A System that Is Not Performing Like It Should

BY JIM JOHNSON

In this month’s troubleshooting problem you are responding to a customer’s complaint that their home is just “not comfortable.” They told the dispatcher who took the call that they can feel some air coming out of the registers.

When you arrive, you confirm that the indoor air handler is operating normally and that the fan motor in the outdoor section of this system is also running like it should. A visual inspection of the electrical components (see Figure 1) shows that this equipment employs an optional anti-short-cycle timer (ASCT) and high-pressure switch (HPS). You also note that the optional start capacitor and relay shown on the diagram are not installed in this particular equipment. The T2 to L2 contacts are closed and the compressor, which is not running, is very hot.

After turning off the power supply and disconnecting the appropriate wiring, you test with an ohmmeter and find that between the R and S terminals of the compressor your meter shows a reading of approximately 4 Ohms. Testing from common to run and common to start shows infinity. To complete your test process relative to the operation of the compressor, you check the dual run capacitor, and your meter shows approximately 10 mfd from C to F and approximately 13 mfd from C to H.

Your two-part troubleshooting question is:

Considering your ohmmeter readings, what step do you take regarding the compressor, and which component is the likely cause of the “not comfortable” complaint?

The answer to this month’s problem will be published in the May 2015 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 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 March 31, 2015.

All correct answers will be entered into two drawings. The monthly drawing will be for a copy of Johnson’s video training program, “A Heat Pump That’s Not Delivering Any Air,” and the quarterly drawing will be for a Fieldpiece LT-17A digital meter.

And the winner is...
The answer to the January 2015 question, “A Heating System that Isn’t Shutting Down,” is: The indoor blower delay relay (blower control) needs to be replaced. The winner of the January drawing (from among the 17 correct responses received) is Pierre Richard Thomas, Hampton, GA. The winner should call 520-625-6847 or email Johnson to facilitate shipment of their prize. Drawing must be claimed by May 31, 2015.

Jim Johnson, Director of Training, Technical Training Associates, develops technician training workshops, DVDs, audio books and e-books, many of which are available at the RSES online store. For information on Jim’s DVD training program, “Schematic Symbol Fundamentals and Translating What They Mean”, visit www.techtrainassoc.com, write PO Box 2259, Green Valley, AZ 85622-2259 or email jim@techtrainassoc.com.

WINNER

Pierre Richard Thomas
Hampton, GA
is the winner of the January 2015 Troubleshooting Challenge.