



## Millennial HVACR

BY THE HVACR PREACHER ROB RAPPOLD

The author, George Orwell, once said, “Each generation imagines itself to be more intelligent than the one that went before it, and wiser than the one that comes after it.” This quote has significant truths that are applicable to our current time and specifically for the world of HVACR. The overlap between Baby Boomers, Generation X, Xennials, and now Millennials in the trade has certainly created a melting pot in the manpower pool that we pull from. Unfortunately, that melting pot has produced a zeotropic blend, where the older generations are reluctant to engage the younger generation. I will get to that in a moment.

As a zeotrope, our labor pool is susceptible to fractionation in the presence of a leak. We all know that our trade, just like all of the others, is experiencing a labor shortage. This shortage of qualified technicians can be attributed to many factors, including the mighty push for college education or the societal disdain for the working trades; but the result is a leak wherein the younger generation is the first to leak and the oldest generation by default is the next to go. What is left is not enough different kinds of refrigerant, people in this analogy, to be able to do the work. Work, that is ever increasing, and work, that is ever more complex and technical.

Returning to the idea that we are a “zeotropic” bunch; our leak rate for the latest generation of technicians is worsened by an apparent disdain for their work ethic, technological fluency, and a host of misconceptions fueled by various media outlets. It becomes very easy to discount the latest pool of apprentices as, somehow “unworthy” of this trade.

Let’s go back to the beginning and digest the George Orwell quote. If knowledge is gained by “book learning” and wisdom is gained by experience; then truly each generation is more knowledge-

able than the previous and, by the time the following generation comes, is wiser. An author, E.W. Howe, once said, “A young man is a theory, an old man is a fact.” This is factual; surrounding a young person is a theory; a theory about how the information that is applied will manifest itself when so called “heat” is applied. An old man has proven himself through fire and has emerged victorious; albeit with a convenient bit of memory loss on how they were refined by the fire.

The thoughts of Orwell and Howe date to the early parts of the 20<sup>th</sup> Century. Denise Dudley, a current writer, recently summed this more concisely than I could, “The silent generation whined about the lavish spending habits of baby boomers, who carped about the laziness of Gen Xers, who now gripe about the self absorbed egotistical temperament of millennials.”

In other words, there is nothing new under the sun. We either just forget what it was like to be young, or we are all egotistical enough to think we truly are better than the next generation. It is truly by living life and experiencing the struggle that we have all become better HVACR Technicians, if not better people.

So how can apply this to the current HVACR environment? Firstly, we have to humble ourselves. As tenured technicians, we have little to fear for our jobs. We have the keys to a plethora of knowledge of where the industry came from and a unique understanding of where it is headed. That doesn’t make us the best, it just makes us the key holder.

At some point we were all Apprentices. Secondly, we must acknowledge that the technological wherewithal of the millennial generation is an asset, not a liability. New equipment has to meet guidelines that can only be achieved with ever increasing technology and consumers want

technology that mirrors the devices they hold in their hands. Millennials are well suited to this task.

Finally, we have to make this blend an azeotrope. Masters and tenured Journeymen have to willingly share their knowledge and support Journeymen and Apprentices; regardless of their “generation.” I must also say that young Journeymen and Apprentices must bring a willingness to learn. It is together that we can make this trade great for the green apprentice and the seasoned, read “salty”, technician. ☺

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### ▶ TROUBLESHOOTING ANSWER

The diagram shows that this system contains a single pole contactor (often called a 1+) with contacts that connect from points 11 to 21 and a solid conductive connection from 23 to 23 on the other side. Because of this, one leg of power is always energized and potential is always present on all high voltage loads regardless of whether the contactor is open or closed. 0 volts between L1 and L2 indicates that there is no potential difference between those points. This indicates that there is an issue with at least one leg of the incoming high voltage power. Measuring 120v to ground on each leg indicates that one incoming leg is energized and the other is not. The reason 120v is seen to ground on both L1 and L2 is due to one leg back feeding through the compressor, condenser fan and crankcase heater. While the measurements we took are insufficient to tell us which leg of power has been lost, we can be certain that one leg of power is open further up the line. This issue is common when one leg in a disconnect or circuit breaker fails open and the other does not.