A Follow-up on a Compressor Diagnosis

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.”

Your role in this month’s troubleshooting problem is to provide a second opinion on a failed compressor diagnosis. The customer’s complaint is that the unit is not cooling properly and the equipment is a heat-pump package unit that is just past the warranty period for the compressor. The technician who is asking you for a follow-up has limited experience with heat-pump systems.

The diagnosis that the compressor is not pumping is based on the pressure readings found upon accessing the high and low sides of the system at the points shown in Figure 1. The gauges showed a higher-than-normal suction pressure and a lower-than-normal head pressure.

When you arrive, you confirm that this unit employs a fixed-bore metering device for both the indoor and outdoor coils, which leads you to the decision to access the manufacturer’s charging charts and conduct a superheat evaluation. Your finding is that the superheat is significantly lower than it should be.

Your troubleshooting question is:

Have you confirmed your colleague’s diagnosis, or have you determined that there is a different component that could be responsible for the poor performance of this system?

The answer to this month’s problem will be published in the August 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
And the winner is...

The answer to the April 2015 Troubleshooting question, “A Follow-up on an Ongoing Complaint,” is: Our dry-bulb and wet-bulb tests that showed a significant increase in humidity proved that the return air duct in the attic was leaking and allowing infiltration from the unconditioned space. The leaks need to be found and sealed in order to achieve proper performance of this system.

The winner of the April monthly drawing is Connor Bauer of Plant City, FL. The Winner should call 520-625-6847 or email Johnson to facilitate shipment of their prize. Drawing must be claimed by Aug. 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.