



Installation Instructions

Heat Exchanger Replacement For a Shorter Heat Exchanger Replacement

Models

Y*C072A**(L/X)
YSC072E**(L/X)
Y*C072A**(M/Y)

YSC072E**(M/Y)
Y*C072A**(H/Z)
YSC072E**(H/Z)

YSC(090/092)A**(L/X)
YSC(090/092)A**(M/Y)
YSC(090/092)A**(H/Z)

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.



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 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.

⚠ 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 electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) 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 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 Material Safety Data Sheets (MSDS)/Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate MSDS/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.**

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

⚠ WARNING**Hazardous Voltage and Gas!**

Failure to turn off gas or disconnect power before servicing could result in an explosion or electrocution which could result in death or serious injury. Turn off the gas supply and disconnect all electric power, including remote disconnects, before servicing the unit. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized.

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Revision History

PART-SVN114A-EN (15 Dec 2015)

- First version of this literature



General Information

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.

Tools Required

- 5/16 in. Driver
- 5/16 in. Long Driver (12–15 in.)
- 5/16 in. Ratchet
- 9/16 in. Wrench
- 1/2 in. Socket
- Ratchet Extension
- Tube of RTV—Max temperature rating of 500°F (field supplied)
- Screw (used to secure air baffle)—#10-16; 0.5 in. long (field supplied)
- Drill
- 5/16 in. Drill bit
- 1/8 in. Drill bit

Replacement Procedure

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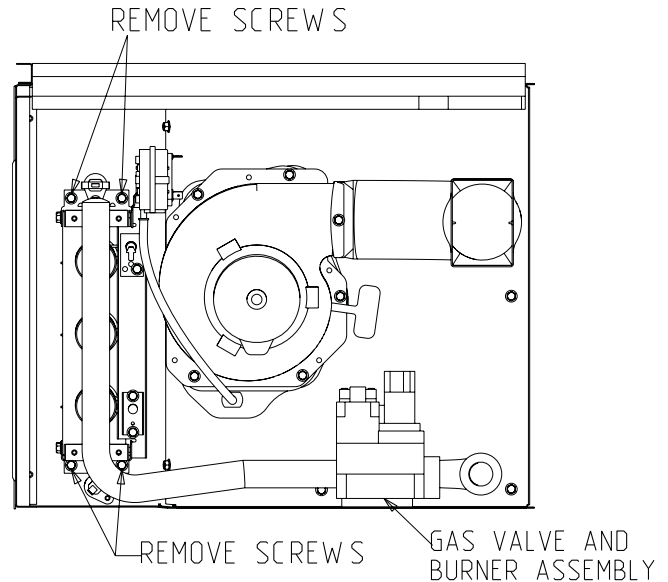
⚠ WARNING

Hazardous Gases and Flammable Vapors!

Failure to observe following instructions could result in death or serious injury. Exposure to hazardous gases from fuel substances have been shown to cause cancer, birth defects or other reproductive harm. Improper installation, adjustment, alteration, service or use of this product could cause flammable mixtures or lead to excessive carbon monoxide. To avoid hazardous gases and flammable vapors follow proper installation and set up of this product and all warnings as provided in this manual.

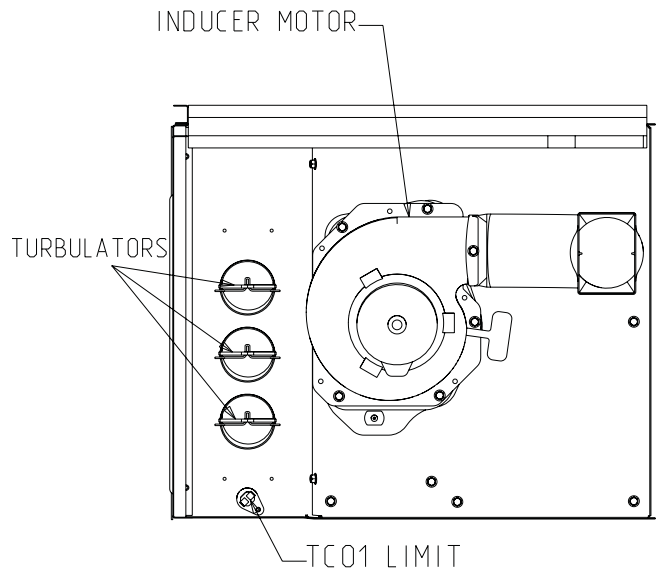
1. Shut off all electrical power to unit.
2. Shut off and disconnect gas service to unit.
3. Disconnect any piping from unit condensate drain.
4. Remove all access panels, front center posts, and rear duct cover. If the unit is configured for horizontal supply, remove the connecting ductwork.
5. Remove condensate drain pan.
6. Clip any wire ties that secure wires to one another in the gas heat compartment. Be careful not to damage any wiring when doing this.
7. Disconnect wires from the various components in the gas heat compartment (TCO1, Pressure Switch, Gas Valve, etc.).
8. Route wires out of gas heat compartment through plastic grommet on the right side of the compartment. Be sure NOT to discard the foam insulation that is used to plug this hole.
9. Remove smaller plastic grommet on the right side of the gas heat compartment. This is the opening where the high voltage spark ignition wire is routed through. Remove this wire as well.
10. Disconnect the orange pressure switch hose from the pressure switch.
11. Remove the gas valve and burner assembly by removing the four screws shown in [Figure 1](#).

Figure 1.



12. Remove TCO1 limit and turbulators shown in [Figure 2](#).

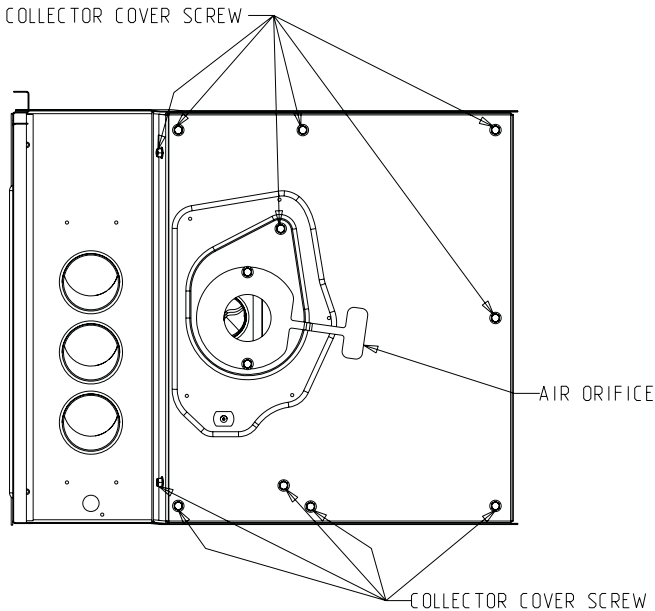
Figure 2.



13. Remove the inducer motor shown in [Figure 2](#). If the gasket behind the part is damaged, replace with the new gasket provided in the kit.
14. Remove the air orifice. Please note that when installing the new heat exchanger, this air orifice plate may need to be changed out, depending on the unit (refer to [Table 1, p. 7](#)).
15. Remove the screws shown in [Figure 3](#) to take out the collector cover. Note that these screws are longer than the other screws in the unit. Set these aside and do not mix them in with other screws.

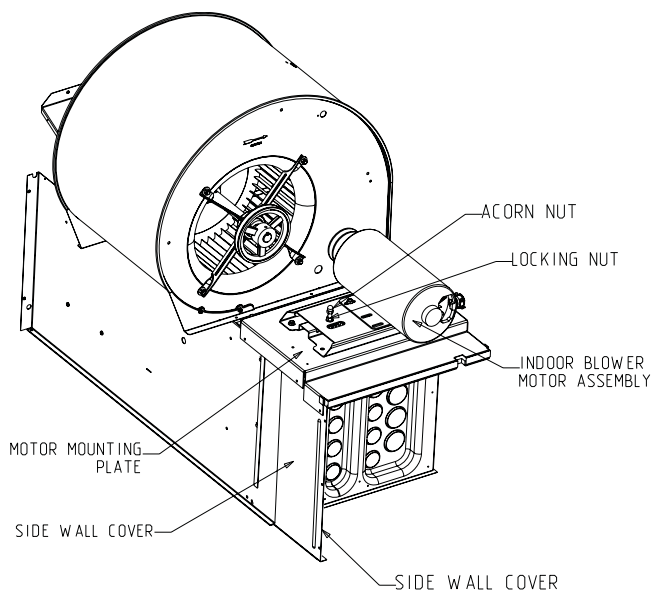
Replacement Procedure

Figure 3.



16. Remove the collector plate cover and gasket behind it. If the gasket behind the part is damaged, replace with the new gasket provided in the kit.
17. Remove the cover plate on the indoor fan motor.
18. Loosen the strain relief on the indoor fan motor.
19. Disconnect motor wiring and remove wiring from motor housing.
20. Loosen the locking nut on the indoor blower motor mount (see [Figure 4, p. 6](#)).

Figure 4.



21. Rotate the acorn nut counterclockwise. This will loosen the fan belt.

22. Remove the belt.

23. Remove the indoor blower motor assembly.

24. Remove the motor mounting plate and the side wall cover.

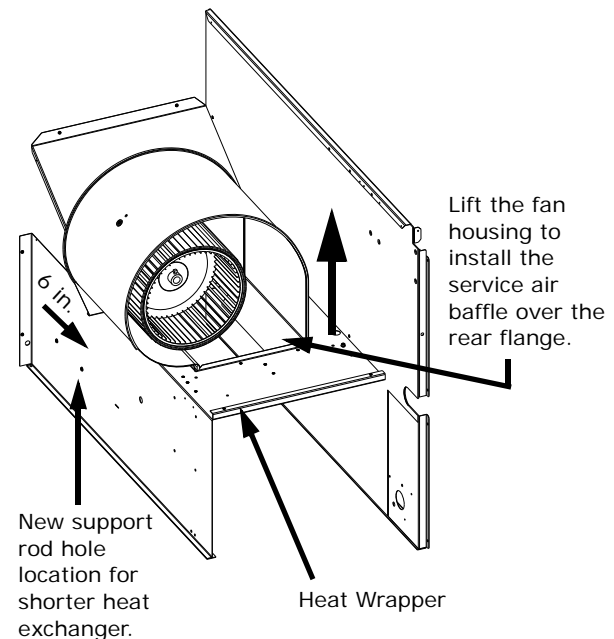
Note: The side wall cover will have to pivot from the top because copper tubing will be routed from the condensing section to the evaporator.

25. Push the heat exchanger out from the rear supply duct through the front of the unit. Use two people when doing this so that the unit is not damaged.

26. Remove the three screws on each side of the fan housing.

27. Lift the rear side of the fan housing (closest to the outdoor divider panel) and install the service air baffle by sliding the clips in the baffle over the edge of the heat wrapper flange (see [Figure 5](#)).

Figure 5.



28. Lower the fan housing and secure it to the heat wrapper with the screws removed in [Step 26](#) (three screws per side).

29. Remove the heat exchanger support rod by removing the tinnerman clip on the coil side of the heat wrapper and the screw on the outer side of the divider panel.

30. Use a 5/16 in. drill bit and create a new hole in the heat wrapper and outdoor divider panel that is 6.0 in. in front of the old heat exchanger support rod holes ([Figure 5](#)). Use the same height for each new hole location as the old location.

31. Re-install the 1/4 in. heat exchanger support rod in the new hole location. On the outdoor divider panel side that has the bent tab on the rod, use a 1/8 in. drill to

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create a hole to secure the rod to the divider with the previously removed #10-16 x 1/2 in. sheet metal screw.

32. Install the new heat exchanger. Feed heat exchanger through the front of the unit. Use two people in this process to ensure that the unit and heat exchanger are not damaged. The second person should be helping to align the heat exchanger from the rear duct opening of

the unit. Make sure that the heat exchanger catches the support rod between the bottom primary tube and the tube directly above it.

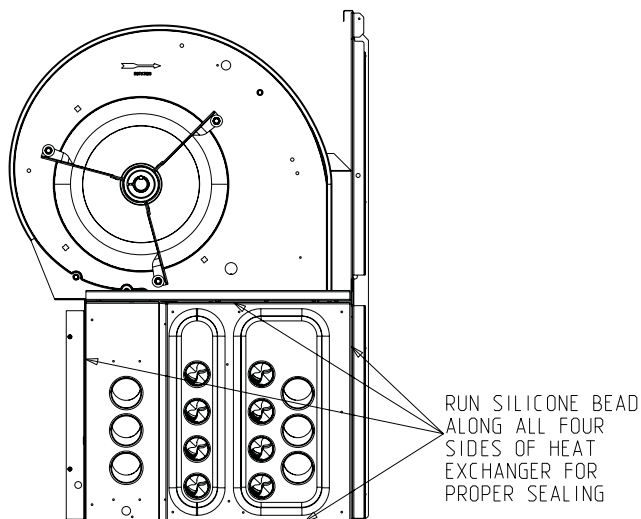
Note: The supplied heat exchanger may be different than what was removed. Reference [Table 1](#) to determine the parts required to install the replacement heat exchanger.

Table 1. Parts to install in the replacement heat exchanger

Model Number	Size of Old Heat Exchanger	Size of New Heat Exchanger	Turbulators Installed in Replacement?	New TCO1 Limit Installed in Replacement?	New Air Orifice Installed in Replacement?
Y*C072A**(L/X) YSC072E**(L/X)	2 x 2 longer tubes	2 x 3 shorter tubes	No	Yes; X13100424070	No
Y*C072A**(M/Y) YSC072E**(M/Y)	3 x 3 longer tubes	3 x 4 shorter tubes	No	Yes; X13100424010	Yes; 436646150310
Y*C072A**(H/Z) YSC072E**(H/Z)	3 x 4 longer tubes	3 x 5 shorter tubes	No	Yes; X13100424110 for downflow; X13100424010 for horizontal	Yes; 436646150210
YSC(090/092)A**(L/X)	3 x 3 longer tubes	3 x 4 shorter tubes	No	Yes; X13100424010	Yes; 436646150310
YSC(090/092)A**(M/Y)	3 x 4 longer tubes	3 x 5 shorter tubes	No	Yes; X13100424070	Yes; 436646150210
YSC(090/092)A**(H/Z)	4 x 5 longer tubes	4 x 5 longer tubes	Yes	Yes; X13100424020 for downflow; X13100424050 for horizontal	No

33. Seal the heat exchanger with a bead of high temperature silicon (field provided; see [Figure 6](#)). If the unit is a YSC(090/092)A**(H/Z) unit, install the turbulators provided in the kit.

Figure 6.



34. Reassemble the unit. Retrace [Step 24](#) through [Step 1](#).
35. Verify the alignment of the indoor blower fan belt.



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