The 10 Commandments of the
workmanship or we will smash the tablets and make a big mess…

Ok here are the commands.

1. Thou Shalt Diagnose Completely

Don’t stop at the first diagnosis. Check everything in the system visually first if possible, and then verify with measurements. Sometimes one repair must be made before other tests can be done, but often you can find the cause of the initial problem as well as other problems BEFORE making a repair which helps save time, provides better customer service, and creates a better result.

2. Thou Shalt not Make Unto Thee Thine Own Reasons

Jim Bergmann often talks about how when techs don’t understand something, they start making up their own reasons that something is occurring, and then train other techs in these made up reasons. If you don’t understand something, a bit of research and study goes a long way.

3. Thou Shalt Not Change Parts in Vain

In other words, DON’T BE A PARTS CHANGER. Never condemn a part on a guess or make a diagnosis out of frustration. Get to the bottom of the issue no matter how long it takes. This is better for the customer, the company, the manufacturer, and your development as a tech. If you aren’t confident, call someone who is fundamentally sound and get a second opinion BEFORE you leave the site. Better yet, send them a text with all the readings, model and serials, conditions, photos, type of compressor, type of controls, type of metering device, and what you have done BEFORE you call them. Get the diagnosis
right the first time.

4. Remember the Airflow and Keep it Wholly

So much of HVAC/R system operation has to do with evaporator load with LOW load being most commonly caused by LOW AIRFLOW and low air flow being most commonly caused by dirt buildup. Keep blowers, fans, filters and coils clean and unobstructed. Check static pressure when duct issues are suspected in order to verify and properly setup blower CFM output to match the requirements of the space and outdoor environment.

5. Honor Thy Trainers and Mentors

New techs will often learn a few facts and cling to them as though they are the end all and be all of system diagnosis. I have met techs who get over focused on everything from suction pressure (most common), to superheat, subcool, static pressure, delta T, and amp draw. A good tech continues learning from older and wiser techs and trainers who see the whole picture. When you are new it’s hard to remember all of the factors that go into system diagnosis and performance. More experienced techs who have kept up on their learning develop a 6th sense that can rub off on you if you Stay Humble (to quote the great philosopher Kendrick Lamar). Listen more than you talk, and learn the full range of diagnostic and mechanical skills.

6. Thou Shalt Not Murder The System by Failing to Clean

A good technician learns the importance of keeping a system clean early on and never forgets it. Condenser coils, base pans, drain pans, drains, evaporators, blower wheels, filters,
return grilles, secondary heat exchangers and on and on. A system that is set up properly initially and cleaned regularly will last much longer, cool or heat better, and use less energy. In my experience, techs that don't believe in maintenance don't perform a proper maintenance themselves. Use your eyes, and clean what's dirty.

7. Thou Shalt Not Commit Purgy
without Vacuumy

Proper evacuation is one of the most overlooked disciplines of the trade. Dave Boyd and Jim Bergmann say again and again, a proper vacuum is performed with large diameter hoses connected to core removal tools. The cores are removed from the ports, the hoses have no core depressors, the hoses are connected directly to the pump (not through gauges). The vacuum (micron) gauge is connected on the side port of the core removal tool, not at the pump. The pump has clean vacuum pump oil and the pump is run until the system is pulled below 500 microns (exact depth depends on the system). The core tools are then valved off and the decay is monitored to ensure that the system is clean and tight.

Purging with dry nitrogen prior to deep vacuum helps with the speed of evacuation, and installing line driers assist in keeping the system clean and dry, but neither are a substitute for a proper deep vacuum and decay test.

8. Thou Shalt Not Steal (from the customer)

Good techs provide solutions for their customers to get a broken system working, as well as other repairs or upgrades that result in optimum performance. Most techs don't intend to lie to a customer, but their lack of understanding on the products they are offering, along with strong incentives to
OFFER these upgrades can result in dishonest practices. A good, profitable technician has a deep understanding of all the repairs and upgrades they perform as well as a sense of empathy for the customer.

9. Thou Shalt Not Bear False Witness Against Other Technicians

This all comes down to a witch’s brew of ego and insecurity all mixed together. You have either done this yourself, or you know of someone who has gone to a customer’s home or business and thrown the previous technician or company under the bus in front of the customer. In some cases it may be nothing but bravado, and in other cases it may have a measure of truth in it (or may be undisputed). Either way, talking negatively about other techs and companies does nothing but make you look petty and angry. Demonstrate your skill and knowledge by discussing the courses of action you intend to take, and if required, you can COMPARE these actions to previous actions taken; just stay away from personal attacks. Let the customer be the judge about the last guy.

10. Thou Shalt not Covet Thy Neighbor’s Job

Many good techs start to do poor quality work when they get burned out and buddy let me tell you- I HAVE BEEN THERE. It is important to remember that every job from maintenance tech to business owner has good things and bad things about it. There are good days and bad days, great customers and total jerks, 16 hr days and 8 hr days. You may hit a spot where you decide to change jobs, and that is totally fine and may be a great decision. Just don’t make a rash decision because the grass looks a little greener. ALWAYS do quality work no matter where you work, or how bad it gets. Doing poor quality work
because your job is getting you down is like a cancer that will grow and do harm to you and your career.

Take pride in your work, keep your eyes and ears open, learn something new every day and the HVAC/R gods will smile warmly upon you.

What commands would you add or remove?

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