Cisco 6100/6130 System Fan Tray FRU Installation and Replacement Notes

This document provides information about installing and maintaining the Cisco 6100/6130 system fan tray. The fan tray is installed in the following chassis:

- Cisco 6100/6130 with NI-1
- Cisco 6100/6130 with NI-2

The fan tray is installed directly beneath the DSLAM and provides forced air cooling for the Cisco 6100/6130 systems.

Note The –48VA and –48VB power connections on the fan tray backplane have been relabeled to be consistent with the Cisco 6100/6130 chassis. You may see both versions of the fan tray backplane in the field.

Contents

This document includes the following sections:

CISCO SYSTEMS

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Overview

The system requires forced air cooling when you use one of the following system components:

- Cisco 6100 with NI-1 system with dual-port DMT-2 ATU-C line cards (2xDMT-2s) or quad-port flexi ATU-C line cards (4xflexis)

- Cisco 6130 with NI-1 system

- Cisco 6100/6130 with NI-2 systems

You must install a fan tray with three fan modules below the chassis and leave 1 rack unit (RU) of space below the fan tray for the intake plenum. Figure 1 shows the front view of the fan tray.

Figure 1   Fan Tray Front View
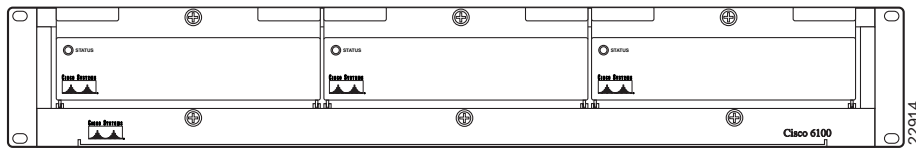
Note   The fan tray must be bolted into the rack and connected to the chassis. If you are using multiple chassis in your configuration, a fan tray must be installed under each chassis.

There is an LED on the front of each of the three fan modules. If the LED is

- Green—The fan tray is operational.

- Not green—The fan tray is not operational and the fan tray is in alarm mode. Refer to the following guides for corrective action:

  - *Cisco 6100 Series with NI-1 Alarm Summary Guide*—Cisco 6100/6130 with NI-1 system

  - *Cisco 6100 with NI-2 Hardware Installation Guide*—Cisco 6100 with NI-2 system

  - *Cisco 6130 with NI-2 Hardware Installation Guide*—Cisco 6130 with NI-2 system

Figure 2 shows the backplane of the fan tray.
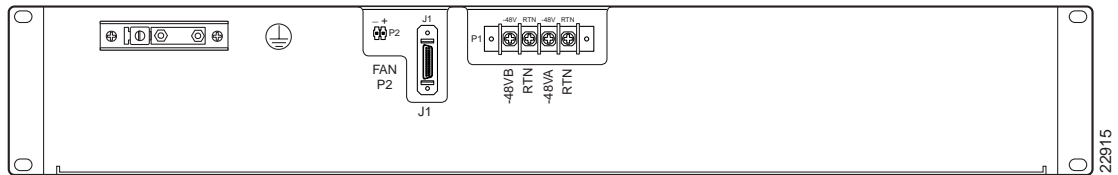
Figure 2   Fan Tray Backplane

Table 1 describes the connectors on the backplane of the fan tray.

Table 1   Fan Tray Backplane Connectors

Identifier	Name	Description
P1	Power	Terminal block connector with four dual power input connections (–48VA, –48VB, and two –48VB RTN).
P2[1]	Alarm	A two-position header providing connections for fan tray alarm contacts.
J1[2]	Alarm	26-pin Small Computer System Interface (SCSI) connector used to connect the fan tray to the Cisco 6130 chassis.

1. This connector is used in a Cisco 6100/6130 with NI-1 systems or a Cisco 6100 with NI-2 system.

2. This connector is used in a Cisco 6130 with NI-2 system.

Parts and Tools Requirements

The following tools and equipment are required for fan tray installation or removal. Only the four mounting screws are provided by Cisco.

*   Four mounting screws—Included in the fan tray accessory kit

*   Fan tray alarm cable for the Cisco 6100 with NI-2 system (part number 72-2086-01)

*   Fan tray alarm cable for the Cisco 6130 with NI-2 system (part number 72-1912-01)

*   A 3/16-inch flat-blade screwdriver

*   Phillips-head screwdriver

*   Socket driver

*   Equipment for electrostatic discharge (ESD) protection

*   Wire wrapping tool

*   Wire stripper

*   Wire for connections

    –   24 to 28 American Wire Gauge (AWG) solid—Used for the fan tray (P2) to Cisco 6100/6130 (P14) connection

    –   14 to 18 AWG copper solid or stranded—Used for power connections

    –   14 AWG or thicker green or green with yellow stripes copper stranded—Used for fan tray grounding

Two people are needed for lifting and installing the fan tray.

General Safety Precautions and Maintenance Guidelines

⚠

Caution   Proper ESD protection is required whenever you handle Cisco digital subscriber line (DSL) access multiplexer (DSLAM) equipment. Installation and maintenance personnel should be properly grounded using ground straps to eliminate the risk of ESD damage to the equipment. Modules are subject to ESD damage whenever they are removed from the chassis.

⚠
Caution   If fuses are already installed in the fuse and alarm panel, remove them. You can replace the fuses after the fan tray is installed. Do not power on the system while you install and connect the fan tray.

⚠
Caution   It is important that the Cisco 6100/6130 cooling fans run continuously. The system could suffer thermal damage if the fans stop running for more than 30 minutes.

⚠
Warning   **The power supply circuitry for the fan tray may constitute an energy hazard. Remove all jewelry (including rings, necklaces, and watches) before installing or replacing the fans. Metal objects can come into contact with exposed power supply wiring or circuitry inside the fan tray. This could cause the metal objects to heat up and cause serious burns or weld the metal object to the equipment.**

⚠
Warning   **Do not reach into a vacant slot or chassis while you install or remove a fan. Exposed circuitry could constitute an energy hazard.**

⚠
Warning   **Installation and maintenance should be performed only by trained service personnel who are aware of the potential hazards involved (for example, fire and electric shock).**

⚠
Warning   **To prevent a Cisco 6100 Series system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 104˚F (40˚C) in a CO location.**

⚠
Warning   **Two people are required to lift the fan tray chassis. Grasp the fan tray chassis underneath the lower edge and lift with both hands. To prevent injury, keep your back straight and lift with your legs, not your back.**

⚠
Warning   **To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:**

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

Installing and Connecting the Fan Tray

See the following sections to install and connect the fan tray.

- Install the Fan Tray in the Rack, page 5
- Ground the Fan Tray, page 8
- Attach Fan Tray Power Connections, page 9
- Connect the Fan Tray to the Chassis, page 12

Note You must complete all the tasks in one section before moving to the next section.

Install the Fan Tray in the Rack

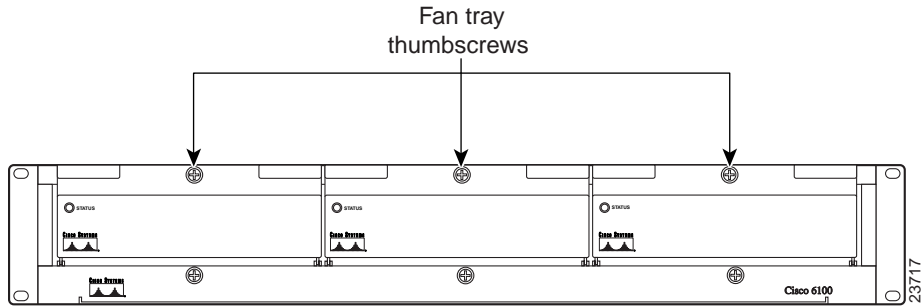Complete the following steps to install the fan tray in the rack:

Note If you are using more than one chassis in your configuration, you must install a fan tray under each chassis.

Step 1 Unpack the fan tray. To unpack the fan tray:

   a. Inspect the packing container. If any damage or other signs of mishandling are evident, inform both the local freight carrier and Cisco before unpacking. Your freight carrier can provide you with the procedures necessary to file a claim for damages.

   b. Carefully open the packing container and remove the fan tray.

   c. Open the accessory kit that contains the documentation and the four mounting screws. Do not use a knife to open this box.

   d. Carefully examine the fan tray chassis and fans for any damage. If you suspect any damage from shipping, contact your local freight carrier for procedures on damage claims.

   If you observe any physical defects in the items you ordered, obtain standard warranty service by delivering the defective part, accompanied by a copy of the dated proof-of-purchase, to the Cisco Systems Corporate Service Center or an Authorized Cisco Systems Service Center during the applicable warranty period. Contact the Cisco Technical Assistance Center (TAC) for the location of your nearest service center.

Step 2 Remove the fuses from the fuse and alarm panel. By removing the fuses from the fuse and alarm panel, the system will not be powered while you install and connect the fan tray.

Step 3 Place the fan tray chassis on a flat and stable surface (for example, a table top).

Step 4 Locate the first fan module and unscrew the thumbscrew that holds the fan module in place (the screw at the top of each fan module), as shown in Figure 3.

Figure 3   Fan Tray Thumbscrews

Fan tray
thumbscrews

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Cisco 6100

Step 5   Carefully remove the fan module by pulling it toward you. The fan module is located on slide rails for easy removal and installation. (See Figure 4.)

Figure 4   Removing the Fan Module from the Fan Tray

Fan tray
slide rails

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Cisco 6100
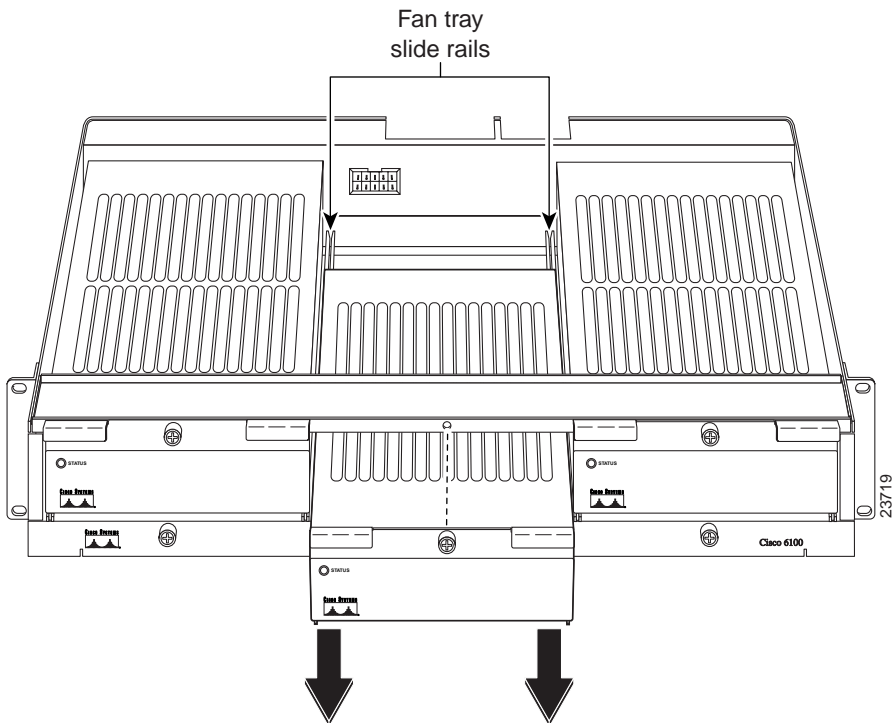
Step 6   Place the fan module on a flat and stable surface (for example, a table top) until you are ready to reinsert it into the fan tray.

Step 7   Repeat Steps 4 through 6 for each fan module.

Installing a Fan Tray in a Direct Connect with a POTS Splitter Configuration

See the following steps for installing a fan tray for a Direct Connect with a plain old telephone service (POTS) splitter configuration.

Step 1 Position the fan tray chassis, which occupies 2 RUs of space, above the POTS splitter.

Allow an additional 1 RU of space between the fan tray and the POTS splitter. This space allows for the intake plenum.

Step 2 Use four mounting screws and a Phillips-head screwdriver to bolt the fan tray in the rack above the POTS splitter.

Step 3 Align a fan module with the fan tray slide rails inside the fan tray.

Step 4 Slide the fan module into the fan tray.

Step 5 Tighten the thumbscrew above the fan module.

Step 6 Repeat Steps 4 through 6 for each fan module.

Note For information about fan module and air filter replacement, see the "Fan Tray Maintenance" section on page 23.

Installing a Fan Tray in a Direct Connect without a POTS Splitter Configuration

See the following steps for installing a fan tray for a Direct Connect without a POTS splitter configuration.

Step 1 Position the fan tray chassis, which occupies 2 RUs of space, at the bottom of the rack.

Allow 1 RU of space under the fan tray. This space allows for the intake plenum.

Step 2 Use four mounting screws and a Phillips-head screwdriver to bolt the fan tray in the rack.

Step 3 Align a fan module with the fan tray slide rails inside the fan tray.

Step 4 Slide the fan module into the fan tray.

Step 5 Tighten the thumbscrew above the fan module.

Step 6 Repeat Steps 4 through 6 for each fan module.

Note For information about fan module and air filter replacement, see the "Fan Tray Maintenance" section on page 23.

# Ground the Fan Tray

During the system installation, complete the following steps to connect the grounding lug on the fan tray directly to the rack.

Step 1   Remove all paint or oxidation from the rack at the point of the grounding connection.

Step 2   Measure enough wire to connect the fan tray to the rack. Use 14 AWG or thicker green or green with yellow stripes stranded copper wire for the fan tray. (See Figure 5 for grounding wire location.)

Figure 5 shows how to ground the fan tray to the rack.

Figure 5   *Grounding the Fan Tray*
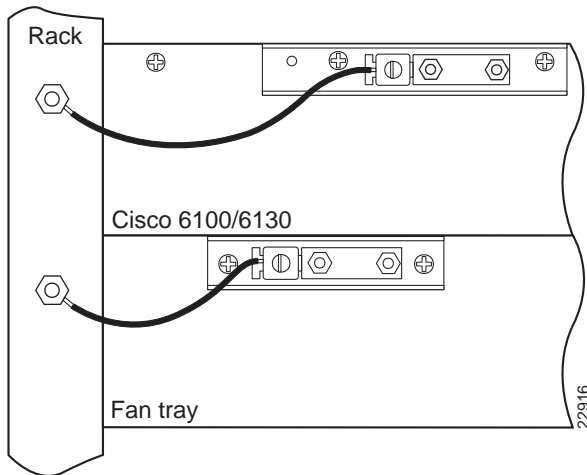
Tips   Make sure your wire is as short as possible to make the connection.

Step 3   Use a wire stripper to remove the casing from both ends of the wires.

Step 4   Use a 3/16-inch flat-head screwdriver to loosen the screw on the rack.

Step 5   Hook one end of the copper wire around the screw on the rack.

Step 6   Tighten the rack screw over the copper wire.

Step 7   Use the flat-head screwdriver to loosen the compression screw that is provided on the grounding lug of the fan tray.

The grounding lug is located in the upper left corner of each fan tray (viewed from the rear).

Step 8   Insert the other end of the copper wire under the compression screw.

Step 9   Tighten the compression screw over the copper wire.

Note   Do not ground the components in a rack by chaining them together.

Attach Fan Tray Power Connections

External power is supplied to the system as –48 VDC from the Central Office (CO) power source or rectifier to the fuse and alarm panel. Power is fed from the fuse and alarm panel to the fan tray by a terminal block connector with four dual power connections (P1) that are located at the top of the fan tray backplane. Figure 6 shows the location of the power connection (P1) on the fan tray.

Note The fuse and alarm panel and wires are not provided by Cisco.

Figure 6 Fan Tray Power Connection Location
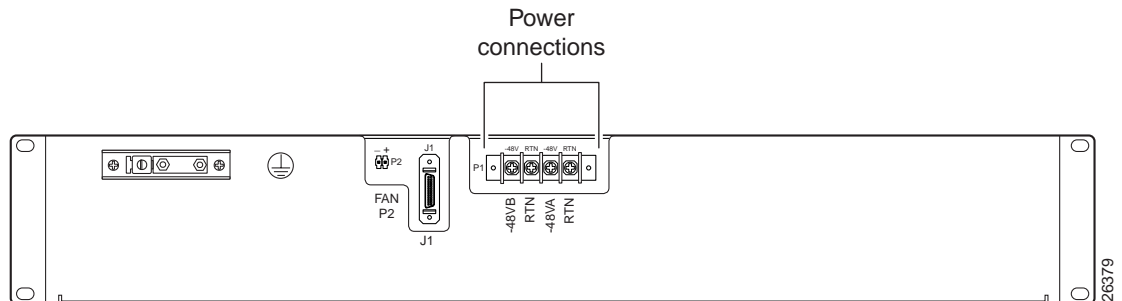
Note Connect each system component to a separate fuse. Do not power the components in the rack by chaining them together.

See the appropriate hardware installation guide for the calculation tables that are necessary to determine the minimum fuse rating for each component that is wired to the fuse and alarm panel. Refer to the label on the back of the fan tray to determine the maximum fuse rating.

You can wire the power connections from the fuse and alarm panel to the fan tray for either dual- or single-power feed.

Power Connections for a Dual-Power Feed

Complete the following steps to attach the fan tray power connections to the fuse and alarm panel for a dual-power feed:

Step 1 Use a socket driver or a Phillips-head screwdriver to remove the clear cover over the fan tray power connections.

Step 2 Measure enough wire (14 to 18 AWG copper solid or stranded wire) to connect each of the fan tray power connections to the fuse and alarm panel.

Figure 7 shows the power connections from the fan tray to the fuse and alarm panel for a dual-power feed.

Figure 7   Power Connections for the Fan Tray—Dual-Power Feed
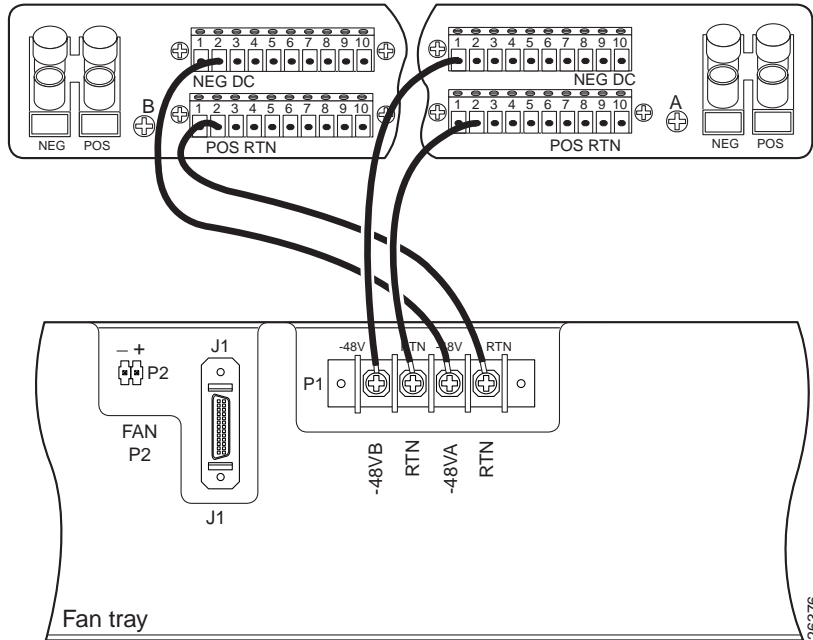
Step 3   Use a wire stripper to remove the casing from both ends of the wires.

Step 4   Use a Phillips-head screwdriver to attach a wire to the –48VA power input connection on the fan tray (P1).

Step 5   Attach the wire to the fuse and alarm panel NEG DC connector. See Figure 7 for correct placement.

Step 6   Use a Phillips-head screwdriver to attach a wire to the –48VB power input connection on the fan tray (P1).

Step 7   Attach the wire to the fuse and alarm panel NEG DC connector. See Figure 7 for correct placement.

Step 8   Use a Phillips-head screwdriver to attach a wire to an RTN power return connection on the fan tray (P1).

Step 9   Attach the wire to a fuse and alarm panel POS RTN connector.

Step 10   Repeat Steps 8 and 9 for the remaining RTN power return connection.

Step 11   Use a socket driver or a Phillips-head screwdriver to attach the clear cover over the fan tray power connections.

✎
Note   Each fan tray requires a 1.25A fuse.

Power Connections for a Single-Power Feed

Complete the following steps to attach the fan tray power connections to the fuse and alarm panel for a single-power feed:

Step 1   Use a socket driver or a Phillips-head screwdriver to remove the clear cover over the fan tray power connections.

Step 2   Measure enough wire (14 to 18 AWG copper solid or stranded wire) to connect each of the fan tray power connections to the fuse and alarm panel.

Figure 8 shows the power connections from the fan tray to the fuse and alarm panel for a single-power feed.

Figure 8   Power Connections for the Fan Tray—Single-Power Feed
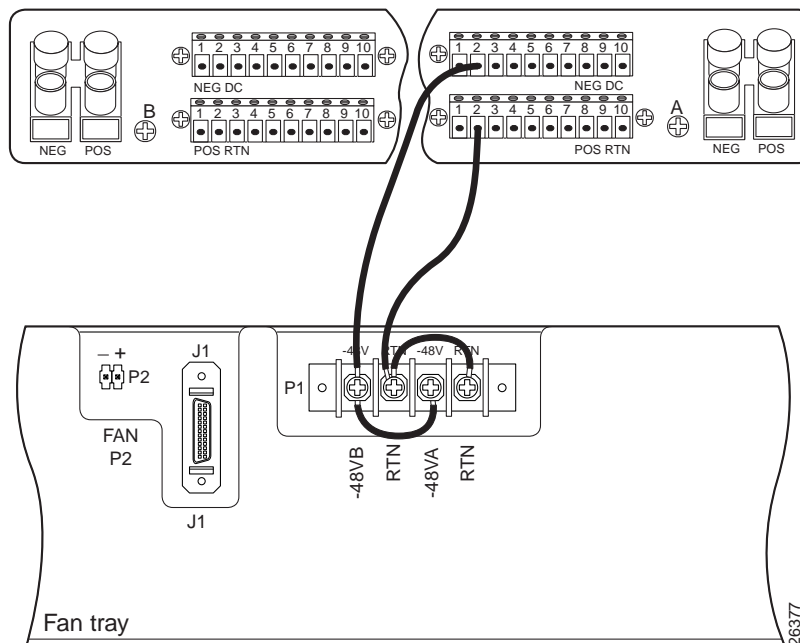
Step 3   Use a wire stripper to remove the casing from both ends of the wires.

Step 4   Use a Phillips-head screwdriver to attach a wire to the –48VA power input connection on the fan tray (P1).

Step 5   Attach the wire to the fuse and alarm panel NEG DC connector.

Step 6   Use a Phillips-head screwdriver to attach a wire to an RTN power return connection on the fan tray (P1). See Figure 8 for correct placement.

Step 7   Attach the wire to the fuse and alarm panel POS RTN connector. See Figure 8 for correct placement.

Step 8   Use a Phillips-head screwdriver to attach a wire to connect the –48VA and –48VB power input connections to each other.

Step 9   Use a Phillips-head screwdriver to attach a wire to connect the RTN power return connections to each other.

Step 10   Use a socket driver or a Phillips-head screwdriver to attach the clear cover over the fan tray power connections.

> ✎
>
> **Note**   Each fan tray requires a 1.25A fuse.

Connect the Fan Tray to the Chassis

See the following sections to connect the fan tray to a particular chassis.

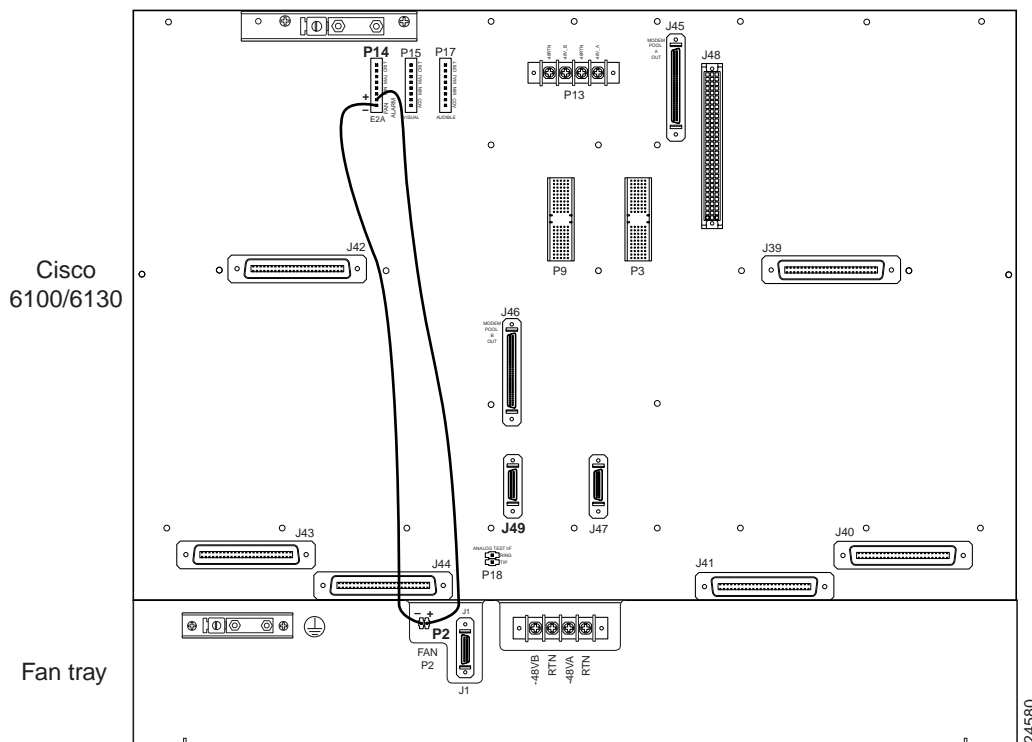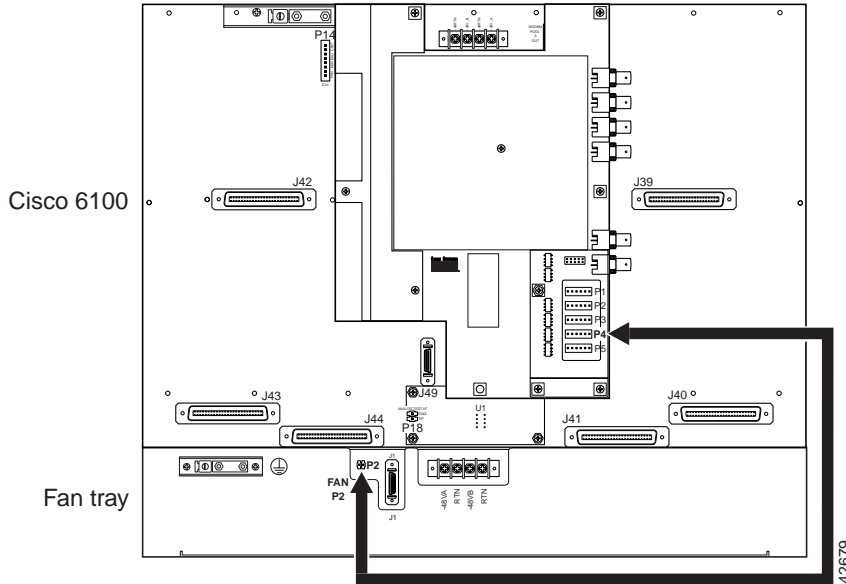## Connect the Fan Tray to the Cisco 6100/6130 with NI-1

To connect the fan tray to the Cisco 6100/6130 with NI-1 system, you must connect the fan tray alarm contacts to the chassis so that the fan tray alarms can be transmitted to the management software.

Complete the following steps to connect the fan tray alarm contacts:

Step 1   Measure enough wire (24 to 28 AWG solid wire) to connect each of the fan tray alarm contacts on the Cisco 6100/6130 with NI-1 to the fan tray. See Figure 9 for location.

Figure 9 shows how the fan tray two-position header (P2) connects to the fan tray alarm contacts (P14, pins 7 and 8) on the Cisco 6100/6130 with NI-1 backplane.

Figure 9   Wiring the Fan Tray Alarm Contacts

See Figure 10 for a close view of the alarm contact pinouts.

Figure 10   Alarm Contact Pinouts—Close-up
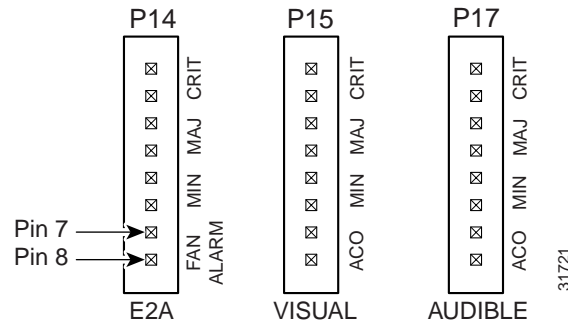
Step 2   Use a wire stripper to remove the casing from both ends of the wires.

Step 3   Wire P2 on the backplane of the fan tray to P14 (pin 7) on the backplane of the Cisco 6100/6130 with NI-1 to connect the Fan Alarm+ contact. Use a wire-wrapping tool to attach the wire to the contacts.

Step 4   Wire P2 on the backplane of the fan tray to P14 (pin 8) on the backplane of the Cisco 6100/ 6130 with NI-1 to connect the Fan Alarm– contact. Use a wire-wrapping tool to attach the wire to the contacts.

Step 5   Reinsert the fuses in the fuse and alarm panel. When you reinsert the fuses, the system powers on.

Step 6   Verify that the fans are operational by locating the LED on the front of each fan. If the LED is green, the fan is operational. If the LED is not green, the fan is not operational and the fan tray is in alarm mode. Refer to the *Cisco 6100 Series with NI-1 Alarm Summary Guide* for corrective action.

Connect the Fan Tray to the Cisco 6100 with NI-2

To connect the fan tray to the Cisco 6100 with NI-2 system, you must connect the fan tray alarm contacts to the chassis so that the fan tray alarms can be transmitted to the management software.

Complete the following steps to connect the fan tray alarm cable:

Step 1   Attach the P1 connector of the fan tray alarm cable (part number 72-2086-01) to connector P2 on the fan tray backplane, as shown in Figure 11.

Step 2   Attach the P2 connector of the same fan tray alarm cable to connector P4 on the system I/O card, as shown in Figure 11.

Figure 11   Cabling the Fan Tray to the Cisco 6100 with NI-2

Step 3   Reinsert the fuses in the fuse and alarm panel. When you reinsert the fuses, the system powers on.

Step 4   Verify that the fans are operational by locating the LED on the front of each fan. If the LED is green, the fan is operational. If the LED is not green, the fan is not operational and the fan tray is in alarm mode. Refer to the *Cisco 6100 with NI-2 Hardware Installation Guide* for corrective action.

Connect the Fan Tray to the Cisco 6130 with NI-2

To connect the fan tray to the Cisco 6130 with NI-2 system, you must connect the fan tray alarm contacts to the chassis so that the fan tray alarms can be transmitted to the management software.

Complete the following steps to connect the fan tray alarm cable:

Step 1   Attach the fan tray alarm cable (part number 72-1912-01) to connector J1 on the fan tray backplane, as shown in Figure 12.

Step 2   Attach the other end of the same fan tray alarm cable to connector J49 on the Cisco 6130 with NI-2 backplane, as shown in Figure 12.

Figure 12   Cabling the Fan Tray to the Cisco 6130 with NI-2
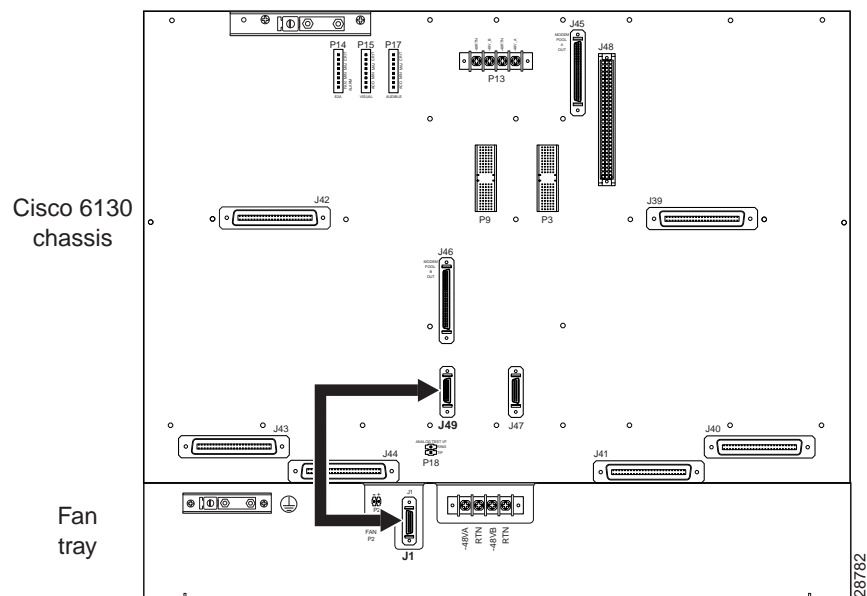
Step 3   Reinsert the fuses in the fuse and alarm panel. When you reinsert the fuses, the system powers on.

Step 4   Verify that the fans are operational by locating the LED on the front of each fan. If the LED is green, the fan is operational. If the LED is not green, the fan is not operational and the fan tray is in alarm mode. Refer to the *Cisco 6130 with NI-2 Hardware Installation Guide* for corrective action.

Removing the Fan Tray

Complete the following sections to remove the fan tray.

- Disconnect the Fan Tray from the Chassis
- Disconnect the Fan Tray Power Connections
- Unground the Fan Tray
- Remove the Fan Tray from the Rack

Note   It is important that you complete each step before moving on to the next step.

Disconnect the Fan Tray from the Chassis

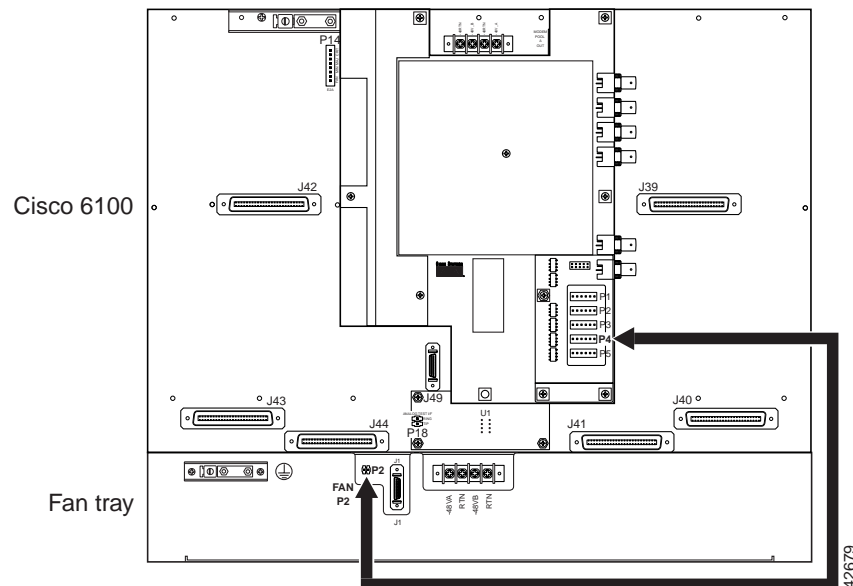Depending on your chassis, choose from one of the following sections to disconnect the fan tray.

Disconnect the Fan Tray from the Cisco 6100/6130 with NI-1

Complete the following steps to disconnect the fan tray from the Cisco 6100/6130 with NI-1 system.

Step 1   Remove the fuses from the fuse and alarm panel. By removing the fuses from the fuse and alarm panel, the system will not be powered while you remove the fan tray.

Step 2   On the Cisco 6100/6130 with NI-1 and fan tray backplanes, locate the 24 to 28 AWG solid wire that you used to connect the fan tray alarm contacts.

Figure 13 shows the Cisco 6100/6130 with NI-1, fan tray backplanes, and fan tray alarm contacts.

Figure 13   Fan Tray Alarm Contacts
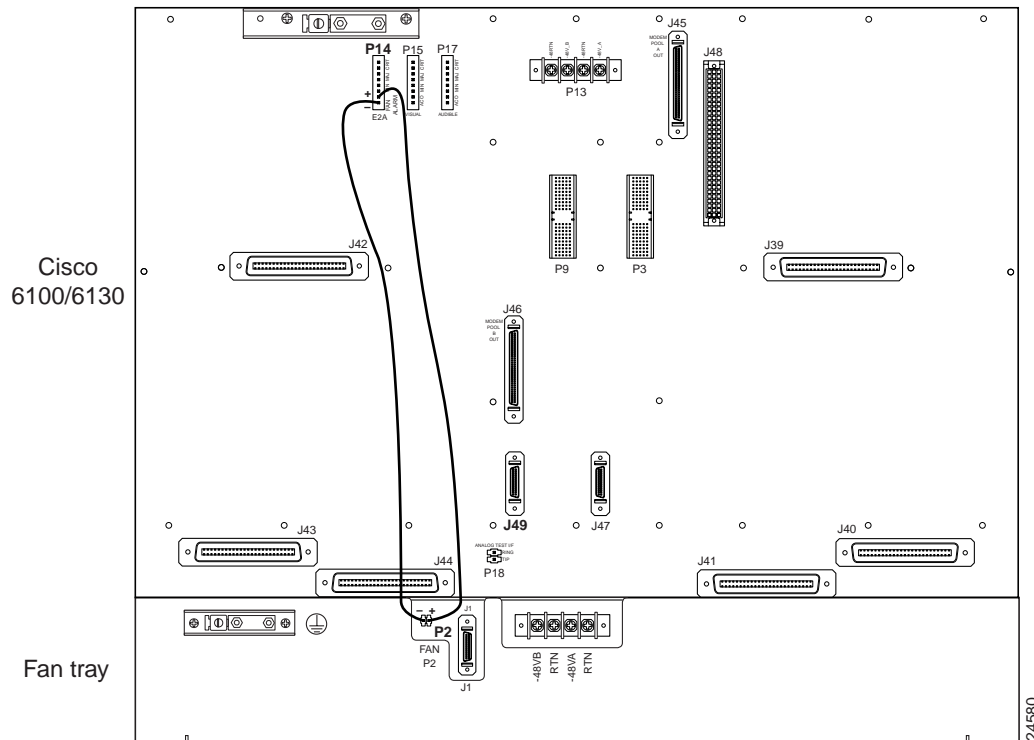
Step 3   Disconnect the P2 on the backplane of the fan tray from the P14 (pin 7) on the backplane of the Cisco 6100/6130 with NI-1.

Step 4   Disconnect the P2 on the backplane of the fan tray from the P14 (pin 8) on the backplane of the Cisco 6100/ 6130 with NI-1.

Disconnect the Fan Tray from the Cisco 6100 with NI-2

Complete the following steps to disconnect the fan tray from the Cisco 6100 with NI-2 system.

Step 1   Remove the fuses from the fuse and alarm panel. By removing the fuses from the fuse and alarm panel, the system will not be powered while you remove the fan tray.

Step 2 Disconnect the P1 connector of the fan tray alarm cable (part number 72-2086-01) from the P2 connector on the fan tray backplane, as shown in Figure 14.

Step 3 Disconnect the P2 connector of the same fan tray alarm cable from the P4 connector on the system I/O card, as shown in Figure 14.

*Figure 14   Detaching the Fan Tray to the Cisco 6100 with NI-2*

Disconnect the Fan Tray from the Cisco 6130 with NI-2

Complete the following steps to disconnect the fan tray from the Cisco 6130 with NI-2 system.

Step 1 Remove the fuses from the fuse and alarm panel. By removing the fuses from the fuse and alarm panel, the system will not be powered while you remove the fan tray.

Step 2 Disconnect the fan tray alarm cable (part number 72-1912-01) from connector J1 on the fan tray backplane, as shown in Figure 15.

Step 3 Disconnect the other end of the same fan tray alarm cable from connector J49 on the Cisco 6130 with NI-2 backplane, as shown in Figure 15.

Figure 15   Detaching the Fan Tray from the Cisco 6130 with NI-2
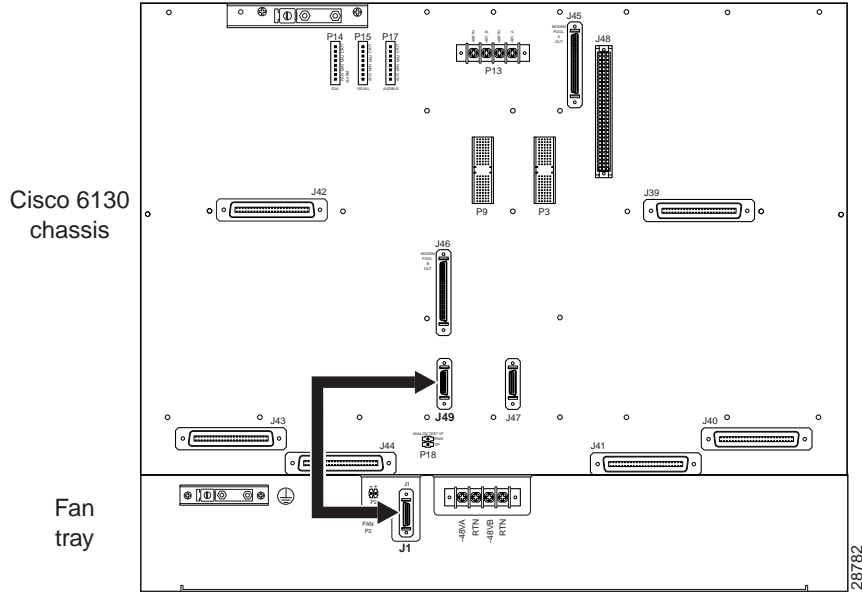
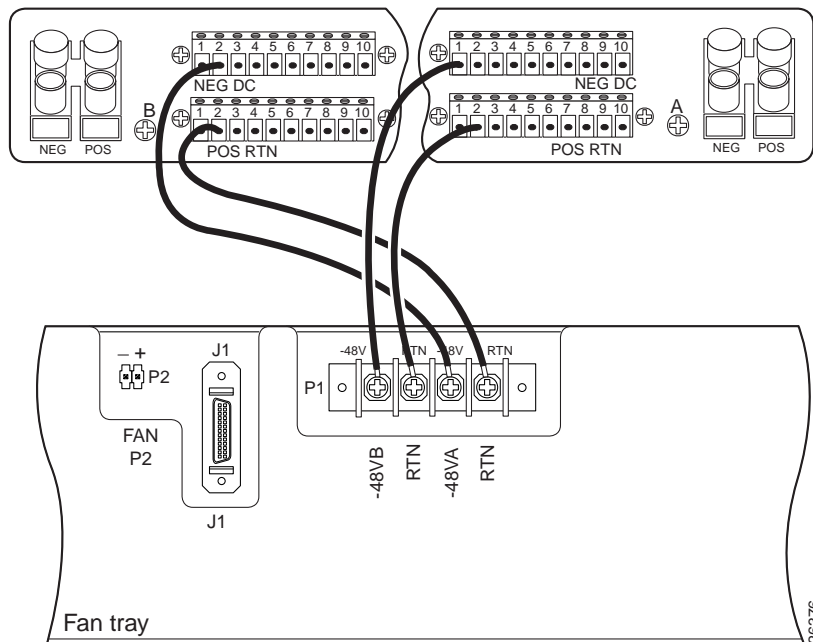## Disconnect the Fan Tray Power Connections

Depending on your power feed, choose from the following sections to disconnect the fan tray power connections.

Disconnect Power Connections for a Dual-Power Feed

Step 1 Use a socket driver or a Phillips-head screwdriver to remove the clear cover over the fan tray power connections.

Step 2 Locate the wire (14 to 18 AWG copper solid or stranded wire) used to connect each of the fan tray power connections to the fuse and alarm panel.

Figure 16 shows the power connections from the fan tray to the fuse and alarm panel for a dual-power feed.

Figure 16   Power Connections for the Fan Tray—Dual-Power Feed

Step 3   Use a Phillips-head screwdriver to detach the wire from the –48VA power input connection on the fan tray (P1).

Step 4   Detach the wire from the fuse and alarm panel NEG DC connector. See Figure 16 for the location of the connector.

Step 5   Use a Phillips-head screwdriver to detach the wire from the –48VB power input connection on the fan tray (P1).

Step 6   Detach the wire from the fuse and alarm panel NEG DC connector. See Figure 16 for the location of the connector.

Step 7   Use a Phillips-head screwdriver to detach a wire from an RTN power return connection on the fan tray (P1).

Step 8   Detach the wire from a fuse and alarm panel POS RTN connector.

Step 9   Repeat Steps 7 and 8 for the remaining RTN power return connection.

Disconnect Power Connections for a Single-Power Feed

Step 1   Use a socket driver or a Phillips-head screwdriver to remove the clear cover over the fan tray power connections.

Step 2   Locate the wire (14 to 18 AWG copper solid or stranded wire) used to connect each of the fan tray power connections to the fuse and alarm panel.

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Figure 17 shows the power connections from the fan tray to the fuse and alarm panel for a single-power feed.

Figure 17 Power Connections for the Fan Tray—Single-Power Feed
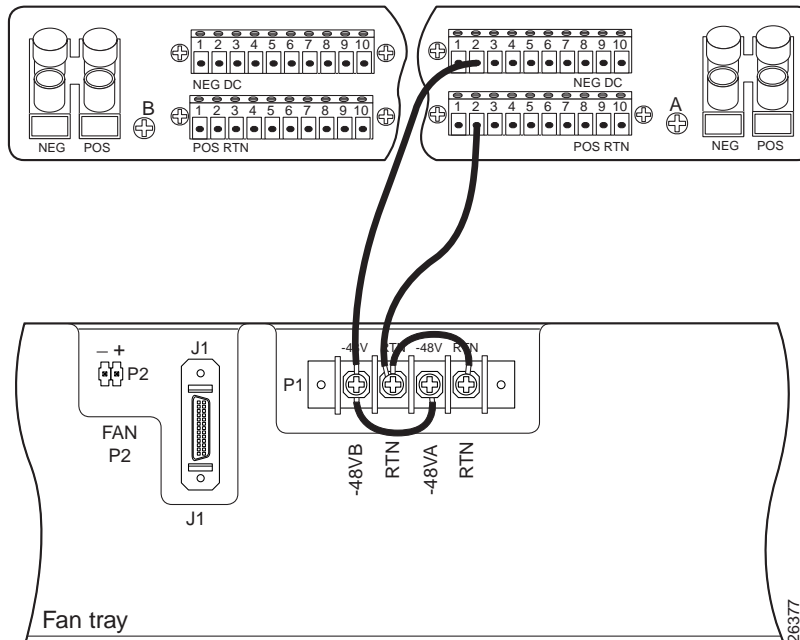
Step 3 Use a Phillips-head screwdriver to detach a wire from the –48VA power input connection on the fan tray (P1).

Step 4 Detach the wire to the fuse and alarm panel NEG DC connector.

Step 5 Use a Phillips-head screwdriver to detach a wire to an RTN power return connection on the fan tray (P1). See Figure 17 for connector location.

Step 6 Detach the wire from the fuse and alarm panel POS RTN connector. See Figure 17 for connector location.

Step 7 Use a Phillips-head screwdriver to detach the wire connecting the –48VA and –48VB power input connections to each other.

Step 8 Use a Phillips-head screwdriver to detach the wire connecting the RTN power return connections to each other.

Unground the Fan Tray

Complete the following steps to disconnect the grounding lug on the fan tray directly from the rack.

Step 1 Locate the wire used to connect the fan tray to the rack. (14 AWG or thicker green or green with yellow stripes stranded copper wire for the fan tray).

Figure 18 shows the grounding wire location.

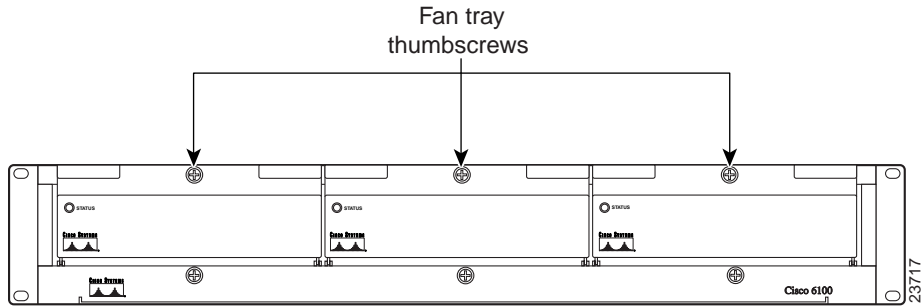*Figure 18   Grounding Wire Location on the Fan Tray*
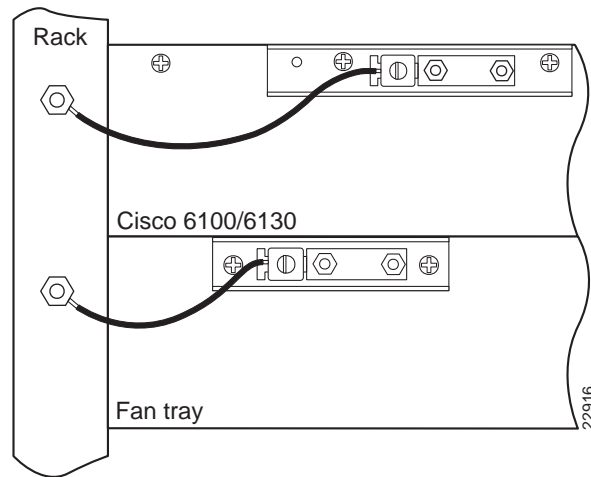
Step 2   Use a 3/16-inch flat-head screwdriver to loosen the screw on the rack.

Step 3   Unhook one end of the copper wire around the screw on the rack.

Step 4   Refasten the rack screw.

Step 5   Use the flat-head screwdriver to loosen the compression screw that is provided on the grounding lug of the fan tray.

The grounding lug is located in the upper left corner of each fan tray (viewed from the rear).

Step 6   Unhook the other end of the copper wire under the compression screw.

Step 7   Refasten the compression screw.

Step 8   Discard the cooper wire.

Remove the Fan Tray from the Rack

Complete the following steps to remove the fan tray from the rack:

Step 1   Locate the first fan module and unscrew the thumbscrew that holds the fan module in place (the screw at the top of each fan module), as shown in Figure 19.

Figure 19   Fan Tray Thumbscrews

Fan tray
thumbscrews

Cisco 6100

Step 2   Carefully remove the fan module by pulling it toward you. The fan module is located on slide rails for easy removal and installation. (See Figure 20.)

Figure 20   Removing the Fan Module from the Fan Tray

Fan tray
slide rails

Cisco 6100
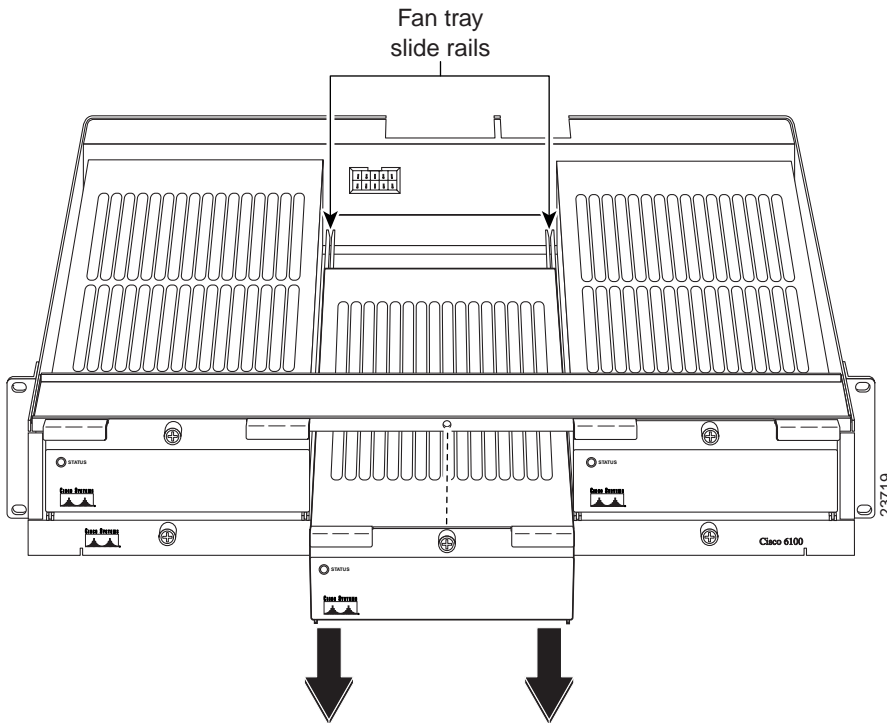
Step 3   Place the fan module on a flat and stable surface (for example, a table top) until you are ready to reinsert it into the fan tray.

Step 4   Repeat Steps 2 through 4 for each fan module.

Step 5   Use a Phillips-head screwdriver to unbolt the fan tray from the rack.

⚠
Warning   **Two qualified personnel should hold the fan tray while unbolting it from the rack.**

Step 6   Remove the fan tray from the rack.

Fan Tray Maintenance

The following sections describe the preventive maintenance procedures for the fan tray:

- Replacing the Air Filter in the Fan Tray
- Replacing Fan Modules in the Fan Tray

Replacing the Air Filter in the Fan Tray

The air filter is located directly below the three fans in the fan tray. When this filter becomes dirty, replace it. Replace the air filter every 60 days. If you notice a significant accumulation of dust in the filter prior to 60 days, replace the filter at that time. Record the date each time you replace the filter.

You can order a replacement air filter (part number 6100-AF-01=) through Cisco.

To replace the air filter, use these steps:

Step 1   If you installed an OC-3c network interface card, make sure there is enough slack in the cable running from the front of the network interface card to the backplane so that you can open the fan tray and maintain the fans. Using the slack in the cable, move the cable to the side of the fan tray so that you can remove the air filter door and replace the air filter .

Step 2   Locate and unscrew the three thumbscrews that are located across the bottom of the fan tray. (See Figure 21.)

Figure 21   Location of Air Filter Thumbscrews

Air filter
thumbscrews
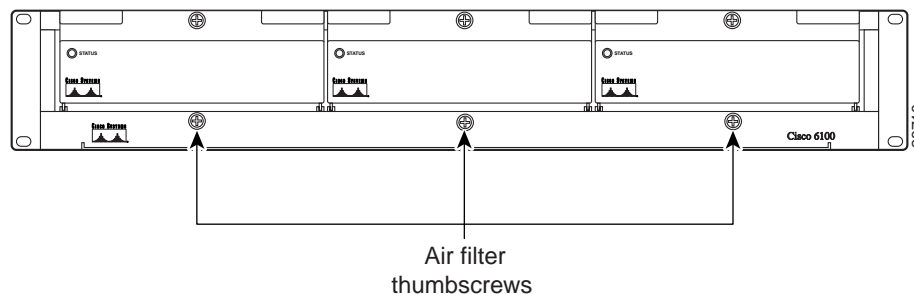
Step 3   Carefully remove the air filter door.

Step 4   Slide the air filter out from the bottom of the fan tray. Gently pull the used air filter toward you to remove it from the fan tray (see Figure 22). The fan tray remains operational while you replace the air filter.

Figure 22   Removing Air Filter Door and Dirty Air Filter
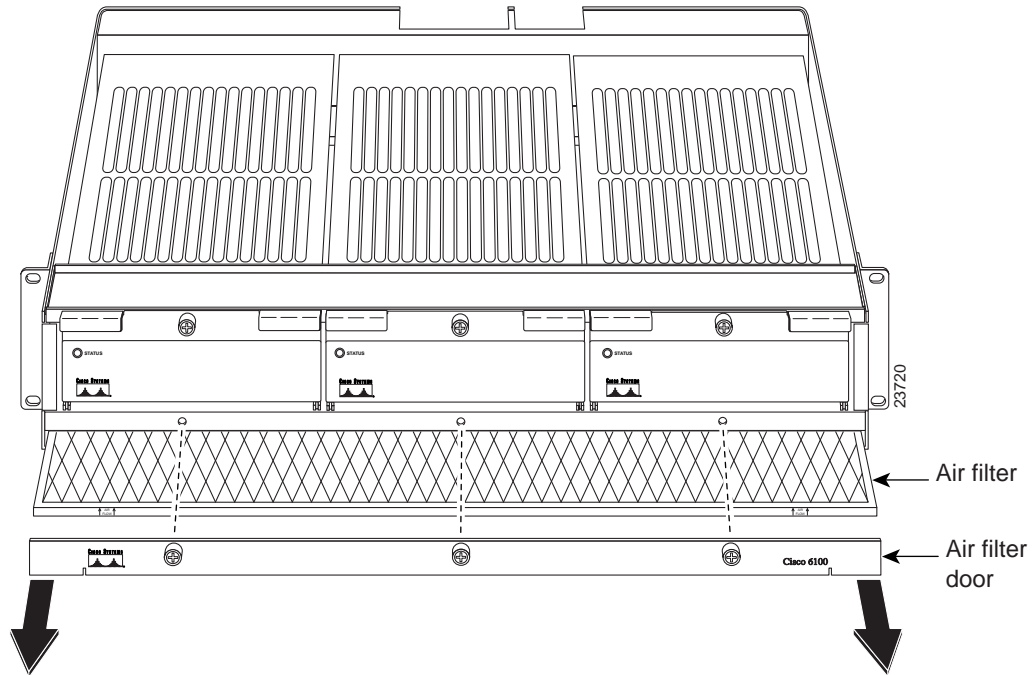
Step 5   Hold the replacement air filter so that the air flow arrows on the end of the air filter face upward. (See Figure 23.)

Figure 23   Installing the Replacement Air Filter
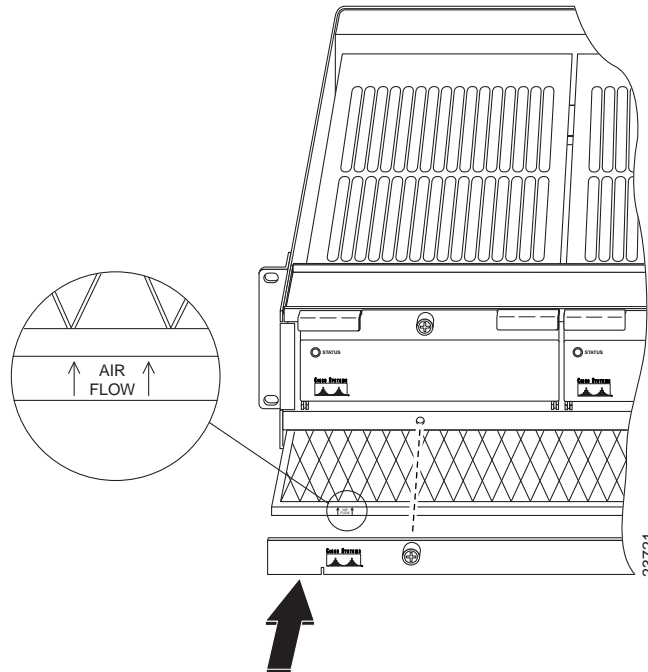
Step 6 Slide the filter into its slot at the bottom of the fan tray. (See Figure 23.)

Step 7 Place the air filter door back on the fan tray and tighten the three thumbscrews. (See Figure 23.)

Step 8 Discard the used air filter.

Replacing Fan Modules in the Fan Tray

If a fan module is running too slowly or is no longer operational, the management software generates an alarm. You will need to replace the nonoperational fan. While you are replacing the nonoperational fan, the operational fans continue to run. You can order a replacement fan (part number 6100-FU-01=) through Cisco.

⚠️

Warning **If you do not have a replacement fan module available, pull all of the line cards away from the backplane connection and power off the system until a replacement fan module is available.**

To replace a fan module in the fan tray, complete these steps:

Step 1 If you installed an OC-3c network interface card, make sure there is enough slack in the cable running from the front of the network interface card to the backplane so that you can open the fan tray and maintain the fans. Using the slack in the cable, move the cable to the side of the fan tray so that you can remove and replace the fan module.

Step 2 Locate the fan module and unscrew the thumbscrew that holds the fan module in place (the screw at the top of the fan module). (See Figure 24.)

Figure 24   Location of Fan Tray Thumbscrews
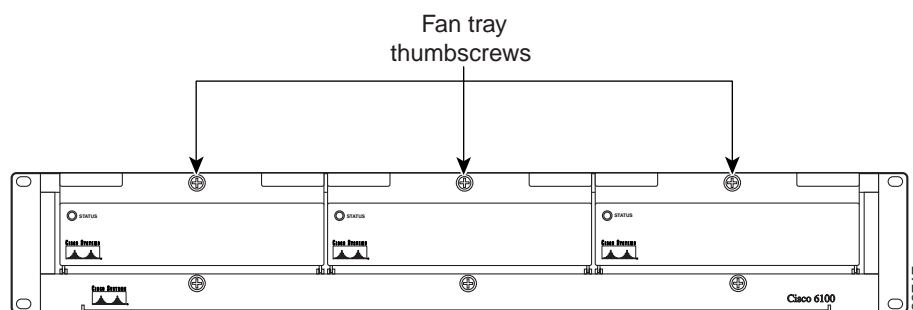
Step 3 Carefully remove the fan module by pulling it toward you. The fan module is located on slide rails for easy removal and installation. (See Figure 25.)

Figure 25   Removing the Fan Module from the Fan Tray

⚠
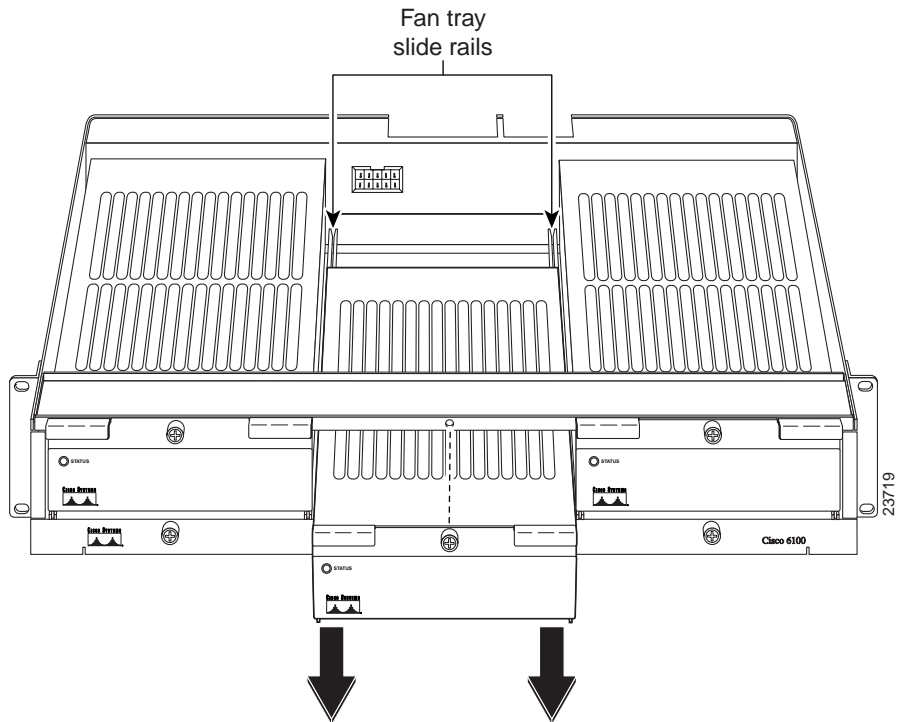
Caution   It is important that the Cisco 6100/6130 system cooling fans run continuously.

Step 4   Align the new fan module with the fan tray slide rails inside the fan tray.

Step 5   Slide the replacement fan module into the fan tray.

Step 6   Tighten the thumbscrew above the replacement fan module.

Step 7   Discard the used fan module.

Related Documentation

A complete list of all DSL product related documentation is available on the World Wide Web at http://www.cisco.com/univercd/cc/td/doc/product/dsl_prod/index.htm

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- Modem using standard connection rates and the following terminal settings: VT100 emulation; 8 data bits; no parity; and 1 stop bit.
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