

# Add-on/Spare Disk Drive Instructions

This document describes how to add new disk drives to or replace an existing disk drive in a SnapScale X2 node from Overland Storage. Drives are hot-swappable.

**CAUTION:** While working with the unit, observe standard Electrostatic Discharge (ESD) precautions to prevent damage to micro-circuitry or static-sensitive devices.

**IMPORTANT:** Because of the SnapScale hot-swap feature, it is not necessary to power down the unit to swap out this part.



## Register the Add-on Drives

*NOTE: If you are only replacing an existing disk drive, skip to the next section, "Installation Caveats."*

When **adding** new drives to your node, you must register them to activate their warranty. Technical and warranty support for the drives are **not available** until this step is done. There are **two options**: registering online before installing the drives or registering by email after the drives are installed. While either method can be used, the online method is recommended should help be needed during installation.

The serial numbers located on the top of each drive (and the box they came in) are necessary to complete this registration process. Be sure you have that information available.

### Option 1: Register Online

Use this option to expedite the activation of your drive warranty. That way, you can immediately get technical support should a problem arise during this installation.

1. Go to the **Overland Storage** website (<http://www.overlandstorage.com/>).
2. Select **Service & Support > My Products**.
3. At the **Site Login**, enter your **e-mail address** and **password**, and click **GO**.
4. Click the **Manage Products** button.
5. From the Product Selector drop-down list, select the **node** in which you are installing extra drives.
6. Click **Add a Component**.
7. Enter the drive **information**.
8. For each **additional** drive, click **Save & Add Another**, then repeat **Step 7**.
9. When ALL drives are registered, click **Save & Exit**.

*NOTE: You'll receive a confirmation email to complete the process.*

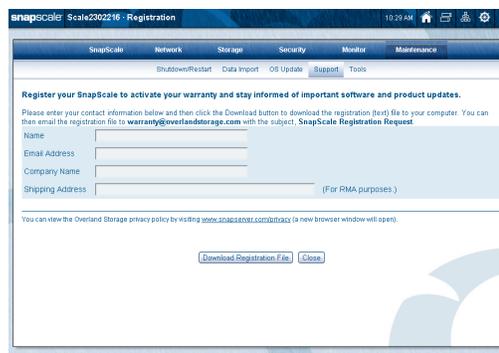


## Option 2: Register by Email (After Installation)

This option can only be done after all the new cluster drives have been installed.

1. After installing all the drives, go to **Maintenance > Support > Registration**.
2. Enter the **four required items** in the appropriate fields.
3. Click **Download Registration File**.  
The information is incorporated into a CSV file.
4. At the dialog box, select **Save File**.  
This saves the registration file to your local computer.
5. Email the downloaded registration file to **warranty@overlandstorage.com** using "SnapScale Registration Request" as the subject.

**NOTE:** You'll receive a confirmation email to complete the process.



## Installation Caveats

### Replacing Drives

Should a drive fail (solid red LED), it can be replaced (hot-swapped) without shutting down the SnapScale node. If a spare is available on a node that doesn't already have an active member of the failed drive's peer set, the spare automatically replaces the failed drive and the new drive being installed automatically becomes a spare. If no spares are available, the new drive automatically becomes a member of the failed drive's peer set.

A failed drive can be removed and replaced anytime. When hot-swapping multiple drives, it is recommended to swap one drive at a time to avoid timing issues.

**NOTE:** Hot-removed (non-spare) drives cannot be added directly back into the peer set from which they were removed. When any non-spare drive is physically removed, it is also removed from the peer set to which it belonged. That peer set then becomes degraded and it attempts to incorporate a suitable cluster spare. If the removed drive is reinserted and there is a degraded peer set or not enough spares to satisfy the spare count, the reinserted drive is reconfigured as a spare; otherwise, the reinserted drive becomes unused and available to the user to incorporate manually via the Web Management Interface.

If there are no errors, after the new drive is incorporated, any alert LEDs are turned off and system statuses are updated.

### New Drive Incorporation

**CAUTION:** If new peer sets are created when adding new drives to a node in a SnapScale cluster, all existing snapshots will be deleted.

**NOTE:** SnapScale only supports SAS (and nearline SAS) drives.

If empty slots are available on one or more nodes, you can add Overland-approved drives to either expand cluster storage space or add hot spares. When adding drives to expand storage space, distribute the new drives evenly across all the cluster nodes.

**NOTE:** Drives should be added without shutting down the node so that the cluster properly recognizes each drive. Note that drives with different rotational speeds cannot be combined in the same cluster.

In order to properly create peer sets with each member on different nodes, if you have the Data Replication Count set at 2x, you must add drives in groups of two, each one in a different node. For a 3x count, add drives in groups of three, each one in a different node.

Once the new drives are added to the nodes, they must be incorporated using the **New Disks Detected** page in the Web Management Interface to enable the cluster to use them properly to create new peer sets and spares.

When adding new drives, consider the following:

- Only add new drives (hot-insert) when the cluster is up and fully operational. Do not add new drives when the cluster is powered down.
- New drives can be added to Uninitialized nodes either while running or powered down.
- If there are fewer spares in the cluster than the spare count specifies, drives added to any cluster node are automatically configured as hot spares until the spare count is satisfied.
- If there is a degraded peer set on the cluster when adding a new drive and there are no existing spares, the drive will automatically be incorporated into the peer set as long as it is not on one of the nodes containing another active member of the peer set.
- When replacing a failed drive, it is recommended that the new drive be installed in the same slot as the old one to maintain a capacity balance.
- When adding a drive that replaces a failed drive in a peer set, the **Peer Sets** page will display that peer set as rebuilding the new drive into the peer set.



**IMPORTANT:** For more information, refer to the *Disks* section of the *Storage* chapter in the *SnapScale Administrator's Guide for RAINcloudOS*.

## Install the Drives

*NOTE: If you are installing drives into a new node that does not yet have the bezel attached, skip to "Remove the Drives/Blanks."*

### Remove the Bezel

1. Carefully take hold of the front **bezel** by the right and left flanges and pull it straight out from the appliance until the retaining clips or magnets release.
2. Set the bezel aside on a **secure surface**.

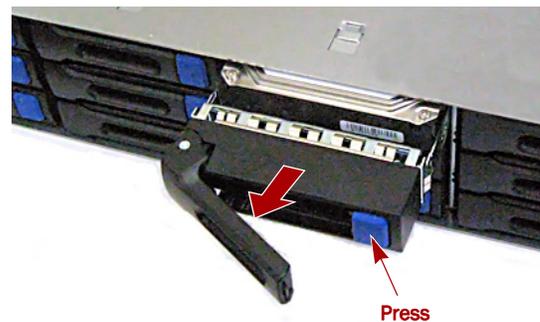


### Remove the Drives/Blanks

*NOTE: Do not remove the disk drives from their carriers. Doing so voids the drive warranty.*

This process applies to both removing old drives that are being replaced and removing blank carriers in bays that will be used for new drives:

1. Press the release **button** on the right side of the carrier.
2. Using the built-in **handle**, pull the carrier out.
3. Set the **carrier** on a secure surface.
4. Repeat **Steps 1–3** for **all** the remaining carriers.

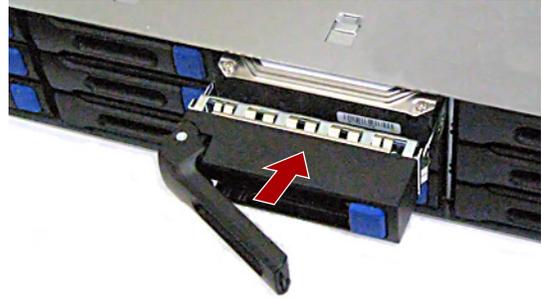


## Install New Drives

Install the drives one at a time either into the bay the failed drive came out of or, when adding drives, the next available bay (left to right, then down):

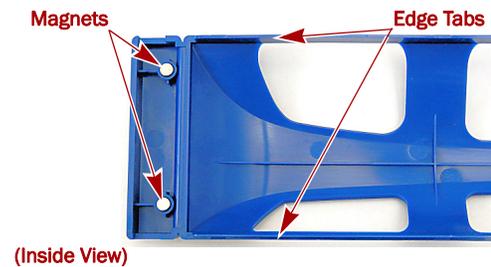
1. Position a **drive carrier** in front of the empty **bay**.
2. Slide the carrier in until the **latch** locks (clicks).
3. If required, repeat [Steps 1–2](#) for any **other drive carriers**.

 **IMPORTANT:** To maintain proper airflow and cooling, a drive assembly or a blank drive carrier must be installed in every bay. No empty bays or gaps between drives are allowed.



## Reattach the Bezel

1. Position the **bezel** with the top and bottom edges aligned with the bezel slots on the front of the appliance.
2. Move the bezel toward the node until the **magnets** make contact.
3. Verify that the bezel is **aligned** properly, all the LEDs are visible, and the Power panel is cleanly centered in its bay on the left flange.

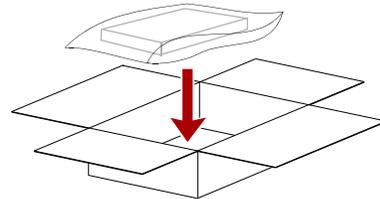


 **IMPORTANT:** If you have not activated the warranty of your new drives, please do so now. Use either Option 1 (recommended) or Option 2 as described above in [“Register the Add-on Drives.”](#)

## Return Old Parts to Overland

If this was the replacement of one or more existing drives, follow these steps:

1. Place the **old parts** in the anti-static bags and put them in the replacement part's box.
2. Use an RMA to return the part to **Overland Storage**.  
For return shipping details and RMA number, go to: <http://docs.overlandstorage.com/return-instructions>



<http://support.overlandstorage.com>

You can get additional technical support on the Internet at the [Overland Storage Support web page](#), or by contacting Overland Storage using the information found on the [Contact Us](#) page on our web site.