Installation Instructions

Clogged Filter Switch

Precedent™ Packaged Rooftop Units
3 to 25 Tons

Model Numbers: **Used With:**
FIACLFS001* Precedent B or C cabinet (digit 39 = B, C), Standard or MERV 8 filters
FIACLFS002* Precedent B or C cabinet (digit 39 = B, C), MERV 13 filters
FIACLFS003* Precedent D cabinet (digit 39 = D), Standard or MERV 8 filters
FIACLFS004* Precedent D cabinet (digit 39 = D), MERV 13 filters
FIACLFS005* Precedent A cabinet (digit 39 = A), Standard or MERV 8 filters
FIACLFS006* Precedent A cabinet (digit 39 = A), MERV 13 filters

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Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

⚠WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.
NOTICE	Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury. All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

⚠WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury. Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, MUST follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- **Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.**

- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labeling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.**

- **If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

> ⚠️**WARNING**
>
> **Follow EHS Policies!**
>
> **Failure to follow instructions below could result in death or serious injury.**
>
> • **All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.**
>
> • **Non-Trane personnel should always follow local regulations.**

> ⚠️**WARNING**
>
> **R-454B Flammable A2L Refrigerant!**
>
> **Failure to use proper equipment or components as described below could result in equipment failure, and possibly fire, which could result in death, serious injury, or equipment damage.**
> **The equipment described in this manual uses R-454B refrigerant which is flammable (A2L). Use ONLY R-454B rated service equipment and components. For specific handling concerns with R-454B, contact your local representative.**

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Revision History

• Used with model number information updated.

• Updated General Information and Installation chapters.

General Information

An options board (FIAOPTN002*) must be installed in the unit for this accessory to operate.

This accessory kit detects static pressure differentials across the filters to indicate a clogged or dirty filter condition. When it detects such a filter problem, the Symbio™ 700 will annunciate a **filter change required** alarm.

- FIACLFS001* Clogged filter switch, may be used with standard or MERV 8 filters with the B/C cabinets (unit model digit 39 = B/C).
- FIACLFS002* Clogged filter switch, may be used with MERV 13 filters with the B/C cabinets (unit model digit 39 = B/C).
- FIACLFS003* may be used with standard or MERV 8 filters with the D cabinet (unit model digit 39 = D).
- FIACLFS004* may be used with standard or MERV 13 filters with the D cabinet (unit model digit 39 = D).
- FIACLFS005* may be used with standard or MERV 8 filters with the A cabinet (unit model digit 39 = A).
- FIACLFS006* may be used with standard or MERV 13 filters with the A cabinet (unit model digit 39 = A).

Inspection

1. Unpack all components of the kit.
2. Check carefully for shipping damage. If any damage is found, report it immediately, and file a claim against the transportation company.

Parts List

Table 1.   FIACLFS001* or FIACLFS002*

Qty	Description
1	Pressure switch
1	Pressure sensing tube
1	Length of 5/16-in. OD flexible tubing (1.2 ft.)
1	Sheet metal screw
1	Wire tie (pop-in)
1	Control harness

Table 2.   FIACLFS003* or FIACLFS004*

Qty	Description
1	Pressure switch with control harness
1	Pressure sensing tube
1	Length of 5/16-in. OD flexible tubing (6.8 ft.)
4	Sheet metal screws
1	Wire tie (pop-in)
1	Sensor bracket
1	Control harness

Table 3.   FIACLFS005* or FIACLFS006*

Qty	Description
1	Pressure switch
1	Pressure sensing tube
1	Length of 5/16-in. OD flexible tubing (1.25 ft.)
4	Sheet metal screw
2	Wire tie (pop-in)
1	Control harness
1	Pressure switch bracket

Installation

Settings

The pressure switch is factory preset at 0.45-inch WC (1.12 mbar) for FIACLFS001/3/5* and 0.75-inch WC (1.87 mbar) for FIACLFS002/4/6*.

1. After a failure situation is detected and corrected, reset the diagnostics in the Symbio™ 700 or cycle power OFF then ON at the unit disconnect switch.

> ### ⚠ WARNING
>
> **Rotating Components!**
>
> **Failure to disconnect power before servicing could result in rotating components cutting and slashing technician which could result in death or serious injury. Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized.**

2. Insert one end of the 90° copper sensing tube into one end of the 5/16-inch (7.94 mm) OD flexible tubing and secure with pop-in wire tie. See Figure 1.

Figure 1. Aluminum or copper sensing tube
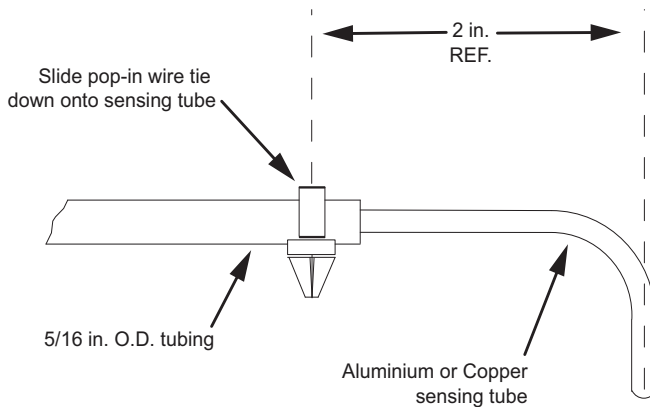
3. Remove return air/filter access panel and fan access panels.

4. Mount the pressure switch (with pressure fitting pointed upward) on the angle bracket at the bottom left of the return air compartment using the screws provided. See Figure 5, p. 7.

   For FIACLFS005*/006* (A.0 cabinet) mount the pressure switch to the wire raceway using the bracket and screws provided in the kit, as shown in the Figure 2.

Figure 2. Clogged filter switch assembly FIACLFS005*/006*
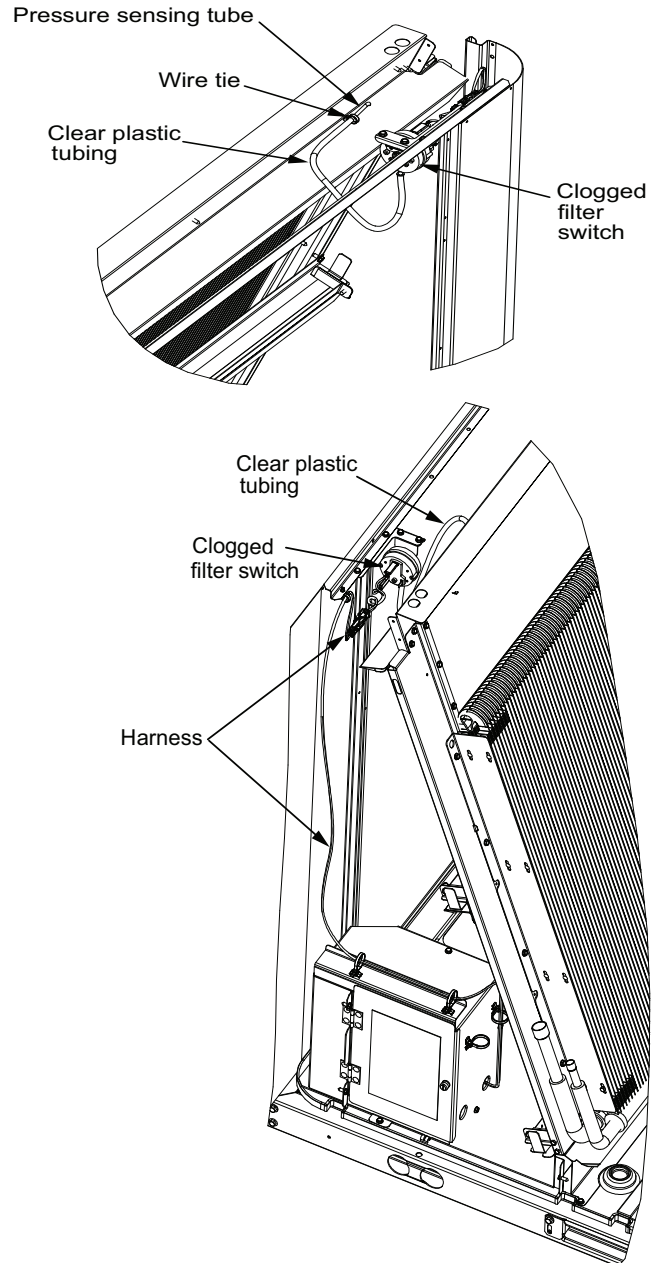
Note: Switch must be located in return air compartment in order to measure air pressure entering the filter. The aluminum sensing tube measures pressure between the filter and ID coil.

5. Install the other end of the 90° sensing tube into the pre-drilled hole near the top of the coil block-off to measure leaving air pressure behind the filter. Remove filters if necessary. See Figure 4, p. 6.

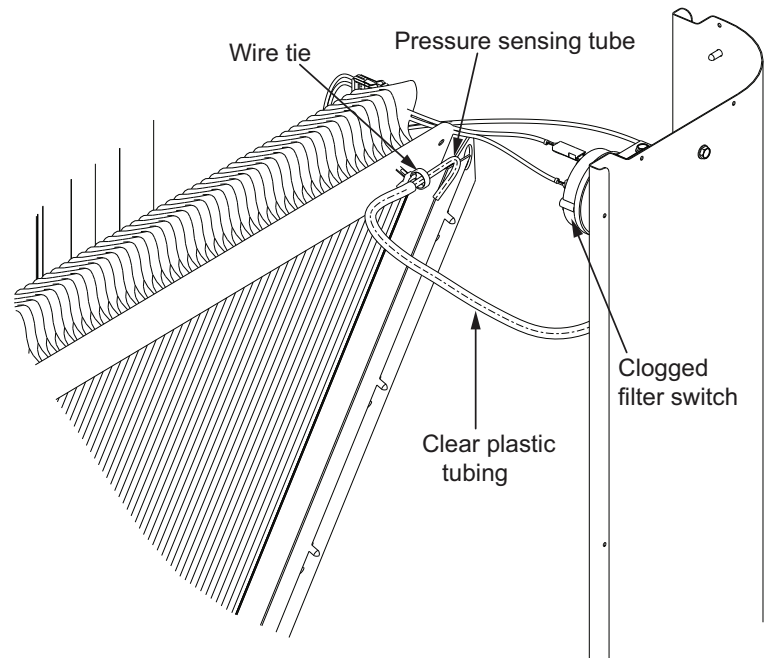**Figure 3.   Clogged filter switch assembly - FIACLFS001*/002***

Wire tie

Pressure sensing tube

Clogged filter switch

Clear plastic tubing

Figure 4.   Filter access panels - B/C cabinet

Clear plastic tubing

Clogged filter switch

Harness
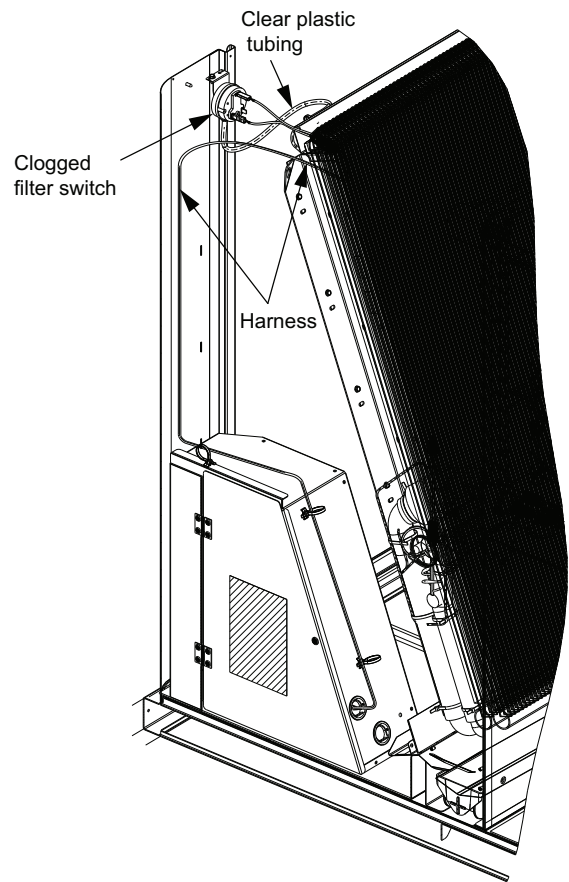
Figure 5. Filter access panels - D cabinet

Secure with pop-in wire tie to wire tray

Route clear tube along left side of the return enclosure down to sensor

Remove filter if necessary

Secure with pop-in wire tie to ID coil block-off

Route sampling tube through the ID coil block-off
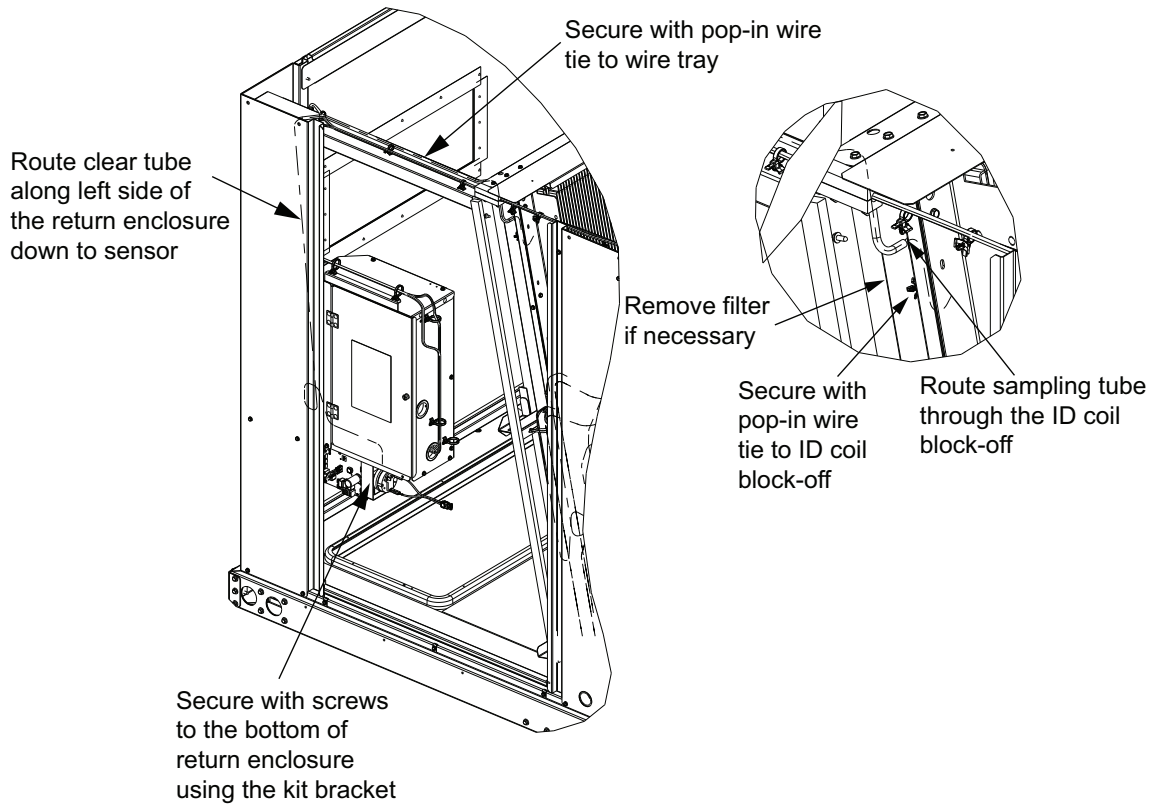
Secure with screws to the bottom of return enclosure using the kit bracket

6. Connect the other end of the 5/16-inch (7.94 mm) OD flexible tubing to the pressure switch. Route the tubing such that it does not interfere with filter removal. See Figure 4, p. 6 for routing of the flexible tubing through the pop-in wire tie to around the return enclosure.

Wire Connection - Clogged Filter Switch

1. Using the control harness included in the kit, connect red connector (PPF86) from harness to connector on clogged filter switch. See below Figure 6.

Figure 6. **Fresh air module with clogged filter harness**
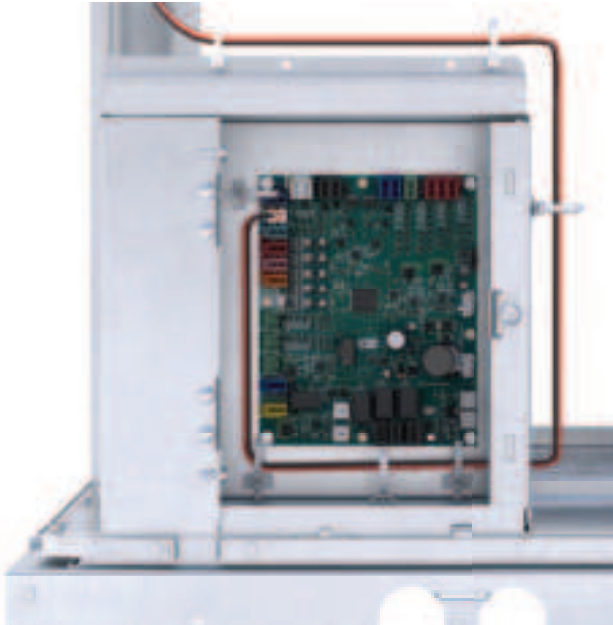
2. Route harness up right side of return enclosure and through opening where factory wires lead to fresh air module inside of enclosure.

3. Connect white connector (J15) of harness to white connector (P15) on fresh air module. See Figure 6.

4. Secure harness with factory installed wires ties using the releasable feature on each wire tie.

Unit Close-up

Replace the two access panels removed in Step 3, p. 5.

Notes

Trane and American Standard create comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane.com or americanstandardair.com.