Form

Odyssey™

Start-up Log

⚠ 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.

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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-including industry replacements for CFCs and HCFCs such as saturated or unsaturated HFCs and HCFCs.

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.**

⚠ WARNING

Refrigerant under High Pressure!

Failure to follow instructions below could result in an explosion which could result in death or serious injury or equipment damage.

System contains refrigerant under high pressure. Recover refrigerant to relieve pressure before opening the system. See unit nameplate for refrigerant type. Do not use non-approved refrigerants, refrigerant substitutes, or refrigerant additives.

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Trademarks

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Table of Contents

Start-up Check List

Date: _____
Service Call #: _____
Appointment ID: _____
Technician: _____
Tag # _____
Location: _____

Condenser

Model #: _____
Serial #: _____

Air Handler

Manufacture: _____
Model #: _____
Serial #: _____

⚠ WARNING

Safety Alert!

Failure to follow instructions below could result in death or serious injury.
In addition to the following tasks, you MUST:

- **Follow all instructions in the unit's *Installation, Operation, and Maintenance* manual, including warnings, cautions, and notices.**
- **Perform all required tasks in any applicable Service Alerts and Service Bulletins.**
- **Review and understand all information provided in Submittals and Design Specifications.**

⚠ WARNING

Hazardous Service Procedures!

Failure to follow all precautions in this manual and on the tags, stickers, and labels 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 following instructions: Unless specified otherwise, disconnect all electrical power including remote disconnect and discharge all energy storing devices such as capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. When necessary to work with live electrical components, have a qualified licensed electrician or other individual who has been trained in handling live electrical components perform these tasks.

⚠ 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.**
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Start-up Check List

Important:

- *If the unit installation does not meet the requirements established in this document, and if all non-conforming conditions are not corrected prior to start-up, do NOT start the unit. The start-up technician will fill out the Non-Compliance Form. The unit will not be started until all non-conforming conditions are corrected, or until the documents described in the next point are completed and signed (where applicable).*
- *If the unit installation does meet the requirements established in this document, start-up may be performed. A completed copy of the Non-Compliance Form will need to be signed by responsible site personnel before start-up can be completed.*
- *On certain units, crankcase heaters must be energized a minimum of 8 hours prior to unit start.*

Note: *To properly start-up the unit, the Trane Technician must have an approved laptop computer with up to date Trane Tracer® TU software or Symbio Service and Installation App installed on a compatible device with Bluetooth capabilities.*

☐ Model Number Description

Category	Description
Unit Type	
Cooling Capacity	
Heating Type	
Supply Fan/Drive Type/ Motor	
Communications Options	
Additional Options	
Symbio Firmware Version	

Check the box if the task is complete or if the answer is “yes”.

☐ Inspect unit location for proper required service clearances.

☐ Inspect unit location for proper free air clearances.

☐ Inspect unit location for secure, level mounting position.

☐ Verify condenser fans turn freely without rubbing and are properly tightened on the shafts.

☐ Properly sized/constructed liquid and suction lines connected to stubs at both the indoor and outdoor units?

☐ Insulated the entire suction line?

☐ Insulated portions of liquid line exposed to extremes in temperature?

☐ Performed initial leak test?

☐ Evacuated each refrigerant circuit to 500 microns?

☐ Charged each circuit with proper amount of R-410A/R-22

☐ Provided unit power wiring (with disconnect) to proper terminals in the unit control enclosure?

☐ Installed system indoor thermostat or zone sensor?

☐ Installed system low voltage interconnecting wiring to proper terminals of outdoor unit and indoor unit?

☐ Verified operation of crankcase heaters?

☐ All electrical connections are secure

☐ Incoming voltage, voltage balance, phase monitor

☐ Check control transformer voltage:

☐ Primary

_____

☐ Secondary

_____

☐ Check compressor model number

_____

☐ Check compressor serial number

_____

☐ Condensate drain/trap installed and properly sized

_____

☐ Fan type

_____

☐ Run unit in “Test Mode” 100% fan = Cool 2, (if above 55° F), Heat, Heat 2

☐ Set-up airflow

_____

☐ Check refrigerant operating pressures and compare to charging curves

Note: *OAT: >55° F, All compressors need to be on and fully loaded and allow run time to stabilize.*

Logs

Operating Conditions

Application		Discharge Air Temperature	
Unit Voltage		Discharge Static	
Control Transformer Primary Volts		Return Static	
Zone Temperature		Control Transformer Secondary Volts	
Outside Air Temperature		Indoor Air/Enthalpy	
Mixed Air Temperature		Outdoor Air/Enthalpy	
Return Air Temperature			

Power Supply

Volts	L1–L2	L2–L3	L3–L1	L1–Grd	L3–Grd	L2–Grd
No-Load						Within 2% avg.
Not less than 2V @ 208-230 or 4V @ 460-575 from no-load						
Full Load						
All connections tight? Y / N						

Control Power

	Primary (VAC)	Secondary (VAC)	Transformer Taps? Y / N
No-Load			
Loaded			
Induced AC on DC control circuits			Zero is better

Indoor Blower Motor/Airflow

Motor Nameplate Amps				Motor HP	
Measured Amps	L1	L2	L3		
		Blower RPM			
Calculate BHP		Motor RPM		ESP. Reading	
Comments:					

☐ **Verify the indoor fan operation:**

- ☐ Blower wheel/RPM
- ☐ Belt tension
- ☐ Amp draw
- ☐ External static
- ☐ Air filters

Symbio Settings

Arbitration Method Request		Compressor Cooling P-Gain-1 (%/F)	
Demand Shed Offset Setpoint		Compressor Cooling P-Gain-2 (%/F)	
Emergency Override BAS		Compressor Cooling Reset Time	
Heat Cool Mode Request		Compressor Cooling Reset Time - 1	
Occupancy Request		Compressor Cooling Reset Time - 2	
Occ Bypass Time		Compressor Heating P-Gain	
Occ Standby Cooling Setpoint		Compressor Heating Reset Time	
Occ Standby Heating Setpoint		Cooling Capacity Enable	
Space cooling Setpoint High Limit BAS		Cooling Capacity Setpoint BAS	
Space Cooling Setpoint Low limit BAS		Cooling Capacity Setpoint Enable BAS	
Space Heating Setpoint High Limit BAS		Cooling Demand Limit Capacity Enable Setpoint	
Space Heating Setpoint Low Limit BAS		Cooling Lockout BAS	
Supply Fan Configuration Command		Discharge Air Cooling Setpoint (Target)	
Timed Override Request		Discharge Air Temp Maximum Cool Limit	
Unit Stop Command		Discharge Air Temp Minimum Cool Limit	
Unocc Cooling Setpoint		Auxiliary Heating P-Gain	
Unocc Heating Setpoint		Auxiliary Heating Reset Time	
VVZT DAT Control		Heat Lockout Command	
Filter Runtime Hours Setpoint		Heat Primary Enable BAS	
Supply Fan Maximum Speed Setpoint		Heat Pump Heating Lockout Setpoint	
Supply Fan Minimum Speed Setpoint		Heating Capacity Setpoint BAS	
Supply Fan Speed Command		Heating Capacity Setpoint Enable BAS	
Supply Fan Speed Command Enable		Heating Demand Limit Capacity Enable Setpoint	
Compressor Cooling P-Gain (%/F)		Supply Air Tempering Enable	

Note: *Some parameters may not be available depending on unit configuration and licensing.*

Symbio Configuration

System Type		Secondary Heating Source	
Refrigeration System		Secondary Heating Type	
Refrigerant		Secondary Heating Source	
Voltage		Ventilation Override	
Efficiency		External Auto/Stop	
Tonnage		FroStat	
Refrigeration Circuit		Alarm Indicator	
Indoor Fan Type		Demand Management	
Space Controller		Humidity Sensor	
Evaporator Defrost Control		CO_2 Sensor	
Primary Heating Source		Supply Air Tempering	
Primary Heating Type		Discharge Temperature Sensor	
Primary Heating Stages			
Comments:			

Electric Heat

Heater Model		**Actual Voltage**		
Heater Serial		**L1–L2**	**L2–L3**	**L1–L3**
Rated Voltage				
Heater kW		**Heater Amps**		
High Limit		**L1**	**L2**	**L3**
Comments:				

Refrigeration

Compressor Circuit	Nameplate Amps	Actual Amps			Voltage					
		L1	L2	L3	L1–L2	L2–L3	L1–L3	L1–Grd	L2–Grd	L3–Grd
1										
2										

Outdoor Fan Motor	#1	#2
Nameplate Amps		
Volts		
Capacitor Volts		
Actual Amps		

Comments:

Refrigerant Charge	LBS R-_____
Circuit 1	
Circuit 2	
Refrigerant Pipe Size	**Inches**
Suction Line	
Liquid Line	

Circuit 1			Circuit 2		
Low Side			**Low Side**		
Pressure	Temperature	Superheat	Pressure	Temperature	Superheat
High Side			**High Side**		
Pressure	Temperature	Sub-Cooling	Pressure	Temperature	Sub-Cooling
Compressor Discharge Temp:			Compressor Discharge Temp:		

☐ **Verify the operation:**

- ☐ Compressor
- ☐ Outdoor fan
- ☐ Defrost (Heat pumps only)
- ☐ Indoor fan operation

Help Center

Isometric Paper

Provide sketch of the refrigerant piping. Include suction line size(s) and liquid line size(s).

Notes

Trane - by Trane Technologies (NYSE: TT), a global innovator - creates comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane. com or tranetechnologies.com.

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