

leading off



The Necessity of Continuing Training

An acquaintance of mine (Harold) called an HVAC contractor to fix a “no cooling” situation for his 10-year-old residential cooling unit. A few days later, Technician One recommends the unit be replaced. Harold insisted on a quote to repair the unit. Technician said that, due to the unit’s age, the issue was likely an evaporator coil leak due to small holes formed inside the copper tubing from mixing the refrigerant (R-410a) and alkyl-benzene oil (what?).

Two weeks later, the company told Harold the manufacturer sent the wrong coil and had to reorder a new one. Two more weeks go by and Technician Two arrives with the “correct” coil. He starts by de-brazing the old coil and modifying the supply plenum so the new “correct” coil could be installed. Once in place, the coil was brazed in.

Next he connects the vacuum pump and lets it run for 15 minutes. Then he shuts off pump and charges unit with 13.1 lb of refrigerant, as recommended by manufacturer. Finally, once unit was started, the technician checks by feeling the suction and liquid lines, and feeling that the air temperature felt right. Job complete and everybody was happy; for the time being. Let’s look at some of the obvious items the technicians overlooked:

- System was not pressure tested with nitrogen to verify evaporator was leaking.
- The filter drier was not replaced. Technician stated that a filter drier is only required on new installations (what?).
- POE lubricant was not checked for acidic content.
- Nitrogen was not used during de-brazing, re-brazing or pressure/leak testing.

e. Level of evacuation and dehydration was never established using a micron gauge.

f. Once charged, subcooling, superheat, and temperature across the coil were never measured.

g. A mandatory ODP (Ozone Depletion Potential) tag indicating the unit leak was repaired and the system was leak-free was not placed on the unit.

Technician Two has been in the field for 20 years; completed a two-year RAC program at College A; a five-year apprenticeship program at College B; and obtained his mandatory RAC license. Knowing the curriculum and instructors of both colleges well, this individual received the required knowledge and skills to perform the work with utmost competency; so one would think.

This brings me to my headline, The Necessity of Continuing Training, which underlines how important it is to keep learning. It also reminds me how to work around RAC equipment so that longevity, durability, quality, safety and professionalism are built into our workmanship. What will the consequences be as we move towards new technologies and systems that use A2, A3 or B classified refrigerants?

I am concerned the above scenario is occurring on a daily basis. I have a greater concern that these technicians are not RSES members, with access to the materials they need to turn their jobs into careers, which would have benefited everyone involved. IMHO! ☁

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