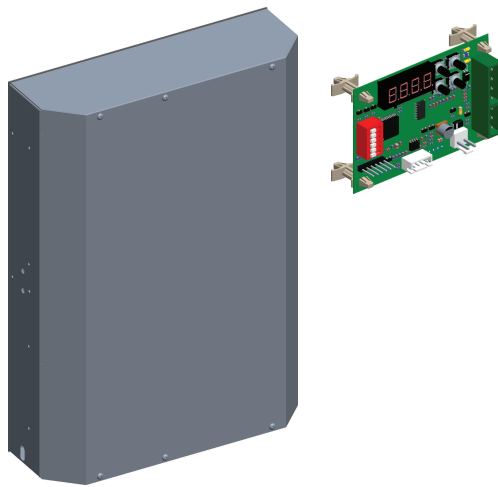


Installation Instructions

Variable Speed Drive Replacement Kit

Precedent™ and Voyager™ 2



Note: Graphics in this document are for representation only. Actual model may differ in appearance.

Model Number: **Used With:**

DRV03900

3 to 5 Tons 460V eFlex Precedent™ and 460V eFlex Voyager™ 2 units

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

September 2024

PART-SVN262B-EN

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:



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



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 Labelling 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.

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Pre-Installation

Inspection

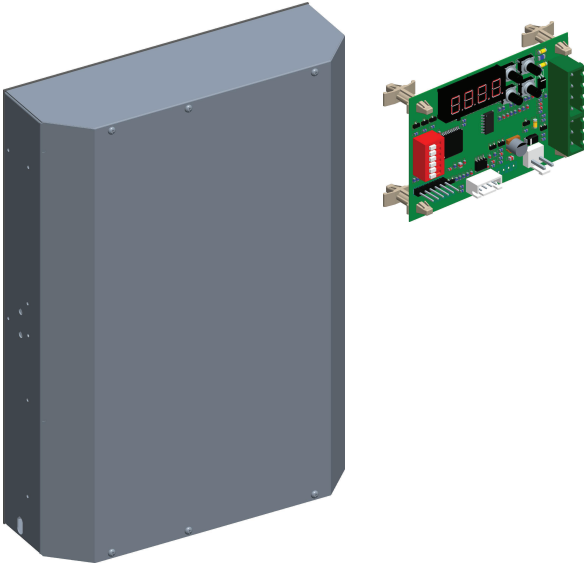
- 1. Unpack all components of the kit.
- 2. Check carefully for shipping damage. If any damage is found, report it immediately, and file a claim against the transportation company.

Parts List

Table 1. Parts list

Part Number	Description	Qty
X13610009040	Inverter drive	1
X13651807001	Interface module	2

Figure 1. Variable speed drive and interface module



Installation

⚠ WARNING

Hazardous Voltage!

Failure to disconnect power before servicing 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. Verify that no power is present with a voltmeter.

1. Disconnect and lock out power from the unit.
2. Recover refrigerant charge from the unit.
3. Open the middle upper and condenser side panels on the front side of the unit. See [Figure 2, p. 5](#) and [Figure 3, p. 5](#) for location.

Figure 2. Precedent™ – drive and interface module mounting locations

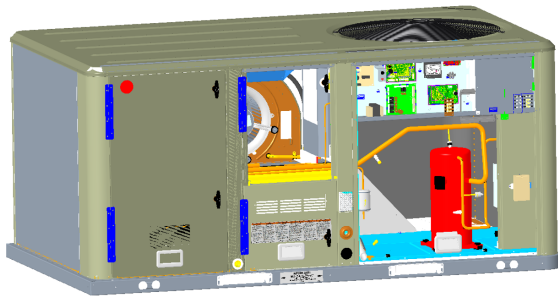
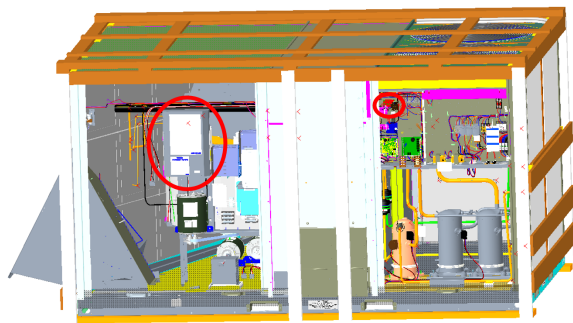
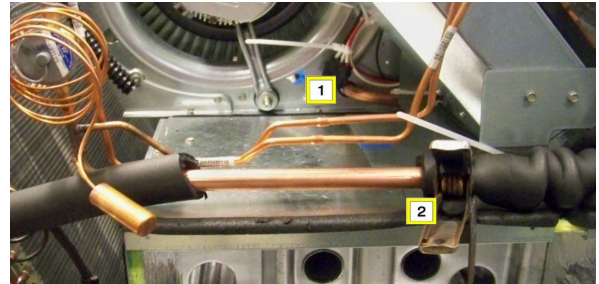


Figure 3. Voyager™ 2 – drive and interface module mounting locations



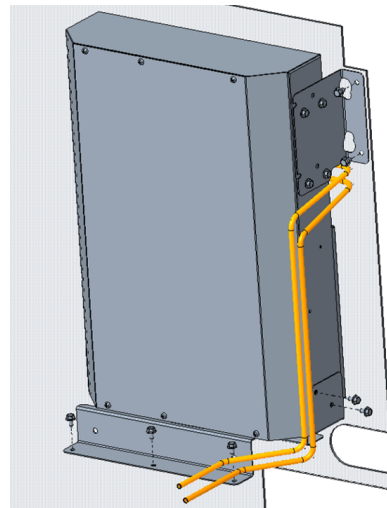
4. Unbraid connecting tubes between drive and manifold. See [Figure 4, p. 5](#).

Figure 4. Manifold brazing



5. Remove the screws that attach the drive to the unit and remove the drive along with the support brackets. See [Figure 5, p. 5](#).

Figure 5. Drive removal



6. Remove the screws that attach the support brackets to the drive and remove the support brackets. See [Figure 6, p. 6](#).

Installation

Figure 6. Support bracket removal

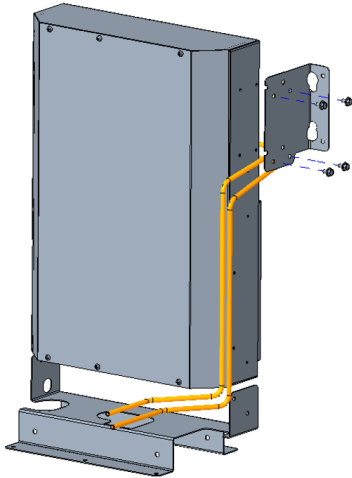
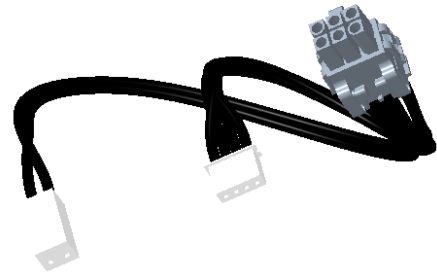


Figure 9. Controls harness (438577730200)



- 7. Disconnect drives PPF-34 and PPM-36 power harnesses along with GRN (green) from units ground and 438577730200 harness's PPM35 connector from drive. See Figure 7, p. 6, Figure 8, p. 6, and Figure 9, p. 6.

- 8. Unbraid manifold tubes at drive. See Figure 10, p. 6.

Figure 10. Manifold removal

Figure 7. Inverter drive (X13610009040) connection diagram

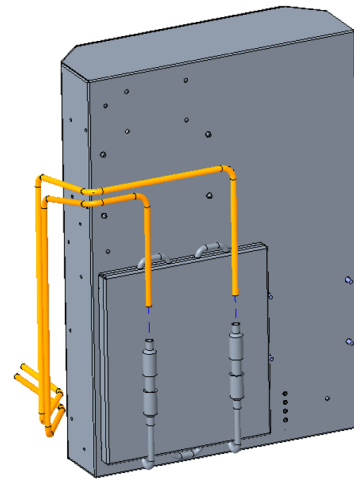
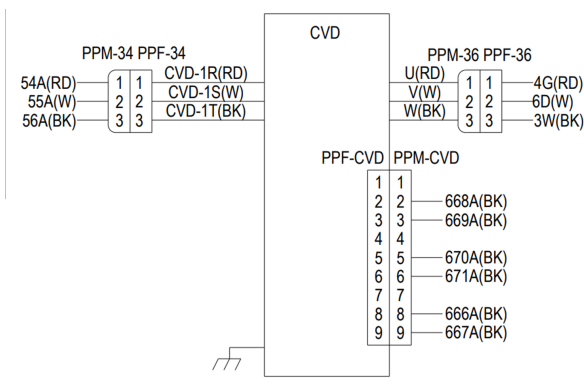
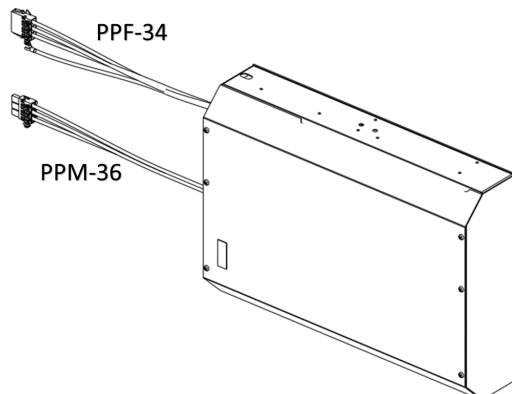


Figure 8. Inverter drive (X13610009040)



- 9. Install the new drive (X13610009040) by performing Step 3 through Step 8 in reverse order.
- 10. Open the Control Box panel. See Figure 2, p. 5 and Figure 3, p. 5 for location.
- 11. Disconnect 3 harnesses from the DIM modules CN107, CN108 (X13651608010)/CN105 (X13651807001), and CN101. See Figure 11, p. 7 and Figure 12, p. 7.

Figure 11. DIM module (X13651807001) connection diagram

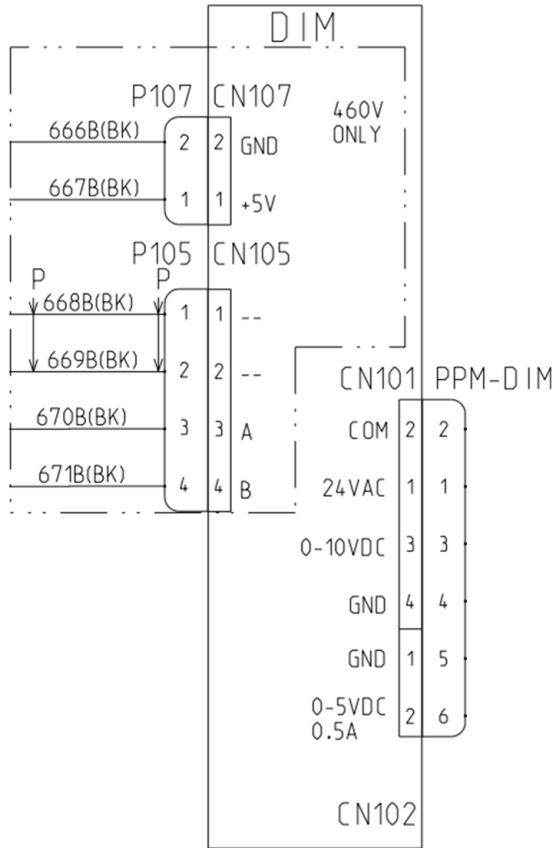
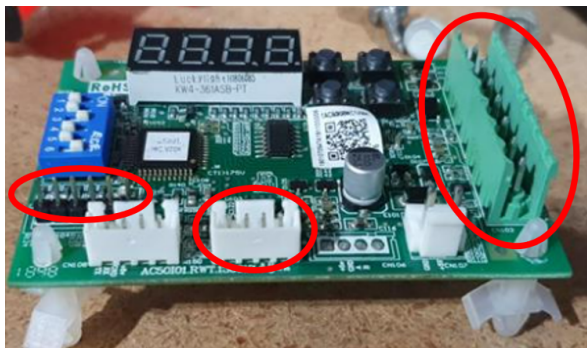


Figure 12. DIM module



12. Replace the DIM module with the new DIM module (X13651807001) provided.

13. Reconnect harnesses as originally connected, with the exception of P105, which should connect to CN105 instead of CN108. See Figure 13, p. 7 and Figure 14, p. 7.

Figure 13. DIM module (X13651807001) diagram

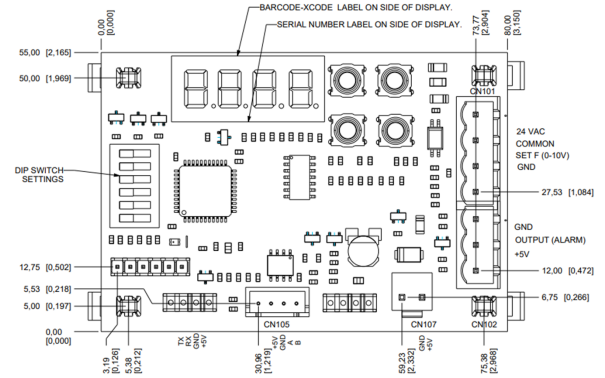
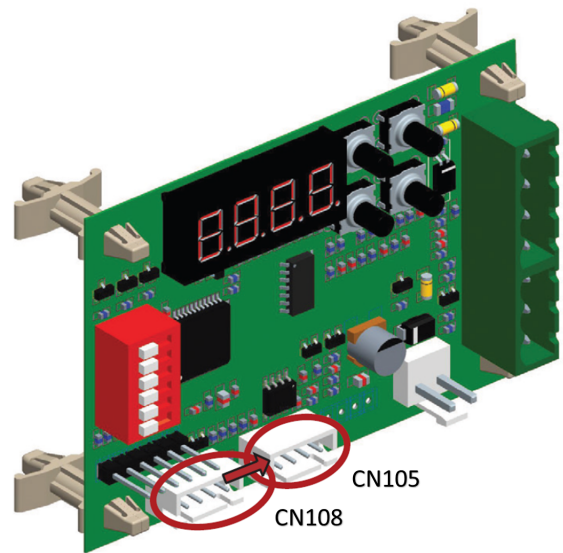


Figure 14. Reconnect harnesses



14. Replace the filter drier in the unit.
15. Recharge the refrigerant.
16. Evacuate the refrigeration system.
17. Close the outer panels.
18. Reconnect all power to the unit.

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