

Maintaining the NCS 2002, NCS 2006, and NCS 2015 Shelves

This chapter explains how to maintain the NCS 2002, NCS 2006, and NCS 2015 shelf installations.

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NTP-L19 Replacing the Air Filter of the NCS 2002 Shelf Assembly

Purpose	This procedure replaces the air filter of the NCS 2002 shelf assembly.
Tools/Equipment	New air filter
Prerequisite Procedures	• Connect the chassis to the office ground. For detailed instructions on how to ground the chassis, refer to the Electrostatic Discharge and Grounding Guide for Cisco NCS 2000 Series .
Required/As Needed	As Needed
Onsite/Remote	Remote
Security Level	Provisioning or higher

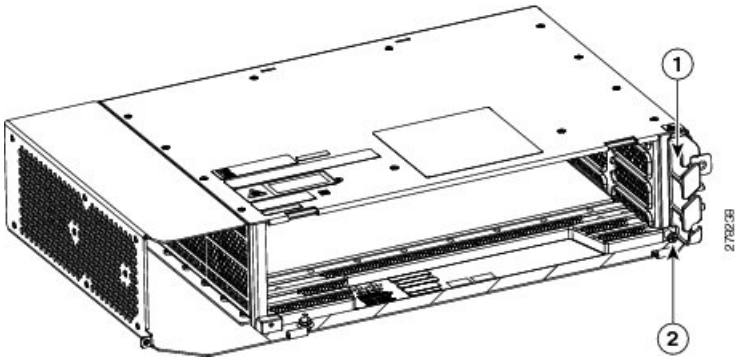
Note The air filters are single-use only. They must not be cleaned and reused. This is a Telcordia NEBS requirement, GR-63-CORE Issue 4.

Note Air filters must be inspected every quarter after the initial six month inspection. If they are dirty or clogged with dust, they must be replaced with a new air filter. Air filters are consumable items and replacement air filters must be ordered separately. You may contact TAC for assistance in identifying the correct air filter PID to order. We recommend having spare air filters in stock.

Procedure

Step 1 Untighten the screw on the air-filter (see the figure below).

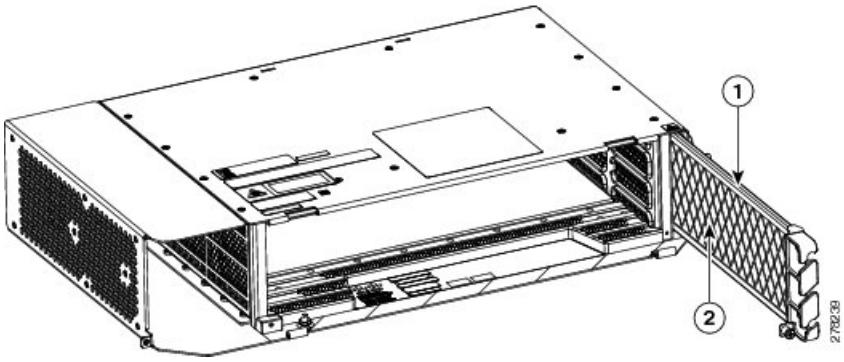
Figure 1: Replacing the Air Filter



1	Air filter	2	Screw

Step 2 Extract the air filter from the shelf assembly as shown in the figure below.

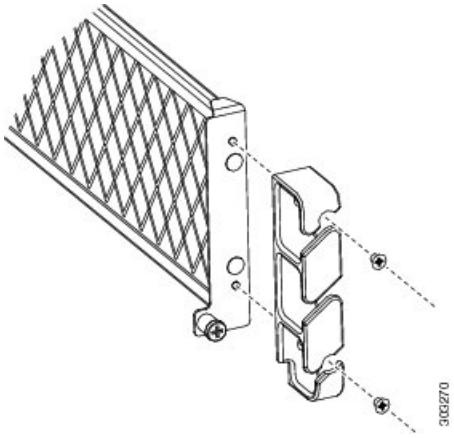
Figure 2: Replacing the Air Filter



1	Air filter	2	Filter grid

Step 3 Separate the cable guides from the air filter as shown in the figure below.

Figure 3: Replacing the Air Filter



Step 4 Replace the air filter with a new one if the air filter is dirty or clogged with dust.

Step 5 Attach the cable guide and insert the air filter into the shelf assembly.

Note
The air filter must be inserted with the grid facing the shelf assembly as shown in the figure above.

Step 6 Tighten the screw on the air-filter.

Stop. You have completed this procedure.

NTP-L20 Replacing the Air Filter of the NCS 2006 Shelf Assembly

Purpose	This procedure replaces the air filter of the NCS 2006 shelf assembly.
Tools/Equipment	New air filter
Prerequisite Procedures	• NTP-L3 Mounting the NCS 2006 Shelf • Connect the chassis to the office ground. For detailed instructions on how to ground the chassis, refer to the Electrostatic Discharge and Grounding Guide for Cisco NCS 2000 Series.
Required/As Needed	As Needed
Onsite/Remote	Remote
Security Level	Provisioning or higher

Note The air filters are single-use only. They must not be cleaned and reused. This is a Telcordia NEBS requirement, GR-63-CORE Issue 4.

Note Air filters must be inspected every quarter after the initial six month inspection. If they are dirty or clogged with dust, they must be replaced with a new air filter. Air filters are consumable items and replacement air filters must be ordered separately. You may contact TAC for assistance in identifying the correct air filter PID to order. We recommend having spare air filters in stock.

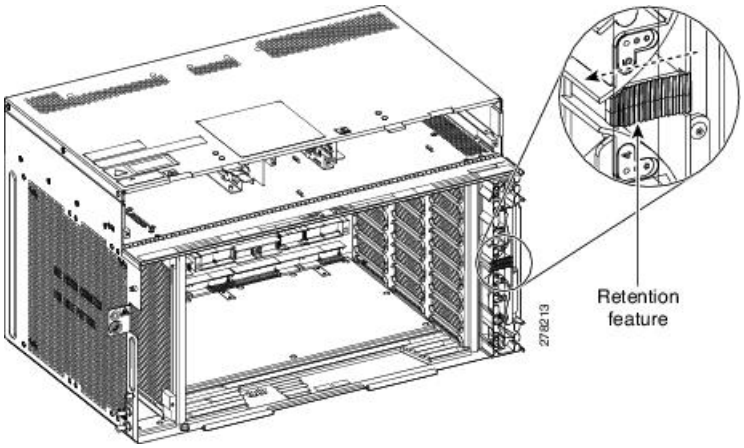
Procedure

Step 1 Open the front door of the shelf assembly (see NTP-L5 Opening and Removing the Standard Door of the NCS 2006 Shelf). If the shelf assembly does not have a front door, continue with Step 3.

Step 2 (Optional) Complete the DLP-L13 Removing the Standard Door of the NCS 2006 Shelf to remove the front door. If you do not want to remove the door, proceed to Step 3.

Step 3 Push the retention feature present on the right side of the shelf assembly to the left side (see the figure below).

Figure 4: Replacing the Air Filter



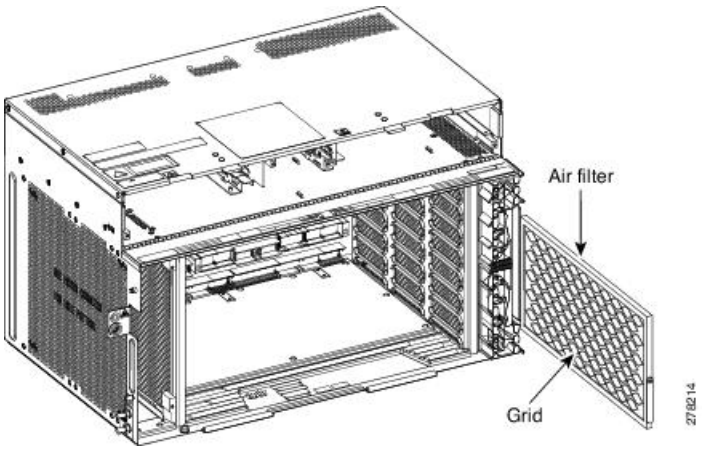
Step 4 Extract the air filter from the shelf assembly (see the figure below).

Step 5 Replace the air filter with a new one if the air filter is dirty or clogged with dust.

Step 6 Insert the air filter into the shelf assembly (see the figure below).

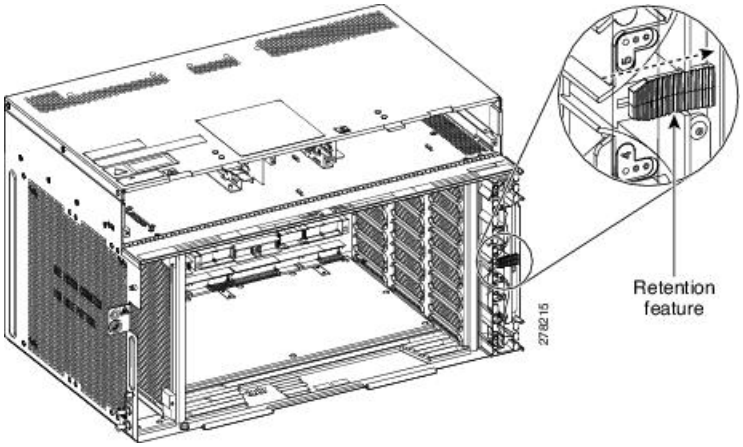
Note
The air filter must be inserted with the grid facing the shelf assembly as shown in the figure below.

Figure 5: Extracting the Air Filter



Step 7 Push the retention feature to the right side (see the figure below).

Figure 6: Replacing the Air Filter



Step 8 Close the front door. If you removed the door, complete the NTP-L4 Installing the Standard Door of the NCS 2006 Shelf.

Stop. You have completed this procedure.

NTP-L21 Replacing the Air Filter of the AC Power Module in the NCS 2006 Shelf Assembly

Purpose	This procedure replaces the air filter of the AC power module in the NCS 2006 shelf assembly.
Tools/Equipment	New air filter

Prerequisite Procedures	• NTP-L3 Mounting the NCS 2006 Shelf • Connect the chassis to the office ground. For detailed instructions on how to ground the chassis, refer to the Electrostatic Discharge and Grounding Guide for Cisco NCS 2000 Series . • DLP-L14 Installing the AC Power Module in the NCS 2006 Shelf.
Required/As Needed	As Needed
Onsite/Remote	Remote
Security Level	Provisioning or higher

Note The air filters are single-use only. They must not be cleaned and reused. This is a Telcordia NEBS requirement, GR-63-CORE Issue 4.

Note Air filters must be inspected every quarter after the initial six month inspection. If they are dirty or clogged with dust, they must be replaced with a new air filter. Air filters are consumable items and replacement air filters must be ordered separately. You may contact TAC for assistance in identifying the correct air filter PID to order. We recommend having spare air filters in stock.

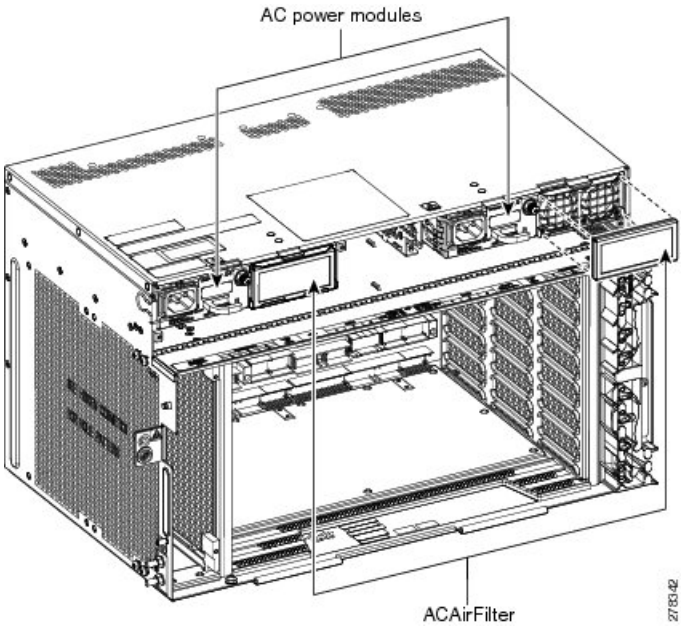
Procedure

Step 1 Open the front door of the shelf assembly (see DLP-L12 Opening the Standard Door of the NCS 2006 Shelf). If the shelf assembly does not have a front door, continue with Step 3.

Step 2 (Optional) Complete the DLP-L13 Removing the Standard Door of the NCS 2006 Shelf to remove the front door. If you do not want to remove the door, proceed to Step 3.

Step 3 Remove the air filter on the AC power module (see the figure below).

Figure 7: Replacing the Air Filter—AC Power Module



Step 4 Replace the air filter with a new one if the air filter is dirty or clogged with dust.

Step 5 Close the front door. If you removed the door, complete the NTP-L4 Installing the Standard Door of the NCS 2006 Shelf.

Stop. You have completed this procedure.

NTP-L58 Replacing the Air Filter of the NCS 2015 Shelf Assembly

Purpose	This procedure replaces the air filter of the NCS 2015 shelf assembly.
Tools/Equipment	New air filter
Prerequisite Procedures	Connect the chassis to the office ground. For detailed instructions on how to ground the chassis, refer to the Electrostatic Discharge and Grounding Guide for Cisco NCS 2000 Series . .
Required/As Needed	As Needed
Onsite/Remote	Remote
Security Level	Provisioning or higher

Note The air filters are single-use only. They must not be cleaned and reused. This is a Telcordia NEBS requirement, GR-63-CORE Issue 4.

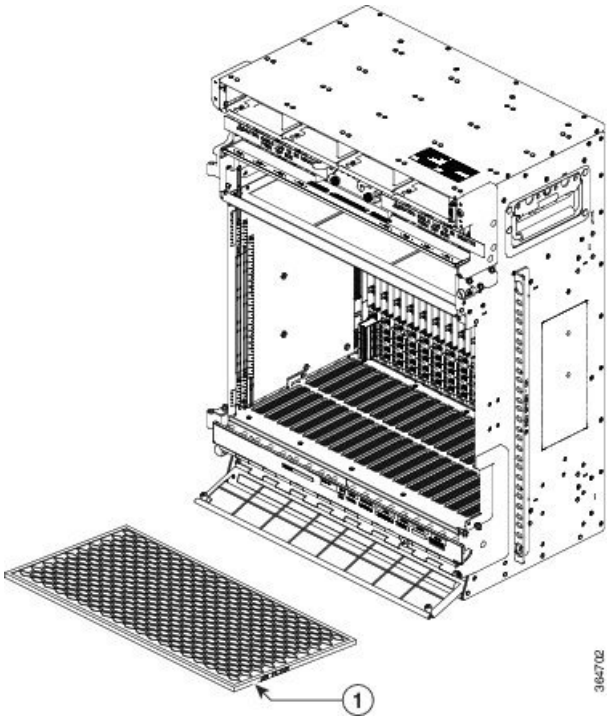
Note Air filters must be inspected every quarter after the initial six month inspection. If they are dirty or clogged with dust, they must be replaced with a new air filter. Air filters are consumable items and replacement air filters must be ordered separately. You may contact TAC for assistance in identifying the correct air filter PID to order. We recommend having spare air filters in stock.

Procedure

Step 1 Open the front door of the shelf assembly (see NTP-L51 Opening and Removing the Door of the NCS 2015 Shelf).

Step 2 Extract the air filter from the shelf assembly. See the figure below.

Figure 8: Extracting the Air Filter in the NCS 2015 DC Shelf



1	Air filter

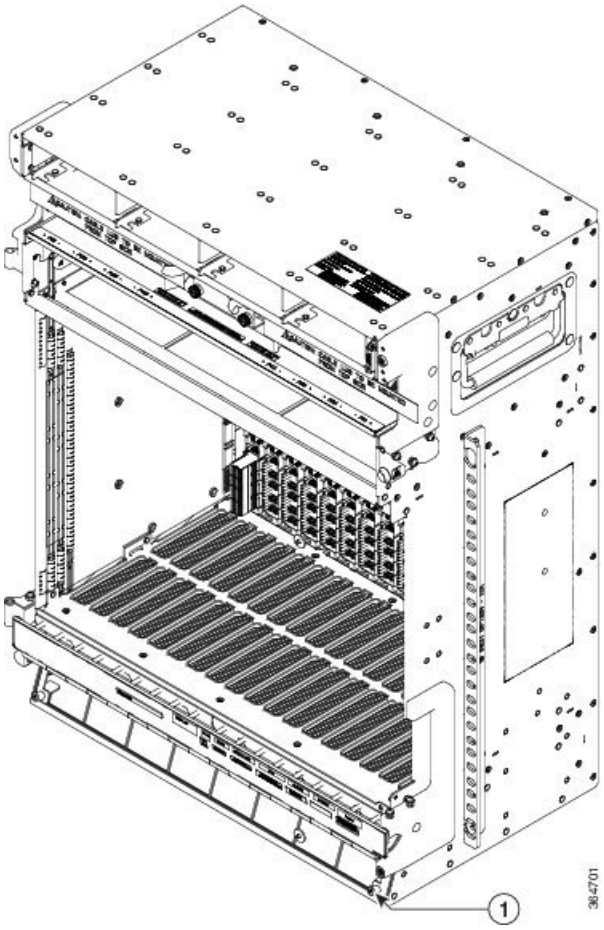
Step 3 Replace the air filter in the air filter holder assembly with a new one if the air filter is dirty or clogged with dust.

Step 4 Insert the air filter assembly into the shelf assembly.

Note
The air filter must be inserted with the grid facing the shelf assembly.

Step 5 Tighten the screws on the air filter assembly to secure it to the chassis. See the figure below.

Figure 9: NCS 2015 DC Shelf with Replaced Air Filter



1	Screw

Step 6 Swing the door closed and turn the knob to lock.

Stop. You have completed this procedure.

NTP-L22 Cleaning Fiber Connectors

Purpose	This procedure cleans the fiber connectors.
Tools/Equipment	Inspection microscope Type A Fiber Optic Connector Cleaner (CLETOP reel) Optical swab Optical receiver cleaning stick

Prerequisite Procedures	None
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	None

Warning **Invisible laser radiation may be emitted from the end of the unterminated fiber cable or connector. Do not view directly with optical instruments. Viewing the laser output with certain optical instruments (for example, eye loupes, magnifiers, and microscopes) within a distance of 100 mm may pose an eye hazard.** Statement 1056

Procedure

Step 1 Using an inspection microscope, inspect each fiber connector for dirt, cracks, or scratches.

Step 2 Replace any damaged fiber connectors.

Note
Replace all dust caps whenever the equipment is unused for 30 minutes or more.

Step 3 Complete DLP-G262 Cleaning Fiber Connectors with CLETOP, on page 11 as necessary.

Step 4 Complete DLP-G263 Cleaning the Fiber Adapters, on page 12 as necessary.

Note
To clean multi-fiber optic connectors, complete the DLP-G261 Cleaning Multi Fiber-Optic Cable Connectors, on page 10 as necessary.

Stop. You have completed this procedure.

DLP-G261 Cleaning Multi Fiber-Optic Cable Connectors

Purpose	This task cleans the multi fiber optic connectors
Tools/Equipment	Cleaning Cartridge for multi fiber optic connectors
Prerequisite Procedures	None
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	None



Warning **Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments.** Statement 1051

Procedure

Step 1 Remove the protective cap on the optical fiber cable connector.

Step 2 Read the manufacturer (cleaning cartridge) instructions to insert the connector into the cleaning cartridge.

Step 3 Slide the lever on the cartridge to swipe the connector surface.

Step 4 Insert the fiber connector into the applicable adapter or attach a dust cap to the fiber connector.

Note
If you must replace a dust cap on a connector, first verify that the dust cap is clean.

Step 5 Return to your originating procedure (NTP).

DLP-G262 Cleaning Fiber Connectors with CLETOP

Purpose	This task cleans the fiber connectors with CLETOP.
Tools/Equipment	Type A Fiber Optic Connector Cleaner (CLETOP reel) Optical receiver cleaning stick
Prerequisite Procedures	None
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	None

Procedure

Step 1 Remove the dust cap from the fiber connector.

Step 2 Press the lever up to open the shutter door. Each time you press the lever, you expose a clean wiping surface.

Step 3 Insert the connector into the CLETOP cleaning cassette slot, rotate one quarter turn, and gently swipe downwards.

Step 4 Use an inspection microscope to inspect each fiber connector for dirt, cracks, or scratches. If the connector is not clean, repeat Steps 1 to 3.

Step 5 Insert the fiber connector into the applicable adapter or attach a dust cap to the fiber connector.

Note

If you must replace a dust cap on a connector, first verify that the dust cap is clean. To clean the dust cap, wipe the outside of the cap using a dry, lint-free wipe and the inside of the dust cap using a CLETOP stick swab (14100400).

Step 6 Return to your originating procedure (NTP).

DLP-G263 Cleaning the Fiber Adapters

Purpose	This task cleans the fiber adapters.
Tools/Equipment	CLETOP stick swab
Prerequisite Procedures	None
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	None

Procedure

Step 1 Remove the dust plug from the fiber adapter.

Step 2 Insert a CLETOP stick swab (14100400) into the adapter opening and rotate the swab.

Step 3 Place dust plugs on the fiber adapters when not in use.

Step 4 Return to your originating procedure (NTP).

NTP-L25 Replacing the Fan-Tray Assembly of the NCS 2002 Shelf Assembly

Purpose	This procedure replaces the fan-tray assembly of the NCS 2002 shelf assembly.
Tools/Equipment	Small slot-head screwdriver
Prerequisite Procedures	NTP-L35 Installing the Fan-Tray Assembly in the NCS 2002 Shelf
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	None

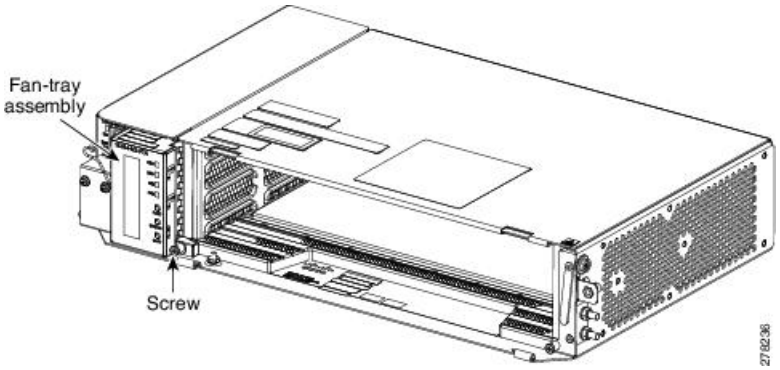
Caution Do not force a fan-tray assembly into place. Doing so can damage either the connectors on the fan tray or the connectors on the back panel of the shelf assembly, or both.

Note The estimated time required to change a fan-tray assembly is 2 minutes.

Procedure

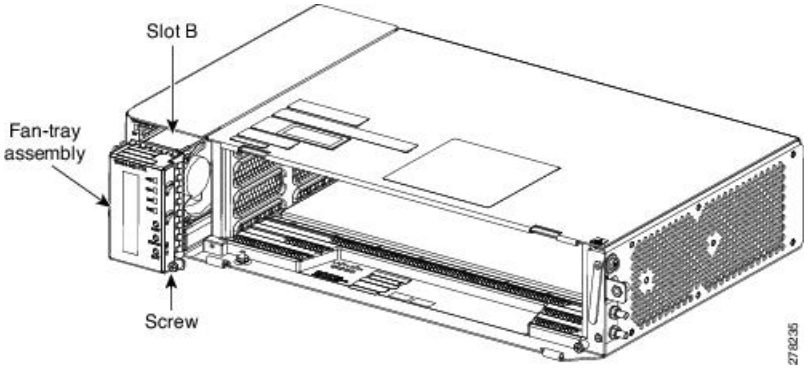
Step 1 Loosen the screw on the fan-tray assembly (see the figure below).

Figure 10: Fan-Tray Assembly installed in the NCS 2002 Shelf Assembly



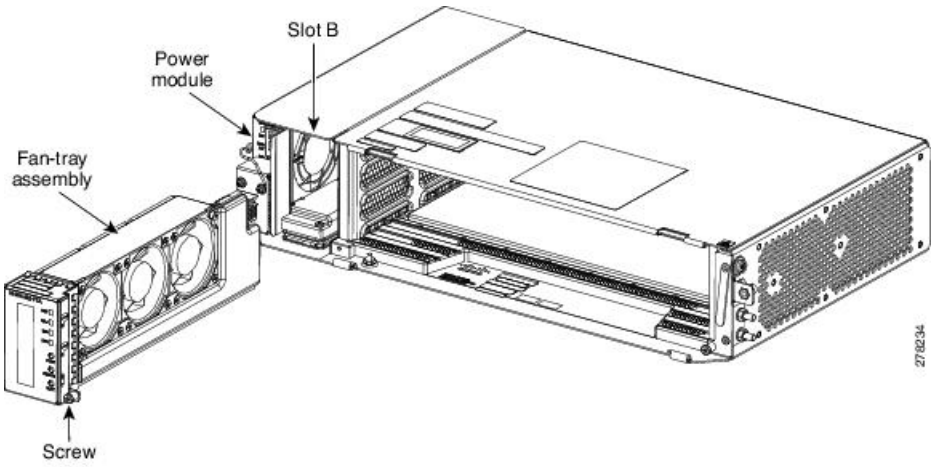
Step 2 Extract the fan-tray assembly partially to disconnect the backplane connector and wait until the fan stops (see the figure below)

Figure 11: Fan -Tray Extracted Partially with Power Connector Disconnected



Step 3 When the fans have stopped, pull the fan-tray assembly completely out of the shelf assembly (see the figure below).

Figure 12: Fan-Tray Extracted



Step 4 Slide the new 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 5 To verify that the tray has plugged into the backplane, ensure that the LCD on the front of the fan-tray is activated.

Stop. You have completed this procedure.

NTP-L26 Replacing the Fan-Tray Assembly of the NCS 2006 Shelf Assembly

Purpose	This procedure replaces the fan-tray assembly of the NCS 2006 shelf assembly.
Tools/Equipment	Small slot-head screwdriver
Prerequisite Procedures	NTP-L11 Installing the Fan-Tray Assembly in the NCS 2006 Shelf
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	None

Caution Do not force a fan-tray assembly into place. Doing so can damage either the connectors on the fan tray or the connectors on the back panel of the shelf assembly, or both.

Note The estimated time required to change a fan-tray assembly is 2 minutes.

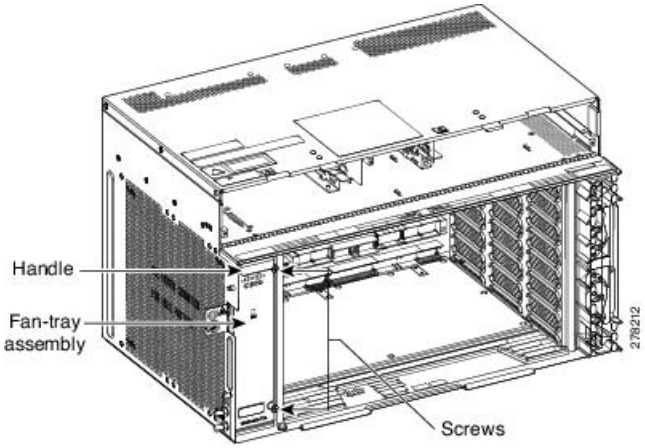
Procedure

Step 1 Open the front door of the shelf assembly (see DLP-L12 Opening the Standard Door of the NCS 2006 Shelf). If the shelf assembly does not have a front door, continue with Step 3.

Step 2 (Optional) Complete the DLP-L13 Removing the Standard Door of the NCS 2006 Shelf to remove the front door. If you do not want to remove the door, proceed to Step 3.

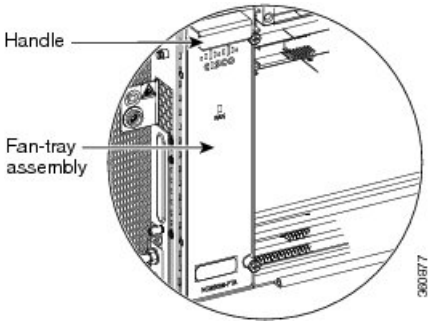
Step 3 Untighten the screws on the fan-tray assembly (see the figure below).

Figure 13: Extract the Fan-Tray Assembly



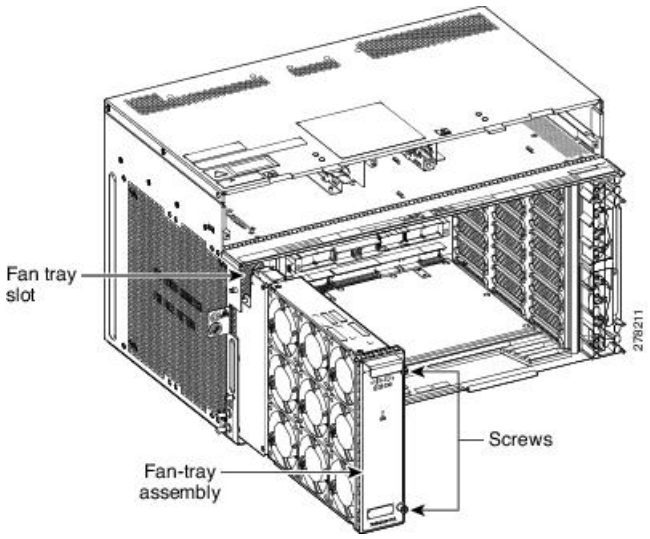
Step 4 Extract the fan tray partially using the handle in order to disconnect the backplane connector and wait until the fan stops (see the figure below)

Figure 14: Fan-Tray Assembly Extracted Partially with Power Connector Disconnected



Step 5 When the fans have stopped, pull the fan-tray assembly completely out of the shelf assembly (see the figure below).

Figure 15: Fan-Tray Extracted



Step 6 Slide the new fan-tray into the shelf assembly until the electrical plug at the rear of the tray plugs into the corresponding receptacle on the backplane.

Step 7 To verify that the tray has plugged into the backplane, ensure that the LED on the front of the fan-tray is activated.

If you removed the door, complete the NTP-L4 Installing the Standard Door of the NCS 2006 Shelf.

Stop. You have completed this procedure.

NTP-L59 Replacing Fan-Tray Assembly of NCS 2015 Shelf Assembly

Purpose	This procedure replaces the fan-tray assembly of the NCS 2015 shelf assembly.
Tools/Equipment	Small slot-head screwdriver
Prerequisite Procedures	NTP-L54 Installing Fan-Tray Assembly in NCS 2015 Shelf
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	None

Caution Do not force a fan-tray assembly into place. Doing so can damage either the connectors on the fan tray or the connectors on the back panel of the shelf assembly, or both.

Note The estimated time required to change a fan-tray assembly is 2 minutes.

Procedure

Step 1 Open the front door of the shelf assembly (see NTP-L51 Opening and Removing the Door of the NCS 2015 Shelf). If the shelf assembly does not have a front door, continue with the next step.

Step 2 Untighten the captive screws on the fan-tray assembly.

Step 3 Extract the fan tray partially using the handle in order to disconnect the backplane connector and wait until the fan stops.

Step 4 When the fans have stopped, pull the fan-tray assembly completely out of the shelf assembly.

Step 5 Slide the new fan-tray into the shelf assembly until the electrical plug at the rear of the tray plugs into the corresponding receptacle on the backplane.

Step 6 Swing the door closed and turn the knob to lock.

Stop. You have completed this procedure.