

Owner Manual

Packaged Rooftop Air Conditioners Voyager™ Gas/Electric For Servicers and Owners Use

Model 12½ through 25 Ton Packaged Gas/Electric
27½ through 50 Ton Packaged Gas/Electric

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.

May 2012

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RT-SVU04F-EN

Important Safety Instructions

WARNING

Safety Instructions!
Failure to follow instructions in this section could result in death, serious injury, and property damage.

General Safety Instructions

- Do not store combustible materials, gasoline or other flammable vapors and liquids near the unit.
- Should overheating occur, or the gas supply fail to shut off, shut off the manual gas valve to the furnace before shutting off the electrical supply.
- Do not use this furnace if any part has been under water. Immediately call a qualified service technician to inspect the furnace and to replace any part of the control system and any gas control system and any gas control which has been under water.
- Never perform any maintenance procedures until the electrical power and/or gas supply to the unit has been turned off.
- Never remove any panels from the unit while it is operating.
- Never remove panels or parts from this unit that are not discussed in this manual.
- Never cover the unit, since it is designed to operate year-round.
- The furnace area must be kept clear and free of combustible materials, gasoline and other flammable vapors and liquids.
- For proper and safe operation the furnace needs air for combustion and ventilation. Do not block or obstruct air openings on the furnace, air openings communicating with the areas in which the furnace is installed, and the spacing around the furnace.

At installation and the beginning of each heating season, a qualified service technician should examine the furnace to ensure:

- All flue products carrying areas external to the furnace, (i.e., chimney, vent connector, etc.), are clear and free of obstructions.
- The physical support of the furnace is sound and without sagging, cracks, gaps, etc., around the base so as to provide a seal between the support and the base.
- There are no obvious signs of deterioration of the furnace.

1 Cautions, Warnings and Notices

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 may 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 such as HCFCs and HFCs.

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. 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.

5 Safety Instructions Before Operating the Unit

- This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

What To Do If You Smell Gas

- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

2 WARNING

Personal Protective Equipment Required!

Installing/servicing this unit could result in exposure to electrical, mechanical and chemical hazards. Before installing/servicing this unit, technicians MUST put on all Personal Protective Equipment (PPE) recommended for the work being undertaken. ALWAYS refer to appropriate MSDS sheets and OSHA guidelines for proper PPE. When working with or around hazardous chemicals, ALWAYS refer to the appropriate MSDS sheets and OSHA guidelines for information on allowable personal exposure levels, proper respiratory protection and handling recommendations. If there is a risk of arc or flash, technicians MUST put on all necessary Personal Protective Equipment (PPE) in accordance with NFPA70E for arc/flash protection PRIOR to servicing the unit. Failure to follow recommendations could result in death or serious injury.

Overview of Manual

One copy of this document ships inside the control panel of each unit and is customer property. It must be retained by the unit's maintenance personnel.

Your combination gas heating/cooling unit is designed to provide comfort all year long with safe, efficient, trouble-free operation. It is important that you understand how to operate and maintain your unit to keep it operating safely and efficiently. This manual will acquaint you with these important procedures.

Model Number Description

All products are identified by a multiple-character model number that precisely identifies a particular type of unit. Its use will enable the owner/operator, installing contractors, and service engineers to define the operation, specific components, and other options for any specific unit.

When ordering replacement parts or requesting service, be sure to refer to the specific model number and serial number printed on the unit nameplate.

6 Temperature Control Devices

Room thermostats and zone sensors are delicate temperature control devices.

Thermostats' main function is to energize and de-energize the heating or cooling circuit to maintain the temperature setting you select.

Zone sensors' main function is to sense the room temperature to allow the unit controls to activate the heating and cooling functions to maintain the temperature setting you select.

Many thermostats and zone sensors contain a room thermometer to indicate the approximate room temperature, and a temperature scale at the adjustment indicator to select the desired indoor air temperature. In addition, most controls have a selector mode switch with Heat, Off and Cool positions, and a fan switch with On and Auto positions.

When the selector switch is positioned at Off, your unit will not operate in either the heat or cool modes. If the selector switch is set at Heat, the unit will automatically cycle on and off to maintain the desired temperature setting. The unit will also operate automatically when the selector switch is positioned at Cool.

The fan selector switch can be used to operate the indoor fan continuously by positioning it at On. When set at Auto, the fan will only operate when required during the heating or cooling cycles.

To ensure that the thermostat or zone sensor operates properly, it must be level and positioned to avoid the influence of such external heat sources such as lamps, televisions or other heat producing appliances.

3 Inspection

- Unpack all components of the kit.
- Check carefully for any shipping damage. If any damage is found it must be reported immediately and a claim made against the transportation company.
- Visually inspect the components for shipping damage as soon as possible after delivery, before it is stored. Concealed damage must be reported within 15 days.
- If concealed damage is discovered, stop unpacking the shipment.
- Do not remove damaged material from the receiving location. Take photos of the damage, if possible. The owner must provide reasonable evidence that the damage did not occur after delivery.
- Notify the carrier's terminal of damage immediately by phone and by mail. Request an immediate joint inspection of the damage by the carrier and the consignee.

Important: Do not attempt to repair any damaged parts until the parts are inspected by the carrier's representative.

7 Air Filters

It is very important to keep the central duct system air filters clean. Be sure to inspect them at least once each month when the system is in constant operation. (In new homes, check the filters every week for the first 4 weeks.) See [Table 1](#) for the required filter size(s).

If you have disposable type filters, replace them with new filters of the same type and size. Do not attempt to clean disposable filters.

Permanent type filters can be cleaned by washing them with a mild detergent and water. Ensure that the filters are thoroughly dry before reinstalling them in the unit (or duct system).

Note: It may be necessary to replace permanent filters annually if washing fails to clean the filter, or if the filter shows signs of deterioration. Be sure to use the same type and size as was originally installed.

Table 1. Recommended filter size

Model	Qty	Filter Size (L x W x D)
YS*150F	2	20 x 20 x 2
	4	20 x 25 x 2
YSD155F, 180F, 175F, 210F, 240F, 250F, 300F YHD150F WSD150E, 180E	4	20 x 20 x 2
		20 x 25 x 2
YSH155F, 180F, 175F, 210F, 240F, 250F, 300F YHH150F WSH150E, 180E	8	20 x 25 x 2
YHD180F, 210F, 240F, 300F WSD240E	8	20 x 20 x 2
	4	16 x 20 x 2
YHH180F, 210F, 240F, 300F WSH240E	12	20 x 20 x 2
YC*330-420	16	16 x 20 x 2 ^(a)
YC*480-600	17	16 x 20 x 2 ^(a)

1. * = Applies to both downflow and horizontal.
2. Filters not provided with 4- and 5- ton horizontal units.

(a) 4" Filters are optional. Replace with same size as originally supplied.

Heating System

Heating Cycle Operation

A normal heating cycle begins when the air temperature in your home drops below the selected setting. The control then energizes the heating electrical circuit that starts and controls the main burners. Shortly after the main burners ignite, the indoor fan starts and circulates warm air through your home, or building.

When the air temperature rises to the selected setting, the control de-energizes the heating electrical circuit which, in turn, extinguishes the main burners. The indoor fan continues to circulate warm air until most of the heat is removed from the unit's combustion chamber.

Safety Controls

Your unit is equipped with automatic reset safety limit controls to prevent overheating. When one of these controls open, it shuts down the heating electrical circuit until it cools down sufficiently. Inadequate airflow (i.e., caused by dirty air filters or a defective fan motor) may cause the unit to cycle on and off as the limit controls trip and automatically reset. If you suspect that the unit is cycling on its limit controls, immediately contact a serviceman for instructions.

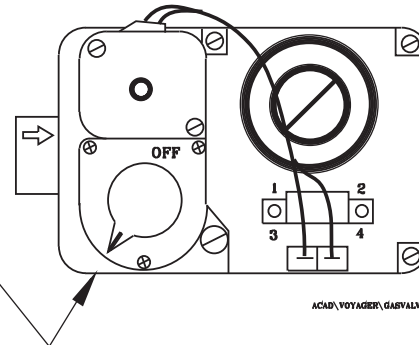
Operating Instructions

1. Set the temperature control to lowest setting.
2. Turn off all electric power to the appliance.
3. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

Note: Depending on heater size, the gas valve control will be a knob, as shown in Figure 1, or a toggle switch.

Figure 1. Gas valve control knob (toggle switch used in some heater sizes)

Gas control knob shown in the "ON" position.



4. Remove the access panel that contains the following label:

REMOVE THIS PANEL
TO GAIN ACCESS
TO THE GAS VALVE

5. Turn the gas control knob clockwise or flip the toggle switch to the "OFF" position.

Note: Some valves require the knob to be pushed in slightly before turning. Do not force.

WARNING

Risk of Fire or Explosion!

Use only your hand to push in or turn the gas control knob. Never use tools. If the knob does not push in or turn by hand, don't try to repair it; call a qualified service technician.

Failure to follow instructions could result in death or serious injury.

6. Wait five (5) minutes to clear out any gas. If you then smell gas, STOP! Follow "What To Do If You Smell Gas" in the safety information above in this manual. If you don't smell gas, go to the next step.
7. Turn gas control knob counter-clockwise or flip the toggle switch to "ON".
8. Replace panel removed in Step 4.
9. Turn on all electric power to the appliance.
10. Set the temperature control to desired setting.

Note: If the unit is equipped with modulating gas heat, the discharge air setpoint will also need to be set before the initial setup is complete.

11. If the appliance does not operate, follow instructions in "To Turn Off Gas To The Appliance" below and call your service technician or gas supplier.

To Turn Off Gas To The Appliance

1. Set the temperature control to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove the access panel that contains the following label:

REMOVE THIS PANEL
TO GAIN ACCESS
TO THE GAS VALVE

4. Turn the gas control knob clockwise or flip the toggle switch to the "OFF" position.

Note: Some valves require the knob to be pushed in slightly before turning. Do not force.

5. Replace panel removed in Step 3.

The manufacturer optimizes the performance of homes and buildings around the world. A business of Ingersoll Rand, the leader in creating and sustaining safe, comfortable and energy efficient environments, the manufacturer offers a broad portfolio of advanced controls and HVAC systems, comprehensive building services, and parts. For more information, visit www.IRco.com.

The manufacturer has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.