Are the tools you count on for accuracy, accurate?

Rick Kincel
Tech Services Mgr.
Coburn Supply Company

Wasting time on any job during the Summer is never good. When we are counting on our tools to give us accurate info, and they are not, then we are doing nothing more than wasting time.

Check your tools for accuracy when you can. That rainy day when calls are slower may be a great time, not when it is 100 degrees and you are stuck on a job with poor information.

Start with your thermometers. First, follow manufacturer's instructions… (per our legal dept)

Typically, a clamp thermometer or K type thermistor can have the sensor slightly submerged briefly in a glass of ice water. If given enough time for the ice and water to stabilize first, you should have a good 32 degree +/- 1 degree. If it needs adjustment, then the app for your particular tool should allow you the ability to fine tune the result.

Having completed the thermometer, the next tools are the pressure gauges used for refrigerant readings.

Using a known refrigerant and a corresponding Pressure Temperature Chart the procedure is easy enough. Take a single component refrigerant such as R22, R32, or R410a (I know, it's a blend, but it is VERY close) and put it into a refrigerator for a few hours. Put the newly calibrated thermometer probe in there as well and let them stabilize to the refrigerator temperature.

When you go back to check, quickly identify the temperature in the fridge and compare it to the PT chart of your refrigerant. Let's say you are using R32 and the temp in the fridge is 35 degrees. Your pressure (either high or low side gauge) should be 109.7 psig. If you are using R410a at 35 degrees your pressure should be 107.3 psig. Most apps allow for some calibrations, but some may have to be sent back for calibration. Some automatically calibrate if the sensor is open to atmosphere when you power it ON. Either way, you will know if the readings you are getting in the field are giving you proper information.

When it comes to manometer readings the problem I see most often is the manometer is not zeroed at the beginning of the measurement. Most electronic manometers require the user to zero the tool BEFORE inserting the tubes for measurement.

The more tools we have, the more we need to make sure they are calibrated prior to taking the readings. The higher accuracy tools we use, require maintenance we may not have done in the past.

If in doubt about how to calibrate your particular tool, then RTFM, Read The Full Manual for your specific tool.

Data can be very good for diagnosing problems, but only if it is accurate data.