

Opportunities in HVAC

**ADVICE FOR THE APPRENTICE,
BUSINESS OWNER,
& EVERYONE BETWEEN**

BY CHRIS MORIN



HVAC PRO BLOG

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ABOUT THE AUTHOR

Chris Morin is the Author, Owner & Founder of the popular HVAC Pro Blog.

For advice with Residential HVAC System Design, Quality Installation, and System Diagnosis, you can find Chris' articles on HVACProBlog.com, Exclusive Member Content on [Patreon](https://Patreon.com), or popular social media outlets [Facebook](https://Facebook.com), [LinkedIn](https://LinkedIn.com), [Twitter](https://Twitter.com) and [Youtube](https://Youtube.com).

Chris is currently the Eastern Massachusetts and Rhode Island Regional Sales Manager for America's leading heat pump manufacturer: Mitsubishi Electric Trane HVAC US. Chris started carrying tools at age 16, graduated from Minuteman Regional Vocational (Lexington, MA), and entered the U.S. Marines as a Refrigeration Mechanic, where he served two tours in Iraq. Returning home, he was a Service Technician, then Service Manager, before working as an HVAC Specialist/Trainer for the local Utility Rebate Program. An ACCA Residential System Design Instructor, Chris' experience includes consulting contractors and technicians on residential system design, quality installation, and system diagnosis – both in the classroom and in the field.

In his spare time, Chris author's the successful HVAC Prog Blog.

Chris holds a B.S. in Business Management from University of Phoenix, MA Master Sheet Metal License, BPI Building Analyst & IDL, as well as NATE Certifications in Installation and Service for Heat Pumps, Air-Conditioning, and Gas Furnaces.

WHY SHOULD YOU CONSIDER A CAREER IN HVAC?

LABOR SHORTAGE

I heard a great argument regarding hiring the Gen. Z & Millennial Generations; hear me out? How is it the U.S. Military can hire unlimited labor, with some of the Nation's brightest Generation Z seeking their employment, and being trained to operate the world's most sophisticated and most expensive equipment all at the age of 18? The military is willing to recruit, sometimes pay bonuses, train 'employees' with zero experience, and have them excel to make small management positions in just a few years.

So, why is it so hard for you to find new employees in HVAC? Those willing to recruit, train, and advance their employees tend to have more loyal and engaged workers! This would be the best way to steadily grow the workforce. Unfortunately, most look for a short-cut, trying to hire an experienced person away from another company. This typically leads to overpayment, and a less engaged employee that will likely leave for a raise at another institution just a year or two later.

The way I see it, the best option is to hire the right person that fits your company culture. Where do you look and find this person? Well, that is the million-dollar question! I can tell you that it helps when that person is knocking down your door, like customers, because they know how your employees are happy and are excited to be a part of your bright future.

If I asked your employees at the distributor's counter while picking up supplies about their company, what would they say?

What if you hired one of those Gen Z. or Millennials that knew the basics,

and was a clean slate when it came to any bad habits in the industry? All those years you were trying to hire someone away from another company - what type of highly engaged, well trained employee could you have had at this point? On that note: How engaged is your company with the local Trade Schools?

The recent press, pioneered by efforts like Mike Rowe (Dirty Jobs) and most recently in partnership with popular publicly broadcasted TV show 'This Old House', has identified a real issue in the United States with something called a "Skills Gap". This is primarily the result of the push for our sons and daughters to go to college, and in a way steering them toward a more white-collar job. Whether subconscious or not, this has resulted in a real crisis for most of the building trades, not to mention student debt, etc. There is a real scarcity mindset in both the HVAC and Plumbing trades, consistent with Electricians, Carpenters, and Welders, that there are more skilled workers leaving the trades than coming in. This should serve notice as an opportunity!

- The most recent data gathered from the [Bureau of Labor Statistics \(BLS\)](#) plans 4% growth in HVAC by 2029 (additional 15,072 jobs).
- I think BLS may be underestimating as HVAC jobs have already grown 11.6% since 2016!
- These are not minimum wage jobs either, ranging from \$15.34 - \$38.85 per hour. As a rule, the BLS estimates apprentices make approximately half of the wages as the experienced workers.
- Don't think you will be carrying tools or crawling through hot attics your entire career, although this may be your way 'in'...there were 376,800 jobs in HVAC for 2021, per BLS.
- What is interesting is that the BLS does not take into account posted job openings, even when considering growth. Even coming out of a worldwide pandemic, job openings in the HVAC industry continue to rise. [HoseCallPro provided a great summary](#), consolidating job openings Spring 2021, there was an estimated 68,980!

Jobs in the Trades



HVAC PRO BLOG

2021 U.S. Bureau of Labor Statistics

	MEDIAN \$	# JOBS	EST. GROWTH 2029
ELECTRICIAN	\$27.36	739,200	8%
PLUMBER	\$27.08	490,200	4%
HVAC	\$24.32	376,800	4%
CARPENTER	\$23.81	1,024,100	0%
MASONRY	\$22.94	302,100	-3%
WELDER	\$21.25	438,900	3%

If you are a student thinking about entering HVAC, looking for your first or next job in the industry, or a Contractor that wants to help our industry grow along with your business, look to get involved locally. Find local organizations and events in your state that promote growth and can help at every level. As an example, I serve on the Board of Directors for [ACA New England](#).

Every year I attend an event in MA which a few years ago spurred a blog and conversation on LinkedIn. There I saw (350+) students from MA Vocational HVAC Programs. If you are looking for entry level apprentices, despite the scarcity mindset, there appears to be the next generation being trained and looking for employment. What was interesting over the last (10+) years or so attending, the numbers are on the rise and more women every year! If there ever was an opportunity for women in the trades, HVAC is in dire need...

Let's continue the [conversation on LinkedIn](#)!

- If you are a student, tell us what you are expecting coming into the

trade.

- If you are a contractor, what qualities are you looking for in an apprentice? Distributor or Manufacturer, what skills are needed to succeed?
- Do you want your children to continue the family business in HVAC - why or why not?
- Finally, this is not a job board, please keep it conversational....

COLLEGE OPTION

I want to be crystal clear that I am not bashing the option to go to college immediately following High School! My decision to join the U.S. Marines when I was eighteen years old centered around the option for college funding. You see, my family didn't have much money, bad credit, you name it. In fact, my mother made me attend the local trade school, against my 14-year-old will at the time. Unfortunately (or fortunately depending on how you look at it), options for financing such large sums of money for college, even grants, were not even explained to me. This is actually surprising looking back, as I did finish in the top few of my graduating class. With the extremely high (and steadily growing) cost of college, and the thought that was engrained in me at such an early age that the only way to succeed was to have a college degree, I thought my only real option to make it happen was to pay my dues in the military.

So, after 4 years of active-duty service that included serving in Operation Iraqi Freedom, being recalled serving another year once again just three months after leaving active duty, I went back to work as a Service Technician full-time. All the while, attending college classes in the evenings, three to four days a week, to achieve a Bachelor of Science in Business Management over seven long years. Guess what? The GI Bill didn't come close to covering the costs of college either, still owing over \$30,000 upon graduation.

Although this time pushed me into the person and leader I am today, most of my friends either gained 5+ years on me in the HVAC trade, or graduated college with tens of thousands of dollars in debt and started their career with a low paying job in their new field, while I served my second tour in the desert. The feeling of being behind, because I was stuck in the middle of the two options, really has never left. My family wonders every day, weekends included, why and how I have such a drive to never stop.

When my current day job stops, I pick up where I left off creating content for HVAC Pro Blog, filling what I feel is downtime with productive work like videos or learning.

All of this to say the piece of paper which claims I understand how to manage a business (degree) is nice, not necessarily worth what I gave up in time, handicaps, and money given my passion for HVAC. Everyone that told me I needed that degree for success was wrong. But I wouldn't change my experience in dedicating myself to a goal for the world.

After reaching what felt like my finish line, I realized I still had so much more to learn and embraced the HVAC trade. I later became a Technical Trainer for a Utility Program Implementer, before landing in my latest HVAC industry career stop as a Regional Sales Manager for a leading Manufacturer.

I mention my stints in HVAC over the last 20+ years not to brag, but instead to show that if you are not comfortable with your current job or apprenticeship role, there is so much more available and don't give up or leave! Whether you are starting as an installer or maintenance technician, working for one of our many distributors behind the counter or in sales, or even larger commercial/industrial service; there are so many opportunities in HVAC! I can only speak from personal experience and hope this spurs a bit of interest.

WHERE DO YOU FIND WORK IN HVAC?

I was fortunate early in my career to work for a mechanical company. This landed me in different places, with different tasks, every day as an apprentice. I felt that I was given a chance to experience so many parts of the HVAC (plus some) business, that choosing to focus on one path was easy for me when I was offered a full-time job out of High School. I managed to do tasks like:

- Apprentice for Residential and Light Commercial Service
- Apprentice / Labor on Residential Installs
- Replace / Install Rooftop Units
- Seal Duct Systems, a lot of duct sealing
- Create Residential and Commercial Duct Transitions (Knock-Tin)
- Apprentice Commercial Sprinkler System Installations

If there was one piece of advice I could give someone interested in joining the HVAC trade, but not sure which focus suits them best, it would be to seek out a mechanical company for employment. This could provide the best opportunity to have the widest exposure to all things HVAC.

If no mechanical companies are hiring in your area, the next best option is finding a Residential HVAC or Home Services Company. With the industry growing fast, and more than half of the current job openings (Spring 2021) being entry level, I am sure you will be able to quickly find employment with the minimum skills required for the position.

THE DIFFERENCE 5 YEARS CAN MAKE

The struggle in the United States is just beginning regarding our lack of Tradesman. When I see ordinary citizens post concerning comments in local newspapers and social media about our trades and labor shortages, you know we have entered a crisis. Every day I speak with companies that would hire a competent (notice the word choice here, not a Journeyman) worker if they could just find them! Needless to say, this is not a new problem in HVAC, which extends from Apprentices, Installers, and Service Technicians to even Sales and Management. So, here is my pitch to anyone considering the HVAC trade: Become a Master in just 5 years!

Not too long ago, Malcom Gladwell, Author of “Outliers”, wrote that ‘ten thousand hours is the magic number of greatness’. Further expanding on this notion, Malcom says, “you need to have practiced, to have apprenticed, for 10,000 hours before you get good.” Of course, he was referring to several successful musicians and businessmen, like the Beatles and Bill Gates. Let me try and break this down for a Tradesman...

The ordinary U.S. workday is approximately eight hours, even though an HVAC Service Technician could argue this could be much longer in peak seasons. Given five days in a work week, and discounting two weeks of vacation in a year, most Americans are planning to work (251) days or (2,008) hours annually. This means it could take you about (5) years of apprenticeship to be good.

What if you went to a trade school for HVAC, like me? This will give you about a year head start. Most trade schools, and post-secondary career schools, offer HVAC Programs that amount to about one year worth of hours. This will then leave you with approximately four years of

apprenticeship. See where some of these licensing requirements now line up? No matter what these Instructors and Schools may sell you, you only possess the minimum skill and knowledge to be employed at graduation. The opportunity to have a career is just beginning, and your wages will reflect this, no matter your age, sex, or disability.

Here is where things get interesting: Supply vs. Demand. Guess what can never be outsourced to another country? Your acquired knowledge and skills in a service industry that is in every apartment, home, commercial building, etc. Yes, our HVAC Industry changes rapidly, always innovating and requiring lifelong learning - but here in lies the opportunity! More people are retiring from the HVAC, Electrical, Plumbing, and Carpentry trades than entering every day. What does this mean in a Capitalist Economy? Increased wages and pricing for trades that are a necessity. I happen to work for one of the most innovative manufacturers in the world, and I continue to see a younger generation take interest in our technology over software jobs and the like.

Where else could you learn a profession, be good in 5 years, and be paid while you are learning? Now that we are beginning to attract young talent into the HVAC trade, let's work on training and development instead of buying another company's faculty. Take on an apprentice, in four to five years you may have a Master in the Industry!

APPRENTICE

MOST APPRENTICES STARTING OUT ARE LIABILITIES

Sorry, there is no other nicer way to state this. While you are learning, possibly helping Service or Installations, the Contractor is footing the bill. Most Residential HVAC companies, though I am sure priced their labor correctly, do not charge homeowners for an Apprentice on site. Since they are paying your wages, and not charging anyone else, then you are considered a liability (not an Asset). The quickest way to receiving a pay increase, going on your own for service calls or simple installations, or even perks like driving the van to/from home, is to prove you are knowledgeable and trustworthy enough to have billable hours. For the Service Technician path, this may mean handling maintenance calls on your own. Or, replacing a failing part while the service team is too busy during peak demand. For an Installer, possibly performing a condenser replacement without the Senior Tech on site. Don't get me wrong, there are plenty of skills and knowledge to acquire before this happens, and it will be painfully obvious if you are not ready.

INVEST IN YOURSELF

For at least the last ten years, I have had the pleasure of hosting adult education: HVAC trade specific classes across multiple areas of the industry. Without fail, some aspect of the five rules I have created below are impacted. The most interesting part is that the offender typically is not the one affected by their offense, which often derails the students around them.

1. The Rule of Inverse Direction

This happens at almost any training, in any location. My recommendation and rule that I have lived by since my time in the Marine Corps: If you are not 15 minutes early, then you are late.

Here is the way to works:

- The attendees that live the furthest away are by far the earliest to arrive for the class.

I believe that since they live a considerable distance, they plan for the bad weather, traffic, or anomalies that I have not thought of.

- The students that live or work the closest are usually the last to arrive, often late.

2. This is not a Competition

I am sure I have taught subjects to experts much smarter than I am on that exact topic. Here is the unique situation: you/your company paid for you to be there to listen to me! In fact, I have been on that side of the desk, many times, and thought to myself: 'I could explain this in a much more memorable way.' What did I do? I kept quiet, respectful of the instructor and the other attendees in class and talked with them afterwards (only if they were open to some constructive conversation). If the statement was just wrong or egregious, I don't call the instructor out; instead ask a question in a way that it gives the person a chance to correct the misinformation.

The class is not a competition, not the time to question every stat or statement, in a manner that makes the student feel like 'they won'. I have offered people like this the chance to leave if they would prefer, instead of the negativity that harms the rest of the student's experience.

3. Age does not Equate to Experience

This has come up much less often recently, but there was a time that I was often the youngest person in the room, as the instructor! Typically, the 'Old-Timer' would sit in the back with their arms crossed, looking skeptical and pounding coffee. This would be short lived though, as I often provide value early in my presentations.

I used to struggle with this as the instructor as well, that my age does not equate to my unique experience. This limiting belief only lasted about a month into my teaching experience as I started quickly winning over the most experienced people in the room.

4. 'There was this one time, at Band Camp'

There is nothing more annoying to the other classmates than the constant barrage of job specific/unique questions that turns the class into a tailspin. Even if the topic is relevant, keep these questions to class breaks, or after the class is completed. Unless the class is running very late, which could actually happen from these types of questions, I do not know any adult educators that do not want to help, and even learn about some unique situation that they could speak to in future classes.

5. Identify the Best Take-Away

Look for the best take-away in each class you are attending. If you can have at least one, or two take-aways, the time on that side of the desk was definitely worth it! The next part is completely up to the student: TAKE ACTION! I see this all of the time: Students coming back, year-after-year, to learn the same material because they never implemented what they learned following the class. If you don't want to forget the material, use it immediately! If you don't have a chance to use it right away, consider teaching that nugget to another co-worker that couldn't make the class to help reinforce the learning.

If you follow these rules, I have no doubt you will make the best of your time in a positive learning environment.

SEEK A MENTOR

Finding a Mentor is not as easy as it sounds. You would think the person you are assigned to as an Apprentice would be your Mentor, and if so consider yourself lucky. I was not as fortunate. My first job as an Apprentice had an interesting first few weeks. The Service Manager I was working with first taught me how to wrap up a droplight – this was used as a service light before we had reliable one million candle power LED flashlights. Don't get me wrong, I still wrap up a drop light or extension cord the same way to this day. But, this was all the old man was willing to

teach me. Each day, in and out of the basement or attic, setup and then wrap up the drop light. Fortunately, I was moved along to a younger, more ambitious Service Technician after almost a month, that taught me more in a few weeks than I had learned the first three years in Vocational School!

Once you find a Mentor, someone willing to share and help you learn, you should gravitate towards this person. Please, don't barrage them with constant questions that have nothing to do with what you are working on that day. Also, your Mentor doesn't necessarily have to be someone that even works at your company. Consistent follow-up, being prepared for your meetings with experience and questions, and even bringing your unique perspective to the situation will keep a Mentor engaged and wanting to help you succeed in HVAC!

INSTALLER

I am not sure when exactly the stigma gets placed on Installers, but all apprentices coming into the business think they should immediately be service technicians. That somehow being an installer is second rate. This is so far from the truth! I know many Lead Installers at residential HVAC companies that make more money than their Service counterparts (sorry for letting the secret slip!). A trustworthy, lead installer that acts as a Mentor is hard to find and worth every penny they are paid. The wages for an installation crew are very rarely disclosed in the sales process, and when a high-quality contractor sells premium equipment and services, they expect a premium experience – particularly the installation of their new comfort system. Counter this with the first question a homeowner asks when calling for a service call (no heat, no cooling, etc.), “How much do you charge an hour?”. Service rates can vary drastically in every market I have ever visited and can be tough to pay a top Service Tech when trying to meet the market price (not properly setting your price). Yes, it’s true, Installers can have some hard days just like Service. I don’t miss my time crawling through hot attics, in both roles.

BASIC SKILLS NEEDED AS AN INSTALLER

Basic Math Skills

This sounds like an easy check-in-the-box, but even my own Father claims to have missed that day in grade school when they taught fractions and how to read a tape measure. Basic math skills are not just a necessity for life, but up to the level of Geometry is a must for an HVAC Installer. When figuring lengths of pipe, routing ducts around obstructions, creating duct transitions, or calculating additional refrigerant charge, accuracy of

the calculations are imperative.

Electrical Understanding (Line & Low Voltage)

Often times in the HVAC Industry, it is said that if an Electrician doesn't know how to wire a system, they ask the HVAC Tech. I have wired some very confusing controls, whether it was a boiler zone relay control, or a box of relays for lead-lag before these functions were integrated. Having a clear working knowledge of Line Voltage (120VAC or 240VAC), low voltage thermostat wiring (24VAC), or even communicating voltage for ductless systems (12-24VDC) will assist in most nuisance installation startup issues.

Duct Fabrication & Installation

Understanding how to assemble and rough-in duct systems can be a large part of the day-to-day for most installers in residential HVAC. Proper installation of sheet metal and flexible ducts include the use of drills, sheet metal screws, hanging straps, duct straps, duct sealing, insulation, supply registers, return grilles, and filter boxes among other devices. A lot of contractors purchase duct transitions from distributors that have fabricators on staff, but I was able to learn early on before this was just a trend. There are many job opportunities exclusively for fabrication, as safely manipulating sheet metal into works of art can be labor intensive, but also very gratifying for the right person.

Connecting Iron Pipe, PVC, CPVC

Safely connecting natural gas pipes, copper propane lines, flexible gas lines, PVC or CPVC for drains and flue pipes are all significant skills as not doing so will create an immediate safety issue in the home. I have found more improperly installed flue pipes than I care to share. To be honest, it is a wonder no one died or was hurt due to the installer's negligence.

Brazing & Flaring Copper

Proper brazing techniques are rarely found or followed in today's field, leading a lot of manufacturers to using flared connections for their refrigerant systems. This is definitely not the place to walk through these

necessary steps, but if you are an Apprentice or Installer, please do the job right?! Particularly running dry nitrogen through the lineset while brazing – yes it takes a few extra minutes to do this, but it goes a long way for the health of the compressor and efficiency of the system.

Leak Testing, Evacuation, and Charging

Before you are able to handle refrigerant, be sure to obtain your EPA Certification. Leak testing with Nitrogen can vary based on the Manufacturer's recommendations, but a critical step to ensure your time evacuating the system is not wasted. System evacuation requires the measurement of microns in the system, no matter which method you are using (Deep Vacuum or Triple Evac.) – don't let anyone tell you to put the vacuum pump on over lunch and call it good! Of course, charging the system, particularly on a unit by weight, is critical for proper operation. Some systems are pre-charged for various lengths of pipe and will not require additional refrigerant. Others will need refrigerant, sometimes ten to fifteen pounds more than the unit is shipped with. A nitrogen tank with regulator, quality vacuum pump, digital refrigerant analyzer with a micron gauge and quick disconnect hoses will all be needed for these tasks and are likely the most expensive tools an installer will need.

Customer Service

As an Installer, being clear with the expectations of the project and homeowner is critical for the success of the company. This means communicating with the customer before work starts, during the process, and even educating the customer on operation once the installation is completed. The last part on startup and customer education is sometimes completed by a Service Tech, particularly if the system is overly complex and specialized training is required.

READ THE FRIGGIN' MANUAL (RTFM)

When I first started in HVAC, I read – a lot. Installation and Service Manuals were not easily 'Googled', and there were definitely no video explanations on YouTube. If you don't take the time to attend the Manufacturer or Distributor courses on the systems before attempting installation, then you better RTFM! The more technical, like wifi enabled

thermostats, the more critical this is prior to installation day. As someone that has created and taught thousands of hours of courses, I can say that most of this material, about 80% comes from a Manual. The other 20% is most likely personal experience and comical stories.

KNOW THE CODE

Knowing the code is important for all jobs in HVAC, but particularly for the Installer. In case you didn't know, the International Code Council updates their code books every three years and 2021 is a new cycle. Typically, there are minor changes that impact the day-to-day activities. If you are not sure which ones you should be an expert on, see the list below.

- International Residential Code (IRC)
- International Mechanical Code (IMC)
- International Energy Conservation Code (IECC)
- Any Local Amendments, check with your State, Municipal Building Inspectors

SERVICE

LEARN AND STUDY THE SEQUENCE OF OPERATION

This part of learning and being successful as a technician cannot be understated. Most diagnostic processes walk through the sequence of operation (SOO) for a system. If you have ever called a Distributor or Manufacturer for technical support, they are asking questions and meter/gauge readings following the sequence of operations. Knowing what a system is ‘supposed to do next’ will point you in the right direction almost immediately. For most light commercial HVAC systems, which tend to be packaged units like ‘roof-tops’, the sequence of operation can easily be found inside the main service panel, or like all residential systems in the unit’s service manual.

For residential HVAC technicians, you should consider learning the SOO for the below systems:

- Fossil Fuel Furnaces (Natural Gas, Propane, Oil)
- Fossil Fuel Boilers (Natural Gas, Propane, Oil)
- Heat Pumps (Ductless & Unitary)
- Split Air Conditioners
- Hydronic Air Handlers

CUSTOMERS ARE OFTEN SKEPTICAL OF TECHNICIANS

Yes, residential HVAC technicians are more trusted than most others (Installers, Sales) working in a customer’s home. But not all of them! Technicians need to work hard on every call, to gain the Homeowner’s

trust. Since most service calls end within an hour or two, they need excel in gaining trust compared to the rest of the business. How can they do this? Communicate well with the homeowner, clearly and often!

COMMUNICATION SKILLS

Not too long ago, the HVAC Service Technician took great pride in representing the company he or she worked for. They would arrive to work early, enthusiastic for the day ahead, helping the elderly without heat first after the big snowstorm. They would answer their emergency calls within minutes following the noise of the dreadful beeper, and later cell phone. It only took about five minutes but shining their boots before heading out the door felt like an eternity. Removing them when entering the front door of a home was a nuisance but leaving a house almost cleaner than when they showed up was rewarding in itself.

To a large percentage of today's HVAC service personnel, this all sounds old fashioned and likely comical. Believe it or not, this is how I was taught by most of the old timers when I first started in the industry - fresh out of trade school. I know of very few companies that worry about their perception when it comes to their service department. *The service technician is the face of your business!* They provide the first taste of your company, and the perception of the homeowner is everything. The service technician is the expert, the trusted professional that was invited into a home to fix the comfort problem. Because of this trust, the service tech can provide the highest quantity of leads, sales, and even growth of the company. If you want to succeed as a service technician, there is more to it than just knowing the equipment...

Clean your Van, inside and out!

There is nothing more embarrassing than opening the door and having your most recent coffee cup or dirty air filter fall out into the customer's driveway. You may not care too much, but your company does! Make it a habit to clean out your trash daily and restock your van at the same time. You likely do not have to wash your vehicle as often, but create a schedule and just be mindful - would you want an expert showing up to your house in that vehicle?

Dress like it's a Uniform

Not to be taken to the extreme but have some pride in the way you dress. Of course, nothing matches the pride I had when wearing the uniform for the greatest fighting force in the world. Clean, unwrinkled shirts, pants, and even shorts (if applicable) go a long way for the perception of a quality product. I do not care how much a technician knows, if they look like they just woke up, wearing the same old, stained "boiler pants" their credibility goes out the window!

Keep a spare shirt, pants, and if possible, shoes in your van. You may only use these once a month, but it will ensure you can keep the perception of quality at all times. For those really bad attic crawls, through a foot of cellulose, consider investing in a good pair of coveralls...

Organize Your Tools

Very few technicians use tool belts anymore. In fact, when I did, I just carried it on my shoulder. I did not do this for any other reason than a homeowner's perception. By carrying the few common tools always required, it kept my hands free to shake, hold/open the door, and even wave to neighbors. I never left tools at a job site because in just a glance I could see if I was missing anything. Many times, I have met technicians at a job, asked for a tool, and they dump their five-gallon bucket of goodies on the basement floor. Why do they carry every tool from their van in such a rusty pile? To avoid a walk back to the van for a tool they did not use every day? This walk could present another opportunity to talk with your customer, a good thing!

Use the Correct Tools for the Job

Just because I am talking about the "good old days" does not mean you should be using tools circa then. Long gone are the sets of manifold gauges, Fyrite combustion kits, and incline manometers. Yes, I have some of the mentioned as back-ups in case my Digital Refrigeration Analyzer, Combustion Analyzer, and digital manometer are out for repairs. I would not want a doctor or dentist not using the most up to date tools, think about it!

Ask Questions, then Listen to the Homeowner

By the time I made it to the basement or attic, I would likely know what was wrong with the furnace, boiler, heat pump, etc. This is because I asked the homeowner some key questions. For instance, what does the equipment seem to be doing now? Have you heard any noises out of the ordinary? Talk with the homeowner, they are paying your bill and expect it. After all, they invited you into their home, to not do so would just be rude. Speaking of rude, recognize cultural differences in the area you are working (i.e., wearing of shoes indoors, looking the woman of the house in the eyes, shaking hands, etc.). Just merely asking if it is ok to wear your boots for safety will break down this tension.

Complete Your Paperwork, Legibly!

One of the largest downfalls of technicians: the dreaded paperwork. Complete it on site, always capturing a signature after completion. This will force you to write them legibly, or for electronic completing all surveys or sections, as a customer will probably not sign something they cannot read. Also, asking for a signature is another opportunity to talk, recap work completed, and make any recommendations.

Treat Everyone with the Same Respect

Yes, the Service Technician is a valued commodity for any HVAC company. This does not mean you can be a rude, narcissistic person that argues and puts down others in your company. Many technicians think they are "holier than now" and everything revolves around them. You are wrong, and probably should not be representing your company if so! When things are busy, have some patience and treat your coworkers with at least the same respect you would like to receive. They are doing a job that they are good at, just like you. If they do not, you will not have any work scheduled, pay checks completed, or even a vehicle to drive. You all bring money into the company, not just the technician collecting the check.

Take a look at your company and think about how you would feel if any of them showed up at your door, demanding the highest rate for the highest quality. Will your customer's perception match said rate? If so, congratulations! Just remember, this is something we need to constantly work on. Perception can change in the blink of an eye!

HOW TO BE THE BEST TECHNICIAN

Why is it that millionaire baseball players can be successful batting .300? A pitcher can have thirty starts, win 20 games and could be named for the Cy Young? Or that a successful quarterback can throw 20 touchdowns and 10 interceptions? The reason: they are much better than their peers.

Imagine, as an HVAC Tech, you got the diagnosis correct one-third of the time? For one, if your employer did keep you on the payroll the homeowner would not be calling you back! So, what makes a good technician? Not the one winning the Cy Young, he only gets it right two-thirds of the time. Here is a short list that I find 'fits the bill', no matter how far along in the industry they are:

A Clear Understanding of the Basics

If I need to explain what a multimeter is, or how to measure amps and what it means, we have a problem. This assures no batting title and no way I want this player on my team. It is not enough to know just how to take the measurement, the technician should know what they mean. This translates into proper diagnosis, the first time. When working with any HVAC equipment, you should have a Physics 101 course under your belt as well. As much as I hated that mandatory course in trade school, it has helped me every day, in every job I have had since!

When their License/Certification Expires

Knowing the expiration of their certifications and licenses shows some pride in their accomplishments and contribution to the industry. If they know the expiration, they will know the requirements for renewal. The employer should not have to keep track of the minimum requirements for you to work in this industry, I am sure they already have kids at home they need to worry about.

Punctuality & Initiative

It is not enough to be on time and in the proper dress, you need to know what you should be doing. Wouldn't it be great to have all the service tickets turned in (with payment), the truck cleaned and restocked, know

where you are heading today, and where you could pick up parts if needed? A good technician that is successful in this industry makes all of this happen, before the Service Manager needs to tell them.

Knowledge is Power

There is nothing more powerful in this world than knowledge. I learned this week 2 of boot camp on Parris Island. Learning from those who have done it the hard way. We had a saying in our platoon some 5 years later: "Work smarter, not harder". If you reach the point of frustration with equipment, or cannot diagnosis the problem in an hour, you likely do not know enough about what you are working on and need to call someone! This is what keeps good technicians engaged in our industry: the unknown. This is also how I figured out I need to keep up with changes. When you settle on the fact you do not know everything, you realize that completing the eLearning or attending the evening classes at local distributors has much more in it for the technician, not the company. You see, there may be tools you need to return if things don't work out with your employer, but knowledge will always go with you.

There is still new equipment coming out every day, with new technology centering around efficiency and comfort. A lot of the old timers, eying retirement and more worried about quitting time, will not be attending these late-night classes. Do not fall into this trap! Just because they are content with their position and not being the best mentor, does not mean you need to follow in these footsteps.

Our industry is already in dire need of qualified, engaged technicians! Ones that can fill the unrealistic expectations set by homeowners and employers alike, making much less than ten percent of the worst pitchers in Major League Baseball, but getting the diagnosis right 99% of the time!

MANAGER

CREATE A PROCESS

Not too long ago, I attended an amazing course on Marketing and Selling HVAC Equipment, in which there were too many take-aways to even mention in a single chapter. There was however one particular question that generated a ton of conversation and seemed so simple: Why do you need an Installation Manual?

Most companies in the HVAC Industry, in most trades for that matter, started out as one- or two-man shops; ‘Chuck in a Truck’ so to speak. As you grow, there are several things these business owners have a hard time letting go, one of the most time consuming is the actual work/installation. There is absolutely nothing wrong with being a small, growth minded, high quality contractor. The trouble here is finding the time to do everything needed for a company, like creating procedures, standards, and repeatable processes. If you do not do this now, when will you have the time?

- **Use in your Sales Process:** The use of high-quality digital images, and video, in your sales process to explain how the best caliber of installation will take place, step-by-step, is an easy way to create and display value in your presentation. Unless you like being the low-bidder, and competing on price...
- **Standard for training:** In order to provide a training manual, and constant reminder for your installers on the correct quality and materials used, an Installation Manual is a way to trust the employees will continue at the high standard you already set for

your company

- **Parity between installation crews:** Without a standard for installations, the lack of parity naturally causes the idea of “A” and “B” (hopefully not “C”) crews. If everyone is working to the same high standard, there should be no difference in the final product. Then you can work on training/labor hours...
- **Standard for Merit Pay Increases:** How do you reward an installer, or not reward them, if there is no standard for their work? They need to know what to do better, even better what they have done well. This standard will give them things to strive towards, a way to keep their morale high, and pay equal to their performance.

There are a variety of topics that can be included in this, here are a few ideas, but certainly not limited to:

- Area Preparation, like drop clothes
- Safety Equipment, Ladder Safety
- Installation Accessories like lineset covers, condensate pumps, safety switches
- Sealing of Home Penetrations
- Quality Installation Checklist
- Startup Checklist

TRAINING

Don't get me wrong, I have benefited professionally for almost two decades now on the traditional methods of training. Packing rooms for as long as an eight-hour course, sometimes part of a longer multi-day seminar with multiple speakers, Powerpointing people to death like I did in the Marines. Traditional training was actually fun, well some of it. But, as an attendee, if you took 20% of the content back with you and implemented just one idea then the session was a tremendous success! Why are we ok with this poor ratio? This would never fly for any other part of our industry...imagine a 20% close rate for the Sales Team, or an 80% call back rate for Service? This just makes zero sense, and I have a feeling that since you are consuming my digital content than you are on the same page.

I don't want to send my team to off-site training in fear of losing them to another contractor...

This has to be one of the most ridiculous statements I hear as a reason for not investing in your teams. If you pay them a fair wage, invest in their future, and treat them as true assets, you will be contributing to the non-tangible reasons to stay with your company! If the Installer/Technician leaves for just \$1 an hour more from your competition, you have more problems other than just this 'symptom'.

The reasons employees chat up their companies are because they truly enjoy working for them! These are your best recruiters, and at a time when labor is in short supply in most trades, I completely understand the irrational thoughts of mixing in with other companies at training courses.

When it comes to this idea that you will lose employees if you send them to train, this can easily be countered by the alternative: What if you don't train them and they stay?!

Too busy - I cannot take the team out of the field for training

I have heard this one many times, and the root cause for this thought tends to lead back to scheduling and commitment. If this is where you stand, then you are valuing the billable hour over investing in your most important asset. What is ironic, the cost of callbacks if you don't hold regular training for all parts of your business, far exceeds the cost of paying your teams to train. Regardless of the size of your company, you should plan on a regular cadence of training, which actually can definitely vary on the season. One option you should not have: canceling training because it is busy...think about the message you are sending your employees? If you doubt me on this one, I have to ask: Do you even measure the hours of callbacks for your install/service departments? Do you know what the reasons for the callbacks were? If so, you guessed it, you have a syllabus for the first few weekly trainings - even if it is less than 30 minutes a week around the regular Install or Service meeting.

You should also consider making training, and results, a regular part of your performance development. If an employee asked me for a raise, I would ask them what they have learned recently that makes them more valuable to the company. Also, how have you implemented this new knowledge to improve?

An employee that has a thirst for knowledge will go much further in HVAC, compared to those who have no interest in learning anything new.

Like Marketing, you should have a training calendar - planning out seasons in advance. By doing this, you are proactively planning around the seasonality of the industry, not reacting to what is available for training in the next week or two when you are not busy (and who isn't always busy these days?!).

Ugh, Another Salesman Pitching Features

Having the right audience, in the right class, is the responsibility of the contractor not the trainer. If the class is for Salespeople, don't send the Service Team! If you're not sure, ask before enrolling your team members!

I am not going to lie, I hated this as a Service Tech in the late '90's. Towards the end of the workday, the Manager would ask me if I was interested in some training at the Manufacturer's location, which typically included pizza. I was like 18 years old, with nothing going on during the work week, so I always said YES! I also always went expecting the content to be specifically tailored towards me, like a typical young adult new to the industry.

So, with all of these irrational concerns, lack of measuring KPI's, not planning, and just overall poor effectiveness, why do we continue to send people to trainings they don't value, at the wrong times, when we cannot afford it? Maybe because this is the 'old way' and the only methods available? I have taken the approach of providing recorded content, on-demand learning for the basics, and providing follow-up training for the exact needs of the people/company (via Zoom so there is no travel, scheduled early/late when it is more convenient - even weekends!). Yes, I miss the in-person training when I could tell a joke and 200 people laughed. But, if the 2020 pandemic taught us anything, it is that technology like video conferencing can be quickly adopted by all ages, and more focused learning tailored to the student's exact needs is more valuable than the alternative. There is still a place for traveling to seminars, but go there with the expectations of forgetting 80% of the content and most of the motivation for change by the time you get home. Why not get with the times? Your employees want you to!

HOW TO PREVENT CALLBACKS

Callbacks for any HVAC Contractor is something that most have resigned to just consider as a cost of doing business. I think this attitude of 'just dealing with it' is not ok if you ever want to grow your business. Every part of your business can be profitable, but callbacks which are no-charge are just an absolute profit killer.

If I had a callback, I would be personally hurt - then insisting I was the person to return and follow-through with the diagnosis. I am a firm believer in sending back the same technician - both as a learning experience and not to lose confidence with the Homeowners. I made that mistake early on, filling in callbacks for both commercial and residential into my own schedule as I figured I would be able to diagnose and repair quicker than anyone else on my team. What I didn't realize was that I was now the only person the Homeowner trusted, and the other Technicians were not learning on the job.

RECOMMENDATIONS TO AVOID INSTALLATION CALLBACKS

Track your Top 10 Installation Callbacks

This needs to take place over a couple of years to really get a handle on what is happening within the installation department. Also, this list should be dynamic, always being updated and posted somewhere. If lists are being tracked, you cannot assume the Installers know this information if you don't communicate with them - regularly! Once you have a grasp on the top ten issues, start scheduling training with your Install/Service Managers, Distributor, and even OEM as Instructors.

Provide a Pre & Post Install Checklist to Every Team, for Every Job

We had a nice list of Installation Accessories posted on the hatch to the Men's Room, a constant reminder every morning for the teams as they used the bathroom before leaving the shop, asking: Did You Forget...

The best companies I have seen at this actually have a Shop or Project Manager to be sure all pieces are ready for loading each morning. Many have boasted the savings from damaged/returned stock has paid their salary many times over each year, never mind the efficiency gained by the Installation Teams!

The same goes for a Post Installation Checklist. This should not be

exclusive to the equipment either! Items like did you clean the equipment free of marks/fingerprints, vacuum your work area within the home, remove all garbage from the residence, etc. I liked to make sure the work area or rooms were cleaner than when I arrived. I know one company that pays for a house cleaner to come in post install (same day) as a ‘white glove service’. Imagine how much value they are getting with referrals and top consumer reviews?!

Schedule a Quality Control (QC)/Startup with the Service Team

I used to love working on new equipment, and as the Service Manager this was one of my favorite activities: New Installation Commissioning/QC. Where I worked, I was in charge of making sure the Installation Checklist was completed, and the system was commissioned. This was another checklist in its own right but included educating the homeowner on system operation and maintenance requirements. Once completed, final payment was received before leaving the home. Having an expert on site to start the system will avoid a long list of possible callbacks. I couldn’t tell you how often we dealt with an improper drain install over a weekend (warranty/no-charge) that caused ceiling damage - from a Friday installation. That particular problem, among many others, were avoided once implementing a QC Startup!

RECOMMENDATIONS TO AVOID SERVICE CALLBACKS

Documentation!

This seems so elementary, but Service Techs can be dreadful with paperwork – if you let them. We instituted and required a signature prior to leaving the home. Typically, this was collected with payment, immediately following a conversation about all documented findings, discussions, decisions made or not made. We typically used terms like ‘weak’ or ‘broken’ to classify physical appearance of parts (you can’t get technical with ‘full load amps’ or ‘microfarads’). If all work is not completed, you must schedule the follow-up visit prior to leaving the home! This will avoid homeowners taking advantage of another technician that may be on-call that evening, when the system fails, etc.

Diagnose the Entire System

I found myself almost re-commissioning a system once I was able to get the unit operational. Remember: that compressor or draft inducer failed for a reason, don't just be a 'Parts Replacer'! If the system failed and needed maintenance, I would do absolutely everything I could within the time allotted (after documented approval of the homeowner of course). In order to diagnose the entire system, Technicians need to stop being heroes and slow down. If not, callback rates will continue to rise, at the worst time of the year (when you are busy) and you cannot then take on new customers. We found once we instituted a couple of things like an Energy Savings/Maintenance Contract Program, or our (3) service upgrade/recommendation requirement, callback rates drastically reduced, and technicians were able to keep up (for the most part) with heavy demand seasons. We standardized the paperwork to require

Turn the System On & Off at the Thermostat

If the system does not turn on at the thermostat, then we are not running a 'Maintenance Call', and the Technician would speak with the homeowner and immediately check-in with the Service Coordinator in case of schedule issues. We have had many customers claim it was working before the technician touched it...

Also, I don't know about all technicians, but I absolutely hated climbing stairs from the basement, or into/out of the attic more than I needed.

This rule was essential when turning the system off via the thermostat. I have left breakers or disconnect switches off, basement staircase emergency switches (by accident – mislabeled and thought it was the lights), loose blower doors on both air handlers and furnaces; you get the idea! If you head to the thermostat to turn off the system before leaving, the rest of this list is taken care of.

BUSINESS RECOMMENDATIONS TO AVOID CALLBACKS

Invest in your team with training!

Yes, some training is free, but some of the best costs' money – both time and tuition. By making a commitment to regular (not once a quarter, or only when a Manufacturer requires it) training, you will attract the right people for your company and create a culture of learning and continuous improvement. Don't only train service team members on service issues,

train everyone on System Design, Residential Codes, etc.

Under this point, I should add that you need to have an Install & Service Manual, or 'How Your Company Does This'. This can easily be assembled when tracking your top 10 callbacks for both departments. Then, we can train and hold everyone to a written standard – which works well around performance review time, or when someone asks for a raise.

Customer Follow-up

Not everyone has the staff for this yet but having someone contact the Homeowner at the end of the day, or next day, is crucial for customer satisfaction and learning the most amazing things about your team (both good and bad). Just sending a customer a link to complete a survey is not enough here – we are trying to avoid callbacks, not just collect a Google Review! If you already have a process to ask for a review, then add some questions about the team members specifically.

Billable Hours Only?

This one is a bit drastic but works well when you have subcontractors. I have heard some HVAC Contractors move to 'flat-rate' wages (i.e., \$300 per indoor ductless head installed). To avoid sloppy, less than standard work, they also implement a no pay for callbacks policy. Interesting approach that really controls the cost of labor...but may not be agreeable to the less than stellar team members that don't consistently improve. But that may be a reason for the 'bad apples' to find their way elsewhere on their own (if you wanted).

Isn't it strange how people never have enough time to do the job right the first time, but always have time to come back and correct their mistakes for free later?

BEST PRACTICES FOR SCHEDULING DURING PEAK DEMAND

Have a Written Policy

I am just going to rip the band-aid off and say it: If you don't have a process, written down and well communicated, then there is nothing to manage! This could be why your staff loses their collective minds when the phones ring off-the-hook. Responding (Reactive instead of Proactive)

to times like these usually creates a volatile work environment, loss of customers, missed opportunities, and worse: employee turnover. You need to create a process for your Service Coordinators, Sales Coordinators, etc.

Personal recommendation: include them in the formation of these rules, plans or goals. Then the team will be on the same page, working to hit the same target. If you find something isn't quite working correctly, or you are missing your mark, then solicit ideas from the employees on how to fix the process!

How to Prioritize

I have heard this policy in several iterations and pertains to scheduling Service Calls and Sales Calls. This is important that everyone in the Service Department can communicate the priority with customers and agree on the breakdown or order of importance.

- Priority #1: Existing Customer, No Heat or Cooling - This should be pretty self-explanatory. This is a customer that you have already completed maintenance for, or is still under a labor warranty, that has a system down. Within this Priority, we also designated '1A' for Commercial, '1B' for Residential. Don't get me wrong, we had empathy and took certain circumstances on a case-by-case basis.
- Priority #2: Existing Customer, Maintenance - We would always support our existing customer base first; this promoted our maintenance program, loyalty, and candor. We would simply explain that we have some customers without heating or cooling, and we were handling these emergencies first, but then we will be able to complete your maintenance. This was a great opportunity to remind our customers that earlier in the year (before the severe heat or cold) our schedules have more availability.
- Priority #3: New Customer, No Heat or Cooling - As long as we have the ability in our schedules, new customers are always welcome! We would plug these into gaps daily, as they came in when things were busy. Most of these calls turned into return trips for maintenance and building our energy savings agreement program.
- Priority #4: New Customer, Maintenance - This was our lowest priority when everything 'hit the fan'. Hearing that my competition couldn't handle the maintenance, or didn't offer a

planned service program, was music to my ears! Of course, we would be honest about our schedules and priorities, offering them the next available block for new customer maintenance - sometimes more than a week out.

Only Service Existing/Maintenance Customers

This was a common benefit for us when selling Energy Savings Agreements: priority, night & weekend service for agreement customers only! We no longer took on additional customers at the overtime rate, dealing with lack of maintenance and inheriting other company's issues if we didn't want them. How did we do this? Easy. *"Sir, I notice that you are not a current Maintenance Contract Customer with us. We provide priority service for our current customers that we have already completed maintenance service for. Can this wait until Monday, when I can confirm we will have you on the schedule from Xam-Xpm? Since some jobs take shorter than expected, I can add you to our standby list if you would like?"*

This focus on our existing customers strengthened our relationships, which came with tremendous and unexpected loyalty to our team. Our Maintenance Program flourished quickly, giving us the chance to flatten demand during peak service without overloading technicians or overstaffing. When everyone else was waiting for the phone to ring in early Spring, we were taking appointments for commercial and residential maintenance on work that was prepaid. Then, when other companies were responding to the insanity that is the first hot/humid weekend in New England, we had the capability of handling new customers!

Leave Fridays Light

Projects during the week can run long, and they were likely quoted at a normal hourly rate.

Overtime pay can be a concern for some small businesses, and this unexpected cost was most typical for my department on Fridays. If this is a consistent concern (it shouldn't be), you need to revisit your costs of doing business and hourly rate! Also, institute a policy (for other than warranty work) that if you are being paid Overtime, the Service Tech should be charging Overtime rates.

There is nothing more crushing for the morale of the Service Department

than unexpected calls coming in late on a Friday during the Summer months, or just before a holiday weekend. There is typically one person that is 'on-call' that would be expecting these. As the Service Manager, I would cover any additional service needs that the on-call technician couldn't handle...good thing too: this is how I met my Wife! Long story that would be a bit off topic, but I like to tell it during my in-person classes...ask me about it sometime!

Adjust Work Weeks or Daily Hours

When things started to get busy, we always had a technician or two that had a tough time making it to work on time. I get it, working 50+ hours during some weeks can be tough no matter your age. But reliability is one of the key character traits for anyone successful in the HVAC industry.

Depending on Family situations, marital status, spouses that work, kids in school, after school activities, no kids at all - there were different motivations for flexible hours or work weeks.

I have heard some companies offer 4-Day work weeks (10-hour days) and stagger them so their whole team receives 3-day weekends.

- 4-Day Work Week Option #1: Monday - Thursday, 7am - 5:30pm
- 4-Day Work Week Option #2: Tuesday - Friday, 7am - 5:30pm

Here is how we addressed it with the technicians that always seemed to have an issue waking up on time some mornings:

Adjust the Workday Hours - Technicians are required to work at least eight hours, five days a week. So, if the technician has a habit of being an hour or two late, we will plan the schedule around that. This would extend our normal service hours without paying/charging overtime, offering Service Calls between 7am - 5pm!

If the Technician wanted to work 7am to 3:30pm (our normal hours), we would schedule accordingly:

- First Call: 7:30am
- Morning (at least 2 Calls): 8am - 11am
- After Lunch: 12-12:30pm
- Afternoon (1-2 Calls): 1pm - 3pm

If the Technician was known to be less reliable in the morning, and/or preferred to work 9am to 5:30pm, we would schedule this way:

- First Call: 9am-9:30am
- Morning (1-2 Calls): 10am - 12pm
- Afternoon (at least 3 Calls): 1pm - 5pm

Creating an environment where your employees love their job offers the company reliability and an atmosphere that is not very hard to talk about.

Yes, it is true, Technicians will speak with each other when waiting at counters for parts, or outside the supply houses these days. A great test for your company is to ask yourself: What would my technicians say about us in that environment? Would they listen to the typical frustrations, staffing, or lack of support complaints and say me too? Or would they say you're crazy for not wanting to work here, our team has it down, and let me list all of the things we do differently!

SALES

Nothing happens until it gets sold. Salesmen have a worse stigma than an Installer, impossibly gaining the homeowners trust in the time a Service Tech can, and always seem to be at odds with Management (unless you are wearing both/all of the hats). Why do people flock to these positions? For the right person, that likes educating a homeowner and providing solutions to their problems, Commissioned Sales can be one of the most lucrative positions.

WHEN WE SIGNED UP FOR HVAC, WE SIGNED UP TO BE A
FIXER/PROBLEM SOLVER, NOT A SALESMAN

In my latest role, I have made an effort to always ask if the Comfort Advisors/Consultants/Salesman has ever had formal sales training. To my surprise, even some of the most successful companies in our industry have failed to offer or implement any training for their most important assets. Training is not reserved to the Installers and Technicians, although to these roles the requirement to attend product and service sessions is just obvious. I understand the need to keep running these leads, but unless the Comfort Advisor invests in themselves, they very often hit a wall and cannot grow in their role or business. Imagine if your technicians were too busy year-round to attend the required factory training, would this lack of investment eventually hurt the bottom line?

So, this leads to the question: Where do I find HVAC Sales Training? Fortunately, most sales techniques and processes are easily transferrable across industries. Some of the best ideas come from outside the traditional HVAC structure, and if modified, work as well or better in our field.

Here are a few things to get you started in investing in yourself:

1. Read or listen to books on tape with topics like Business, Self-Improvement, Professional Success, and Sales. The Comfort Consultant spends many hours on the road and getting digital audio books from your local library is not only free but has no risk if you do not like the format or lesson! I typically listen to one or two a week, using free apps like Libby or Overdrive. Still, my favorite to date is: "Unlimited Sales Success" by Brian Tracy.
2. Ask your distributor about In-Home Sales Training. Most are willing to host small events at convenient times of year, as they view this as investing in their future as well. Although not the standard here, some Manufacturers will even host trainings like these.
3. Look to local trade associations for Sales or Business Seminars. By bringing many people into a single location, even the most expensive and successful consultants can be more than affordable. If you work in New England, you can find me at almost every [ACA New England](#) event as I am a proud member of their Board of Directors.

Please, make the investment in yourself to succeed in sales. The secret should not be the lack of investment or commitment, instead ask those you trust or even envy because of their success. You may find they had to learn a lot on their own too, and more than willing to make sure you don't make the same mistakes!

WHY LOAD CALCULATIONS MATTER

‘Hi, my name is_____, and I *don't* do Load Calculations.’

Just for the record, I have completed more than my fair share of Manual J Load calculations. Don't get me wrong; I have tried all of the short cuts in my 20+ years in the industry. What I have found is that not a single short cut helps you, and will come back to haunt you, to include this one. Never mind the fact that Manuals J, S, and D are Residential Code Requirements across the U.S. as part of the International Residential Code (IRC), International Energy Conservation Code (IECC), and International Mechanical Code(s) (IMC).

When I speak with HVAC Contractors that use a shortcut, for various

reasons, most are convinced that they don't need to calculate the heat loss or heat gain of a building. That they have quoted so many systems in their career that they know the A/C system should be X tons for that home. Their 'process' looks a bit like this:

1. X,XXX sq ft. / XXX sq ft. per ton = X Tons
2. Select the next size up, 'just in case'
3. Install the always-oversized system, and never have a call back because they don't answer their phone anyway!

I can assure you; your experience does not equate to being above the laws of physics or thermodynamics. I can also honestly say that if you are doing a calculation for heating only, you are probably close to correct in sizing your system - since you always work with the same temperature differences. Here are the factors that affect the heating & cooling loads:

1. Temperature Difference

Heating: about 75% of the load calc

Cooling: about 10% of the load calc

1. Air Exchange

Heating: about 25% of the load calc

Cooling: about 15% of the load calc

1. Solar Heat Gain

Does not impact Heat Loss

Cooling: up to 60% of the load calc

1. Internal Gains

Does not impact Heat Loss

Cooling: about 15% of the load calc

Since Solar Heat Gain and Internal Gains cannot be easily calculated without software and can make up as much as 75% of your heat gain, I hope you can see the need to complete the first step in Residential System Design: ACCA Manual J (v8). The problem with not completing this step, or not doing it completely and correctly, is that it will impact the rest of the design process with Equipment Selection (ACCA Manual S) and Duct Design (ACCA Manual D). This usually equates to increased equipment size/cost, increased duct size/cost, and an increase in customer energy use. Worse, these items decrease customer comfort and satisfaction.

Of course, this is an easy process for new construction homes, as all of the information of the building materials is literally on a piece of paper for you. If you are retrofitting any residential system in existing construction, a strong understanding of building materials and construction is required for a proper site survey.

So, the first step to recovery is admitting you have a problem, right? If so, don't worry as many have come before you and laid out a time-tested, peer reviewed system design process. Trust me, when you start using the process correctly, at the very least, it will help you (and your customer) sleep at night!

DISTRIBUTION

Not all HVAC jobs are working for a Contractor. Some great careers are pursued in the Distribution side of the counter. Distributors can have many roles, even entry level, for those with industry knowledge. Warehouse, Delivery, Counter, Inside/Outside Sales, Purchasing, Training, Service Support, and even Management positions with distributors that range from Family-Owned to large Corporations could be hiring right in your backyard. When the Contractors demand for equipment and supplies continue to rise, distributors have to react in order to just have enough facilities or staff to handle everything required. There are many reasons to work in distribution, and some of the best players in HVAC across the country either started or went into distribution during their career.

THE RIGHT DISTRIBUTOR CAN MEAN SUCCESS

When there is a strain on inventory, labor, costs, you name it on any industry, the players tend to look around for stability. Over the last year, the necessity to look around for inventory and supplies for HVAC Contractors, has opened their eyes a bit on what their suppliers offer, or lack thereof. Based on my conversations trying to help alleviate these landmines, I have narrowed down the 'Why' that HVAC Contractors make a change to just a list of five motivations, which all tie back to their success (or not).

Location & Inventory

The first reason most HVAC Contractors choose to work with a particular distributor is convenience. This is usually best described as a location(s)

close to where they operate, or across their footprint. I remember driving through hours of Metrowest Boston traffic to purchase inventory or service parts, wondering why on earth we buy from them. I am going to be honest here, if I could've bought those service parts anywhere else closer, I would have, even if they cost a bit more. Contractors will first pay for convenience, then they will consider reliable inventory.

Having the typical supplies, parts, equipment, and accessories needed during the season is a huge advantage, particularly for a service department. The days of extensive parts inventory on trucks and in Contractor locations are long gone. With quick shipping, for most parts not needed to keep a furnace or boiler operating in the middle of a Northeast Winter, most parts can be easily resourced in a day or two at most. So, if an HVAC Contractor is going to purchase these supplies from you instead, Distributors need to keep the correct inventory accessible, in a convenient location.

The move to eCommerce, or online ordering, has swept across the industry in the last 10 years. This provides a quick way for Contractors to not only place orders at any time of the day/week, but a view into current inventory without waiting for a location to open at let's say 5 a.m. on an emergency service call.

Attention to Detail

Some of the most basic tasks at a distributor, like picking an order for delivery, must use the highest levels of attention to detail. Most of the HVAC Contractors in the U.S. use just in time delivery, often directly to the job site on the day of installation, and an incorrect order/delivery could really cost them significant hours. This can be the quickest, easiest decision for a Contractor to make a change in where they purchase their materials and equipment.

Damaged equipment and materials are another reason for looking elsewhere. By simply paying attention to which side of the equipment the branch staff is hand trucking to the docks could avoid concealed damage and upset contractors. When there is physical damage to equipment or controls, being installed in a home that day, at a high but reasonable cost to the consumer, it is assumed that the equipment will be delivered in perfect condition.

Expert Support

This could be by far the biggest differentiator for any Distributor's & Contractor's success. HVAC equipment and controls are continuing to reach higher levels of complexity every year. By having an expert on staff, a quality distributor can quickly become their customer's go-to support for all levels of need. This could save the contractor hours of time on the phone with Manufacturer hotlines and get quick results without the typical 'screen-reading' diagnostic trees most call centers employ. The loyalty built with this expert, starting at training classes and then field visits, will slow attrition that most without expert support have trouble with.

Relationships

This is not a secret for anyone in Sales. For business-to-business (B2B), there is a long time thought that 'People buy from People'. I can say without a doubt that there is some truth to this saying, at least it will get you in their door or past the 'Gate Keeper'. No matter the type of HVAC Contractor: Residential, Commercial, New Construction, etc. a relationship will get you last look at a bid on a large project, a phone call about pricing before they move their business or switch brands, or even a ticket to a sought-after sporting event they couldn't use. I am always completely honest with everyone in my life, and because of this I can consider most people I deal with at Distributors, Contractors, etc. friends. Yes, there is always a 'business component' most days and conversations, but I really believe that they know I want to help - and we listen to each other's advice. I have managed to build long lasting relationships, particularly locally, that transcend the company I work for, or the brand they sell. Relationships can absolutely contribute to the HVAC Contractor's and their Distributor's success. Sometimes it really is 'Who You Know'.

Value Add Services

I have heard of many value-add services that distributors offer to stand out from the price driven, commodity mindset. Distributors that have these types of services attract a particular type HVAC Contractor/Customer. I often times see HVAC Contractors leave one distributor that handles their business primarily 'Over the Counter' for the support needed to grow their

business to the next level.

- *Marketing Support:* Co-op Advertising, Easy to Implement Services, Consults
- *Sheet Metal Shop:* I can speak from personal experience, as a Master Sheet Metal Worker, the labor required to build transitions for residential replacements on site is just not worth it!
- *Design Services:* Manual J Heat Loss/Gains, Manual S Equipment Selection, Manual D Duct Design
- *Crane Services:* I heard this one recently, what a great opportunity to help a Customer/Contractor at a reasonable price!
- *Business Services/Training*

In other words, just like the reason a Homeowner will not pay the cheapest price based on the value presented, an HVAC Contractor should consider all of the value proposition when it comes to their pricing. If you always pay the lowest price to a distributor, will you get the support for a service issue? Will the Distributor be able to stock all of the equipment and parts needed? Think about the quality of the people they will be able to hire and train/retain? If the HVAC Contractor was offering the lowest price in the market, they couldn't employ the best technicians either. Could the Distributor continue to offer the after-hours training courses for their customers? These things cost money, and if their customer - the HVAC Contractor is not willing to pay for them, then that is not really that distributor's customer and they should move on! Regardless of volume...

WHAT DOES IT TAKE TO BUILD A SUCCESSFUL HVAC BUSINESS?

TOUGHEST THINGS ABOUT RUNNING AN HVAC BUSINESS

These five items tend to be the topics of conversation with company leadership when I start talking annual planning and hurdles for growth.

Usually, mastering any of the five below, can take a company out of their stale state of business on a drastic uptick in their business and overall satisfaction.

‘Work-Life Balance’

Sometime around 15 years ago, I remember having to leave my nephew’s birthday party due to an ‘emergency’ call. Being the Service Manager, even when I wasn’t ‘on-call’, I was still available. I used to drive my Service Van (affectionally called by my wife to be: The Death Mobile) to family events like these, always on edge in case that phone rang. This was my ‘last straw’, the point I realized I couldn’t have the family I wanted if I continued down the same path. Even to this day, I joke with my wife about that awful ring tone we had that signified I was leaving, sometimes when I first got home from a long day - or others at 3am. To be honest, she must really love me because, like every HVAC Technician, I was sometimes working as much as (60) hours per week in the busy seasons. This definitely speaks to the opportunity in our industry, even fifteen years ago!

The answer at the time for me was to find another path in the industry, one that I traveled around MA & RI, meeting Technicians like myself and teaching them the basics of the refrigerant cycle, airflow, and efficiency. This came with a significant pay cut, but no overtime. Like all of the career decisions I have made, I wouldn’t change my experiences for

anything. Had I made a conscious effort to create a better work-life balance, I believe I would have found more satisfaction in my work and life at home at that time.

This has taken me the last 15-20 years to find, sometimes close to the point of burnout, and if you ask my family still not 'balanced'. I have now strived to not only plan my workday, but my time at home as well. The happiest times I have are when things with my family are planned, particularly ones that I don't need to plan myself. Unfortunately, this means when I say 'Yes' to something at work, I am saying 'No' to something else. If this 'work yes' requires travel, this means I am telling my family no over a couple of days - and when I have no choice in the matter it literally eats me alive, cannot sleep, etc.

So, I pose the question: Can you have a 'work-life balance' in the HVAC Industry?

I have been part of most positions from Technician to Instructor, now in Sales. I have found that being more intentional with your time in both work and at home can contribute to your happiness for sure - but does happiness mean you have achieved a balance?

At what point does your responsibility to your company, employees, or customers outweigh your responsibilities at home?

Do you have the feeling work only ends when you go to sleep? I used to have this feeling, but of course I no longer run an HVAC Business. Here is what I have found: you will never have a 'work-life balance'. Sorry for the bad news...but did you forget you are the Owner/Manager/etc.? I had this realization that even though I would not find some perfect balance, I had control of the choices I make to get it as close to acceptable as possible. I now live by the idea that 'what gets scheduled, gets done'; this goes for every day, particularly weekends! I was great at scheduling work; work goals, prioritizing work items and tasks, etc. I wasn't so good at scheduling everything else: Exercise, Family Time, even Sleep. You can prioritize whatever you want, it's your choice! I am willing to bet this was the reason you decided to be an entrepreneur in the first place.

Finding Employees

I have heard Owners & Managers talk about not being able to find people with experience, asking for too much money per hour, lack of motivation

and responsibility, the list never ends. I meet with these hiring managers sometimes multiple times annually. After a year or two of the same complaints, I have a habit of speaking up, and asking some leading questions. “Would you hire someone with 2 years’ experience?”

Unfortunately, if you made the decision to hire someone two years ago - maybe right out of trade school, the company would be in much better shape! Also, you should always be hiring. Don’t wait until you are so busy that you make bad decisions, hiring anyone with experience and overpaying for someone else’s baggage to leave and come to work for you.

This seems to be the ‘topic du jour’, as the HVAC Industry continues to see unprecedented growth, with every level of the industry across the country is looking for help. Turns out, everyone is planning for some growth vs. last year, just not at this level so soon after the pandemic. So, what happens with regards to Technicians and Installers at this point in the equation? They certainly don’t leave the industry; we can’t find enough of them!

It pains me to mention that I have heard some pretty astronomical hourly wages thrown around in the Northeast, in efforts to coax some to leave one Residential HVAC Contractor for another. This is a great lesson in supply vs. demand. Not to be too elementary here, when the labor pool is small or perceived as finite, the asking price will be as high as what someone is willing to pay to fix their pain, right?

This unplanned growth leads some companies to make poor, rash decisions. If you waited until you were scheduling installations out six weeks or more, then you may fall into this poor, rash decision category as finding help in June or July is probably not the best time to locate the best talent. If someone is available, to steal a baseball term ‘designated for assignment’, you should wonder what in their performance or past has them taking offers? For the Northeast, ‘Unrestricted Free Agents’ are probably best identified and hired for the appropriate wage during the Winter months, just after the holidays.

I always wondered: what motivates a technician or installer to leave for just \$1 more per hour? I have to believe it isn’t the hourly wage, but instead this was the last hurdle for another company to pull that talent.

Things like medical benefits, retirement planning, type of work (hot summer attic ductwork vs. ductless), on-call requirements, reputation, company culture, you name it could contribute to their decision to ‘look around’. Try your best to operate a business that doesn’t give the team

members a reason to leave, make it so comfortable that to leave would be painful for them and their family.

So, what is the answer to the question: Where do I find more Techs & Installers? I have a few options for you, but all require a growth plan that you stick to!

Referrals

An employee referral program can be organized in a multitude of ways, but what it boils down to is an old adage: 'Horses will run with Horses, Donkeys with Donkeys'. If you have an excellent employee, knowledgeable & responsible, why not see if he/she has any friends in the business looking to make a move? Everyone hears how when one superstar in the NBA or NFL joins a new team, they make/take phone calls from other talent, right? Why not promote this within your company to find the right people from the start. If you have a solid team, referrals will make the hiring process much easier - as I would hope your employees would only be recommending Horses, not Donkeys. In a recent study conducted by HARDI, they found that for the HVAC Industry, only 7% of all applicants were referrals - but they make up a staggering 40% of all hires!

Trade/Vocational Schools

Believe it or not, the best place to find and develop new talent is straight out of school. My first job in the industry was as a 'co-op' vocational student. This meant I worked one or two weeks at a time, switching between standard curriculum (English, Math, Science, etc.) and what became 'OJT'. Not to brag, I was top in most of my classes - but guess who got the first chance to hire the best student? The company that was serving on the advisory board, omni-present, offering training/equipment for the school, and mentorship opportunities. When a company can develop a relationship with the instructors, providing real sincere value for the trade, it is no wonder they have the 'inside scoop' on the best students to hire!

On another note, the idea of mentorship is critical if we want our trade to sustain annual growth. At a local Vocational School, probably the best in the state of MA, only 10% of the HVAC graduates actually enter the workforce. Most are pressured to pursue College degrees that they may or

may not want themselves, starting Junior year (11th grade) due to their typically high academic scores. If only our trade was omni-present to show their counselors, parents, and students the opportunity straight ahead of them? Instead of 'signing day' for college, and all of the fanfare, why not reward the student that pursues the career out of high school? Imagine signing day - Spring of Senior Year, when graduating HVAC Students are offered full-time jobs with local companies that were mentoring them through the process (instead of pure recruitment)?

What the counselors typically don't tell these students is that a first year Installer or Technician will make between 50-100% of that of the graduating college student, without losing four years and stacking up tens of thousands in debt (or more).

Always Be Hiring

The championship team for any professional sport never looks the same at the final whistle, as it did on the first of the season. You see, Managers find holes in their 'scheme' and work to fill them throughout each season.

This can be done through their current 'farm team', or by making trades based on their needs. Sometimes they have to say goodbye to a really talented person in order to make room for another that fills the hole... which can be painful, but necessary to win a championship. So, the message here is: always be hiring! I would hope everyone working at your company are 'employees at will', which means they are free to leave anytime they wish - and same for a manager's decision to part ways. If you are always hiring, you can work to fill holes in your organization to meet a planned, continued growth.

These three options are not going to fix your problem today but will certainly avoid the same problems in the future!

Asking for referrals is typically an integral part of your sales process, why not implement it for the hiring process?

Today's Technical School kids are tomorrow's star Techs, if they are able to see and seize the opportunity.

Finding holes in your team, and filling with your current talent or looking outside your organization, can be tough choices that you will be happy you made in the long run. I am not saying all of these are sure fire ways to fix your current labor issue, but what I am asking is how much effort have you

given any of them? Where do you think the best employees are? Running an ad saying you're hiring could be enough, but it may just be a bit self-centered thinking that everyone will be flocking to come work for you if they know nothing about your company...

Trust & Fear

There are so many layers here, but I will assume you hired the right people. If you hired the right person, and put them in a situation to succeed, then if you are unable to trust anyone within your organization you are the one with a problem. Do not rationalize a hire, or overlook something that 'doesn't feel right'...

When I hear trust issues, believe it or not, it is typically around trusting a process. Of course, this assumes you have a documented process in place. If you do not, no wonders you cannot trust anything or anyone! You need to have a documented process for every aspect of your business: Hiring, Marketing, Lead Intake, Sales, Installations, Service, Maintenance, EVERYTHING! This is what you will use to train new employees, use as a standard for work performance, and be the barometer for quality control and improvement.

Seasonal

There are several ways to 'flatten the curve' of a seasonal business.

- Advertising at a time when you actually need leads, not in the middle of Summer when you cannot get enough sleep (see bullet point 1 above).
- Having a Maintenance Program to fix your cash flow issues, peak demand on your service department, and technician training/development.
- There are the same number of hours in each workday, so why not sell the jobs that make you your most profit (per man hour)? Stop saying yes, taking any work that comes your way, and start advertising and selling to the customers that want your most profitable equipment/services.

Competition

I am not one to sugar coat anything, so here it goes: Stop worrying about everything your competition is doing: Pricing, Advertising, Trucks/Facilities, Employees/Hiring, etc. If you spent that energy on your own company, focusing on the choices that you can control, you can make real improvements and change to continue your own success. There is plenty of work for good contractors in this business, and a bad contractor won't last!

MAINTENANCE CONTRACTS

One thing I felt I was great at as a Service Technician and Service Manager selling 'Maintenance Contracts'. Not only are maintenance contracts a clear solution to building the value of the business, but they are also essential in leveling the cashflow and workload in a seasonal service vocation.

If you haven't yet started a Maintenance Contract Program, or what I liked to call an Energy Savings Agreement, the easiest place to begin is on quotes for new installations. I used to include the first-year annual maintenance in the pricing of the job, actually charging the job the time needed for this contract, so I could have planned growth and attempt to retain the customer after the first year. This created some small differentiation in the market, as well as provided confidence that the company would ensure the installation was exceptional put to one year from the install date (when adding the labor warranty and maintenance contract). No one says you only need to stick to just one year here either, I have seen three and even as many as five years!

The next place to incorporate and sell maintenance programs is on Service Calls. If you are in the Service Department, just think about how many homes you walk into within a week, and how many times it may have been avoided if the Homeowner had continued, planned maintenance? This maintenance is completed at off-peak times of the year, prior to the season of operation. As an example, I was very busy in early April completing maintenance on Heat Pumps and Air-Conditioners, late September and October for Furnaces and Boilers. This gives your always understaffed Service Department the availability to take on new customers during peak times, capitalizing on poor planning from your competition. This leveling of the demand can keep your technicians from burnout and continue to provide planned growth around your current staff.

Even though new HVAC installations and replacements make up most of your profit in a single year, a company with a strong planned maintenance program and continued, documented income from service customers attracts buyers and will raise the value of the business. This also reduces the risk if a single customer with a high percentage of the company's income takes their business elsewhere...or perhaps leaves you with an idea what to expect from your service department the rest of the year! So, what are you waiting for? If you have not yet implemented an Energy Savings Program, there is no better time than now!

For a more in-depth, 30-minute recorded training: Please check out my YouTube Channel & '[Grow Your HVAC Business with Maintenance Contracts](#)' video!

5 WAYS TO KNOW I'M READY TO GROW MY BUSINESS

Typically, most people know when it is time to start a business, and usually for that Entrepreneur the answer is a year or two later than they should've went out on their own. But, when to begin hiring, and for which positions, tend to be the toughest. Once the business owner gets a taste for growth, by hiring for some of the roles he/she has been filling themselves, they could quickly extend their business beyond their capabilities and put everything they have built at risk.

I have seen too many young HVAC Contractors attempt to grow their business in response to only customer demand, sometimes not saying no to areas or services they typically would not take on, in fear of losing business.

Here are (5) recommendations that should provide some assurance that you are ready to once again grow your business:

You have a Product or Service with a Good Market

When your industry is growing, particularly at a rapid rate like 2021 after the COVID-19 pandemic, growth can be an exciting option. Obviously, you would not want to pour resources into a risk like growing your team or services during a downturn. If Residential HVAC Services continue to grow like the last 8-10 years, not only will we experience a spike in new businesses, but low interest loans will continue to drive consolidation of companies with some owners eyeing retirement.

When you have a good market, and offer exceptional service, word can travel quickly. This was always a personal heartache of mine, turning away potential customers. As a Service Manager, I sincerely wanted our team to fix everyone's system, helping every person in every community we could drive to. This is not a realistic option if you want to responsibly grow your business and speaks to the next requirement.

You have a Plan

Not just a back of the napkin either, a real genuine business plan that you wouldn't be embarrassed to share with your team. I am not going to be teaching how to write a business plan, but here are some definite elements that should be included:

- Market Analysis
- Competitive Analysis
- Breakdown of Products & Services
- Marketing Plan
- Sales Strategy

This may not be tough to initially write but should be a process that you will manage your growth to. For example, if you state in your business plan that you will market to a particular number of counties, and a call comes in for a location outside of your area, your team needs to be prepared to say, 'No Thank You' and offer a recommended partner.

In fact, including them when defining the Products and Services could go a long way to being sure everyone is on the same page too. If one of your technicians has some experience with a particular commercial unit, if your company does not list this as a service in their business plan, 'Just Say No'!

Positive Cashflow

Positive cashflow can sound pretty elementary here, but basically leveraging your business to bet on growth is an extremely poor choice, and a high risk that you will lose sleep over. This can be defined many ways, but the easiest way that I think everyone can understand is that you have no outstanding invoices with your distributors and have not experienced, at any time, a 'cashflow crunch'. Typically, at this point employees could see

the company as having too much business: having to turn work away even though it fits the business plan's Products & Services, Marketing Plan, and Sales Strategy. This is the tempting point for some owners to dial back their marketing efforts in lieu of growing their business, except you shouldn't! For the most part, this is when demand for your services exceeds your ability to supply over an extended period of time (not just seasonally).

You have Assembled a Premier Team

All business owners I have met will publicly defend every hiring decision they have ever made, particularly if the employee is still with them. But, as soon as they walk out the door, out comes the dirty laundry.

Hiring the right person can take weeks, sometimes months, and then the cost of training them adds to the burden of time and liability. Hiring the wrong person, like a rash decision to throw a person at a problem the company is having (think Service Tech, Salesperson, Marketing), is not the way to assemble a Premier Team. By additionally growing the team around a foundation that is not yet rock solid, you are guaranteed a most epic collapse. Once you have a team of trusted advisors working with you, toward the same goals defined in your business plan, and meet all of the other recommendations mentioned, then should you consider adding additional team members with the expectation of growth. This can be a troubling thought, hiring and growing a huge company, yet not making any additional profit - or even decreasing profit. I cannot say enough about hiring the right people, for the right positions.

Complacency is Spreading

This is one of the most frustrating responses I hear from HVAC companies across New England. When I hear about all of their great employees, all of the work they have done in the last year, etc. only to tell me 'No, I am not interested in growing my business, I am happy with \$X a year.'

I am usually there as a sort of consultant, able to share what other companies in their position have done to break through the next barrier, and their complacent response is just so deflating for everyone, including them. But, when the team has reached complacency, that is exactly the right time for growth! If not, your employees will not necessarily be excited about their opportunity at their job, maybe consider looking to see

why the grass looks greener elsewhere. Yes, it's true that you need to work to have a growth mindset, but when you are complacent or scared of growth, you know you need to adjust your thinking!

GROWTH MINDSET

I was fortunate enough to meet my daughter's third grade Teacher a while back. In their classroom, hanging prominently between the only two windows of the room, was a wall dedicated to teaching a 'Growth Mindset'. Immediately, I thought: I am glad my daughter is learning this at such an early age - and contemplated why it wasn't until my thirties that this was taught to me? The lesson involves how we approach adverse situations. For example, when a student may think 'This is too hard!', the growth mindset should respond with 'This may take time and effort'. Another great example is when a student makes a mistake, the growth mindset response is that it is ok, and 'Mistakes help me learn'.

How can we apply the Growth Mindset to our industry? Well, the opposing 'Scarcity Mindset' runs rampant in the trades, particularly within HVAC. Below are a few examples I have heard over the last few years, and some more frequently:

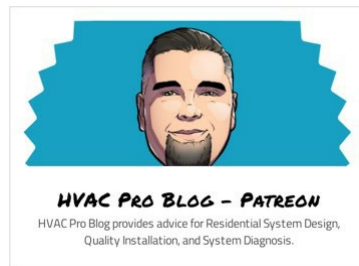
1. I don't have/get enough leads.
2. I cannot find any qualified Installers/Technicians.
3. I don't have enough time in the day.
4. I wish I could do more of the "job type here" as I make the most money on these.

Now, let's take a look how a growth mindset would respond to these opportunities:

1. How can I create more qualified leads for my Sales Team?
2. If I cannot hire an experienced Installer/Technician, how can I find the right person to train?
3. What processes could I put in place to gain more time on the tasks I enjoy doing?
4. What training could I provide my team to identify opportunities for the most profitable jobs?

The key for your success is not necessarily the 'next step'. Trust me, it is taking the first step! Start by systematically removing the scarcity mindset and being conscious of how it creeps into your everyday activities. This can be tough and can result in changes in other aspects of your life too. Remember the old saying 'Misery Loves Company'? I too sometimes fall into this trap and need to remind myself of the right response/mindset. If there is one thing that I learned, it is that a Growth Mindset leads to success and happiness!

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In-Person Residential System Design Training

Manual J Overview

- *Site Survey Form*
- *Location & Design Conditions*
- *Floor Plan*
- *Framing & Wall Insulation*
- *Floor, Ceiling & Attic Insulation*
- *Internal Gains*
- *Duct Location & Condition*
- *Fenestration*
- *Software & Reports*

Manual S Overview

- *Fossil Fuel Furnaces*
- *Water Boilers*
- *A/C*
- *Heat Pumps*
- *Dual Fuel*

- *Humidifiers & Ancillary Dehumidification*

Manual D Overview

- *Understanding Available Static Pressure*
- *Understanding Total Equivalent Length*
- *Intro to Friction Loss Worksheet*
- *Using a Duct Calculator*
- *Intro to Duct Sizing*
- *Verifying Velocity*
- *Sizing Trunk Duct*
- *Rules of Duct Design*
- *Low Static Air Handlers*