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Your Culture, Your

BRAND

ALSO IN THIS ISSUE:

- **New Technicians: Why Proper On-boarding and Training Are So Important**
- **Benefits of Doing Computerized Load Calculations**





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Two Gas Residential Combustion Analyzer



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High-Performance HVAC Contracting As A Brand Culture



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

Over the years, contractors who use the High-Performance HVAC contracting method have heard us talk about how **performance as a brand** should be brought into your company culture.

We discuss things like implementation, consistency, testing, and measuring, then using that data to explain to customers what is needed to make their systems work as they should. We show how a high-performance approach can help to solve comfort problems no one else can even find.

PERFORMANCE AS A BRAND CULTURE

In marketing circles, what we've talked about is called creating a **brand culture**. Think of your high-performance approach as the DNA that culture evolves from.

This DNA includes the promises, expectations, and goals which drives your business. Even if you don't formalize this DNA, you create it every single day you are in business, whether you realize it or not. Your brand is reflected in everything — the appearance of your vehicles, how your technicians look and act in the field, even how your customer service representatives answer the phone.

You can control your brand, if you consciously create a culture with that brand at the center. How? It begins with the company owner and management team's vision and mission.

THE ROLE OF TRAINING

As more contractors choose to embrace the concepts behind High-Performance HVAC, they need to understand that it requires investments in training — not just your techs in the field on how to test, measure, diagnose, and solve customer comfort issues, but also training on the behind-the-scenes processes that support those techs and the performance mission. Those processes become a major

part of your company's culture. Many marketing experts will tell you that *"culture in the branding landscape is the fundamental structure of the company."* That is the brand culture.

BRAND CULTURE AND MILLENNIAL VALUES


Did you know that today, members of the Millennial Generation are considered the largest buying group in the U.S.? According to a study done by an organization called 5WPR, 83% of millennials want to do business with companies that align with their values. You can check out their report here: ncilink.com/CultureRpt.

If your brand culture is built on positive values, people will want to be associated with it. By the way, what is a more positive value than a high-performance approach to HVAC contracting?

MAKE PERFORMANCE YOUR DNA

Our cover story focuses on how John Boylan of Lakeside Service has created a brand culture both inside and outside the business. Read about how Lakeside's "DNA" revolves around providing 100% customer satisfaction through high-performance HVAC testing, measuring, diagnosing, and solving comfort challenges.

Now think about this: If a growing percentage of their customers are made up of millennials, then a brand culture of performance would be attractive. For such a culture to thrive, Boylan says he believes employees must fully understand and implement it into their daily routines. Again, training is the key.

So as we move into 2023, make performance part of your DNA. From the team here at **High-Performance HVAC Today** to you and your team, season's greetings and have great success in the coming year. 

Written by HVAC Professionals for HVAC Professionals

FIELD CONTROLS BAROMETRIC DAMPER CONTROLS

Anyone who has encountered a gas-fired appliance in the field is familiar with a draft hood.

Draft hoods have been linked to many health and safety issues within a dwelling, from people developing minor flu-like symptoms to more extremes including death.

For a gas-fired unit to operate correctly, dilution air is a necessity. Air from the room must go through the draft hood and mix with the flue gas.


The problem with draft hoods is they can't control how much air goes in – there is a point where too much enters the draft hood and prevents the flue gas from exhausting the unit, creating CO.



Barometric damper controls – like the **Field Controls Type MG1** – are also known as draft regulators. They replace the draft hood on traditional natural draft equipment. It controls how much dilution air mixes with the flue and controls combustion air to the burners. It is a simple but very effective way to provide safety and efficiency to the end user.

This control is designed to be double-acting for natural gas and propane systems and single-acting for oil. Barometric dampers can be ordered in sizes from 4 to 32-in.

By installing a damper such as the Type MG1, heat transfer can improve by slowing down the flue gases produced by the appliance. You can provide maximum safety using an additional thermal spill switch attached to the barometric damper control, the thermal switch will sense the increase in temperature and shut the unit down.

Learn more about the **Field Controls Type MG1 barometric damper control** here: ncilink.com/MG1 

-- by Casey Contreras, instructor, National Comfort Institute



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The Performance Approach: Your Culture, Your Brand ...

Did you know that you have a company culture, even if you don't consciously create one? At the same time, you have a company brand, even if you never developed one on purpose. It doesn't mean it's good or bad; it just is.

In the High-Performance HVAC contracting world, we focus on testing, measuring, and delivering HVAC system performance to our customers. Our friends at National Comfort Institute will tell you that you must create and build a performance culture within your company to deliver the comfort and energy efficiency that customers expect and deserve.

In the marketing universe, this is having a **brand culture**. The term refers to the promises, expectations, and goals which drive your company. Your brand culture is your ethical compass as a business, the way you organize your priorities, and even how you deliver meaningful experiences to employees **and** customers.

At Lakeside Service, our brand revolves around providing 100% customer satisfaction every time. That relates to a performance contract inside our culture that says we must deliver that satisfaction and do it well.

We're always looking for better ways to do everything from installing a furnace, designing ductwork, and performing maintenance to viewing service problems from a holistic standpoint. That means we look at things like static pressure, airflow, and actual combustion numbers.

This approach goes beyond carrying a combustion analyzer if you want to check for carbon dioxide. It requires knowledge of how HVAC systems work.

That's what home performance is all about.

When my team knocks on customers' doors, they have the knowledge to properly use tools and instruments like the manometer, combustion analyzer, and airflow hood. They also understand what those readings mean and how they can use that information to solve customer problems and deliver on that 100% satisfaction guarantee.

A Brand Culture refers to the promises, expectations, and goals which drive your company. Lakeside Service's brand is 100% Customer Satisfaction. Our culture is High-Performance HVAC Contracting.

A CULTURE OF TRAINING

For Lakeside to do these things, we continually invest in training our technical team so we can provide customers with a higher level of value. Then we implement that training into our daily routines on every sales call, installation project, service, and maintenance job.

We started doing this a long time ago, and though it was hard, it's been super successful in the long run. It eventually BECAME our culture. We've been producing a better product since we implemented system performance.

Measuring and testing static pressures, temperatures, airflow, and more on every call is just how we do business. It is now the norm.

- Our guys can't perform maintenance and fill out their checklist without doing performance testing and diagnosis
- Our team can't do a sales call without measuring ductwork. This is our standard.

So, from an internal branding standpoint, we promote high performance through training and daily process. It's how we do business. Everybody holds each other to that standard here.

TAKING OUR BRAND AND CULTURE TO THE CUSTOMER

But how do we turn that into something the customer sees value in? We do that by documenting everything by creating something we call a portfolio. This portfolio is a collection of customer measurement data where we can show a percentage of improvement. Then we can market that to our team. What better way to explain **why** we do **what** we do?

'Look how we made other customers' systems work better than if we had just changed out their equipment.'

Next, we plan to use this same information in our external marketing. This will help educate customers on the benefits of our approach.

By documenting it, we can show customers the facts. People are smart. If they see the average improvements we've made in other people's homes, that will sell them.

We can say, *"Here are all our clients who had similar problems to yours, and what our process did to not only correct the problems but truly improve comfort and save them energy dollars. Here's what these customers chose to do and how it improved their systems."*

The portfolio also shows potential clients that other people are investing money and fixing these issues with solid results.

Think about those television commercials that promote numbers: *'Nine out of 10 dentists recommend this*

because of that.' They do the numbers because people buy based on trusted testimony.

For Lakeside, we promote our brand by sharing trusted testimony. *'Your neighbors did this, and it worked. It's up to you, but it's worth doing.'*

BRANDING USING THIRD-PARTY ENDORSEMENTS

This portfolio approach is becoming part of our marketing. We also discuss our brand culture using third-party endorsements and materials from organizations like National Comfort Institute. We use a lot of their collateral material to help raise consumer awareness by finding ways to get them to ask about High-Performance HVAC **before** our team arrives at their house.

This collateral includes facts like 80% of duct systems are sized improperly. Again, third-party experts make a case for us.

We're currently working on an email promotion for high-performance sales and installations. Anytime a customer sets an appointment for new equipment, we will send an email explaining how long the installation will take and why. We'll present load calculations, recommendations from the Department of Energy, and so on.

The email positions our salesman to have a conversation with the homeowner. This is where the portfolio approach I am working on will come into play.

In the meantime, part of that conversation includes what makes Lakeside different. We go beyond showing our numbers and history.

Our third-party partnerships also help set us apart in our marketplace.

These endorsements show how our brand culture benefits the consumer. For example, Lakeside Service partners with [Pearl Certification](#). Pearl is an organization that makes high-performance home value visible to help homeowners, contractors, builders, energy raters, and real estate professionals. It's a tool for homeowners who want to understand how their homes perform, showing them how to improve that performance.

Why do this? Because our competitors tell consumers they also do what we do, or some version of it. We've successfully used Pearl as a third-party validation body to prove what we say is true.

In our market, we're the only Pearl Pro contractor. That means we get to tell consumers that a third party validates our work and puts it on a registry. The homeowner can then use that to help improve the value of their house.

In general, Pearl is raising the level of awareness that not all HVAC jobs are equal. There's a significant difference between what Lakeside Service does and what other companies do.

KEY PERFORMANCE INDICATORS

When it comes to measuring how

successful we are, we track opportunities. We track jobs that convert into money: revenue from a sale or installation, a service call, a plumbing call, or whatever.

When it comes to system performance, once we complete our installation and do the startup, we measure the system all over again. Those results are returned to the office, examined, and entered into our computer system.

Data is only good if it is used. At Lakeside, somebody is always **touching** this information. They may not be analyzing it, but it's recorded and used. Our number one metric is the **callback percentage**. The lower that number, the better. Our Service Titan software tracks this.

We also use online reviews as a key performance indicator. At Lakeside, customer feedback is critical.

For example, if we sell a job and tell the customer that we will do x-number of things to improve comfort in a particular room by increasing airflow to this level, we then go back and verify it. We make sure it works. If it doesn't work, we redo the work until it does. That goes back to our 100% satisfaction guarantee.

How can we do this?

We use checklists on every job to record all the High-Performance HVAC measurements.

When you use the same process on every job, your installers and service techs behave differently. They know their information is being recorded and will be used by the next tech during annual tune-ups. Knowing that

another tech will look at your measurements and then retest the system, you want to be sure to be accurate.

WALKING THE WALK

None of this happens overnight. It's taken us years to learn to walk the high-performance walk. I found the secret was being intentional about it. You must consistently test, measure, diagnose, and repair, and – in our case – guarantee 100% satisfaction. You must deliver on your promises and prove them every time.



Today this approach has a positive impact on our business. It improves referrals, increases our team's pride, and leads to our techs becoming craftsmen.

And we promote the idea that their work is an opportunity to put their signature on it like a real artist.

Our guys have started to grab onto that. They take pictures of their work on nearly every job.

When you walk the walk, the word gets out not only to customers but to potential employees as well. Our reputation and involvement with a

local trade school led to instructors discussing Lakeside as an example where students should want to work.

The high-performance approach allows service companies to provide superior service and attracts employees and customers. What young man or woman doesn't want to work for an HVAC company that can find and solve customer issues that most other companies can't figure out? In the end, that's where the rubber meets the road.

All of these things have become part of our brand culture. Put another way; our internal culture is our brand. If you want to stand out and be the best, developing a high-performance culture and approach is among the best ways to do that.

ETHICAL COMPASS

Once you learn a truth, you can't unlearn it. Once you know how performance testing works and use that approach successfully, people begin to believe in you and what you do.

Our high-performance brand culture is Lakeside's ethical compass and how we provide value to customers AND employees. I feel it's our job to find ways to implement this, make it affordable, and get it to as many customers as possible. It's simply the right thing to do. **NCI**



John Boylan is the general manager of Lakeside Service Company in Brighton, MI. The company specializes in designing, engineering, and installing complete comfort systems in new and existing homes. To

contact John, go to [ncilink.com/Contact Me](https://ncilink.com/Contact-Me).

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Why Proper On-Boarding and Training are so Important

Over the last two or three years, our business has seen significant change. From pandemics to supply chain issues and inflation, much has changed in our world. Though that sounds negative, we were blessed by incredible growth during shutdowns and the adaptation of a work-from-home culture across the country.

In fact, we grew from \$9.9 million in sales in 2018 to \$13.1 million in September 2022, and we are well on the way to achieving forecasted sales of roughly \$17.1 million for the year. Such growth requires adding more field service and installation technicians to continue providing the same level of service we are known for in our markets.



We attribute these growth numbers to our company focus and culture. Three to four years ago, our residential installation business would have been around 35% of total revenues, and commercial would have been at 46%. Our focus back then was on commercial construction. But that is a time-consuming piece of business that requires a lot of dedicated manpower.

Then, in March of 2021, [Getzschman Heating, LLC](#), merged with a national company called [Turnpoint Services](#), and that revitalized our focus on growth. Turnpoint focuses on training employees and company growth. They believe you can't have that without culture and philosophy in your business. Lack of training, in my experience, negatively affects productivity, profitability, and morale. So, this merger was timely and an excellent fit.

With their help, we refocused on growing our residential installation and service division. That allowed us to reverse those gross revenue numbers and increase profits. The result of that move is that today, our business is 46.5% residential replacement business. Commercial and residential new home construction is 39% of our gross, and commercial/residential service is 14%.

Quite frankly, this kind of change required us to train. You need more people available to do those installs.

TRAINING AND CULTURE

We have always focused on training. It's built into our culture and manifests itself in something we call our "G-Verify" approach to business. This concept is part of a marketing campaign that pushes fast and reliable service and backs it up with measurable and verifiable diagnostics.

At Getzschman, this differentiator sets our company apart from competitors. It requires technicians to be highly trained in what we call '**G-Verify System Efficiency Diagnostics.**'

We talk about G-Verify all the time — in our marketing, sales (through our comfort advisors), and our technicians. By the way: we don't conduct system verification during installation. We do it two weeks to a month **after** the installation.

We set a time with the customers for our commissioning tech to come out and do the verification.

During commissioning, if the tech finds anything deficient with the installation, he captures that information and recommends improvements. That's the last step for us to get back into the house to ensure our team did everything right so the customer receives their money's worth.

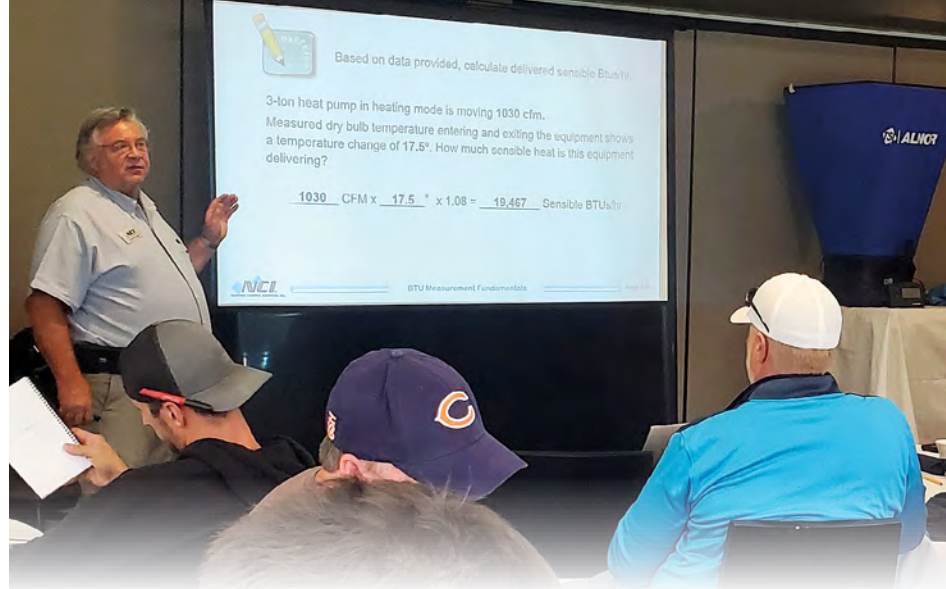
As a company, we ensure that whatever each group tells customers, we're truly doing. That means ensuring that every installation is verified to operate close to factory specifications.

TEACHING OUR CULTURE TO NEW TECHNICIANS

One of the things that made Turnpoint Services attractive to us was their philosophy of wanting **customers** for life and **employees** for life. This requires creating positive touchpoints for new employees. That fit so well with our approach that we formally have adopted it into our focus.

What does this mean? When we hire a new person, no matter if this is their first time in the HVAC industry or if they come from a different HVAC company, we want to make sure someone is spending time with them. That person, the owner or a manager, goes over the company handbook and explains the company's expectations. We go over our benefits and talk about our G-Verify approach. That includes discussing our training programs, our career choices, the benefits we offer, and more.

This introduction doesn't just happen on the first day. It happens from day two through day 90 and into the following year. We want the new



employee to feel important and part of our family and team. We teach, and we follow up on how they are doing. That is G-Verify.

As they progress and begin working in customers' homes, we follow up with them to see what they need and how they feel. That is G-Verify. And once they become adept at our HVAC system performance approach, we get into data diagnosis and remedies with them. That, too, is G-Verify.

Since the COVID pandemic's onset, employee shortages abound across all industries. That has forced us to hire people with little or no experience in heating and air conditioning. We teach them about HVAC, airflow, carbon monoxide, and so on.

For example, we hired a guy who was our uniform delivery person. We hired him, put him through training, and he earned his certification in system performance and carbon monoxide. This person wanted to work. He enjoyed delivering uniforms to our company and saw that Getzschman took good care of their employees. Because of that, he wanted to come to work for us. He's been with us for about two years. We are very excited about him.

TYPES OF TRAINING

Because training is a huge part of who we are as an HVAC company, we

use all the resources available to us – internally and externally. We are active members of trade organizations like **Nexstar** and **National Comfort Institute**. The first one provides us with third-party business and management training. The second provides technical training.

We hire these organizations to conduct in-person training at our company headquarters in Omaha, NE.

On the other hand, webinar-based training has become a bit more difficult because of changes in how they are conducted. Once upon a time, you could gather your techs into a room, turn on a computer, and have techs participate together. To get credit for some of these classes today, everyone must log in themselves. That's been a little challenging because not all our guys have computers.

We are currently in the process of adding a 1,500-square-foot training area. That space will include computer stations where each tech can get online, log in individually and participate in those classes.

SPECIFIC NEW TECHNICIAN TRAINING

In most HVAC companies, technicians fit into one of three groups: seasoned "senior" techs, "junior" techs, and new techs. It doesn't always work well to train them all together. At our

company, the only exception to this is safety training. Everybody must take that class no matter how long they've worked for us.

We also hold companywide meetings that everyone attends. But training is divided by group.

For those new technicians on the residential side of our business who are serious about careers, we first send them to the [Ultimate Tech Academy](#) (UTA) in Little Rock, AR. For those we send, we make an agreement with them regarding the overall cost. Not only are you paying them every day to go to this class, but you pay for the flight to get them there and provide a per-diem daily for hotel and food. Plus, there is also the cost of the class itself.

The UTA programs help to get them up to speed as quickly as possible. Then, when they get back, we have programs to refine everything they just learned. Such programs include night schools and taking HVAC classes right here in Omaha.

From there, we begin moving them through manufacturer training, our in-house training, and then more technical programs like those offered by National Comfort Institute and other national training organizations.

Not every employee wants to go down that path. You have to pick the right person, cultivate their desire to succeed, and help them grow. That's the challenge.

Commercial technicians typically don't need the same level of training. Why? Because they're basically out in the field and installing ductwork, but they're not doing high-performance contracting work. Installations are based on blueprints, which require

different types of training. For them, though, it's primarily hands-on training in the field.

TRAINING MANAGEMENT

As you can see, this is a lot of training, and as we have grown, staying on top of it has become more challenging. Until now, we've relied on our techs to track what training they've taken and what they want to take next.

That process no longer works well because it's very easy to lose track. We have 71 employees, with around 25 focused on commercial work. The others are our residential service and installation techs. A full-time training manager is becoming more apparent, and we budgeted for that in 2023.

ATTRACTING NEW TALENT

The good news is that by creating a culture of training in your company, you can also create another means of attracting new talent. Let's face it – finding and hiring the right people is more challenging today than ever.

At Getzschman, our challenge is our location. We're in the central United States, but not a highly populated area. So it isn't easy to find trained technicians and trained commercial installers with whom we want to work.

The good news is that since our merger with Turning Point, we've become a part of a national company with recruiters focused on finding talent and bringing them into the company. Today, this boils down to finding someone with a good work ethic, who wants to learn a trade, and is eager to work.

That's the person we want, no matter their background. We can take care of the training. We've evolved to do


that because that's the only way we've found people.

ONE MORE THOUGHT

Ultimately, we cannot do everything alone as owners and partners in an HVAC business. Our company has benefited tremendously from partnering with third-party organizations. The technical training and information we've received from National Comfort Institute over the years are critical to our overall success.

If you belong to such a group or are considering joining one, do so. Be sure to take advantage of everything they have to offer. From training to networking, these groups are worth their weight in gold.

But don't stop there. It's entirely up to you to take what you learn and mold your business culture into something greater than it was. You do that with training so your team can provide customers with better installations, systems, and service.

A company is a tool to grow, to change lives, and to help improve the lives of the people who work for you. By doing these things, your business will grow. This is undoubtedly the case for Getzschman Heating – not only for our employees but the management team and our families. 



Scott Getzschman and his brother Ron, are the owners of Getzschman Heating LLC., Fremont, NE. This award-winning contracting firm has been recognized by local and national associations and trade groups for achievements in training, sales, and community service. Getzschman employs 71 people and serves the HVAC residential, commercial, service, and new construction markets. To reach them, go to ncilink.com/ContactMe.

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Contact us to find out how to have this training near you!

Learn more about NCI'S High-Performance HVAC Design and Redesign:

ncilink.com/DesignRedesign

Benefits of Doing Computerized Load Calculations

For many years contractors have resisted doing proper HVAC load calculations. After all, it is just so fast to apply a square foot per ton figure, like 500 sq.ft./ton, and just be done with sizing the HVAC equipment in seconds.

You will never be undersized if you use a conservative number like 500 sq.ft./ton. So what if the equipment is oversized a bit? No one really complains unless the equipment is too small, right?

That is the thinking that many HVAC contractors use to this day. Too many contractors view load calculations as time-consuming and unnecessary. Another reason for thinking this is because calculation results sometimes are in rea-

sonable agreement with rule-of-thumb estimates.

However, modern building codes and building materials like spray foam and super low-E windows are causing homes to be built more energy efficient than ever. In some cases, we are talking about 1,500 sq.ft./ton efficiencies. Even for houses not built like refrigerator boxes with few windows, it is still very easy for a new home to calculate to something like 800 sq.ft./ton.

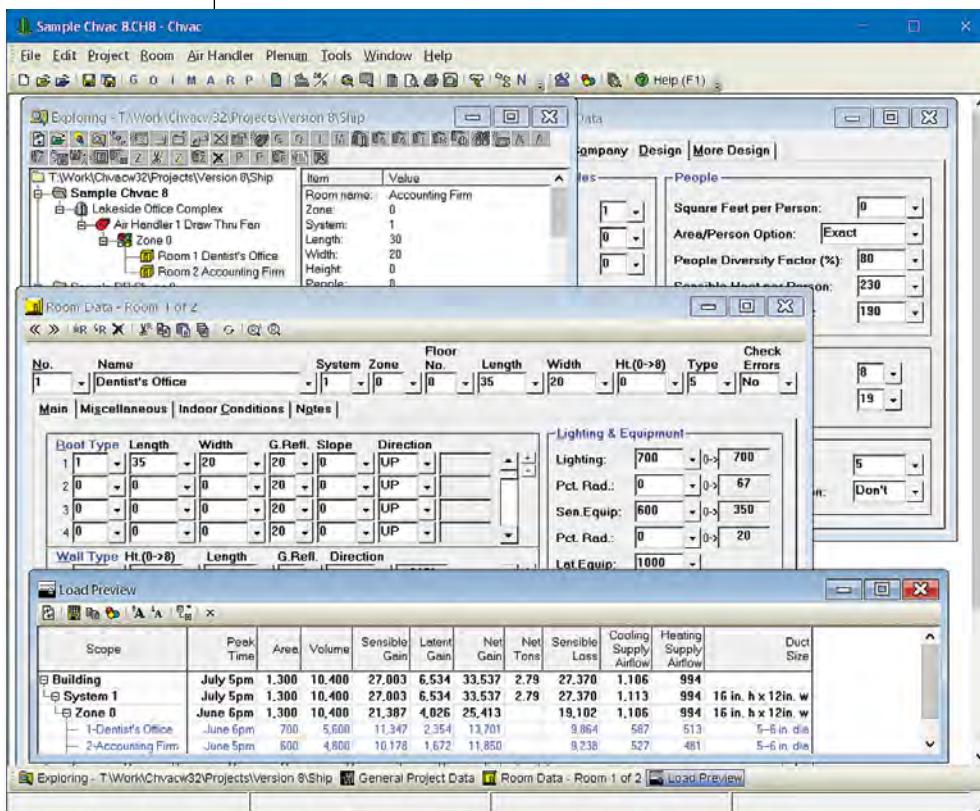
But not all residential structures are the same. Today, homes needing very small HVAC systems frequently happen enough that ACCA has published a manual entitled, ["HVAC Design for Low-Load Homes: ACCA Low-Load Home Manual."](#)

OVERSIZING DRAWBACKS

Oversizing HVAC equipment creates several significant drawbacks. One immediate disadvantage is the initial cost of the equipment. Condensing units, air handlers, furnaces, etc. always cost more as they increase in capacity. Your ability to win a project can be easily affected by proposing a system that costs more than a properly sized system. Sizing HVAC equipment using old timers' rule-of-thumb methods virtually guarantees an oversizing situation.

Another drawback to oversized systems is increased operating costs. An oversized system will short cycle, and there are power inefficiencies from frequently starting and stopping an electric motor.

Short cycling also leads to more



energy use because the evaporator coil goes back and forth from dry to wet as condensate evaporates into the air during the frequent off cycles. With a properly sized system that uses long compressor run times, the coil stays cold for long periods and prevents condensate evaporation back into the conditioned air.

The greatest drawback of an oversized system is the loss of comfort control. An HVAC system needs run-time to keep humidity levels in control. If oversized, the system short cycles, and humidity remains high in the conditioned space.

To counter this, occupants have no choice but to continually lower the thermostat and force more run time.

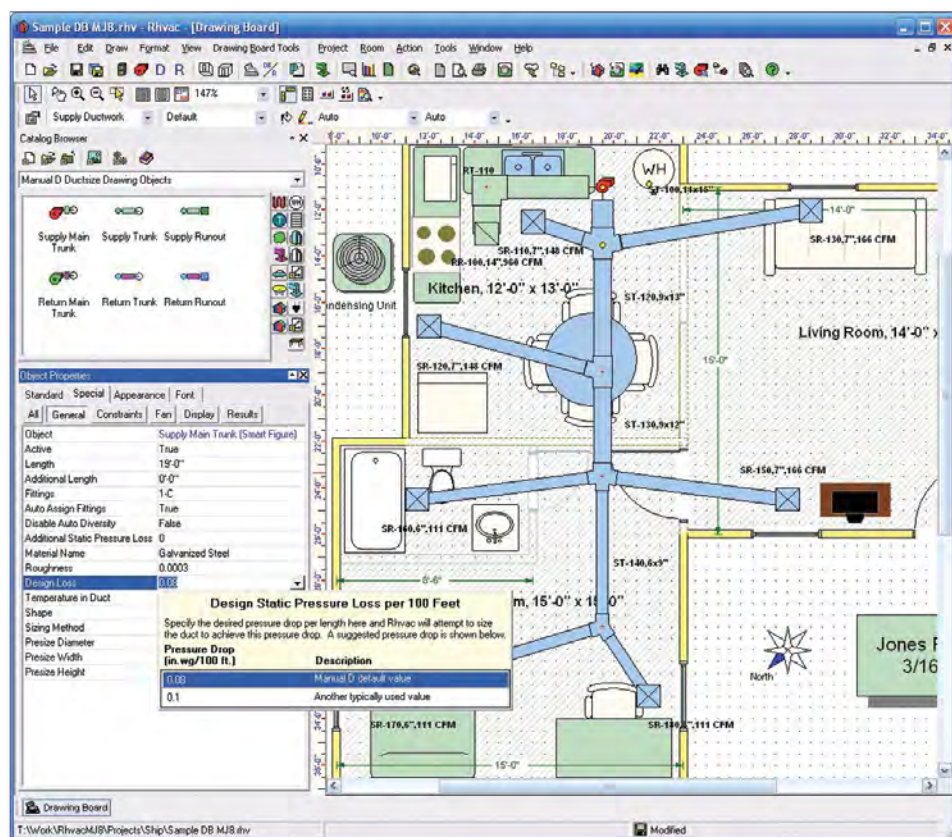
As they do this, the temperature in the space continues to drop, but the oversized system typically still does not run enough to control the humidity. In such a case, the occupant not only senses too much humidity but also starts to feel cold and clammy.

If an HVAC system is allowed to run for long periods in a cold and clammy mode, mold will also start growing.

For all the reasons explained above, correctly sizing HVAC equipment is very important for every HVAC contractor. Correct equipment sizing is done with proper HVAC load calculations. Unlike load calculations, rule-of-thumb methods don't consider each home's unique mix of building materials and energy-saving techniques.

HOW TO DO LOAD CALCULATIONS

HVAC load calculations can be done by hand or with software. By hand, the process involves looking up scores of load factors from the ACCA Manual J



design book and punching many numbers into a calculator while keeping track of numerous intermediate totals.

Even if you are using the free ACCA spreadsheet that does the arithmetic for you, the work of looking up load factors and typing them into the spreadsheet is still on you.

The process is streamlined using ACCA-approved Manual J software because all load factors for all building materials are built-in and applied as needed.

The only work the designer must do is to enter the dimensions of the roof, walls, and windows. They also need to know the quantities of people, lights, and appliance loads.

Manual J software typically provides a "fill-in-the-blank" manual data entry technique in which you type in data or use a graphic CAD (computer-aided drafting) data entry system.

The manual data entry approach is the easiest to learn as you do not need to know advanced CAD concepts like sheets, layers, scales, snap-to grids, etc.

WHICH PROGRAM TO CHOOSE?

Ideally, an HVAC contractor would use Manual J software that allows for simple manual data entry techniques and the more powerful CAD approach where a pdf of the floor plan is imported, and the building is drawn over the floor plan background. Elite Software's Rhvac program is an ACCA-approved Manual J program that provides simple manual data entry and advanced CAD graphic data-entry techniques.

Manual J software is primarily available for windows computers. Only the Windows-based Manual J computer programs have full CAD drawing capabilities. But there are some

web-based versions of Manual J software and one that is iPad specific. The web-based versions can run on computers, phones, tablets, and any device with internet access. At the acca.org site, you can see the complete list of all ACCA-approved Manual J software.

If you compare one ACCA-approved software against another, will there be much difference given that they both passed ACCA review? All the approved software will calculate the same bottom line results given the same input, but things like how you enter the data, what built-in help they use, and the report formats will be very different.


OTHER CONSIDERATIONS

ACCA granted all the approved software vendors wide latitude on how

Manual J data can be entered and reported. Naturally, all the software vendors claim that their software is intuitive and easy to use. However, ACCA requires every Manual J software vendor to provide all the data entry options from the Manual J book itself, and all those options can appear quite daunting to a new Manual J software user.

Since the user interface and data entry process are unique from one approved software to another, all HVAC contractors considering Manual J software should try their best to try out prospective software. Virtually all the approved Manual J software vendors provide future users with a way to test their software before buying it. Take advantage of those offers

and see for yourself how the software works.

Make sure you size HVAC equipment correctly for all your projects by doing a proper Manual J load calculation using ACCA-approved software. It's not as hard as you think, and the improvements you will see in all your projects will be well worth your time and effort. 



William W. Smith
is president of Elite Software (www.elitesoft.com), which he founded in 1979 in College Station, TX. Elite produces more than 30 computer programs for mechanical and HVAC design applications. You may communicate with him at: bsmith@elitesoft.com or 1-800-648-9523.



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SUMMIT 2023 REGISTRATION IS NOW OPEN

The 2023 High-Performance HVAC Summit will be a game changer. This event, which is open to the entire HVAC Industry, is for contractors who are looking to reinvigorate their teams in the high-performance delivery method as well as for contractors who are interested in finding out why High-Performance HVAC is so important.

There's no other event in this industry that is like NCI's Summit. It is THE gathering place for like-minded contractors and the companies that support them. This year the gathering is in Branson, MO - at the Chateau on the Lake Resort nestled in the Ozarks on the shores of Table Rock Lake.

This is a perfect spot to come to Summit and then stay for all the fun that Branson offers.

Now Is The Time to Register! First mark the dates of Summit 2023 on your calendar. It is April 16 to 20. Then be sure to register for the event and lock in your hotel rooms.

To make it easier for you to bring your entire team, NCI has set up special registration pricing. If you bring three or more people, you qualify for the biggest discounts available.

NCI Premium members get a **free** registration for the first attendee. A second registration saves you \$100 off the standard member \$645 price. If you bring three or more attendees, you qualify for

our three-pack price which saves you an additional \$50 (\$495) per attendee. The deadline for registering to get these discounts is Feb, 17, 2023.

NCI Learning Excellence members pay only \$595 for the first attendee. A second attendee will only cost \$545. If you bring three or more attendees you'll pay only \$495 each. Again, this offer is valid through Feb. 17, 2023.

Regular NCI Members only pay \$695 for the first attendee, \$645 for the second attendee, and \$595 each for three or more attendees.

Non-Members only pay \$895 for the first attendee, \$745 for the second, and \$695 each for three or more attendees. This pricing is only through February 17, 2023.

Summit Highlights: Special events at Summit include the following:

- NCI Partners Tradeshow
- Idea Meeting
- Awards Banquet and Ceremony.

Summit Sessions: Unlike in past years, the 2023 session won't be "taught" per se — instead NCI instructors will facilitate discussions between attendees who can share their experiences and lessons learned in a free-form environment. The sessions include:

- *Profitable System Upgrade Leads Through Testing and Diagnostics on Service Calls* – **Facilitated by Al D'Ambola**
- *Keep Customers Safe and Generate Leads with CO Safety and Combustion Testing* – **Facilitated by Jim Davis**
- *Increase Sales Success by Properly Managing Service-Generated Leads* – **Facilitated by David Holt**
- *Build Lifetime Customers with High-*

Performance Maintenance Agreements – **Facilitated by Jim Ball**

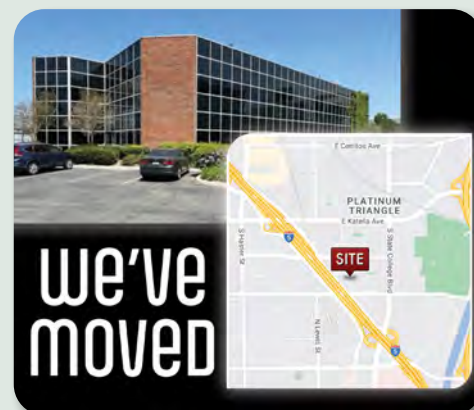
- *Deliver High Performance with Hands-on Diagnostics in Low-Performance Town* – **Facilitated by David Richardson and John Puryear.**

Summit Schedule: Click on the following link to see the 2023 High-Performance HVAC Summit schedule as it stands so far. Just go to: ncilink.com/Summit23Sched.

You can download the 2023 NCI Summit brochure by clicking this link: ncilink.com/23SummitBro.

If you plan on joining us in Branson, be sure to reserve your room in the "Castle in the Ozarks" as soon as possible. Space is limited. Just go to ncilink.com/Summit23Hotel to reserve a room and receive the NCI special rate.

NCI'S CALIFORNIA TRAINING CENTER HAS MOVED



National Comfort Institute (NCI) recently moved their Los Alamitos training center to Anaheim, CA.

The new location is at 2050 South Santa Cruz St., Suite 1000, Anaheim, CA 92805.

Effective immediately, all NCI training will be in this new location. If you have any questions or concerns, please call NCI at 800-633-7058. 

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Here's What's Changing

The Department of Energy (DOE) is increasing the minimum efficiencies for central air conditioners and heat pumps. The testing procedures for determining those efficiencies are changing as well.



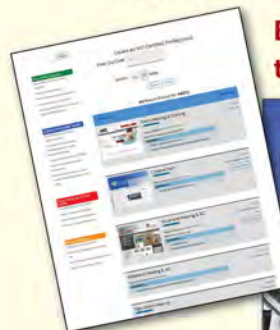
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In roughly 30 days, HVAC equipment sold in the U.S. must meet the newest energy efficiency ratings known as SEER2, EER2, and HSPF2. These ratings reflect the Department of Energy (DOE) M1 testing standard by which all manufacturers are now required to test and rate equipment.

There are a number of regional differences in specific minimum requirements, so it's important to learn what is required in your market.

Here is a link to HARDI's page on the standards: ncilink.com/RegStds.

In all cases however, the new standard requires air-handling equipment to be tested at Total External Static Pressure (TESP) of 0.5-in. of water column. **This is five times** the unrealistic 0.1 inches of TESP which was used up to now!

This is definitely a step in the right direction, but the truth is measured external static on most systems typically ranges from 0.8-in. to well over one inch! The bottom line is it's still up to technicians in the field to get statics under 0.5-in.

Besides higher-priced equipment, one of the main challenges facing contractors, distributors, and manufacturers, is the razor thin forgiveness of these new ratings. With inverter technology and other methods of achieving higher SEER ratings, the "**bell curves**," within which equipment can effectively perform, look more like upward pointing arrows with a very small sweet spot.

Installed conditions have to be near perfect, as anything less, and performance drops like a rock. Unless equipment is installed under real field conditions of 0.5-in. of TESP or less, customers will experience comfort and efficiency issues that could haunt our industry for decades to come.

HOW DO WE PROTECT OUR REPUTATION?

With all this change and uncertainty, how do we

keep our industry from getting yet another black eye? While the solution is simple, it is challenging to be certain: It's more important than ever that installers and technicians properly measure static pressures, airflow, and delivered Btus on every system they install and service.

Unfortunately, we have a huge knowledge and skills gap — it's estimated that less than 10% of our country's 500,000+ field personnel have the training, tools, and skills to properly test, diagnose, and correct these issues.

WHAT NEEDS TO HAPPEN?

First, we have to train all field personnel, including salespeople, to measure and interpret static pressures so they understand what they are dealing with on every system they touch. This initial step needs to become as second nature as checking temperature drop across a coil.

Second, whether through fan tables or other testing methods, they must be able to assess airflow at the equipment. By knowing airflow and temperature drop (or rise) across equipment, they can calculate delivered Btus. By measuring enthalpy, they can accurately determine both latent and sensible Btus.

Third, they must learn how to accurately diagnose the causes of high statics and insufficient airflow, and perform the necessary work to get these parameters into an acceptable range. This can be one of the toughest steps — it also requires getting customer buy-in.

This is one of the biggest hurdles for contractors to overcome. To succeed, their field people must be trained to educate customers in a non-threatening and persuasive way so they understand the benefits of getting their HVAC system updated to work with today's equipment.

Go to ncilink.com/SEER2 to continue. 

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