National Comfort Institute, Inc.

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HIGH-PERFORMANCE HVAC TODAY™

If You Don't Measure, You're Just Guessing!™

Get Ready for Summer!

ALSO IN THIS ISSUE:

Refrigerant Charging: It's NOT Just About Superheat and Subcooling

Use High-Performance HVAC Testing to Build Leads

Contractor Spotlight: Absolute Comfort Air Conditioning, Houston, TX

NCI National Comfort Institute, Inc.

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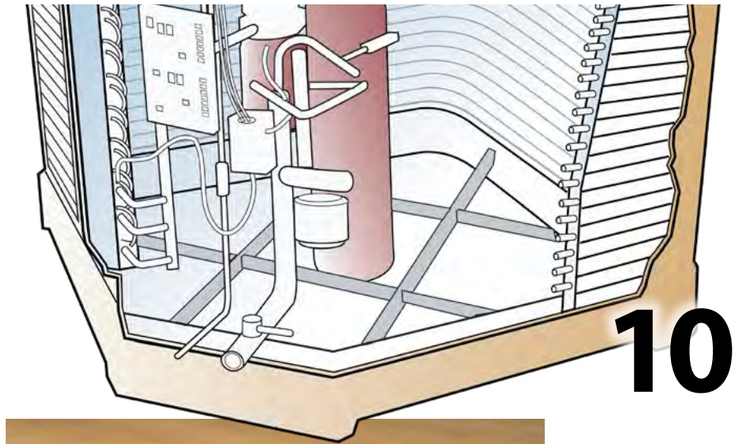

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By Mike Weil

Stand Out by Writing Articles
for the Trade Press and Consumer Media

Mike Weil is editor-in-chief and director of communications and publications at National Comfort Institute, Inc. Contact him at ncilink.com/ContactMe.

Did you know that being a High-Performance HVAC contractor isn't the only thing that sets you apart in your marketplace? Being a published author who promotes the benefits of a performance approach to service works wonders too!

For business owners who want to improve their credibility, one way to start is by writing articles for publications in your industry or trade. After all, as a businessperson serving this industry, you ARE the expert, whether you think so or not.

"Wait a minute," you must be thinking. "I'm no writer. I don't have time to write. Even if I did, what would I write about? Why would anyone care what I have to say?"

To quote National Comfort Institute's David Holt, "It's all about changing your mindset."

Instead of feeling overwhelmed by the idea of doing something so different from what you do every day, think about the power of third-party endorsements. What could that mean to your business and to your customers?

Having an article with your name on it that helps your customers and/or your peers solve problems that no one else has solved would certainly add to building a solid reputation.

Once published, you can use that article in your own marketing and advertising so people can see you are THE expert. Won't that help you to attract and close more customers and build the business?

And what about the pride your teammates will have when customers and peers talk about your article.

When you publish content on behalf of your company, you:

- **Build Your Brand** by providing information your customers need and want
- **Drive Website Traffic** where customers can go for more information
- **Enhance Your Reputation**
- **Build An Audience** of potential customers
- **Increase Lead Generation**
- **Establish Trust** in your marketplace.

When writing articles, you have two target audiences: your customers and your peers. The subject matter can cover the industry landscape.

When the target is your customers, write from their viewpoint. Your high-performance approach to contracting demonstrates how your company is on top of the latest trends and issues affecting their comfort, safety, and wallet.

When writing to your peers, focus on the lessons you learned in operating your business, obstacles you overcame, and successes you experienced. These are all things that other contractors traveling along the High-Performance Path want to learn, especially from someone just like them.

Any article should focus on customer issues or industry problems and their solutions.

There is virtually no expense involved (other than your time and energy). This is especially true if you work with an editor who can help you and make suggestions so that your article sounds professional.

Think about this: anything you author is reuseable in your marketing, as part of your blog, or in reprints that you can use for many things: home shows, mailers, leave-behinds, and so on.

Writing articles for trade magazines (especially this one) is a win for you, a win for your company, and a win for your customers.

So don't shy away when a trade press editor calls upon you for an article. Embrace the opportunity. Meet your deadlines. And keep the goal in mind. You'll be glad you did.

If interested in writing for THIS magazine, just drop me a note at ncilink.com/ContactMe. I'd love to hear from you.

AirMaxx™ Lite: Done in 30 Seconds

Do you remember the movie ***Gone in 60 Seconds*** (ncilink.com/Gone60)? The star was a 1967 Ford Mustang GT500 that was named *Eleanor*. She had an 800+ horsepower engine with 700-pound weight reduction, a true unicorn among cars.

You may be wondering what a car has to do with the HVAC industry. It's simply a reference to show you something faster and easier to use when testing and measuring systems that can also provide revenue possibilities.

It is called **AirMaxx™ Lite**. This is an app that works on Apple and Android devices. Usually, when you measure total external static pressure, you must add two numbers together and then use a fan table to plot out fan airflow. That takes time.

But you can make it a lot easier because all you need with AirMaxx Lite is a couple of data points. The app will do the heavy lifting for you. It performs all the calculations to figure out **Total External Static Pressure** and, with its built-in fan tables, plots out the equipment fan airflow. It's almost magical.

The app makes the results easy to explain to customers using colorful visual diagnostic gauges. These gauges help you see where any problems exist. By showing these graphics to the customer, they'll understand what is going on. Nine times out of 10, your customers will want to make corrections, at which point you get to go Cha-Ching!

Learn more about AirMaxx Lite at both the Apple (ncilink.com/AML1A) and Google (ncilink.com/AML1D) app stores.

— By Casey Contreras, National Comfort Institute

CONTRACTOR SPOTLIGHT

By Mike Weil

Learning to Know
What You Don't Know

Let's take a step back in time. In the 1970s-era United States, the HVAC Industry was undergoing what some would call a "dynamic" period. In a nutshell, government regulation swooped in aggressively to become a permanent part of the business landscape.

The decade of the '70s was fraught with challenges. A new deadly illness known as Legionnaires Disease would impact the HVAC Industry, especially when it became linked to cooling systems.

The '70s were still a time for significant growth in residential new construction. However, toward the end of that decade, the writing was already on the wall. Energy and regulations would begin to change the landscape where renovation and retrofit would become king.

GETTING STARTED

In 1976, a young man named Mark Shelton began his HVAC Industry career in Austin, TX. The year was the country's bicentennial year. It was the year that Jimmy Carter was elected president and when the Israeli military pulled off one of the most daring rescues of kidnapped travelers who were hijacked and held in Uganda.

Shelton worked at a local HVAC company learning the ropes. By 1979, he decided it was time to hang out his own shingle. He headed to Houston where he could earn three-times the money he made in Austin and set up shop. Absolute Comfort Air Conditioning was born.

WE DIDN'T KNOW WHAT WE DIDN'T KNOW

"I had no true idea what I was getting myself into," Shelton says. "It took me a few times to get my state license, and the company didn't start to grow until 1986. That is when I feel we became a real business."

Shelton says that he discovered very quickly that he had a lot to learn during those early days. "The learning never ends," he says. "In the beginning I had it in my head that my job was to fix everything. One of my first hard lessons was understanding that even if I could fix it, it wasn't enough. I needed new customers to keep money coming in, and that meant I needed to figure out how to market and advertise."

For five years Shelton says he worked both ***in*** his company and ***on*** his company and enjoyed a certain success level. In 2001 he became aware of two technical training organizations that he felt he should check out. One was National Comfort Institute (NCI). He attended classes and says he discovered that he didn't know much of anything!

"Airflow was such a mystery. The NCI classes focused more on doing air balancing and duct design, and I knew this would set me apart in my market. In fact, my first big learning moment was when I understood that 80% of a customer's problems involved how their duct system was designed," Shelton says.

"I started learning and trying to teach my people to do air balancing. Absolute Comfort is mostly (99%) a residential retrofit shop that services air conditioning units. We added air balancing to the business and found it gave us a competitive advantage in our marketing area."

That advantage still holds true. Shelton says most of their HVAC competitors today do not understand or do static pressure testing, ductwork, airflow system design, or much of anything else related to the High-Performance approach to contracting.

"For the most part, they're just changing boxes," he says.

THE COMPANY TODAY

The good news is that Absolute Comfort often followed behind competitors and fixed problems they left on customers' tables. The fact is, according to Shelton, in the Houston market area, 80% of residential return air systems are too small.

He explains, "Our job is to give customers more return air. And we do that by testing, measuring, and properly designing their duct systems. Then we make sure to balance their system. I believe that 30% of our work is in renovating ductwork."

Shelton adds that they win many jobs because people are aware that Absolute Comfort's team knows what they are doing. Shelton proudly says that is because of the training and certifications they have from NCI.

Today the company has around $4 million in gross revenues with nine on-staff technicians. Absolute Comfort fields one installation crew of two people. And in a somewhat unique approach to the market, the company works with six independent sub-contractors who help with Absolute's installations when things get busy.

The subs also take on overflow calls. Shelton says he has several part-time employees who work the phones several times per year to make customer appointments and follow-up calls.

The outside subcontractors, according to Shelton, "are people who have their HVAC license and insurance."

Many of these subcontractors have some training from NCI, but not all of them. Shelton says it's an ongoing process to try and get everybody trained.

SYSTEM RENOVATIONS AND UPGRADES

Shelton says that the High-Performance Contracting approach is the basis on which Absolute Comfort operates. He adds, "My customers love it because after we finish our work, they don't hear the unit running, and they're more comfortable in each room of their homes than ever before. They don't have any hot or cold spots.

"For us, duct system renovations and upgrades give us so much more to sell," he continues. "When somebody wants to buy new equipment, we can sometimes show them that buying new equipment isn't the answer. What they do need is for us to fix their ductwork, and then their entire system will work fine."

He adds that by focusing on airflow, duct renovations, and upgrades based on testing and measuring, he sees nice increases in Absolute's profit margin. Plus, this approach also helps them get more customers.

"Because of our performance approach, our reputation has even led several of our supply house vendors to call us in when they encounter duct issues on a particular job. That is a strong indication of how High-Performance Contracting has helped to build our marketplace reputation," Shelton says.

IT'S ALL ABOUT AIRFLOW MEASUREMENT

Static pressure gets us in the door," Shelton says. "Based on our measurements, we can explain and show customers any issues their system has and what we can do to fix them. Then we go from there and close the sale.

"As I said earlier, in Houston, one of the biggest issues is that most homes don't have enough return air. So, we do what we can to resolve that, from replacing wrong-sized ductwork to enlarging plenums. The idea is to get proper airflow throughout the house.

"Our trademark is that we replace standard three-foot plenums with bigger ones that range from 5-1/2 to six-foot sizes. Bigger plenums enable us to design ductwork easier and drop static pressures to where they should be."

"It's safe to say that duct system repairs and renovations make up a big chunk of our business," he continues. "They help us to close more sales on equipment installations."

OVERCOMING OBSTACLES

Early on the Path to Performance, Shelton says he faced two obstacles: getting his technicians consistently performing static pressure tests and overcoming competitors undercutting him in the marketplace.

He says that getting the right people into the right jobs was probably his biggest challenge. Absolute employed many "old school technicians" and the change to High-Performance Contracting was tough for them in the early days. Some accepted it. Others did not.

Training came to the rescue here too. Shelton says one of his outside consultant groups helped with their hiring

and firing practices training, "without which," he says, "this would have been a much bigger problem for us."

That training included testing potential new employees. He says these personality tests help determine what motivates candidates as well as how trainable they are.

Shelton says this process took a long time. "We finally achieved the balance of the right people in the right positions just this year," he says.

"Today, 100% of our technicians do static pressure testing as a routine part of our service and maintenance calls."

HIGH-PERFORMANCE WINNERS

"For us," Shelton says, "The performance-based approach has dramatically improved our profits. If it wasn't for the ongoing training we get through NCI and other partners, we would not be successful today.

"I think it's safe to say the program we now have in place helps set us apart in the market, increases our profits, and, hopefully, fuels our future growth.

"I think the real secret to success in the HVAC industry is the amount of training you get. I like to think that if a tech works for my company, they get the right ongoing training that makes them valuable employees here at Absolute Comfort or anywhere else they may choose to go."

"I am proud that Absolute Comfort has trained a lot of people, some of whom went on to open their own businesses. This is good for my company, for the tech, for our customers, and ultimately for the entire industry."

For these and many more reasons, **High-Performance HVAC Today** magazine has chosen to focus our spotlight on *Absolute Comfort Air Conditioning of Houston, TX*. Congratulations to Mark Shelton and his entire team. NCI

By Justin Bright

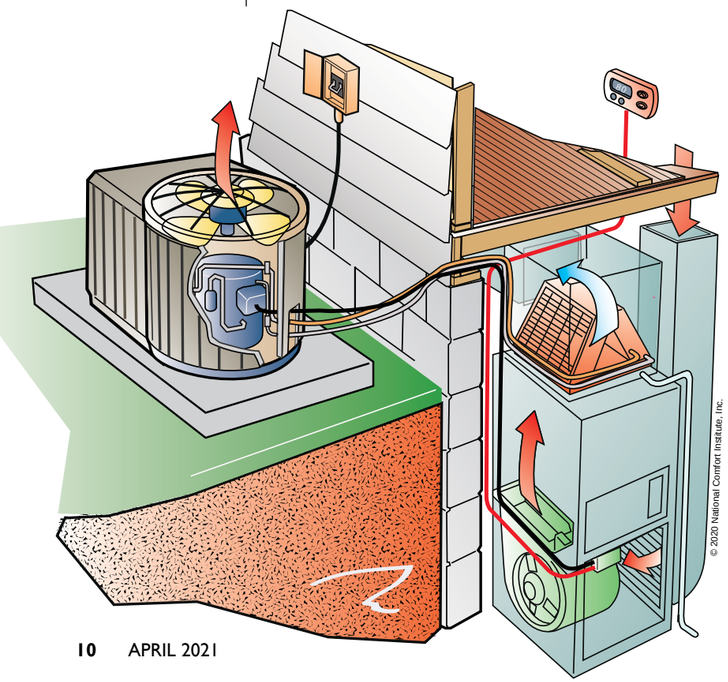
Refrigerant Charging: *It's Not Only Superheat and Subcooling*

When arriving at a job site, you may think you are just out on a service call to get a unit back up and running. The fact is, you are stepping into the newest episode of your favorite investigation television drama. The victim: the refrigerant circuit. The weapon: refrigerant gauges.

Gauges can be an effective tool for improving performance, or they can be a deadly weapon aimed against a compressor. Most compressors do not die. They get murdered.

Direct expansion (DX) HVAC systems use three mass fluid flows to move heat into or out of a building. These include:

1. Outside air moving across the condenser coil
2. Refrigerant
3. Indoor airflow across the evaporator or indoor coil.



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To properly charge the refrigerant, all three flows need to work as designed. When technicians overlook the indoor and outdoor airflows and begin adjusting system superheat and subcooling, results can be unpredictable.

In California, our utilities require an analysis to verify the results of their incentive programs that focus on maintenance. In one case, testers found little positive impact to adjusting a refrigerant charge unless the system was severely undercharged. Attempting to address the three mass fluid flows by refrigerant charge alone has struggled to show even a 5% average improvement in capacity.

FIRST STEPS: SETTING UP PROCESSES

Before attaching gauges to any refrigerant circuit, be sure you have a clear reason for doing so. Setting up a process within your company will ensure uniformity between technicians. Like your favorite CSI television show (**ncilink.com/CSItv**), you begin by gathering facts.

National Comfort Institute (NCI) shares two points at the start of most of their Performance-Based testing and diagnostics classes: "If you don't measure, you're just guessing™," and "without facts, you're just another person with an opinion."

Some of the evidence NCI discusses in their refrigerant-side performance class include:

- Visual signs a problem may exist
- Proper operating airflows
- Psychometrics and calculations that target suction and liquid line temperatures.

So, before connecting gauges, here is a checklist of items to verify:

- ❑ Is airflow within 10% of design?
- ❑ Does the static pressure profile meet the pressure budgets?
- ❑ Is the indoor coil clean?
- ❑ Is the outdoor coil clean and unobstructed?
- ❑ Is the filter clean and properly sized?
- ❑ Are all the registers open?

The main goal at this stage is to make sure you won't alter airflow after adjusting the refrigerant charge. Why do this? Airflow impacts the refrigerant circuit's operation. If you answer yes to all these items on the checklist and see external indications that there is a refrigerant charge issue, you can continue to gauge up.

PROPER MANIFOLD USE TECHNIQUES

To access the refrigerant side of the system, you need a quality refrigerant manifold and hoses. For best accuracy, NCI recommends using digital manifolds that can measure temperatures in addition to pressure. Pressure resolution should be 0.1 psi, and temperature resolution should be 0.1° F.

NCI recommends using hoses with low-loss fittings and/or ball valves to minimize refrigerant loss and contamination. Real-time calculations of superheat and subcooling remove human error performing the math.

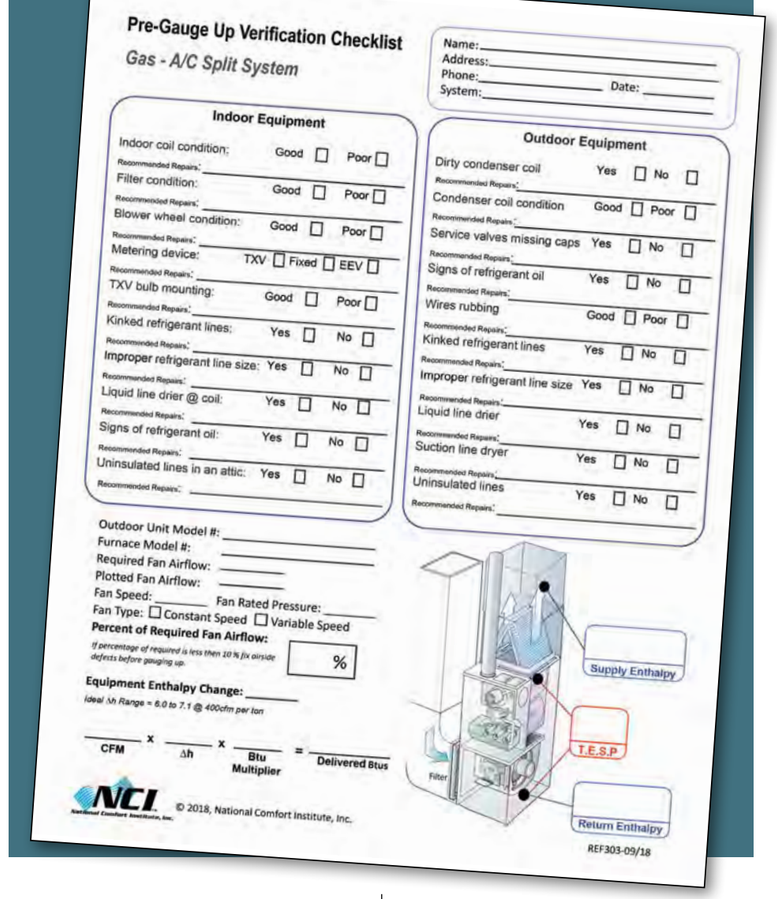
NCI also recommends a calibration period of 24 months, with periodic gauge accuracy verification against virgin tanks of refrigerant.

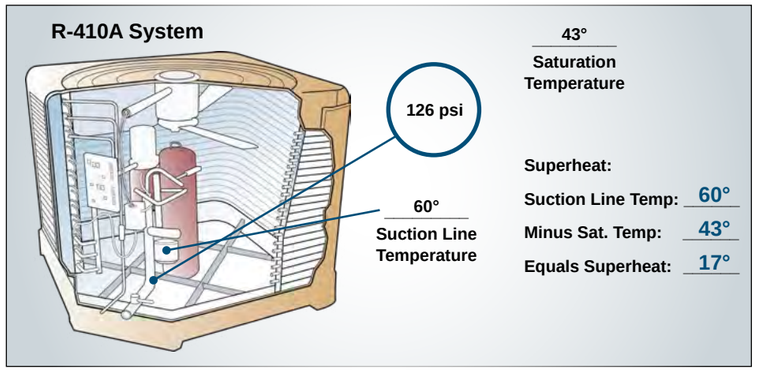
Virgin refrigerant should be purged in through the gauges into your hoses before attaching the manifold to your customer's system.

This purge minimizes introducing atmospheric gas and moisture into the customer's system.

Next, attach hoses to the system. Allow the system to run for 15 minutes before adjusting the refrigerant charge.

If the indoor temperature is too low to allow for 15 minutes of run time, turn up the heat and turn on the hot water in a shower to add latent heat.





DATA COLLECTION: SUPERHEAT

Once your system is stable, begin collecting data and diagnosing the refrigerant circuit operation. Systems with fixed orifice pistons or capillary tubing will rely primarily on the superheat charging method.

Superheat is calculated by directly measuring the suction line temperature and subtracting the saturation temperature correlated with the suction line pressure.

Superheat is an important indica-

tor for problems within the refrigerant circuit. Low superheat can lead to liquid entering the compressor causing valves to fail or the oil to be washed out of the compressor.

Low superheat can also show when a system is overcharged or a Thermal Expansion Valve (TXV) is overfeeding. See the table to the right for target superheat depending on the metering device in the system.

Superheat and Subcooling:

Value	Formula	Target Range	Tolerance
Superheat: Fixed Orifice	Suction Line Temperature – Saturation Temperature	(EWB x 3 – 80 – ODB) ÷ 2	+/- 5°
Superheat: TXV	Suction Line Temperature – Saturation Temperature	Evaporator: 8° – 12° Total: 10° – 15°	+/- 5°
Subcooling	Saturation Temperature – Liquid Line Temperature	10° – 15°	+/- 3°

*EWB = Entering Wet Bulb
*ODB = Outdoor Dry Bulb

DATA COLLECTION: SUBCOOLING

Subcooling is the amount of heat rejected from the refrigerant into the outdoor airflow beyond the refrigerant's saturation temperature in the condenser. To calculate subcooling, measure and convert your liquid line saturation temperature, then subtract the liquid line temperature.

While typical subcooling will be between 10 to 15 degrees, you may find specific condensers and heat pumps that have lower values based on varying designs in condenser coils.

Low subcooling can indicate a low refrigerant charge or a metering device that is overfeeding. High subcooling can indicate the system is overcharged, has non-condensable liquid in the system, a liquid-line restriction, TXV bulb failure, or an inefficient compressor.

In one utility program, contractors submitted more than 700 ComfortMaxx Verify™ tests for utility rebates. These were full test-ins of commercial systems where contractors input measured static pressure, airflow, and temperatures into the **ComfortMaxx™** (ncilink.com/CMaxx) online software.

The software calculated delivered Btu's and Cooling System Efficiency Scores (CSES). Looking over a test sample of 178 systems, we found 88% of them had low airflow.

DIAGNOSTICS TIME

With such a prevalent issue of low airflow, what do you suppose the impact would be on that equipment's refrigerant cycle? Could the problem be misdiagnosed on a service call?

As airflow decreases, the available heat entering the indoor coil decreases as well. Looking at the structure of a Pressure-Temperature chart, you'll see that pressure and temperature increase together. If you have less heat, your evaporator pressure will be lower.

As the refrigerant leaves the evaporator, any heat it has gained beyond the vaporization point is evaporator superheat. Any additional heat gained traveling thru the suction line is total superheat. Total superheat is what most technicians use for diagnosing the system. With lower-than-expected pressures leaving the evaporator due to low airflow, the compressor may not elevate the pressure and temperature high enough to reject heat to the outdoor air effectively.

One reason refrigerant charge adjustment does not achieve meaningful energy or efficiency gains is because low airflow is often mistaken for low refrigerant charge. They have often misdiagnosed this as a result of the suction and discharge pressures both seeming low. The technician then adds refrigerant charge. They then find that head pressure and compressor energy consumption increase but do not gain the correct enthalpy change or Energy Efficiency Ratio (EER).

If you're interested in fewer callbacks and discovering more sales opportunities, take the time to gather all the facts. Don't assume the first problem you find is the only problem. Remember, subcooling and superheat are only two pieces of the puzzle. The more clues you can piece together, the greater the likelihood you will get the results you want and that your customers need. NCI

Justin Bright is a 24-year HVAC veteran who serves as a field coach and instructor for National Comfort Institute (NCI). He left the industry for a time and served as a Sonar technician aboard submarines. Today he is based in NCI's California office and can be reached at ncilink.com/ContactMe.

By Mike Weil

Is Your HVAC Company *Ready for Summer?*

It's Springtime, and everyone is taking a moment to breathe a sigh of relief from our crazy winter and, oh yeah, the pandemic. Well, for HVAC contractors, you should only take a moment because your business needs to be ready as we get closer to summer. Now is the time to prepare. None of your customers want to be caught in the heat of summer without a working air conditioning system.

Benjamin Franklin said, "By failing to prepare, you are preparing to fail." So, what do you do to get ready? We asked this question to three High-Performance HVAC contractors to see how they gear up. They shared four common tips:

HAVE A PLAN

"Plans are of little importance, but planning is essential."
—WINSTON CHURCHILL, FORMER BRITISH PRIME MINISTER

For **Greg Wallace**, president of Progressive Heating and Air Conditioning in Newnan, GA, (ncilink.com/1117CS), having a plan is the key to his company's success. He explains Progressive's summer preparation plans are as follows:

"We divide our service group into a demand team and a maintenance team. Organizing in this way allows us to handle more demand calls during the busy summer season without having to reschedule maintenance agreements. We begin contacting customers about maintenance renewals on March 1st. Then we send reminder emails to existing maintenance customers on March 15th to gear up to get out before the hot weather hits in Georgia.

"Our sales team proactively calls anyone waiting to replace their system in March and April. This way we get those jobs done and stay ahead of summer emergency 'no air conditioning' installations."

In Houston, Punbar LLC (ncilink.com/Punbar) co-owner **Ronald Amaya** says they begin summer preparations during the slow winter season with a recruiting campaign to staff up for summer if they need to. "In January and February, we conduct formal and informal training classes as well as on-the-job training."

He says this includes focusing on trouble-shooting (training done in the office) and sales strategies.

"For example," Amaya says, "Our 2021 focus is to convert service calls into replacement opportunities (including ductwork).

"Our techs must meet set training criteria for different types of HVAC systems, refrigerant types, equipment conditions, system status based on static pressure measurement, and so on," he adds.

MAKE SURE YOU ARE STOCKED AND STAFFED

"In preparing for battle I have always found that plans are useless, but planning is indispensable."
—DWIGHT D. EISENHOWER, PAST U.S. PRESIDENT

Greg Wallace says Progressive's summer preparation includes stocking up on all the necessary parts and equipment. They also make sure they have enough staff to handle the increased workload of the busy season.

"We have a varied truck stock list for our service technicians in spring and fall," Wallace says. "It's not a huge difference, but we do make some minor changes such as removing gas valves, ignitors, and other such items. Then we add a few more filter driers, refrigerant tanks, condenser motors, condensate pumps, and so on to get ready for the spring and summer."

He adds that his installation crews keep the same truck stock every season. "Unless we make changes in our installation procedure. We like to take a truck inventory every three months, which can be difficult, so at a minimum, we take inventory every six months."

Ken Dean of Dean Heating, (ncilink.com/DeanSpotlite) Athens, OH concurs. He says he takes the additional step of asking his field service and installation technicians if there are other tools or parts they may need. He also stocks up on extra coils and condensing units for emergency replacements.

At Punbar, Amaya says they make sure that tools and instruments are in good working order and calibrated for accuracy.

Besides taking stock and truck inventory, it's also a good idea to review your service call records from the previous summer and make a note of any complaints or kudos you received from customers. This way, you can work to improve on weaknesses and promote your strengths.

Other things for you to consider:

- Do you need more staff to handle increased volumes of summer calls?
- Do you need to retrain so that your technicians can provide excellent customer experiences?

TRAINING NOW PAYS DIVIDENDS LATER

"I am always doing that which I cannot do, in order that I may learn how to do it."
—PABLO PICASSO, SPANISH PAINTER

To grow your profits, you need a friendly, highly-trained staff that leaves your customers impressed. At Punbar LLC in Houston, TX, training is a cornerstone of their operation. According to Ronald Amaya, they take advantage of National Comfort Institute's online courses.

"We have a list of courses our technicians must take," Amaya explains. "These include live online classes, NCI University, as well as courses from our vendors. For example, we create a list and the order of required Trane online classes for our techs as well.

"For experienced technicians," he continues, "They must finish any pending courses and attend advanced online or specific training by our distributor partners (Trane, Aprilaire, Johnstone, etc.). Plus, our sales team is also required to take training."

Amaya even has requirements for financing training and refresher courses done at the office and online (required re-certifications every year).

He says that training early and training often always pays big dividends as the summer season begins.

The team at Progressive does most of their training in the spring and fall. Like his peers at Punbar, Greg Wallace says he uses the NCI University video classes.

"We do this to go over some of the performance testing procedures for the season we are about to begin. It's always nice to have some refresher courses on things you haven't done for a while. We also send our techs to any factory equipment update classes when those are available. That way, we keep up with the new equipment and controls that we sell."

For Ken Dean, training shifts to focus more on refrigeration instead of combustion/heating. "Airflow is always emphasized. We want our technicians trained to recognize and correct any airflow problems with better design," he adds.

START ADVERTISING NOW

"Stopping advertising to save money is like stopping your watch to save time."
—HENRY FORD, AMERICAN INDUSTRIALIST

Many marketing consultants teach that advertising is NOT a one-and-done deal. It requires a strategy to keep your company name and reputation in front of people so that when they think of an HVAC company, your business's name pops into mind.

Their advice often hones in on your company website because this is where people will go first, even before they call your business. Is your website outdated or uninformative? Does it present you as capable and professional?

At Progressive Air, advertising and marketing cover their website, social media, and print messaging. Greg Wallace says, "We weave television and radio in from time to time as well. We have online advertising promoting spring and early summer checkups as well as specials and sales. These promotions include a front-page advertisement with our local newspapers to our target demographic in specific neighborhoods the paper mails to."

Wallace explains how they generate their marketing plan based on a percentage of the annual budget.

"Service marketing is from 3.5 to 5% of our budget. Installation marketing ranges from 2 to 5%," Wallace explains. "We analyze all marketing by category every year.

"We consistently post on social media and have moved a large portion of our advertising dollars to our website search engine optimization as well as Google Local Service Ads," Wallace says.

According to Dean, his company makes minor changes to their website to promote Spring maintenance in preparation for summer's cooling season. From a branding standpoint, he says they recently began sponsoring a local Public Broadcasting network.

Ronald Amaya says that Punbar updates its website to reflect the change of seasons and promote maintenance. They expanded their market reach by implementing a Spanish language version of the website to reflect their market demographic.

After that, Amaya says they email existing customers with reminders about service and maintenance, specials on equipment, and the financing plans they offer. He ties social media postings with these emails to punch up his summer advertising and marketing reach.

GET READY. GET SET. GO!

"Do you want to know who you are? Don't ask. Act! Action will delineate and define you."
—THOMAS JEFFERSON, U.S. FOUNDING FATHER

Whether it's recruiting new talent, adopting new technologies, or putting together budgets, the winter, and early spring 'off-season' can be the best time to get organized. It's also an excellent time to market your business, try out new revenue streams, and take care of your finances.

When you take time to prepare yourself, your team, and your company for the busy summer season, you can set your business up for your most productive and profitable season yet. NCI

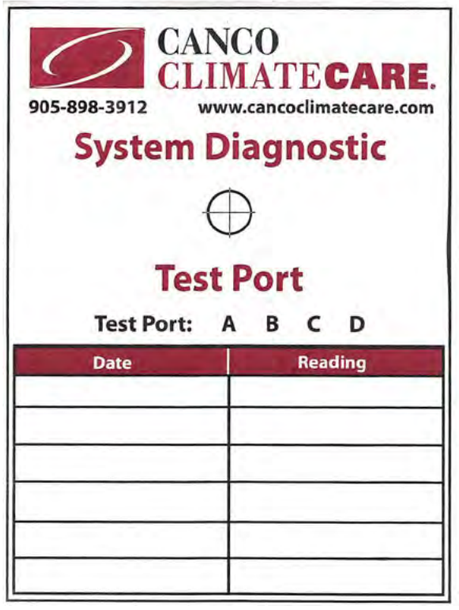
Mike Weil is the communications director for National Comfort Institute as well as the editor-in-chief of ***High-Performance HVAC Today*** magazine. With nearly 40 years in various content roles within the HVAC Industry, he knows a little about planning and taking action. He can be reached at ncilink.com/ContactMe.

By Will Horner

Using High-Performance HVAC
Testing to Build Leads

It's mind-boggling how many articles there are for HVAC contractors on how to build lead generation and grow your business. Most of them involve marketing on the Internet, through direct mail and advertising, postcards, and more. For **Canco ClimateCare**, (ncilink.com/Canco) our lead generation comes from word-of-mouth based on how different we are in our marketplace.

That difference is the direct result of being a Performance-Based Contracting™ company that focuses on HVAC system testing, measuring, and repairing so that the customer receives what we promise them. This is a very different approach to lead generation. But to be clear, it is not the silver bullet to building leads. It's just part of the picture. For us, it's a big part.



Installing test ports for static pressure testing is part of how Canco gathers data for lead generation. This is an example of a customer test port sticker that Canco uses.

LEADS BEGIN WITH TECHNICIANS

And it starts with our technicians.

We strive to equip our techs with the training and tools they need to perform static pressure and temperature rise tests on every HVAC system they encounter.

This includes using a Canco customized ComfortMaxx™ (ncilink.com/CMaxx) paper form from National Comfort Institute (NCI).

We incentivize our technicians to do this by giving them a monetary spiff for each form they fill out. This way, they will spend the time to do the test.

Our technicians themselves don't sell. If they find issues, they report that to our salesperson (me), who then follows up with the customer.

The customer reports are also turned into the office, becoming the principal tool for future sales leads.

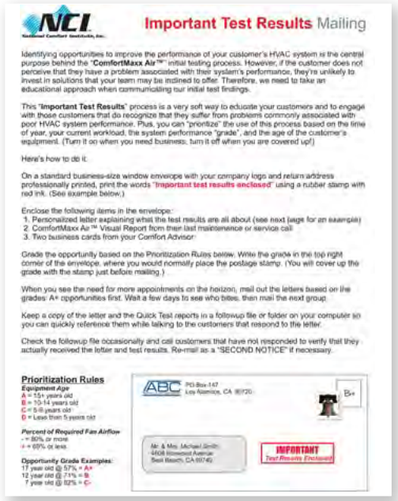
None of our competitors do this. Our approach almost always piques customer interest which leads them to ask a lot of questions. Those questions often lead to a repair sale for us.

I guess what I am saying is that the performance approach to contracting fuels curiosity and generates most of our leads.

A SERVICE-TO-SALES APPROACH

Everything starts with my technicians, who send me the lead directly. If I'm busy or on the phone, they go through our office, and then I'll get an email. I see every static pressure report. If the numbers are high, the tech red flags it for special attention.

We've been doing these pressure reports for


Important Test Results Mailing

Identifying opportunities to improve the performance of your customer's HVAC system is the central purpose behind the "ComfortMaxx Air™" initial testing process. However, if the customer does not perceive that they have a problem associated with their system's performance, they're unlikely to invest in solutions that your team may be inclined to offer. Therefore, we need to take an educational approach when communicating our initial test findings.

This "Important Test Results" process is a very soft way to educate your customers and to engage with those customers that do recognize that they suffer from problems commonly associated with poor HVAC system performance. Plus, you can "prioritize" the use of this process based on the time of year, your current workload, the system performance "grade", and the age of the customer's equipment. (Turn it on when you need business, turn it off when you are covered up!)

Here's how to do it:

On a standard business-size window envelope with your company logo and return address professionally printed, print the words "Important test results enclosed" using a rubber stamp with red ink. (See example below.)

Enclose the following items in the envelope:
1. Personalized letter explaining what the test results are all about (see next page for an example)
2. ComfortMaxx Air™ Visual Report from their last maintenance or service call
3. Two business cards from your Comfort Advisor

Grade the opportunity based on the Prioritization Rules below. Write the grade in the top right corner of the envelope, where you would normally place the postage stamp. (You will cover up the grade with the stamp just before mailing.)

When you see the need for more appointments on the horizon, mail out the letters based on the grades: A+ opportunities first. Wait a few days to see who bites, then mail the next group.

Keep a copy of the letter and the Quick Test reports in a follow-up file or folder on your computer so you can quickly reference them while talking to the customers that respond to the letter.

Check the follow-up file occasionally and call customers that have not responded to verify that they actually received the letter and test results. Re-mail as a "SECOND NOTICE" if necessary.

Prioritization Rules

Equipment Age
A = 15+ years old
B = 10-14 years old
C = 5-9 years old
D = Less than 5 years old

Percent of Required Fan Airflow
- = 80% or more
+ = 69% or less

Opportunity Grade Examples:
17 year old @ 57% = A+
12 year old @ 71% = B
7 year old @ 82% = C-

ABC PO Box 147 Los Alamitos, CA 90720

Mr. & Mrs. Michael Smith
4608 Ironwood Avenue
Seal Beach, CA 90740

B+

IMPORTANT
Test Results Enclosed


ABC PO Box 147 Los Alamitos, CA 90720

March 11, 2016

Mr. & Mrs. Michael Smith
4608 Ironwood Avenue
Seal Beach, CA 90740

Dear Mr. & Mrs. Smith:

Recently, our service technician completed an air flow performance test on your home's heating and cooling system. We routinely perform this type of diagnostic procedure as part of your system's regular maintenance plan.

Your most recent test results indicate that your heating and cooling equipment is operating fine. However, there may be solvable problems with the rest of the system that typically lead to many of these common customer complaints:

1. Flue-like symptoms including headaches, nausea or fatigue
2. Rooms that are hard to heat or cool
3. Excessive dust throughout the home
4. Higher than necessary monthly utility bills
5. Noisy system operation

In researching our records, we discovered that others in your neighborhood have complained about some of these very same issues. This is not unusual. Many times, all of the houses in a neighborhood are built by the same contractors so the same problems exist in every home.

Please contact us at your earliest convenience to schedule additional system evaluation that will help us determine how we can best resolve these potential safety, health, comfort and energy efficiency problems.

We appreciate your business and look forward to hearing from you soon.

ABC HEATING & AIR CONDITIONING

David M. Holt
Comfort Advisor
800-555-1212

PS: We normally charge $395 for these advanced evaluation services. As a valued maintenance agreement customer, we'll waive the evaluation fee if you can schedule your appointment before the extreme weather hits our area. Thanks again for your business!


ComfortMaxx AIR — Cooling System Air Test Visual Report

Customer Details
Michael & Kelly Smith
4608 Ironwood Avenue
Seal Beach, CA 90740
562-555-1212

Contractor Details
ABC Heating and Air Conditioning
PO Box 147
Los Alamitos, CA 90720
800-633-7058

Location: "Home" (Residential) | Address: 4608 Ironwood Avenue, Seal Beach, CA 90740 | Main Contact: Michael & Kelly Smith, 562-555-1212

Tested by: Scott Johnson on Mar 11, 2016 9:15 AM | Test ID: 13528 4733 | System: Whole House, Split Heat Pump | Area Served: Whole House, 1642 Sq. Ft.

Fan Airflow

Required Fan Airflow	Measured Fan Airflow	Percent of Required Fan Airflow
1400 CFM	857 CFM	47%

The system's fan moves cooled air from the equipment through your duct system. To achieve the comfort and efficiency you expect and deserve, fan airflow must be 90% or higher. Low fan airflow is a leading cause of discomfort, high utility bills, and premature equipment failure. High static pressure is the most common cause of low fan airflow.

47% of Required

Total Static Pressure

Existing Pressure	Existing Pressure	Total Static Pressure	Rated Total Static Pressure	Percent of Rated
0.3 in. w.c.	0.7 in. w.c.	1.2 in. w.c.	0.8 in. w.c.	150%

High static pressure can best be understood by comparing it to high blood pressure. Just as high blood pressure causes many negative health consequences and shortens life, high static pressure has the same effect on your air conditioning system; High total static pressure is the most common reason for low airflow.

150%

five years. We break these down into groups – customers with readings that are over .70 get personalized emails to talk about what that means and what next steps we can take to correct it.

Lord Kelvin (William Thomson), a well-noted mathematician and physicist (ncilink.com/kelvin), wrote "When you can measure what you're speaking about and express it in numbers, you know something about it. But if you cannot measure it or you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind."

That's the ideal I strive toward achieving. I'm measuring and doing duct calculations. It makes a difference to our customers who are being delighted by the results we can achieve.

We've hired a new person in our office who is helping us with digital marketing and processing paperwork, inputting data, and handling our spreadsheets. She creates a form letter specifically for those customers.

The letters are very personalized and say we've been going over the measurement reports our tech created and found some things that might warrant having a closer look. The letter goes on to explain how we want to make sure everything is working correctly and safely. We may have to tweak things a bit. I want to make a no-cost appointment to check it out.

I then call and set up the appointment. These calls typically end with me selling them additional service or even a system replacement.

The three pages depicted to the right are a sample from the PDF that Canco sends out to customers to address the results from testing their systems.

When things get busy and we fall a little behind, these reports are always helpful in following up with the customer later and potentially making more sales. Our ComfortMaxx™ reports are essential lead-generation tools for us.

Furthermore, very few, if any, of our competitors follow up with customers in this way. People talk about that. Word of mouth promotion is also a keen way that we generate leads.

CHALLENGES

Because our lead generation relies so heavily on our technicians, they must be all on board with properly testing static pressures and measuring temperature rise. At Canco, our installers do this on EVERY job. They understand the importance of measuring. They get it.

But some of the service guys don't think it's important. That's our challenge. Add in the pandemic, a need for social distancing (and reduction of meetings/training), accountability has fallen off a bit. So, we need more training to get everybody back on board. I know many of my techs face the expiration of their airflow performance certifications. I have a valid reason to get everyone back into training.

The good news is that training and certification are so invigorating for me AND all my field techs. We all need reminding of how necessary testing and measuring is for the customer issues we need to solve any potential problems coming down the road.

Another issue common to many HVAC contracting companies is the inability of technicians to communicate clearly with customers. In terms of interpreting their measurements into meaningful information for the customer, our techs are not quite there yet. That is why I look at all the reports to see how far a system is out of line and then go back to the customer to recheck it and offer solutions.

> "RENOVATING MEANS SOMETHING VERY DIFFERENT FROM REPLACING THEIR SYSTEM, WHICH TAKES US TO A HIGHER SALES CYCLE LEVEL. PEOPLE ARE TYPICALLY MORE OPEN TO THE SUGGESTION TO RENOVATE THEIR SYSTEMS."

By the way, training also helps build confidence. No tech wants to trip over themselves trying to explain something until they feel confident that they know what they are talking about. Once we help them become more confident, we will see more leads coming in based on their conversations with customers.

SELLING AND LEAD GENERATION

I often talk with customers about airflow by comparing it to a person's blood pressure. I'm working on building clean visual aids I can share with customers on my iPad or over a virtual conference call. Tools like the NCI Blood Pressure Chart help a lot.

The ComfortMaxx report itself is an essential visual aid. It gets customers to ask questions because they can see that things are not right with their systems. Then they ask how we can fix it, and they usually buy the repair.

This process alone builds strong lead generation for us. We find our customers getting so excited about being a part of the solution, and they tell their friends, neighbors, and family what a cool experience they've had with Canco.

Because I'm a salesman, my job is to offer different opportunities for customers with varying equipment choices. I use an app on my iPad called Air System Upgrades, and I use that to show customers that what I am offering is to "renovate" their system.

Note: *the above-mentioned app is from a training program Canco went through with Tom Wittman and isn't available in the Google or Apple app stores.*

Renovating means something very different from replacing their system, which takes us to a higher sales cycle level. People are typically more open to the suggestion to renovate their systems. But I always make sure to price out the renovation, explain how we will test the system after finishing the work, and then see if there's anything more we can do.

Customers tell us that no one else talks about doing that type of work.

I'd guess that around 95% of the people hire us because we helped to educate them. Then they proudly tell their friends, neighbors, and family about it. We also share the appropriate Home Comfort brochure from NCI. We leave these with customers, and my guess is that they share the documents with others.

But today, many people don't want "paper" products. There is a big move to do everything paperless. So that's another challenge we have. Leave-behinds and third-party endorsements need to be electronic documents, and I am working to make that so within my sales presentation.

LEAD TRACKING

As the team at NCI preaches, "If you don't measure, you're just guessing." This is true when it comes to the company's business side, and right now, we are not that great at measuring and tracking our leads. We recently upgraded our service management systems and are in the process of creating such tracking. It involves creating and using forms that will enable the system to track sales and leads.

Once we get this done, we will be able to document sales and lead statistics, then pull reports. This will allow us to interpret that data and better manage our marketing and our internal and external processes.

The plan is to be able to track the number of leads generated from testing, the number of sales closed from those leads, and possibly using the data to set lead goals for each technician.

In the end, I believe that our approach to creating leads and closing sales is based more on our customer education process and our approach to testing and measuring. In the future, with a real-time ability to track those leads and sales closings, we will move even further ahead of our competitors as High-Performance HVAC contractors.

Will Horner *is the sales manager and HVAC system analyst-trainer at Canco ClimateCare in Newmarket, Ontario, Canada. He joined Canco in 2005. He is a firm believer in training. He has taken all the HVAC design courses offered through The Heating, Refrigeration Air-Conditioning Institute of Canada – Skilltech Academy. Horner holds current designations as a Residential Air System Design Technician and Residential Hydronic Design Technician. You can reach him via ncilink.com/ContactMe.*

Your April PowerPack Is Here!

Welcome to your April NCI Membership PowerPack!

Hopefully, you were able to take advantage of all the great tools from your March PowerPack. Last month, the focus was on airflow, and we shared four tools for you to use.

This month we provide you with content and training to help you and your team with air balancing tools and how-tos.

Please Note: Some of the tools included in the PowerPack each month *may not normally be accessible with your membership subscription package.*

However, you will be able to access these tools through this PowerPack portal during the current month.

So, here is your April 2021 PowerPack:

- **Advanced Temperature Diagnostics** (Webinar)
- **Master HVAC Pressure Diagnostics with NCI Static Pressure Budgets** (Webinar)
- **Essential HVAC System Renovation Tasks** (Webinar)
- **How External Filter Racks Impact TESP** (Article)
- **The Biggest Assumptions Made When Charging an HVAC System** (Article).

Be sure to share the April PowerPack with your entire team. Just go to **ncilink.com/PwrPak** to access it today.

If you have any questions or cannot access any of the tools in this program, please contact us at 800-633-7058.

NCI's Summit 2021 to be Held in Branson, MO

Ladies and gents – great news! National Comfort Institute's ***in-person*** High-Performance HVAC Summit is back. Mark your calendars for ***August 30 through September 2***. That is when we kick off the 2021 edition of Summit at The Chateau on the Lake in Branson, MO (**ncilink.com/Chateau**).

Branson is an excellent location and a great place to make Summit a working vacation spot for you and your family. The city is nestled in the heart of the Ozark Mountains in Southwest Missouri. This destination vacation spot boasts many outdoor activities in the mountains and on the lake. Plus, more than 50 theaters and music venues line the main drag known as 76 Country Boulevard within the city.

Family activities abound, from theme parks to showboat cruises, The Titanic Museum (among others), and so much more.

The Chateau on the Lake is NCI's headquarters hotel. It's located on Table Rock Lake, a short 10-minute ride away from Branson's entertainment district.

By the way, Table Rock Lake offers chartered fishing, water sports, boat rentals (kayaks, canoes, and motorboats of all shapes and sizes), and of course, beaches. So think about making this year's Summit into an event for the whole family.

Mark your calendars for August 30 to September 2, plan to stay through Labor Day, and get ready for one of the best Summits yet!

Stay tuned here, and remember to check **gotosummit.com** for more information on the Summit itself, registration, pricing, and exceptional hotel packages as it becomes available.

The Newest Training Videos Are Online Now

Another great benefit of being an NCI member is having access to the video training library. Over the past five to six months, we've recorded more how-to videos specifically for High-Performance HVAC contractors. The short videos are focused on helping you on your High-Performance HVAC™ journey.

Two of the new videos are hosted and taught by Casey Contreras – an NCI field coach and trainer.

These include **Where to Measure TESP on Air Handlers** and **What Instrument Do You Need to Complete a Certification Report**. Go to **ncilink.com/vidlib**.

All NCI videos are very hands-on. Each of the two newest videos is under four minutes long.

They hone in on specific skills that your technicians need to measure TESP on handlers successfully and what instruments they need to complete a system certification report.

If you have any questions or need help accessing the video library, call the NCI Customer Care Line at 800-633-7058.

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Go to **ncilink.com/ContactMe** with your comments and questions.

By Dominick Guarino

Make Your Customers Smarter Than Your Competition!

Dominick Guarino is publisher of ***High-Performance HVAC Today*** magazine and CEO of National Comfort Institute, Inc. He can be reached at ncilink.com/ContactMe

This month's "One More Thing" is directed at anyone in the HVAC industry who sells to homeowners. This includes salespeople, comfort advisors, service technicians, as well as owners and managers of HVAC companies who wear some or all of these hats.

In this article, I'll share with you a secret that could make an immense difference in your closing rate, average sales ticket, and most importantly customer satisfaction.

THE SECRET

When you perform basic testing on every sales call and educate your customer along the way, they will likely know more about their system than any contractor that came before you, or any contractor after, should they get additional quotes.

When you educate your customer while testing their system, you teach them to effectively dismiss any competition who does not test and educate.

To do this successfully you must follow the three steps below, in sequence, on every sales call. It also works on a service call when quoting a new system.

STEP 1:

Once you establish an initial rapport with the customer, explain that your company does things differently. Describe how you've been trained to test their system to understand how it works so you can offer them the best possible solution.

Explain in laymen's terms what static pressure is and how it affects airflow and their comfort. Keep it simple: use a chart that compares it to blood pressure. Then explain how you will install test ports at their equipment to measure it.

During this step, be sure to ask key questions related to their safety, comfort, health, and energy usage. When you think about it, when prompted with the right questions, there is no one who knows more about that home than your customer.

STEP 2:

Install static pressure test ports, perform basic testing, and interpret airflow. If at all possible, have your customer with you while you're testing.

If the equipment is in a crawl space, attic, or on a rooftop, take pictures of the readings so you can share your findings with them.

A free, simple smart device app like AirMaxx Lite™ can help strengthen your credibility and visually show your customers the health of their system.

STEP 3:

Create options for improving the customer's system when replacing the equipment. It's up to your customer how much or how little they want done. At a minimum, you should include the work to allow the new equipment to operate reliably. This benefits both you and your customer.

Next, explain how your company doesn't just promise quality, you will **prove** it by showing how their system performs after you complete the work. By now, you should have built up so much trust it will be easy for them to believe you.

If you did these three steps properly you shouldn't have to ask for the order. Most customers will see you as the obvious choice and ask when you can get started.

There will always be price shoppers out there, but most people are really value shoppers. No one inherently likes to be sold, but we like to buy. By offering to do more than just swap out an old piece of equipment, you give your customers an opportunity to buy a valuable solution that helps them improve their homes and their lives.

Need some help? NCI offers an online Performance-Based Selling class. This class takes you through the entire process and includes the materials you need to perform it properly from start to finish. CLICK HERE or go to ncilink.com/PBS to learn more.

Aug. 30 - Sept. 2, 2021

Save the Date!

HIGH-PERFORMANCE
HVAC SUMMIT 2021

NCI's High-Performance HVAC Summit 2021 will be held live, in-person in Branson, MO. (COVID-permitting)

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