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A PTAC Heat Pump That Is Not Heating

BY JIM JOHNSON

Email your real-life troubleshooting problem—along with the ultimate solution you found—to jim@techtrainassoc.com. Be sure to include as much supporting documentation as possible—wiring diagrams, model/serial numbers, etc. If your problem is published, you will be rewarded with a free heat-pump training video, “Uncomplicating the Heat Pump: Refrigeration and Air Flow Systems.”

Our troubleshooting problem this month involves a packaged terminal air-conditioner (PTAC) heat pump. The report from the facility maintenance personnel at the motel where this service call is located is that the wall-through unit is “blowing cool air when it is supposed to be heating.” When you arrive, you find that the unit is delivering cool air while the room temperature is 65°F.

You also determine that the compressor is operating, and note that the controls are set for high fan speed operation as well as the heating mode. Your findings lead you to concentrate on the electrical profile of this unit (shown in Figure 1) where you observe the following:

1. A heat pump with a three-speed blower motor;
2. Operating voltage is 230 V ac; and
3. A dual capacitor serves the PSC motors in the equipment.

After disconnecting the power supply and removing the wrapper, your visual inspection shows no broken wires, so you reconnect the power supply to perform voltage checks. Your first check at RV shows 0 V ac and your subsequent tests at both the NO and NC connections on the defrost control also show 230 V ac.

Your troubleshooting question is:

→What is the next step you need to take to repair this equipment?←

The answer to this month's problem will be published in the June 2014 issue of RSES Journal.

If you have the answer to this question, submit your name, home address, a day and evening phone number, the month

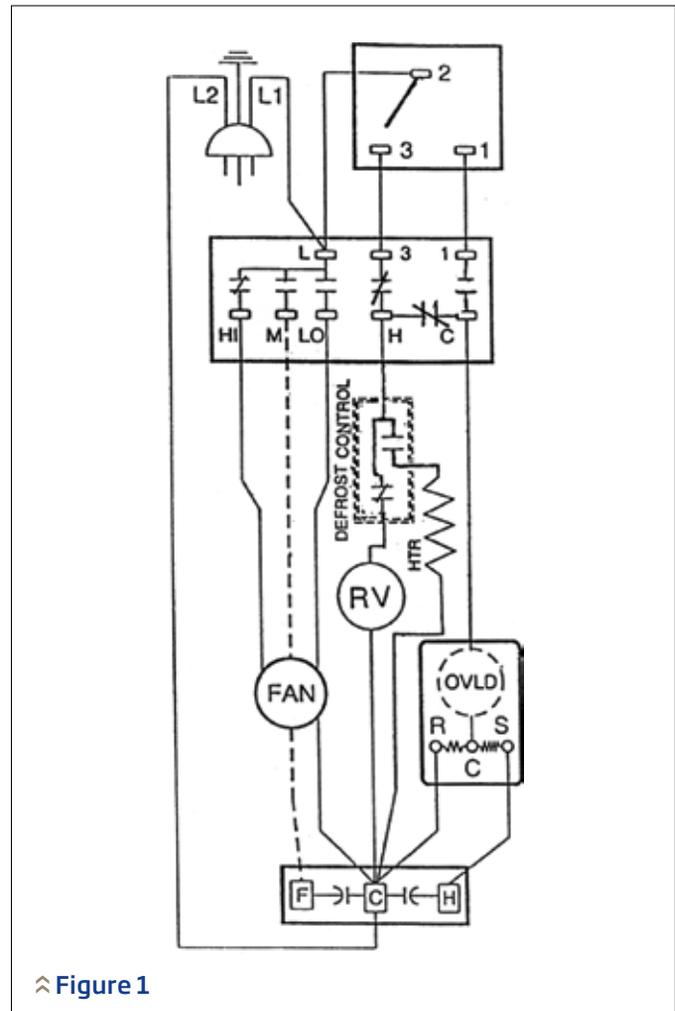


Figure 1

in which the question you are answering was published and your answer to: Jordan Brandes, Associate Editor, *RSES Journal*, 1911 Rohlwing Road, Suite A, Rolling Meadows, IL 60008-1397; email troubleshooting@rses.org; or fax to 847-297-5038. Make sure your answer is submitted by April 30, 2014.

All correct answers will be entered into two drawings. The monthly winner will receive a copy of Johnson's video training program, “Evaluating Refrigeration Systems: Troubleshooting & Identifying Problems,” and the quarterly drawing winner will receive the “Heat Pump Training Package.”

And the winner is...

The answer to the February 2014 question, "A Follow-up on a Heat Pump Sealed-system Repair," is that the unit was undercharged and refrigerant must be added for proper operation of the refrigeration system. The winner of the February 2014 drawing is Gerald Byrd of Gulfport, MS. The winner should call 520-625-6847 or email Johnson to facilitate shipment of their prize. Drawing must be claimed by May 31, 2014.

Jim Johnson, Director of Training, Technical Training Associates, develops technician training workshops, DVDs, audio books and e-books, many of which are now available at the RSES online store. Two new videos, "A Heat Pump That Won't Cool" and "A Heat Pump That's Not Delivering Any Air," are now available for \$20 each or \$30 for the pair. 40 minutes in length, the videos provide information on a specific approach to troubleshooting a particular problem. Also be sure to check out the new website at www.hvacrtroubleshooting.com, which focuses on equipment servicing and allows technicians and students to post comments and questions relative to specific troubleshooting situations detailed on the site. For more information, visit www.techtrainassoc.com, write HC 70, Box 3172, Sahuarita, AZ 85629 or email jim@techtrainassoc.com.

WINNER

↳ **Gerald Byrd
Gulfport, MS**
is the winner of the February 2014
Troubleshooting Challenge.



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