



Installing the Cisco ONS 15454 Fan-Tray Assembly

Product Number: 15454-FTA3-T FAN MODULE

The 15454-FTA3-T fan-tray assembly is a removable drawer located at the bottom of the ONS 15454 front compartment that holds fans and fan-control circuitry. The front door of the ONS 15454 can be opened and left in place when removing or installing the fan-tray assembly. After you install the fan-tray assembly, you should only need to access it if a fan failure occurs or you need to replace or clean the fan-tray air filter installed beneath it. For more information on the fan-tray air filter, see the [“Fan-Tray Air Filter Installation” section on page 3](#).

If one or more fans fail on the fan-tray assembly, replace the entire assembly. You cannot replace individual fans. The red Fan Fail LED on the front of the fan tray illuminates when one or more fans fail. The red Fan Fail LED clears after you install a working fan tray.

Fan speed is controlled by TCC+/TCC2/TCC2P card temperature sensors. The sensors measure the input air temperature at the fan-tray assembly. Fan speed options are low, medium, and high. If the TCC+/TCC2/TCC2P card fails, the fans automatically shift to high speed. The temperature measured by the TCC+/TCC2/TCC2P sensors is displayed on the LCD screen on the fan-tray assembly.



Caution

The 15454-FTA3-T fan-tray assembly can only be installed in ONS 15454 Release 3.1 shelf assemblies (15454-SA-ANSI, 800-19857) and later. It includes a pin that does not allow it to be installed in ONS 15454 shelf assemblies released before Release 3.1 (15454-SA-NEBS3E, 15454-SA-NEBS3, and 15454-SA-R1, 800-07149). Installing the 15454-FTA3-T in a non-compliant shelf assembly can result in failure of the alarm interface panel (AIP), which, in turn, will result in power loss to the fan-tray assembly.



Note

The 10-Gbps compatible shelf assembly (15454-SA-ANSI) and fan-tray assembly (15454-FTA3-T) are required with the ONS 15454 XC-10G, OC-192, and OC-48 any slot (AS) cards.

Fan-Tray Assembly Installation

To install or replace the fan-tray assembly, it is not necessary to move any of the cable management facilities. You can remove the fan-tray assembly using the retractable handles and replace it by pushing until it plugs into the receptacle on the back panel.

Install the Fan-Tray Assembly

**Caution**

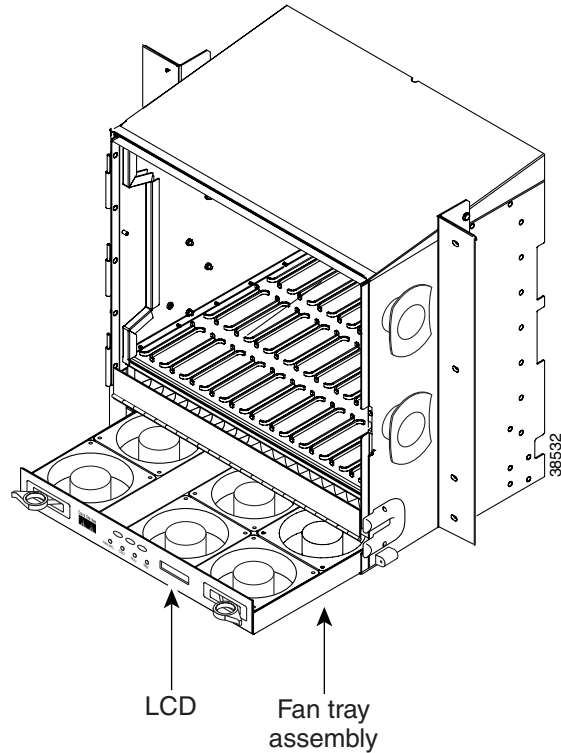
Do not force a fan-tray assembly into place. Doing so can damage the connectors on the fan tray and/or the connectors on the back panel of the shelf assembly.

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- Step 1** Open the front door of the shelf assembly. To remove the front door (optional):
- Detach the ground strap from either the door or the chassis by removing one of the Kepnuts.
 - Place the Kepnut back on the stud after the ground strap is removed to avoid misplacement.
 - Secure the dangling end of the ground strap to the door or chassis with tape.
- Step 2** If you are installing the fan-tray air filter beneath the fan-tray assembly, slide the air filter into the shelf assembly. For more information on installing the air filter beneath the fan tray, see the [“Install the Fan-Tray Air Filter Beneath the Fan-Tray Assembly” procedure on page 6](#).
- If you are installing the fan-tray air filter into the external brackets, you can slide the air filter into the brackets at any time. For more information on installing the air filter and external brackets, see the [“Fan-Tray Air Filter Installation” section on page 3](#).
- Step 3** Slide the fan-tray assembly into the shelf assembly until the electrical plug at the rear of the tray plugs into the corresponding receptacle on the backplane.
- Step 4** To verify that the tray has plugged into the backplane, check that the LCD on the front of the fan tray is activated.
- Step 5** If you replace the door, also reattach the ground strap.
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Remove the Fan-Tray Assembly

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- Step 1** Open the front door of the shelf assembly. To remove the front door (optional):
- Detach the ground strap from either the door or the chassis by removing one of the Kepnuts.
 - Place the Kepnut back on the stud after the ground strap is removed to avoid misplacement.
 - Secure the dangling end of the ground strap to the door or chassis with tape.
- Step 2** Fold out the retractable handles at the outside edges of the fan-tray assembly.
- Step 3** Slide the fan-tray assembly out of the shelf assembly by gently pulling on the handles. [Figure 1](#) shows the location of the fan-tray assembly.

Figure 1 *Installing or Removing the Fan-Tray Assembly*



Fan-Tray Air Filter Installation

The fan-tray assembly features an air filter that you can install in the external brackets or beneath the fan-tray assembly. Remove and visually inspect this filter every 30 days. When the filter is dirty, remove the filter and clean it by either vacuuming the filter or running water through it. Because the filter material is delicate, only a very low-power vacuum should be used. If you are cleaning with water, allow the filter to completely dry for at least eight hours and install a spare filter in its place. Spare filters should be kept in stock.



Warning

Do not put a damp filter back in the ONS 15454.

Install the External Brackets

If you use the external brackets to install the fan-tray air filter, you can install and remove the air filter without first removing the fan-tray assembly. The shelf assembly ships with optional external brackets that can be used to install the air filter below the shelf assembly. Attach the brackets to the bottom of the shelf assembly before performing rack installation.

There are two types of brackets that might ship with your fan-tray assembly. The first type has a left- and right-side bracket and three screw holes in each bracket. The second type (“universal”) can be used on either side of the shelf assembly and has two screw holes. If the brackets are already installed, skip to the [“Install the Fan-Tray Air Filter in the External Brackets” procedure on page 6](#).

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- Step 1** With the fan-tray assembly removed, place the ONS 15454 face down on a flat surface.
- Step 2** Determine which type of filter bracket you will install.
- Step 3** Locate the three screw holes that run along the left and right sides of the bottom of the shelf assembly.
- Step 4** If using the universal brackets, secure each bracket to the top and bottom screw holes found on the bottom of the shelf assembly ([Figure 2](#)). If using the left and right brackets, secure each bracket to the middle and bottom screw holes on the bottom of the shelf assembly ([Figure 3](#)).

Each bracket has a filter stopper and a flange on one end. Make sure to attach the brackets with the stoppers and flanges to the rear of the shelf assembly (the top, if the ONS 15454 is face-down during installation).



Note

When using the brackets to install the fan-tray air filter, you can install three shelf assemblies in a standard seven-foot rack. If you are not using the brackets, you can install four shelf assemblies in a rack.

Figure 2 *Installing the Universal Fan Filter Brackets*

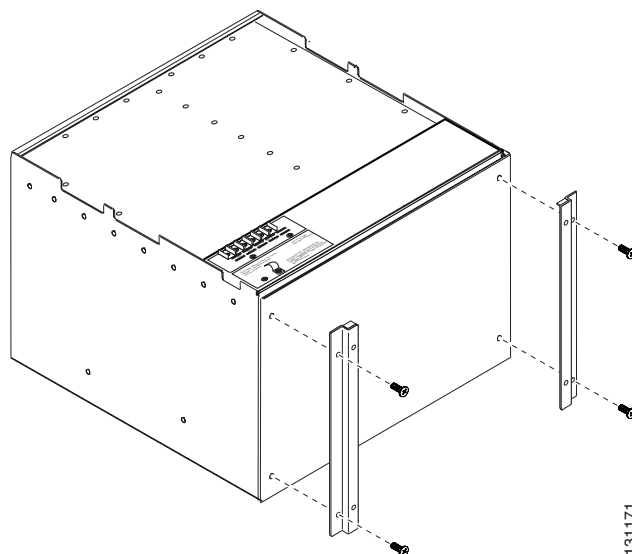
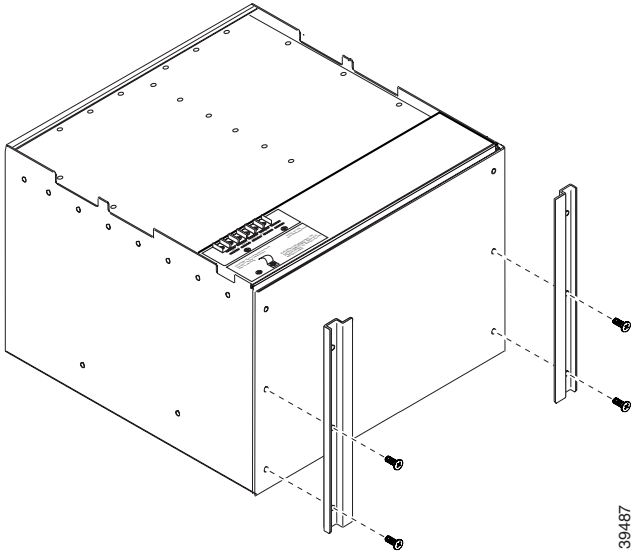


Figure 3 *Installing the Left and Right Fan Filter Brackets*

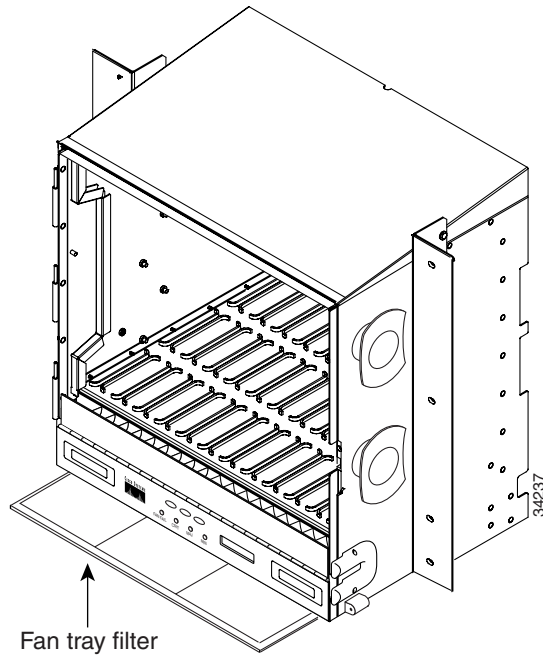


Install the Fan-Tray Air Filter in the External Brackets

Step 1 Slide the air filter all the way to the back of the external brackets.

Although the filter will work if installed with either side facing up, Cisco recommends that you install it with the metal bracing facing up to preserve the surface of the filter. [Figure 4](#) illustrates fan-tray air filter replacement when bottom brackets are used to install the filter.

Figure 4 *Installing the Fan-Tray Filter in the External Brackets*



Install the Fan-Tray Air Filter Beneath the Fan-Tray Assembly

Step 1 Remove the fan-tray assembly.

If you are replacing the filter, remove the old filter.

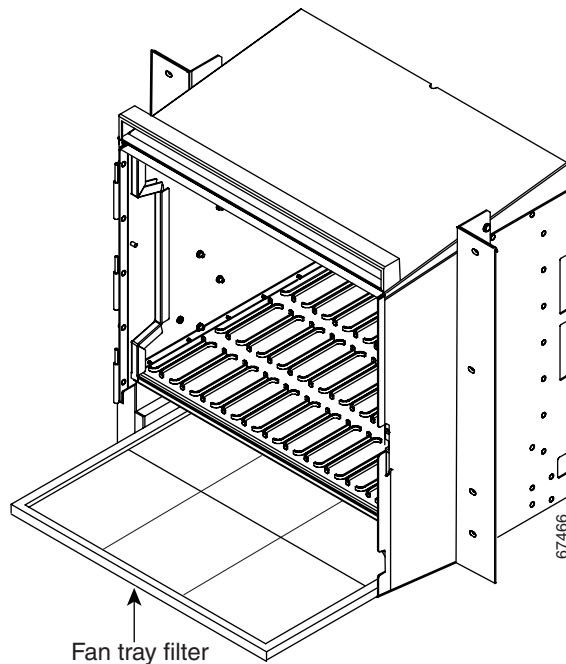
Step 2 Slide the new air filter into the recessed compartment at the bottom of the shelf assembly as shown in [Figure 5](#).



Note You must place the edge of the air filter flush against the front of the fan-tray assembly compartment when installing the fan tray on top of the filter. Failure to do so could result in damage to the filter, the fan tray, or both.

Although the filter will work if installed with either side facing up, Cisco recommends that you install it with the metal bracing facing up to preserve the surface of the filter.

Figure 5 *Installing the Fan-Tray Filter in the Shelf Assembly*



Specifications

Power

Watts: 78

Amps: 1.62

BTU/hr: 253

Fan Speed

Slow: 3336 RPM

Medium: 3940 RPM

High: 4500 RPM

Shelf Acoustics (NEBS acoustic noise compliant)

Slow fan speed: 54.0 dBA

Medium fan speed: 58.0 dBA

High fan speed: 60.0 dBA

Temperature Range

I-Temp compliant: -40 to +65 degrees Celsius

Related Documentation

- *Cisco ONS 15454 Procedure Guide*
- *Cisco ONS 15454 Reference Manual*
- *Cisco ONS 15454 Troubleshooting Guide*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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