if it is fully populated with drives. The only case in which the system may be installed or removed with the drives populated is if the facility has a lift that is rated to handle the maximum weight of the fully loaded system.

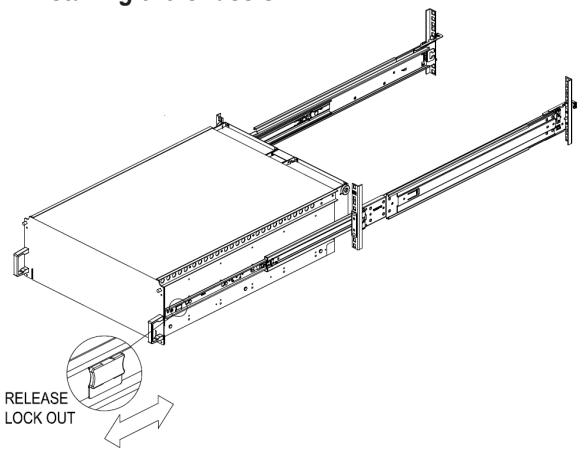
WARNING

The handles on the front of the chassis are not intended to be used to support the weight of the VTrak J5960 . 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.

b. In preparation to perform a team lift, position one individual on each side of the enclosure (to lift) and a third individual standing at the protruding rack rails (to guide the chassis to mate with rack rails).

c. Team-lift the enclosure until the inner rails (which are attached to the chassis) align with the extended mid-rails (which are attached to the rack), and guide the inner rails on the chassis to mate with the rack rails.

Installing the Chassis



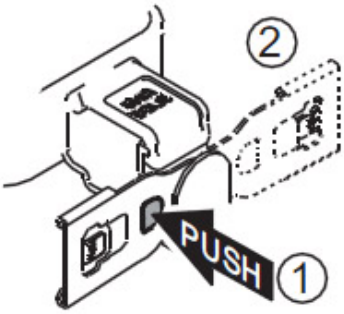
d. Once the rails are mated properly, slide the enclosure into the rack until it is stopped by the safety catch on the rails. Push the release lever on the safety latch (located on the side of each of the rails), and push the enclosure the rest of the way into the rack.

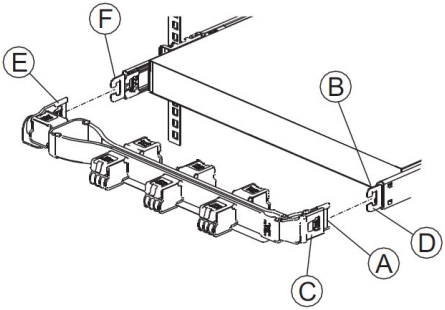
Rail Safety Latch

e. As the chassis is slid into the rack, position one installer at the rear of the rack to ensure that the pegs on the sides of the cover will slide correctly into the rear cover alignment brackets on both sides of the rack. If the chassis does not install smoothly or snags, check that the rear cover alignment brackets are not interfering with the chassis sidewalls, and try again.

Before installation, check the Cable Management Arm (CMA) direction and switch the CMA connector.

1. Press PUSH button.
2. Spin 180 degrees to change direction.





A = CMA connector

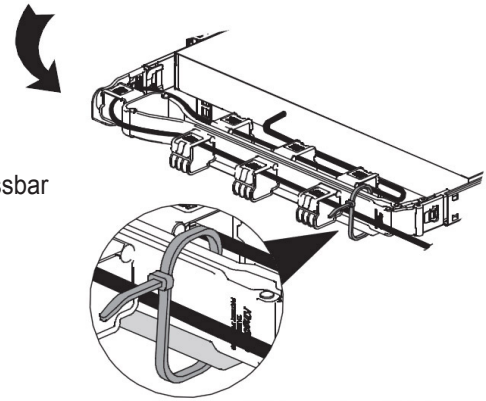
B = CMA connector base on inner member

C = CMA connector

D = CMA connector base on outer member

E = CMA connector beside the center CMA body

F = CMA connector base on outer member

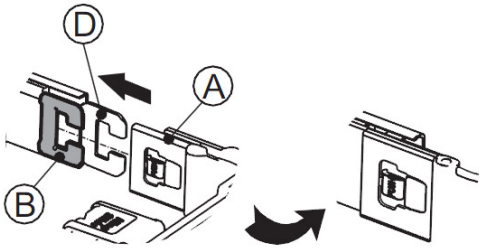


The loop strap is tied to the CMA crossbar when shipped.

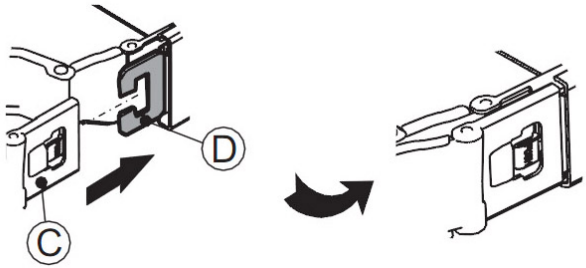
Remove this strap for installation.

Cable Management Arm Installation

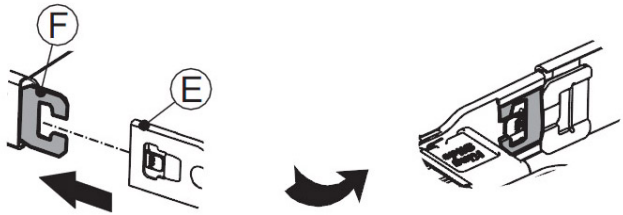
1. Install the inner member A onto B



2. Install the outer member C onto D.



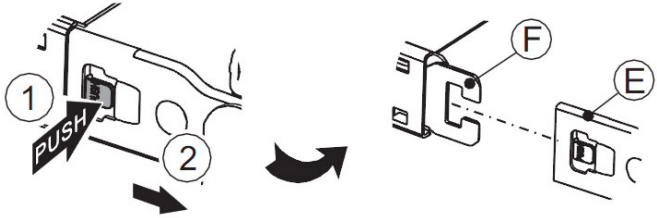
3. Install outer member E ont F.



Cable Management Arm Release

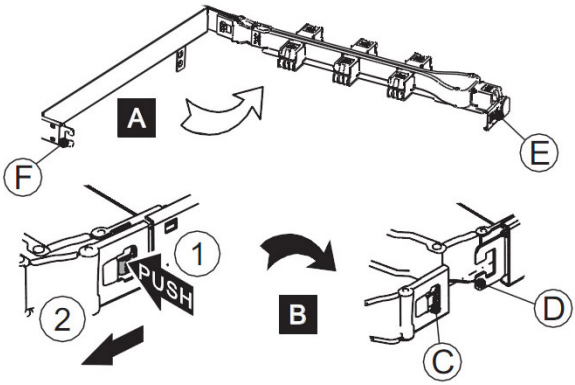
1. Release the outer member.
   Press PUSH button on the CMA plug-in part to draw it out.

2. Release the outer member.

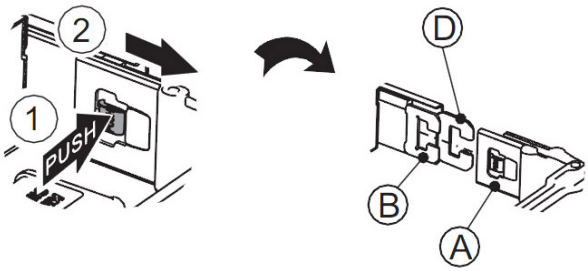


   a. Turn CMA 90 degrees to the right hand side to maintain the chassis or resume the removal.

   b. Press PUSH button on the CMA plug-in part to draw out.



3. Release the inner member
   Press the PUSH button on the CMA plug-in part to draw it out.



Step 8: Cable the CMA(s).

a. Unlatch the elbow side of the arm(s) by pressing the blue button labeled “push,” and then swing the arm(s) open.

b. Gather the SAS, power, and Ethernet cables for installation. Before cabling, note the following routing patterns for best results:

Step 9: Now that the chassis is installed, test the installation by sliding the enclosure in and out of the rack a minimum of three times. If the enclosure binds, catches, or displays any incorrect motion or behavior repeat the installation.

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.

Step 11: Perform this same action two more times without the drives loaded to make sure the rail kits are installed properly.

Disk Carrier Assembly

The hard disk drives (HDD) must first be a secured to the disk drive carriers before inserting the assembled drive carriers into the drive slots. The Drive carriers are shipped in place in the enclosure. It is necessary to slide the top cover to expose the drive carriers, then remove them for assembly.

Follow the instructions below to perform this task. The drive carriers support 3.5 HDD and 2.5" drives.

Be sure to take precautions against electrostatic discharge before unwrapping the HDD.

CAUTION

Electrostatic discharge can harm delicate components inside PROMISE products.

Electrostatic discharge (ESD) is a discharge of stored static electricity that can damage equipment and impair electrical circuitry. It occurs when electronic components are improperly handled and can result in complete or intermittent failures.

Wear an ESD wrist strap for installation, service and maintenance to prevent damage to components in the product. Ensure the antistatic wrist strap is attached to a chassis ground (any unpainted metal surface). If possible, keep one hand on the frame when you install or remove an ESD-sensitive part.

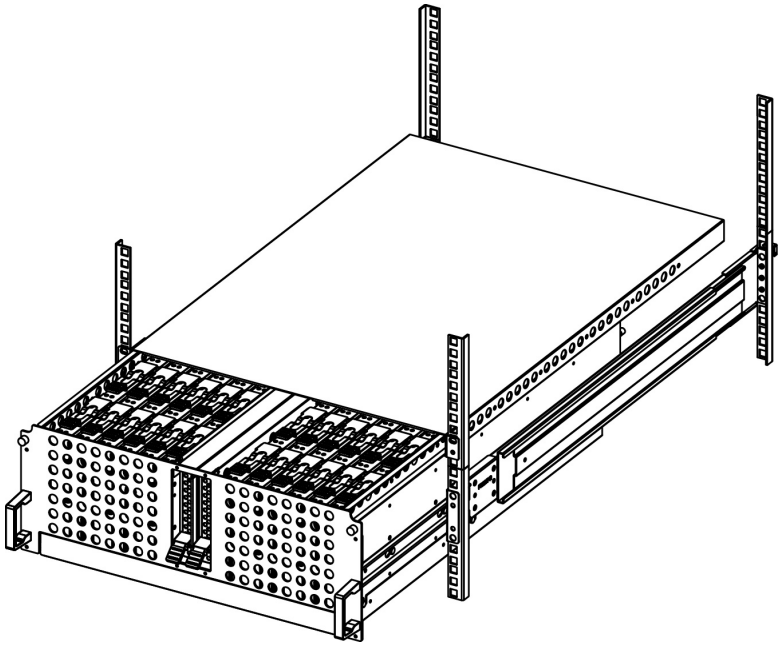
Before moving ESD-sensitive parts place them in ESD static-protective bags until you are ready to install the part.

To remove the disk drive carriers:

1. Slide the top cover back to expose the empty carriers.

2. Pull the lever handle up to release the catch, use two hands to pull the drive carrier out grabbing the corners. **DO NOT pull the carrier by the lever handle.** This mechanism is only intended for securing the catch that holds the carrier in place.

3. Install an HDD into the drive carrier.

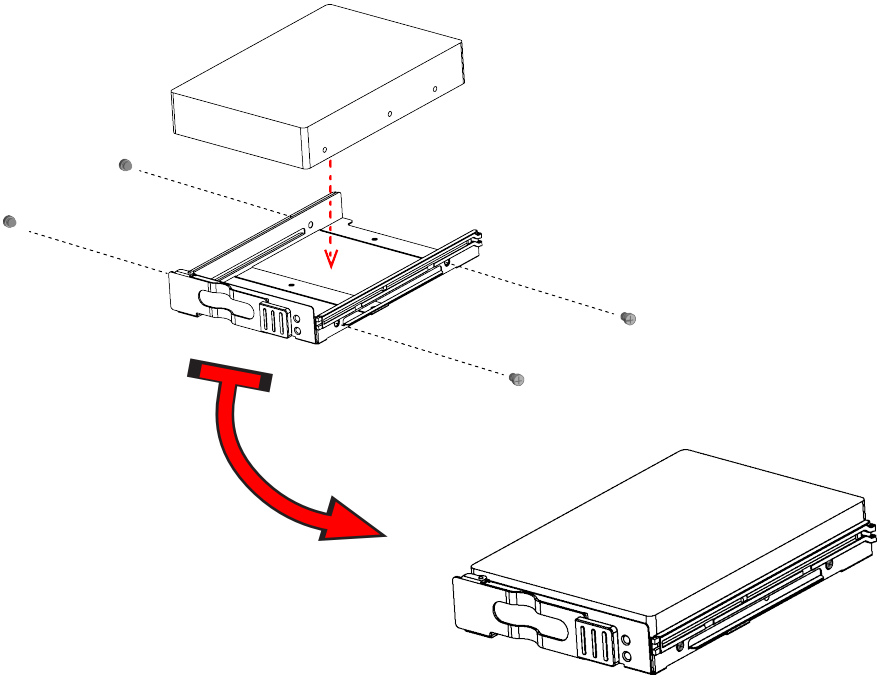


For each 3/5" HDD to assemble:

1. Carefully remove the HDD from the protective packaging.

2. Place the HDD in the drive carrier so the mounting screws can align with the screw holes, and the contacts are exposed at the open end of the drive carrier. When inserted into the VTrak J5960, the open end will be positioned on the downward end.

3. Secure the HDD in the drive carrier using the mounting screws provided for this purpose.



Installing Hard Disk Drives

Step 12: Install the 3.5in HDD Assembly.

a. Ensure that the enclosure has been pulled out of the rack until the rail latches engage.

b. Find the LED indicators on the top of the drive carrier. Orient the drive carrier so the LEDs are on the front of the enclosure.

Installing a 3.5 in HDD Assembly

c. Align the drive with the empty slot that will receive it. Lower it into the slot, making sure it stays level and does not snag.

d. Carefully press the top of the carrier assembly carefully downward to seat the 3.5 in HDD Assembly the rest of the way.

e. Fasten the latch to secure the carrier assembly in place.

Step 13: Repeat the preceding steps to install each subsequent HDD using the same method as the first, populating the enclosure from left-to-right, rear-to-front.

Step 14: Now that the drives are installed into the chassis, test the installation by sliding the enclosure in and out of the rack a minimum of three times. If the enclosure binds, catches, or displays any incorrect motion or behavior retry the installation of the drives and chassis.

Step 15: If the chassis is being installed into a rack that will be shipped fully assembled, you must install eight (four per side) of the included Flat Head Torx screws into the two brackets at the front of the chassis in the following locations. These screws should be tightened to 3.38-3.61 Nm / 30-32 in-lbf using a Long T15 Torx Screwdriver. If this chassis will not be installed into a rack for shipping purposes, skip this step and move on to the next one.

CAUTION

To ensure proper airflow for enclosure cooling, all drive slots must be populated with either drives or drive blanks.

Step 16: Plug the enclosure power cords into a PSU to power the enclosure.

Step 17: Double check the power indicators and other LEDs to ensure that the system is booting.

Result: The enclosure is now installed.