

FALL 2019

Sheet Metal

Journal

www.sheetmetajournal.com

Western Washington

LINCOLN
ELECTRIC

Bridging the Generations
SMART Heroes
ACCO Engineered Systems, Inc.
Leadership Skills



WESTERN WASHINGTON
Official Journal of
Record for SMACNA-WW

OUR CONTRACTORS SET THE STANDARDS FOR THE INDUSTRY



SMACNA-Western Washington is a trade association and a Local Chapter of the Sheet Metal & Air Conditioning Contractors National Association (SMACNA), which is located in Chantilly, Virginia.

SMACNA Contractors are heating, ventilating, air conditioning (HVAC), and sheet metal experts. They are your assurance of quality in the fabrication and installation of ductwork and air handling systems.

SMACNA contractors are also skilled professionals in:

- Architectural sheet metal
- Industrial sheet metal
- Kitchen equipment
- Specialty stainless steel work
- Manufacturing and custom fabricating
- Repair services
- Siding and decking
- Flow testing & balancing
- Energy management & maintenance

Well known and respected within the construction industry, SMACNA contractors provide the highest quality workmanship, professionalism, and service to their customers. They care about the life cycle of the project, not just the winning bid.

You'll find SMACNA contractors working in all areas of construction whether industrial, commercial, institutional, or residential.

SMACNA contractors developed the technical manuals and standards that today are accepted worldwide in the construction community. As leaders in their industry, they continue to adopt and apply the latest technologies to HVAC and sheet metal work. Everything from duct construction and installation to air pollution control, from energy recovery to roofing, from seismic restraint to welding... they do it all!

STATEMENT OF PURPOSE

The ultimate goal of SMACNA-Western Washington, Inc. is to achieve and maintain the following principles and programs for the sheet metal industry:

1. To establish advertising, publicity, and promotional activities that advise the public of the nature, extent, and availability of services performed by the industry.
2. To promote educational programs to formulate high quality standards of sheet metal construction.
3. To aid in the formulation of uniform sheet metal specifications and improvement of state and municipal codes.
4. To expose fraudulent or misleading advertising or representations intended to deceive the public.
5. To encourage and promote trade practices that will eliminate unfair competition or exploitation of the sheet metal industry.
6. To encourage and promote the establishment of a uniform pattern of payments by customers during the progress of jobs to avoid inequitable payment delays and economic penalties.
7. To provide a forum for the discussion of the common interests and problems of labor and industry, and to encourage and promote harmonious relations between labor and industry.
8. To encourage any proper activity that will increase the efficiency of the industry and its ability to serve the public.



SMACNA-Western Washington, Inc.
13810 SE Eastgate Way, Ste 445 Bellevue, WA 98005
Tel: 425-289-5010 • Fax: 425-289-5011
www.smacnaww.org



PUBLISHER / EDITOR

Jessica Kirby
Direct: 250.816.3671
jessica.kirby@pointonemedia.com

CONTRIBUTORS

Mark Breslin
Peter Boileau
Robin Camarote
Sarah Capelli
Kathleen Collins
Karen Forner
Norm Grusnick
Cynthia F. Young

COVER PHOTO

Courtesy of courtesy Western Washington JATC

ADVERTISING SALES

Christina Tranberg
877.755.2762 ext 1408
ctranberg@pointonemedia.com

CREATIVES

Lara Perraton
877.755.2762 ext. 1407
lperraton@pointonemedia.com

PUBLISHED QUARTERLY BY

Point One Media Inc.

Sheet Metal Journal - Western Washington
P.O. Box 11, Station A Nanaimo, BC V9R 5K4
Toll-free: 877.755.2762
www.sheetmetaljournal.com

While information contained in this publication has been compiled from sources deemed to be reliable, the publisher may not be held liable for omissions or errors.

Contents ©2019 by Point One Media Inc. All rights reserved. No part of this publication may be reproduced or duplicated without prior written permission from the publisher.

Printed in the USA.

Postage paid at Aberdeen, SD.

To update or cancel subscriptions please call 1.877.755.2762, email circulations@pointonemedia.com, or visit www.sheetmetaljournal.com

Official Journal of Record for
SMACNA-WW



Find Sheet Metal Journal
on Twitter and Facebook



12

FEATURES

Fall 2019

12

The Intergenerational Workplace

Bridging the gap between new recruits and experienced workers is about finding common ground, creating innovative partnerships, and seeing the best in each other.

14

SMART Heroes Gain More Than a Job

Hands-on training helps retiring military jump start new careers and find the camaraderie and cooperation they seek in a fulfilling livelihood.

17

Innovation from the Ground Up

ACCO Engineered Systems, Inc. brought a circuit board manufacturing company into the current age with new mechanical systems in a state of the art building.

DEPARTMENTS

4	Editorial Comment	20	Engineering
4	Calendar of Events	21	Code Corner
5	Guest Editorial	23	Legislative Update
6	SMACNA-WW Event Recaps	24	It's the Law
10	Industry News	25	Contractor's 101
19	Feature Focus	26	Advertiser Index

OPEN MIND, OPEN FUTURE

If there is a theme to the Fall issue of *Sheet Metal Journal-Western Washington* it is keeping an open mind and an eye on the future. This is, of course, on everyone's mind as the construction trades and workplaces in general are inundated with innovation, changing social theory, and a new generation. The workforce is sparse, the experience is retiring, and the technology is overwhelming. It is both an interesting and exciting time to be in business. One of my favorite expressions is, "The difference between and adventure and an ordeal is attitude," and I think it applies to all things chaotic. What kind of attitudes are we taking to our workplace development? To recruitment? To change in general? Now is the time to think deeply and make important changes about how to move forward into a bright but intense future.

This issue of *Sheet Metal Journal-Western Washington* features a guest editorial on how to upgrade one's leadership skills. The focus is being open minded and ready to adapt—change is the only constant in this world, and it never hurts to brush up on old skills while keeping an eye on the future. Giving new ideas a forum and, more importantly, a try creates a more cohesive, respectful, and motivated workplace environment, and you never know when someone else's idea is going to revolutionize the way you do business.

Everyone is talking about intergenerational differences in the workplace. The experienced, the new, the retiring, and the just-trained are working together with different perspectives and with different intentions, but all for the same reason—interest and passion for the construction trades. As anyone skilled in building social harmony will tell you, the only place to begin is on common ground. Check out page 12 for advice and tips on how to do that.

The SMART Heroes program is expanding at a rapid rate with classes running across America. Graduates from the program may end up with the training required to tackle an apprenticeship in sheet metal, but most importantly they



By / Jessica Kirby, Editor

are finding camaraderie, confidence, and connection within their training centers and going into the field. Read about how graduates are learning so much more than the craft on page 14.

The difference between and adventure and an ordeal is attitude," and I think it applies to all things chaotic. What kind of attitudes are we taking to our workplace development?

ACCO Engineered Systems, Inc. took on a complex project last year that brought a legacy company forward about five decades. The ground-up construction project required state of the art plumbing and HVAC systems and some innovative heat and air management programs. See page 17 for a look at what they did and how they did it.

Finally, be sure to take a peek at our columnists' work. Every issue these brilliant professionals share updates about the issues and topics most timely and important to the readership. Let us know your feedback so we can pass it on.

In the Winter issue of *Sheet Metal Journal-Western Washington* we will cover some of the most important trends affecting the sheet metal industry in Western Washington and across the United States. We are always looking for fabulous projects to feature, so please feel free to reach out and drop me a line with ideas at jessica.kirby@pointonemedia.com. Although it seems early and you'll be reading this in advance of Thanksgiving, this is the last issue of 2019, so I wish you all happy holidays and a prosperous 2020. ▪

UPCOMING SMACNA-WW EVENTS

October 20-23

2019 SMACNA National Convention
Austin, TX

November 12

Membership Meeting with Anirban Basu
Seatac Marriott

December 6

2019 Holiday Gala
Seattle Waterfront Marriott

Are you wondering what's happening in the Canadian sheet metal industry?

Check out sheetmetaljournal.com to read news and articles from our BC edition of *Sheet Metal Journal*.

3 THINGS YOU CAN DO TO KEEP YOUR LEADERSHIP SKILLS UP TO DATE

Perhaps you've heard the term "digital immigrant" applied to a person before. It refers to somebody who was born before the widespread use of digital technology and therefore struggles with using it. But companies that have been around for a couple decades or more can fall into this label, as well.

According to a recent leadership study done by Deloitte, "When older business models are no longer working, leaders need new capabilities. Yet most companies are digital 'immigrants,' new to this world and built on older models such as control mechanisms and financial returns. Now, companies are scaling for different goals, such as innovation and moving at high speed. Ninety percent of companies are redesigning their organizations to be more dynamic, team-centric, and connected. These changes require not just new operating models, but a different type of leadership to mobilize and execute these models."

This means the leadership skills that are needed by companies now look different than those that were needed in the past. Older companies hoping to stay alive and grow now need people who can lead and forge partnerships in a much broader network than they were accustomed to back in the day.

Leaders must know how to build teams—that's no different now than it was 20 years ago. But how they accomplish that goal is. Now, they must focus on keeping people engaged and communicating. They also must reward innovation, employee-driven learning, and continuous improvement. They must lead teams comprised of a mix of employees, freelancers, and even crowds of customers and suppliers. High-impact leadership is now defined by innovation and risk-taking. Anyone holding on to the past way of doing things will be passed by, and quickly.

To convert your digital immigrant company into one that's nimble and capable with technology, you'll need to take notes from the digital natives.

1. Ask your team members who they'd like to work more closely with but don't feel like they have the access, time, or

Do you have an article idea you'd like to share? Great!

Please reach out to our editor, Jessica Kirby, to table your suggestions for a future issue of *Sheet Metal Journal - Western Washington*

**Contact Jessica at: 250.816.3671
or email jkirby@pointonemedia.com**



By / Robin Camarote

permission to do so. Frequently, teams will say something like "the communications division" or "human resources." Many of these core services are silo'd and isolated from the rest of the business, which can lead team members to think of them as inaccessible. If you lead a team on either side of the fence, you can reach across that boundary by building relationships, scheduling cross-team meetings, and identifying projects that would be made better by working together.

2. Ask your team members what they value about their work both individually and as a group. Then do whatever you reasonably can to accommodate those values. Getting to know your team members on a more intimate level like this might seem overwhelming, but it's key to making them feel like a valued and important part of the team. And while it's time-consuming at the start, these conversations get faster and easier the more you get to know each other. Knowing their values also helps save time and money you may be investing in things they don't care about.
3. Be open to trying new things. Just saying, "yes, let's give it a try" speaks volumes of your openness and willingness to take a risk. Know that nothing has to be forever—especially if it's not working. If your team wants to try working remotely for a week, cancelling meetings for a day of "heads down" work time, or having a daily chat to get the morning started on the right foot—do it. Ask for feedback, make adjustments, and keep only the things that work. The risk is low and the opportunity to find something that improves work quality, productivity, and employee satisfaction is high.

There's no point in lamenting the past—and there is a real risk to staying stuck there. Digital immigrants can embrace the technologies and business models that give advantages to newer businesses today. It requires a fresh leadership perspective and a commitment to removing barriers, understanding values, and being open to new things. Although it may seem like a risk to drastically change up the way you've been doing things for so many years, it's a risk you can't afford not to take. ■

SMACNA-WW ANNUAL GOLF TOURNAMENT

Another fabulous success on the course

SMACNA-Western Washington's PAC-12 golf tournament on August 2 was a hit with 152 total participants. A helicopter ball drop and shotgun start kicked off the festivities at Washington National Golf Club, and everyone enjoyed a delicious barbecue banquet dinner by Red Cork Bistro & Catering after game scores were tallied.

A special shout-out goes to Milwaukee Tool North America for sponsoring both the golf carts and cannon, and another thanks to Gensco for sponsoring the beverage carts. Many thanks to all of our sponsors who help make this event possible. ■

Our Generous Sponsors

Rehn & Associates

AIRTEST Co., Inc.

C.M Hoskins

Ductmate

Performance Contracting Inc.

PlanGrid

Star Rentals

Shoemaker Manufacturing

Cole Industrial

SMACNA-BC

Milwaukee Tool

Airefco

Trane Co.

York - NW Factory Direct

Hudson Bay Insulation

CL Ward

ACI Mechanical Sales

Northwest Sheet Metal Workers Organizational Trust

Photos courtesy of Kier Smith Firstlight Photography





SAVE THE DATE



Sep 27 – 30, 2020
SMACNA National Annual Convention • Colorado Springs, CO

WOMEN'S NETWORKING & LUNCHEON EVENT

SMACNA-Western Washington held its 2nd annual Women's Networking & Luncheon event at the Hyatt Regency Lake Washington at Seattle's Southport, Renton this summer. More than 70 attendees enjoyed guest speaker Sylvie di Giusto's talk about the importance of making a good impression. Sylvie empowers people to influence the success of their own career and in her talk explained how we only have seven seconds to make a good impression. She stressed key ways to make "confirmation bias" work in your favour and described the ABCDs of first impressions: Appearance, Behavior, Communication, and Digital.

Attendees participated in an activity with Sylvie where

they put labels on each other's backs—on the labels were keywords to describe the first impression that person made (ambitious, confident, organized, etc.) Sylvie also helped the group navigate to find each individual's "super power" key words. By the end of the program, attendees were able to write a professional bio about themselves using the keywords discovered through Sylvie's exercise.

Two fabulous raffle prizes were up for grabs: a Kate Spade laptop bag and a drill donated by Milwaukee Tools. A delicious catered lunch and excellent networking time rounded out a successful event. Watch your email for details about next year's women's event. ■





SMACNA members perform work in industrial, commercial, institutional, and residential markets. They specialize in heating, ventilation and air conditioning, architectural sheet metal, industrial sheet metal, kitchen equipment, specialty stainless steel work, manufacturing, siding and decking, testing and balancing, service, and energy management and maintenance.

CONTRACTOR MEMBERS

- | | |
|---|--|
| ACCO Engineered Systems | Holmberg Mechanical |
| Air Handlers, Inc. | Johansen Mechanical, Inc. |
| AIRTEST Co., Inc. | L & M Sheet Metal Fabricators Inc. |
| Apollo Mechanical Contractors | MacDonald-Miller Facility Solutions Inc. |
| Argo Blower & Mfg. Co., Inc. | McKinstry Co., LLC |
| Auburn Mechanical, Inc. | Miller Sheet Metal, Inc. |
| Ballard Sheet Metal Works, Inc. | Miller's Smith & Losli Sheet Metal, Inc. |
| Capital Sheet Metal Inc. dba
Capital Heating and Cooling | Neudorfer Engineers, Inc. |
| D/B Solutions, LLC | Olympia Sheet Metal, Inc. |
| Delta Technology Corporation | Pacific BIM Services |
| Distribution International | Phoenix Mechanical, Inc. |
| Eckstrom Industries, Inc. | Pinchiff Mechanical LLC |
| Emerald Aire, Inc. | PSF Mechanical, Inc. |
| ENVIROMECH | PSR Mechanical |
| Evergreen State Heat & AC | Schmitt's Sheet Metal & Roofing |
| GB Systems, Inc. | Scott & From Co., Inc. |
| Gensco, Inc. | Shinn Mechanical, Inc. |
| H & R Mechanical Systems, Inc. | Sunset Air, Inc. |
| Hermanson Company, LLP | Temp Control Mechanical Services Corp. |
| Holaday-Parks, Inc. | UMC, Inc. |

AFFILIATE MEMBERS

- | | |
|----------------------------------|-------------------------------|
| ACI Mechanical & HVAC Sales | Gripple, Inc. |
| Ahlers Cressman & Sleight. | Hudson Bay Insulation Co. |
| Air Reps LLC | ISAT Seismic Bracing |
| AIREFCO, Inc. | Industrial Air Systems, Inc. |
| Armaceil LLC | Johns Manville |
| Automated Controls | Johnson-Barrow, Inc. |
| CL Ward, Inc. | Magnum Crane Service |
| C.M. Hoskins Company | Milwaukee Tool |
| CliftonLarsonAllen, LLP | Pacific Product Sales, Inc. |
| Cole Industrial, Inc. | Performance Contracting, Inc. |
| Dorse & Company, Inc. | PlanGrid, Inc. |
| Ductmate Industries | Star Rentals Inc. |
| ECCO Manufacturing | Sunbelt Controls |
| Edge Construction Supply | Sunbelt Rentals |
| Employer Solutions Law | Trane |
| FBM SPI | York NW Factor Direct |
| General Insulation Company, Inc. | |

Sheet Metal and Air Conditioning Contractors' National Association - Western Washington Chapter
 Executive Vice President: Julie Muller-Neff, Esq.
 13810 SE Eastgate Way, Ste 445 Bellevue, WA 98005
 Tel: 425-289-5010 • Fax: 425-289-5011 • www.smacnaww.org

2020 PARTNERS IN PROGRESS CONFERENCE REGISTRATION IS NOW OPEN

Registration is now open for the *2020 Partners in Progress* Conference, to be held from February 25-26, 2020 at Caesar's Palace in Las Vegas, Nevada. SMACNA members and chapter executives are strongly encouraged to go ALL IN and register to attend.

This bi-annual conference will once again foster an environment for both labor and management to build on their current relationships, share relevant information, and learn new and innovative strategies to work together for a stronger industry.

Attendees will see immediate benefits from attending the valuable educational sessions and hearing from top-notch speakers, including former NFL head coach and current football head coach at Arizona State University, Herm Edwards.

Register today. Receive updates on the *2020 Partners in Progress* Conference on Twitter, Instagram, and Facebook. Follow the hashtag #pinp20 for the latest news. ▪

HOW TECHNOLOGY IS DISRUPTING THE CONSTRUCTION INDUSTRY

The rate of digital disruption is escalating in almost every industry. However, despite being one of the fastest-growing industries globally, construction has been one of the last to get hit.

Output from the global construction industry is expected to rise to \$12.7 trillion in 2022, up from \$10.6 trillion in 2017. Despite this promising outlook, the industry has gained only 1% of productivity in the last 20 years due to lack of digitization. This creates an opportunity for an added \$1.6 trillion by innovating in this area.

The industry is divided when it comes to the current state of digital transformation. Almost half (46%) of construction companies self-identify as having been on a path towards digital transformation for some time, while 41% see their company as only in the very early stages of digital transformation.

Construction companies are now in a race to go digital, with the hope that technology will enhance profitability while also fending off competitors.

Are you wondering what's happening in the Canadian sheet metal industry?

Check out sheetmetaljournal.com to read news and articles from our BC edition of *Sheet Metal Journal*

The technology adoption spectrum ranks construction companies by their stages of innovation and rate of technological adoption, using data from the KPMG Future-Ready Index.

Technologies that have the highest adoption rates in the top 20% of companies (considered innovative leaders), are as follows:

- Building Information Modeling (BIM): 86%
- Basic data analytics: 83%
- Project management and information systems: 79%
- Mobile platforms: 69%
- Drones: 72%

In total, 70% of construction companies believe that those who do not adopt digital tools will go out of business. Further, most believe digitization will improve productivity, speed of delivery, and help meet sustainability challenges.

This is the abridged version of an article written by Katie Jones for *Visual Capitalist*. View the whole story, additional statistics, and accompanying infographic at visualcapitalist.com/how-technology-is-disrupting-the-construction-industry/ ▪

LET'S TALK SHOP, EPISODE 6: LEAN CONSTRUCTION

In this episode of Let's Talk Shop, host Angie Simon, president, Western Allied Mechanical, talks with James Morgan, president and CEO of Worcester Air Conditioning in Ashland, Mass, about lean construction techniques. James and Angie reflect on some of the successful techniques they have used in their companies, including pull planning and Just-in-Time delivery.

Listen to the episode on Soundcloud or iTunes. ▪

RECTANGULAR INDUSTRIAL DUCT CONSTRUCTION STANDARDS

This second edition expands the scope of the 1980 version, updating original text to incorporate a revised theory of design, new materials and more "user friendly" tables.

Included are new tables for stainless steels and aluminum, plus expanded chapters on materials, welding practices, and a guide specification. It covers the simple, low or moderate temperature and pressure (or vacuum) indoor systems as well as the more complex outdoor systems that operate at moderate to high temperature and pressure (or vacuum), and are subject to higher and more complex external loading.

Approved as an American National Standard (ANSI/SMACNA 002-2011). To order visit smacna.org. ▪

BE PREPARED WHEN DISASTER STRIKES

In the season of hurricanes, wildfires, and flooding, SMACNA contractors must be prepared for such emergencies, large or small. The scale of a disruption may be local to your office or affect the larger region. The entire organization should be involved in preparing for and recovering from disasters.

SMACNA offers a user-friendly *Emergency Preparedness and Business Continuity Plan* workbook that follows industry best practices and ensures that member companies have the best plan possible to prepare and respond accordingly. The document allows companies to ask those “what if?” questions to address a variety of issues, including:

- contractual obligations
- increased workload from demanding customers, and
- restoring electricity to the shop.

Members can revise the document for their individual company.

To download the members-only document, visit SMACNA’s Model Policies page. The *Emergency Preparedness and Business Continuity Plan* is available under Part III: Model Written Programs. For questions or further information, members can contact Mike McCullion, director of market sectors and safety, at 703-995-4027 or mmccullion@smacna.org. ■

HOLIDAY-PARKS TAKES ON HIGH-END RESIDENCES

Contractor Holaday-Parks, Inc. is providing full mechanical services for a high-end, 21-story residential building under construction by Bosa Development in the heart of Seattle suburb Bellevue, Wash. The One88 development features 147 residential units; 20,860 feet of retail space on the ground level; two levels of above grade parking for retail customers and visitors; and two levels of below grade parking.

Project manager Josh Jessup notes that even though One88 is similar to many projects Holaday-Parks has done before, the building has unique features.

“The building has some fun, different things, like a golf simulator, that not every high-rise has,” Jessup says.

The building’s unique architecture also impacts Holaday-Parks’ work on the project, according to Jessup. “Some of the elements take more thought in design to make sure that everything’s going to flow together nicely and work with the different angles and architectural design,” he says.

The scope of the project for Holaday-Parks includes designing the building’s mechanical and plumbing systems and coordinating virtual design.

Full story at smacna.org/news/smacnews/article/smacnews-july-august-2019. ■

Star Rentals has been the preferred supplier to the west’s best contractors since 1900!

For the absolute best in rental equipment simply telephone any of our 18 convenient locations. Or, discover what you are looking for online at www.starrentals.com.

Either way, Star Rentals will provide you with the right equipment right when you need it!

Download the Star Rentals app:



STAR RENTALS
Preferred Supplier to the West’s Best Contractors

TOLL-FREE IN WASHINGTON 800-825-7880
TOLL-FREE IN OREGON 800-578-1475
WWW.STARRENTALS.COM



The Intergenerational Workplace

By / Jessica Kirby

Bridging the gap between recruits and experienced workers is about finding common ground, creating innovative partnerships, and seeing the best in each other.

The question on everyone's mind in the age of digital technology, where even the construction industry is feeling pressure to adapt, is how do we bridge the gap between the experienced generation and new comers to the industry? What can we say, do, and implement to ensure traditional knowledge finds a new home among the next generation, and that contemporary workplaces don't squash innovation in the name of "the way things were"? The answer is complex.

Mark Breslin is an author, speaker, and CEO specializing in workplace success across all levels of business. Having spoken to more than 400,000 people over his career, he has seen his share of workplace disconnect, including that between generations.

He points out key benefits young people bring to the construction trades. "They have the ability to quickly adapt to the new technology," Breslin says. "They offer low ego and high emotional intelligence, and they are innovators. They aren't intuitively 'back in the day' thinkers."

But what about the 'back in the day' thinkers and the value they bring to the workplace? In an article for *Construction Business Owner*, author John Roshala says the longest-serving employees are baby boomers who "display specialized skill sets and dedication to management and professionalism." They may also be slower to adapt to new technology, which brings us to an important point: how do we make the best of all that these generations bring to the trade? There are a few ways.

Create harmonious teams or mentoring relationships, which means matching a variety of skills to create a completely functional working entity. Leaders should be creating teams that include a cross-section of generational knowledge and technique. Ignore age and focus on experience to avoid overt

stereotypes. Make sure members of the more experienced workforce can bring knowledge to those just starting out, and set up opportunities for new recruits to share their passion for creativity and innovation. When people with various perspectives and approaches see they can work together and complement one another's strengths, great things can happen.

Keep everyone connected and engaged. There is a gross overgeneralization that millennials need 24/7 coaching and positive feedback, but the reality is many people of all ages and experience levels appreciate guidance, feedback, and general acknowledgement. It is a leader's job to determine who needs a text every time a task is finished and who needs a few words every two weeks, but regardless of these differences making feedback part of the workplace culture evens the playing field and ensures no one is singled out for enjoying it.

Foster innovation in your teams. Like it or not, technology is here to stay. Bridge the gap among employees with varying feelings about this inevitability by tasking them with researching—together—the best software for the job. There is no denying ownership promotes pride, and finding a cross-generational team to recommend a way forward for the team will also foster adoption and buy-in.

Recruiting young people will take some of the innovation company owners would like to see in their employees. Watch for soft skills, attitude, and behavior. There is very little by way of practical skills that a student or apprentice cannot learn, but what about work ethic? Responsibility? Accountability? Assuming these are characteristics an employer is seeking in his or her employees, these are the characteristics that should be highlighted when hiring. Focusing less on what new hires can do and more on who they are can help eliminate some of the intergenerational stresses that arise.

Breslin says a company's online presence matters in recruitment like it never has before. "Tell your story effectively or suffer," he says. "Attempt to become a Best Workplace winner, and have existing young people in the company participate in recruitment efforts."

Inc.com, for instance, collects feedback on workplace satisfaction and lists winners in its annual Best Workplaces survey. The information forms a searchable database of workplaces ranked high by their employees, and the website encourages browsers to use it to find the qualities in a workplace they are most proud of.

"In a tight labor market, these businesses are out to nab top-performing employees by making life on the job ever more rewarding," says Inc.com. "You can search this year's list by state, industry, company size, and benefits—including generous parental leave, onsite medical and fitness, pet-friendly policies, tuition reimbursement, and more."

"There is no denying ownership promotes pride, and finding a cross-generational team to recommend a way forward for the team will also foster adoption and buy-in."

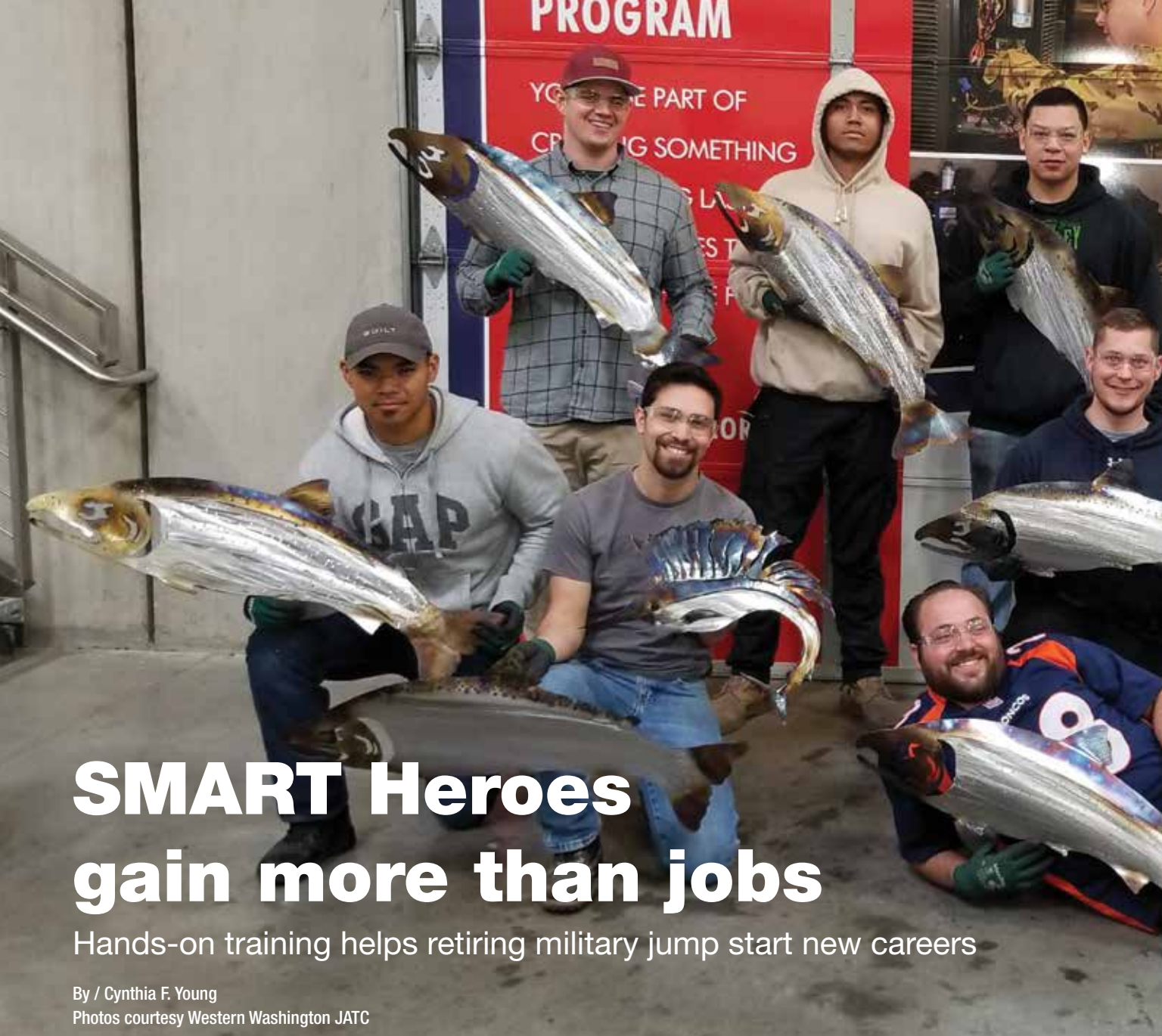
Would your company make the list? Being introspective and honest with what you discover takes courage, but it is an investment in yourself and your business that you can't afford to avoid. Trade contractors who make the list and succeed at recruitment follow some key points. They are forward-thinking, open to new ideas, and still true to their founding values of quality, craftsmanship, and value to customer.

Breslin adds that contractors also need to invest in their workforce, young or old. "Have a career path plan for new people," he says. "It is important to interview and evaluate candidates effectively and to have a serious training budget."

It is time to stop buying into stereotypes and start seeing individuals for the value they bring to the workplace. When we choose to meet on common ground and see both strengths and weaknesses as opportunities for growth, we will begin to close the gap and move into a brighter collective future for all. ■

BRIDGING THE GAP: MAKING USE OF KEY MESSAGES THAT APPEAL TO WORKERS ACROSS THE AGES

- Showcase how a job in the trades solves everyday problems and makes a difference in people's lives.
- Promote job security, including living wage, pension, and benefits.
- Integrate technology thoughtfully—adoption for the sake of it is worse than not using technology at all. Think about ease of use, learning curve, and its effectiveness at eliminating mundane tasks.
- Use real life stories to sell recruitment.
- Use social media. Even certain platforms are moving into realms of "current" and "for old people" so a broad social media strategy should reach everyone.
- Reward hard work of all kinds—physical accomplishment, creativity in the work place, problem-solving, or meeting a company or personal goal all deserve recognition, not necessarily for the task itself but for the determination and drive it took to get there.



SMART Heroes gain more than jobs

Hands-on training helps retiring military jump start new careers

By / Cynthia F. Young

Photos courtesy Western Washington JATC

For service men and women nearing the end of their military careers, pondering the next phase of their lives sometimes can be overwhelming.

“It can be daunting to think about leaving the structure of the military and not knowing where to even start,” said Timothy Carter, business manager for Sheet Metal Workers Local 66 in DuPont, Washington. “It’s intimidating to them because they know what they are worth, but how do they communicate that to the civilian world? When we come along, they are like, ‘Wow, this is ready made for me.’”

The pioneering SMART Heroes program in Western Washington has helped more than 150 service men and women learn sheet metal and HVAC skills – crafts they can take with them anywhere across the U.S. and use for a lifetime.

The International Training Institute (ITI), along with SMART and SMACNA, created the SMART Heroes program in August 2017 in collaboration with Local 66, SMACNA Western Washington, the Western Washington JATC, and Helmets to Hardhats.

The sheet metal training is free to enlisted U.S. military men and women on active duty who are leaving the military service within a year and entering civilian life.

Now in its third year, the seven-week program has exceeded expectations. Since the first cohort of eight apprentices graduated in October 2017, more than 150 service men and women have graduated with their first-year apprenticeships in hand. The 13th cohort began in August.



“I was getting close to getting out of the military and read about the program,” he said. “The program is great. I’m a hands-on person. They gave us extra time in the shop, that’s a plus.”

Moore also returns to the JATC to teach transitioning military about military benefits like the GI Bill and VA and vocational rehab that they may not know about.

Participants range in age from their early 20s to their 40s.

“Some are retiring from the military after 20 years and are looking for a second career,” said Jeff Reinhardt, executive administrator of the Western Washington JATC. About 12 to 15 participants have been women, he said, with at least one woman in every cohort and two or three in some.

“The most important thing is the stress it takes off them,” said James Page, administrator of the International Training Institute (ITI), whose instructors train the new apprentices. “They can say, ‘This is what am I going to do coming out of the military. I’m not just getting a job; I’m getting a career.’” The program has a 79 percent placement rate, he noted.

“Many are already leaders where they come from,” Carter said. “Some are actually officers. They are already well-equipped. We just have to show them the craft.”

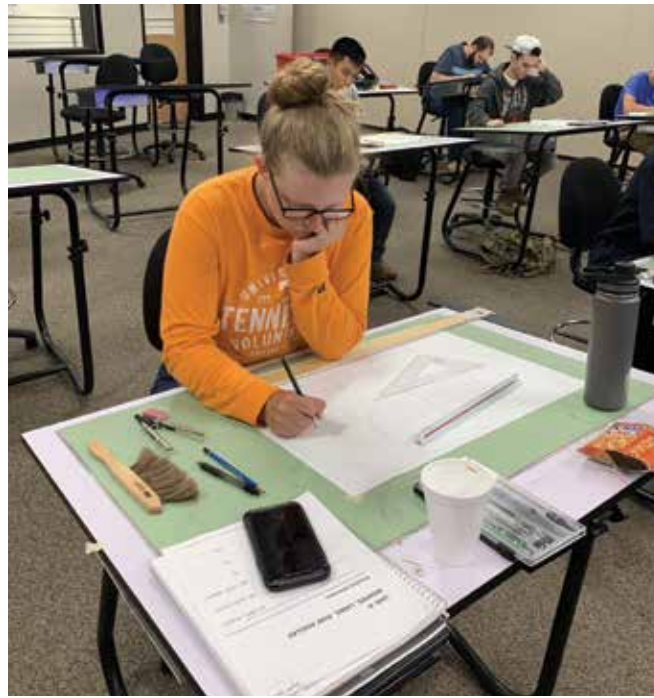
At the end of seven weeks of concentrated training, participants



“My girlfriend told me about it and I came directly over,” said Kevin Moore, 36, who served in Iraq and Afghanistan and retired after 13 years in the Army. He graduated from one of the program’s earliest cohorts in December 2017 and got a job shortly thereafter.

“I like working with my hands and being outdoors,” he said. “When I was a staff sergeant in the Infantry, we were always outdoors. Going from a high stress, fast-paced physical job to a slower-paced physical job, it worked out well.” He likes the architectural sheet metal side best and plans to make sheet metal his career.

Carl McGirt, 37, a sergeant who worked with helicopters and retired after 12 years in the military, graduated from the program in February 2018 and wants to focus on the HVAC side.



have earned the equivalent of their first year of sheet metal apprentice training (224 hours). The program limits cohorts to 15 participants. Upon graduation, they can enter any of the 150 SMART apprenticeship programs across the country and be provided direct entry as a second-year sheet metal apprentice.

“We have service men and women who are working in 19 different locals around the country,” Carter said. “About two-thirds of the service men and women stay here. It’s a nice place to be. One-third of them end up going back home.”

The Western Washington JATC’s new DuPont training facility is just a quarter mile away from Joint Base Lewis-McChord in DuPont, Washington. Local 66 and the JATC work with the base’s Career Services Center to reach out to participants.

“The proximity works great for us,” Reinhardt said. “Over 60 percent of participants in the DuPont area are active military and 20 percent are retired military.”

In the classroom and in the shop, participants learn AutoCAD 2D and 3D drawing, OSHA safety precautions, HVAC, service, testing and balancing, welding and architectural metal work. During the last week, participants focus on specific skills they are interested in.

“The more tools you have in your tool bag the more well-rounded and employable you’re going to be,” Reinhardt reflected. “One day you might be doing specialty metal, the next working on architectural metal and the next HVAC, and some contractors do all of that. You want to be able to take every call and keep employed rest of your career.”

Originally aimed toward the Army, graduates have hailed from

the Navy, Marine Corps, and Air Force. “Word of mouth is also a big deal,” Reinhardt added. “Somebody comes through the program and then their commander comes through. They build a network.”

Building on Western Washington’s success, SMART has initiated a second SMART Heroes program with Fort Carson Army Base in Colorado Springs, Colorado. The JATC is interviewing candidates and plans to accept seven participants. Training will begin in October, Page said.

The ITI recently established the nonprofit SMART Heroes Foundation to help provide funding for expanding the program. “We are going through solicitations for donations now, with a goal of half a million dollars,” Page said. “We are working with corporations so we can run two programs and we’d like to have a third.”

In the future, Page would like to see three to five programs across the country. The ITI would also like to open a SMART Heroes program with the Marine Corps base at Camp Lejeune in Jacksonville, North Carolina, and share training space nearby with Helmets to Hardhats.

The success of the SMART Heroes program is the result of a solid team effort, Carter noted. “We’re starting to get nothing but positive comments,” Page agreed.

“It takes a lot of hands. Everybody has a part and works together,” Carter said. “The military career centers, the Locals, the JATC, the ITI, and the contractors. It takes everybody pulling on the rope together.” ■



Ingenuity and Innovation

By / Jessica Kirby

Photos courtesy of ACCO Engineered Systems, Inc.

from the Ground Up

TSI (Technical Services Incorporated) has a brand new circuit board manufacturing facility in Oak Harbor, Washington, with state of the art mechanical and plumbing systems thanks to ACCO Engineered Systems, Inc. The 100,000-square-foot concrete tilt-up building includes administration offices, a loading dock, and an 80,000 sq ft. production area for maximum efficiency and innovation. Most importantly, it brings an entirely fresh level of heat and air management to a business that has been operating in a dated building with inadequate ventilation for over four decades.

The 200 x 500 foot ground-up construction project replaces TSI's previous facility, founded in the 1970s on the adjacent property. That facility began as a single metal warehouse-style building, and over the years the owners expanded with additional metal buildings until the facility was a tangle of additions.

“They had no air-conditioning and a great deal of excess heat,” says Lisa Connors, PE, project manager for ACCO Engineered Systems, Inc., mechanical contractor for the project. “The summer time temperature measured 110 degrees F, and in the middle of winter it would get up to 85 degrees F with the doors open. They finally decided they could no longer operate that way.”

Heat is generated by four large reflow ovens where the circuit boards are baked and cured, and which run at 300-450 degrees F. “We had the huge task of how to control the heat and make the environment safe and comfortable,” Connors says. “Some of the ovens weren’t working correctly because they didn’t have the correct airflow through the unit.”

The ACCO team isolated the ovens in a hot room where each unit has a dedicated exhaust fan balanced correctly for the



unit's capacity and output. Most of the heat was generated from exhaust, given the units were not insulated and were acting like giant thermal radiators.

"You are talking 300 degree F air coming off of these and into the vertical ducts," Connors says. "We insulated all the ducts coming off of the ovens and then PVC jacketed them to ten feet off the ground to ensure personnel protection and longevity of the insulation."

The team installed high temperature exhaust fans so they were protected from the heat, and they added air-conditioning to the space. Depending on production, the ovens can all be turned on at once or turn off and on at different times, creating a large dynamicity heating load and make-up requirement. The system involves a single zone air handler with VAV controls and building pressure controls, and the air handler monitors the room and adjusts the outside air as needed for the space. The system also includes seven exhaust fans ranging from 2000 to 3000 CFM each.

Oak Harbor City has noise ordinance applied on sound not from the inside going out but from the outside penetrating the building. "There is a Navy base and Navy jets flying overhead for hours at a time," Connors says. "That means the noise coming into the building is a big problem because it affects employees while they work."

As a result, the building had strict requirements for double elbows on everything at first penetration, and these had to be lined. "We couldn't have taps within so many feet within the

first elbows, so the challenge was getting the equipment to look right without making the sound traps visible."

The existing exhaust system was inadequate because it comprised stationary units that functioned like oversized vacuums at the end of 50 or 60 workbenches. "These scrubbers took the air from the space, cleaned it, and exhausted it back into the building, but we needed to get that air out of the building because it was that system was not efficient or effective," Connors says.

ACCO installed dedicated exhaust systems at each station comprising fans and an innovative, embedded design that hid them in each table so the view from the facility is not obstructed.

The company's labor force was kept low at five because the size of the space meant all trades could stagger their work by area and move collectively in a pattern, optimizing the schedule.

"We started at the north end of the building and worked south, and by the time we reached the south end the flow was set up and everyone, even the general contractor, was part of it," Connors says. "The owner had a drop dead move in date of January 1, and although we started three months late we finished in December."

Learn more about ACCO Engineered Systems, Inc. at accoes.com. ■

FASTDUCT® ESTIMATING SOFTWARE – NEW, IMPROVED VERSION, SAME RELIABLE ESTIMATING PLATFORM

With FastEST, Inc.'s recent release of its latest and greatest program versions, the company has continued to provide easy-to-use, accurate, and affordable estimating systems, while also continuing to improve them with new features, faster calculations, and a streamlined interface.

HVAC and mechanical contractors can increase the accuracy and output of their HVAC, plumbing, and mechanical insulation bids. With FastDUCT® for HVAC ductwork and industrial sheet metal, FastPIPE® for plumbing, mechanical, and site utilities, and FastWRAP™ for piping and ductwork insulation, FastEST has an estimating solution for all types of mechanical, plumbing, and insulation contractors.

Whether you currently estimate by hand, with a spreadsheet, or with some other software product, the transition to using FastEST estimating software has been a tried-and-true success story for hundreds of current FastPIPE®, FastDUCT®, and FastWRAP™ customers.

What makes the switch to FastEST so beneficial for contractors? Here are just a few reasons.

Digital plan import

One of the cornerstones of the FastEST suite of estimating software programs is the award-winning On-Screen Digitizer feature. Users are able to import PDFs and several other digital plan formats directly into their estimate. From there, they can set the scale and start their takeoff right on the computer monitor. Takeoff speeds and accuracy are greatly increased, plus time and money can be saved by avoiding the need to print or borrow hard copy plans just for the bidding process. Single or dual-screen takeoffs are supported.

And with digital project plans becoming the standard for bidding HVAC and mechanical projects, FastEST offers its On-Screen Digitizer feature included with each software program.

Estimate jobs of all sizes and scopes

Another great aspect of the FastEST programs are their ease-of-use and flexibility. Customers range from one-man shops to some of the largest mechanical contractors in North America, running 50 or 60 stations of the software.

The programs can handle anything from small change orders to National Football League stadiums with ease (one of FastEST's long-time customers estimated the mechanical piping and ductwork on Levi's Stadium, home of the San Francisco 49ers). Regardless of job size or scope, plan takeoff and report calculations still only take mere seconds.

Fast, easy setup

All of FastEST's programs come ready-to-use right out of



the box. Each new customer can start using the program as soon as they open it, with pre-loaded job templates filled with comprehensive specifications, job items, and assemblies. Then, each customer can customize the programs to be tailored to their particular estimating situation, with assistance from FastEST's knowledgeable, reliable support staff.

Excellent customer support

As mentioned above, FastEST prides itself on unmatched, dependable customer support. A great majority of FastEST users say that is one of the top reasons they are satisfied with

continued on page 26

**BID MORE.
WIN MORE.
EARN MORE.**

FASTDUCT FASTPIPE FASTWRAP
MECHANICAL ESTIMATING SOFTWARE

Improve your estimating, and your company's bottom line, with our easy-to-learn, accurate and affordable estimating software, that comes included with a full material and labor database, and our award-winning on-screen takeoff

FASTEST, INC. | 800-828-7108 | fastest-inc.com/smj

TEST AND BALANCE PLAN DEVELOPMENT

The demand from building owners to have contractors maintain a construction schedule is ever increasing. Building owners require a substantial construction completion date and expect the team to meet this date.

Before a building can be occupied, there are many processes throughout the course of construction that ensure the building is operating at the design intent. One of the most important is the process of total system balancing by means of testing and balancing the HVAC system.

The testing and balancing process primarily consists of testing the HVAC equipment to verify proper installation and operation, adjusting/balancing the HVAC equipment to obtain optimal system performance, and providing a detailed report of system operation compared to design. The testing and balancing report is typically reviewed by the design team and the owner. The report will document any deficiencies preventing a system from operating as designed. The HVAC system performance data documented in the report can be used to make changes to achieve the design intent of the building.

Most construction schedules incorporate all the testing and balancing in the final stages of construction. However, often there is not enough time left to do a complete system balance. Failure to complete the balancing in the scheduled time can result in the general contractor and owner being displeased. Typically, project specifications for testing and balancing require a balancing plan; however, specifications usually only cover the balancing techniques and/or testing procedures.

Specifications should call for performance of a total system balance in accordance with Testing, Adjusting, and Balancing Bureau (TABB) tabbcertified.org and/or other certified programs. The typical balancing plan includes the following three components:

1. A list of test instruments and with that the model and application use.
2. A description of each system test procedure and list of equipment to be tested.
3. A list of subcontractors required to assist with the testing and balancing process along with expectations of each contractor. Most importantly, the expectations of the controls contractor should be listed.

There's more to *SMJ* than just our magazine and website. Do you use Facebook? Great! LIKE us at www.facebook.com/sheetmetaljournal.



By / Norm Grusnick

All this information is helpful to the design engineer but still does little to assist the construction manager and owner. The addition of a few extra components to the balancing plan will be of great advantage to the construction schedule. These extra components include:

4. An outline of construction completeness prior to testing and balancing.
5. A realistic estimate of time required to complete the testing and balancing process.
6. A listing of the building accessibility required to thoroughly test all HVAC systems.

The balancing plan needs to describe in detail the required time to complete a total system balance. General contractors and owners typically assume that the balancing process is something that happens all at one time, and if the schedule is shortened, then the balancing company can simply put more technicians on the job. This is unrealistic and leads to problems near the conclusion of the project.

Many control systems only allow communication with a few systems at a time. Buildings with DDC systems require a great deal of the testing and balancing process to be performed through adjustments to the HVAC systems via the automation system. Network access limitations may prevent more than one operator from communicating with the control system at a time. This hinders having too many balancing technicians on site at the same time as many adjustments can only be made through a single terminal.

It is also the balancing contractor's responsibility to address any issues that prevent the system from operating at design performance. Some of these resolutions may take days or weeks and the general contractor and designer need to be aware of these possibilities and their effects on the schedule.

As well as the balancing time requirements, building accessibility during the balancing process is another extremely important matter. Total system balancing requires access to all areas of the building, and large HVAC systems may require repeated access throughout the balancing process. ■

MAJOR CHANGES COMING TO THE 2018 INTERNATIONAL MECHANICAL CODE, PART 2

In a previous article, I presented some significant 2018 International Mechanical Code (IMC) changes regarding commercial kitchen ventilation systems, including for the first time code language relating to requirements for “pollution control units” installed in Type 1 grease exhaust systems. In this article, I will present 2018 IMC changes specific to parking garages, residential ventilation and exhaust systems, insulation within plenums, and phenolic duct requirements. The SMACNA-Western Washington Code and Technical Committee has done a recent review and scrub of this new code language, and I would like to share our findings with our fellow SMACNA-WW members.

Section 404.1 – Mechanical Ventilation of Enclosed Parking Garages

The code will be modified to eliminate intermittent operation of garage ventilations systems, which will now be required to operate continuously. The new descriptions states “Mechanical ventilation systems for enclosed parking garages shall operate continuously or shall be automatically operated by means of carbon monoxide detectors applied in conjunction with nitrogen dioxide detectors. Such detectors shall be listed in accordance with UL 2017 and installed in accordance with their listing and the manufacturers’ instructions. Automatic operations shall cycle the ventilation system between the following two modes of operation:

1. Full-on at an airflow rate of not less than 0.75 cfm per square foot of the floor area served.
2. Standby at an airflow rate of not less than 0.05 cfm per square foot of floor area served.

In addition to the above language changes, code section 404.2 has been eliminated as it would be redundant.

The committee was in full agreement that they prefer this approach, as it eliminates time-of-day and occupancy-based strategies that were previously used to start and stop these systems, some of which did not properly ventilate garage spaces in the committee members opinion. This approach also simplifies ductwork systems, as with continuous operation there is no need to install either control or backdraft dampers if certain areas of a garage are running when others are shut-off.

Section 403.3.2.5, Dwelling Unit Ventilation Equipment

A new requirement is added to this section requiring all residential ventilation equipment to be manufactured in accordance with ANSI/AMCA 210-ANSI/ASHRAE 51 requirements and carry a label certifying that it meets these requirements.



By / Peter Boileau

Chairman of SMACNA-WW IGC Code/Technical Advisory Committee

The committee clarified that the ANSI/AMCA 210 standard and the ANSI/ASHRAE 51 standard are identical and were developed as a team effort by both organizations. The different nomenclature used is to match each organization’s standards numbering systems. The committee believes that although it is a good idea to require certified fan performance for this equipment, the code section does not address system effects on the fans. The committee has experience with poor installation practices (undersized ducts, excessive offsets/fittings, etc.) creating systems that significantly reduce the performance of these residential fan systems, and that some language should be added to the code addressing acceptable system design and installation practices as well as the equipment-only performance requirements in order to ensure that the complete system will operate to meet code.

Section 504 – Dryer Exhaust Ducts

Section 504.4 has been modified to require that all clothes dryer ducts be sealed in accordance with Section 603.9. This was not clear in previous codes (only by inference to some language in Section 504, which describes duct construction requirements for these systems). The specific modification states “Clothes dryer exhaust ducts shall be sealed in accordance with Section 603.9”.

Section 504.4.1 now includes added language to clarify requirements for dryer duct exterior termination outlets, including requiring a minimum size of not less than 12.5 square inches for these fittings. The specific added language states, “The passageway of dryer exhaust duct terminals shall be undiminished in size and shall provide an open area of not less than 12.5 square inches”.

Section 504.8.2 has been modified to require that with regard to dryer ducts installed in framing cavities, the cavity depth will allow the installation of the duct without deforming it or forcing it to fit in the available space. This is to ensure that the duct and fittings fit as manufactured and are not deformed, altered, or compressed, which may reduce the overall area of the duct installed. The specific modification states, “Where dryer ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation”.

The committee was in full agreement with these changes, as they provide clear direction to all parties on the proper way to install these systems.

Section 602.2.1.8 – Pipe and Duct Insulation within Plenums

New code language has been added to this section to define what is an acceptable standard for insulation materials used on ductwork and piping located in return air plenums in buildings. The specific code language states, “Pipe and duct insulation contained within plenums, including insulation adhesives, shall have a flame spread index of not more than 25 and a smoke developed index of not more than 50 when tested in accordance with ASTM E84 or UL 723, using the specimen preparation and mounting procedures of ASTM E2231. Pipe and duct insulation shall not flame, glow, smolder, or smoke when tested in accordance with ASTM C411 at the temperature to which they are exposed in service. The test temperature shall not fall below 250 degrees F. Pipe and duct insulation shall be listed and labeled”.

After lengthy and lively discussion among the committee members, the consensus opinion is that the above code change still allows the use of standard fiberglass or foam insulation over metal piping/ductwork in return air plenums to meet code, but it eliminates the use of standard fiberglass/foam insulation over plastic piping/duct materials installed in return air plenums. If plastic materials are installed (e.g.

ABS or PVC piping) these materials must be wrapped with a UL listed fire-rated blanket or wrap to be legally installed in a return air plenum. In addition, it should be noted that the committee was unclear as to whether duct board systems or even acoustical fiberglass wrapping materials meet this new code requirement for flame spread and smoke development in accordance with ASTM E84 or UL 723.

Section 603.5.2 – Phenolic Ducts

This is a new section added to the 2018 code, to describe this newer type of non-metallic duct material. The code language as written states the following:

“Nonmetallic phenolic ducts shall be constructed and installed in accordance with the SMACNA Phenolic Duct Construction Standards.”

For the first time the code now references the SMACNA standard for phenolic duct construction. Phenolic ducts are made of a closed cell rigid foam membrane. Such ducts are self-insulated because the phenolic foamboard has insulating properties, and the duct material can comply with UL 181 as a Class 1 duct. Class 1 ducts have a flame spread index not exceeding 50 when tested to ASTM E84 or UL 723 standards.

The current and previous IMC Section 603.5 addresses nonmetallic ducts, and since phenolic ducts fall into this category, the new section and associated language as stated in the 2018 IMC is appropriate in the opinion of the SMACNA-WW Technical and Code Committee members.

As this new material enters the market, it now has the support of both SMACNA duct construction standards and the IMC code, and its use should be considered by all member contractors as a viable option for future projects. ■

CONTRACTORS AND SUPPLIERS

SMJ-WW is on the lookout for interesting HVAC, architectural sheet metal, testing & balancing, and industrial / specialty news and feature topics. If you have a great idea, notice an industry issue that needs addressing, or want to weigh in on a technical subject, we would love to hear from you.

Reach out to jessica.kirby@pointonemedia.com or call 250.816.3671 to share your ideas.

Close Pittsburgh Lock Seams Quickly!

Proudly made in the U.S.A.

Rugged Air Hammer Lock Seam Tools

- Superior air hammers close Pittsburgh lock... up to 16 gauge
- All steel & aluminum construction... no plastic parts
- Heat-treated parts for longer life
- First choice of government agencies worldwide
- Complete selection of lock seam tools available
- Order direct from the factory... credit cards accepted.



\$295
Model 240476
Weight: 5-1/2 lbs. Length: 12-1/2"
Closes 16 ga & lighter



\$299
Model 261*
Weight: 2-3/4 lbs.
Length: 11-1/2"



\$304
Model 260*
Pistol Grip available
Closes 22 ga & lighter



\$304
Model 44755
Weight: 5-1/2 lbs.
Length: 15"
Closes 16 ga & lighter

Also available Model 360 Pistol Grip & Model 361 Straight. Closes 18 ga. & lighter.
Payable in U.S. dollars

Superior Pneumatic

Quality American-Made Air Tools Since 1932
P.O. Box 40420 • Cleveland, Ohio 44140
Fax: 440-871-5127 • www.superiornpneumatic.com



LAWS TO WATCH AND ISSUES TO VOTE ON

Laws to Watch

This fall state agencies will begin working on implementing three bills dealing with climate issues. All three were part of Governor Inslee's 2019 climate agenda.

Energy efficiency for commercial buildings

The new building energy efficiency law requires owners of large commercial buildings to retrofit their buildings using new state energy performance standards designed for the retrofits. The Commerce Department will develop the standards by November 1, 2020. The first deadline is 2026 for the largest buildings and 2028 for 50,000 square foot buildings. The Commerce Department is still sorting out the types of commercial buildings that are covered. Some building owners may want to start earlier than 2026 to take advantage of the state-funded incentive. This new law is an opportunity for SMACNA contractors to perform the audits and retrofit work. SMACNA supported this bill.

Clean electric energy

The Governor's *Clean Energy Transformation Act* will require electric utilities to use 100 percent renewable generation by 2045. Renewable energy includes both residential and commercial solar installations. Energy efficiency will play an important part in helping the utilities' reach their goal by reducing overall demand. The agencies involved in implementing this complicated new law include Commerce, Utilities, and Transportation Commission and Ecology. This new law does not affect residential and commercial use of natural gas although some environmental groups and cities are now suggesting that point-of-use natural gas use should be curtailed. SMACNA will be watching the evolving natural gas issue.

Hydrofluorcarbon emissions

This new law will phase out the use of hydrofluorcarbons (HFCs) in certain equipment, primarily commercial refrigeration systems and commercial air conditioners. Ecology recently adopted an emergency rule on this law and is working on a permanent rule. The emergency rule requires manufacturers, importers, and distributors to notify Ecology about their products and equipment containing HFCs that are in use in Washington by December 31, 2019. The permanent rule will phase out the use of HFC's in new equipment over a period from 2021 to 2024. Repairs to existing equipment that use HFCs will require use of a substitute refrigerant. SMACNA contractors will want to start looking for a source of refrigerant that does not contain HFCs. Currently only two manufacturers have this product available. SMACNA asked to extend the implementation date, but we were not successful.

Issues to Vote On

The 2019 general election will be on November 5. Besides many city council elections, there will be two policy issues on



By / Kathleen Collins
SMACNA Legislative Consultant

the ballot—one dealing with transportation and the other with affirmative action.

I-976 – Annual Car Tabs

Initiative 976 deals with yearly car tab fees. It was an initiative to the legislature brought by Tim Eyman. Specifically, I-976 would reduce the yearly car tab fees for residents in the Sound Transit taxation areas from .08 percent to .02 percent and would require Sound Transit to use a different valuation method. The higher car tab rate was voted in with the Sound Transit 3 measure a few years ago. I-976 requires Sound Transit to back out of the bonds it has issued using the car tab funding as quickly as possible. The initiative would also eliminate the authority to use car tab fees for city transportation benefit districts (TBDs). Cities that have created a TBD impose either \$20 or \$40 a vehicle per year and use the money for road improvements. Last, I-976 would reduce some state transportation funding that comes from car tab fees.

The loss of revenue from I-976 will impact Sound Transit's expansion plans, TBD cities' road repair budgets and some state transportation projects. Should I-976 pass, there will be legal challenges that could undo parts of the initiative. SMACNA has no position on this measure.

R-88 – Affirmative Action

Referendum 88 deals with affirmative action in the areas of public employment, school admissions and contracting. It will require a public vote on Initiative 1000, an initiative to the legislature that Legislature adopted during the 2019 session rather than sending it to the ballot. (This is an option that the Legislature rarely exercises. Normally the Legislature sends the initiatives to the ballot for voters to decide, as was the case with I-976.) The background on this issue goes back to 1998 when the voters approved an initiative that restricted the use of affirmative action for public agencies in Washington. Using the referendum option, a group gathered enough signatures after the 2019 session to put the issue on the ballot in November.

I-1000 restored the consideration of race, sex, color, age, sexual orientation, disability, or veteran status when public schools and employers are considering applications and in public

continued on page 26

OBESITY NOW CLASSIFIED A DISABILITY IN WASHINGTON

The Washington Supreme Court recently decided an unresolved issue of state law. Do the protections for disabled persons under the Washington Law Against Discrimination extend to obese persons? The court's answer: yes, obesity is "always" a disability under Washington law. While not surprising, the court's holding underscores the crucial difference between Washington and federal protections for disabled persons. Moreover, moving forward, obesity's new classification as a disability has important implications for accommodation and disability discrimination scenarios in the workplace.

The Washington Law Against Discrimination (WLAD) and its federal counterpart, the Americans with Disabilities Act (ADA), both protect people with disabilities, but each act defines "disabled" differently. These competing distinctions are somewhat new. At one time, Washington courts – like so many state courts across the nation – relied on ADA definitions and case decisions to guide state disability law. In 2007, however, the state legislature rejected the court's approach and adopted a broad definition of disability. In relevant part, Washington's new definition for "disability" includes any impairment or condition that is medically cognizable or diagnosable. The federal ADA, in contrast, defines "disability" to include only an impairment or condition that "substantially limits a major life activity." Without the ADA's "substantially limits" qualifier, Washington's definition is much broader than the ADA and extends to many more impairments and conditions.

Washington's broader definition was central to the court's decision in *Taylor v. Burlington Northern Railroad Holdings, Inc.* (July 11, 2019). There, Mr. Taylor received a conditional offer of employment from BNSF Railway Company (BNSF) contingent on a physical exam and medical history questionnaire. With a body mass index (BMI) of 41.3, BNSF's chief medical officer was unable to determine if Mr. Taylor was medically qualified for the job due to "significant health and safety risks associated with extreme obesity [BMI near or above 40] and uncertain status of knees and back." This conclusion triggered "additional screening" for Mr. Taylor, and he was given two options: 1) pay out of pocket for additional medical testing to demonstrate that he was physically capable or 2) lose 10% of his weight, keep it off for six months, and reapply. Mr. Taylor could not afford the testing, so he sued BNSF under the WLAD claiming disability discrimination because of his obesity. Pointing to the WLAD's broad protections and distinct definition of "disability," the Washington Supreme Court explained for the first time that obesity is a disability under Washington law and that it is "Illegal for employers in Washington to refuse to hire qualified potential employees because the employer perceives them to be obese."

The Ninth Circuit – the federal court that oversees federal



By / Karen Forner and Sarah Capelli

cases in Washington and other Western states – has left the issue open for now whether the ADA definition of disability includes obesity. In *Valtierra v. Medtronic* (Aug. 20, 2019), an Arizona company terminated Mr. Valtierra, a morbidly obese maintenance technician after he failed to complete a series of tasks that he claimed he completed before leaving on vacation. Mr. Valtierra claimed he should not have been assigned so many tasks to complete in so little time because the employer knew he required accommodations for his weight. The lower court dismissed the case, concluding that under the ADA, obesity is not a disability and that Mr. Valtierra was not protected under the statute. On appeal, the Equal Employment Opportunity Commission (EEOC) filed a brief in support of Mr. Valtierra arguing that obesity can be a disability under the ADA and that Mr. Valtierra's case should go to trial. The appellate court avoided the EEOC's argument, however, by deciding the case on other grounds. It is unclear how the Ninth Circuit will resolve this question in the future. While four other circuits (with jurisdictions covering much of the nation) have already decided that obesity is not a disability under the ADA, the Ninth Circuit is known to depart from its sister circuits' example and the EEOC's position gives the Ninth Circuit a reasonable basis for reaching a different conclusion. Even so, at this point, no federal court has determined that obesity is a disability under the ADA.

The WLAD's and ADA's competing protections are confusing for employers, and liability will ultimately depend on what law (federal or state) a disgruntled employee sues under.¹ Practically speaking, however, employers must conform to the law that best protects the employee. Here, that means that obesity should be treated as a protected disability, and employers should not use obesity as a basis for disqualifying an applicant. In cases where physical fitness is required for the job, employers must determine whether the applicant can properly perform the job in question with or without reasonable accommodation. Additionally, in situations where an employee's obesity is causing performance problems, employers should initiate an interactive process to determine if the employee's disability can be reasonably accommodated to enable the employee to perform the essential functions of the job.

continued on page 26

A MILLION MILES LATER, SOME THINGS NEVER CHANGE

Last month I was flying along, minding my own business, when the flight attendant came up to me. In the crowded cabin she announced to me and the other passengers that on this flight I would pass one million miles flying on United. Everyone clapped. I sat there stunned. A thousand presentations and four hundred thousand people later—and now, a million miles. My thoughts were interrupted by the woman next to me. She asked, “So what do you get for a million miles?” And before I could think, it just popped out of my mouth.

“You get an ex-wife.”

Everyone howled with laughter.

So, after that many miles and years, I want to take an inventory on what has changed or improved in our industry and what has remained the same. With pretty much unlimited access to the owner community – construction CEOs and International presidents, learning specialists, training directors, business managers, field leaders, rank-and-file union members, and even apprentices – here are my findings for your consideration.

The Good

1. Unions are much more businesslike and ROI-focused. The old school, status-quo dinosaurs have finally died off. The younger leaders are more professional and often getting it done.
2. Our safety culture is outstanding and remarkable in its depth and execution.
3. Accountability and performance matter. Finally.
4. Negotiated work becoming dominant has changed a lot of the low-bid mentality and bad business practices.
5. The amount of resources now dedicated to training is unprecedented and noteworthy.
6. The new generation of leadership has way more emotional and social intelligence and uses it well.
7. Contractors are finally focusing on people as their most valuable assets and investing in them at a level not seen before. Recruitment and retention are part of any successful contractor's strategy for the first time.
8. The Millennial apprentices I meet today are better educated, more open to change, highly optimistic, and will change the game for our industry (despite their “issues”).

The Bad

1. The stigma about working in our industry still exists. Parents, teachers, and counselors still don't get the amazing opportunity. But at least the value of a college education (and debt) is up for debate.
2. The intake system for apprentices in union construction still sucks. It is often disjointed and lacks proper testing,



By / Mark Breslin

interview, and other protocols, leading to 10-30% drop outs and the entry of marginal candidates. We can do much better.

3. The structure of most major unions has not changed much, nor have there been the mergers or consolidation that were expected to increase resources, leverage economies of scale, and reduce union politics as an obstacle to change.
4. The state of training and development by most contractors for their field leaders is pathetic. Field leaders who manage tens to hundreds of millions of dollars in a career still rarely get any form of leadership and management training—and that falls squarely on contractors for their apathy.
5. Many owners still treat contractors poorly. Transfer of risk has become a high art: brutal specifications, insane schedules, poor designs, lack of communication, untimely responses, overreach by retained CMs, and a lot more—despite a full two decades of “partnering,” it still looks to me like the owner community has a long way to go.

The Ugly

1. The other day, at a program for 200 field leaders made up of many companies, I asked how many of them had received praise and recognition for their work in the last month. Not one of them raised their hand. That is a broken “tough guy” culture that has yet to change.
2. Last month, I asked 500 apprentices how many of them had already heard on the jobsite the phrases, “You're not paid to think” or “You get paid from the neck down.” Every hand went up. That, too, is a broken culture that needs to change.
3. Our industry is still often not a safe and supportive place for women and minorities to grow and succeed. Hard to believe in 2019, but there it is.

In summary, I am actually very optimistic about change and our industry. Yes, it is taking a while. Yes, we probably could have moved faster on a lot of this. But every day now, I see and feel the hunger for more change and a culture of “better, faster, smarter and safer.” And its pace can be shocking. What I thought might be a little experiment in 2018 with micro-learning leadership video training resulted in contractors and unions putting 15,000

continued on page 26

FEATURE FOCUS

continued from page 19

FastEST’s estimating software programs. Technical support and online training are just a phone call, email, or website visit away.

Find out more about FastEST, Inc. and its programs by visiting fastest-inc.com. You can view videos of the newest program versions in action or request to schedule a free online demonstration at your convenience. ■

LEGISLATIVE UPDATES

continued from page 23

contracting decisions. “More specifically I-1000 allows out reach to these groups and encourages retention and extends benefits to veterans who were in recent conflicts and wars. However, these characteristics can’t be the sole factor in a hiring decision and quotas are not allowed. A vote for R-88 would allow I-1000 to go into effect. A vote against R-88 would block I-1000 from going into effect. SMACNA has no position on this measure. ■

ITS THE LAW

continued from page 24

These examples, however, beg the question: when is an employee overweight enough to be classified as obese? There is no bright line, and employers risk a dilemma—offend non-obese employees with extra weight by making a good faith attempt to comply with the law or open themselves to liability when employees claim they were mistreated for having a “perceived as” disability they actually do not have. Alternatively, employers also risk liability when employees claim their disability should have been “obvious” from their appearance. For now, Washington employers should proceed cautiously and approach these situations on a case-by-case basis. Perhaps future court decisions or the Washington State Human Rights Commission will issue clarifying guidance. In the meantime, employers should generally avoid making employment decisions based on an employee’s excessive weight. ■

¹ *Of course, for employees suing under federal law, they must first exhaust their administrative remedies by filing a charge of discrimination with the EEOC. While the EEOC applies federal law, the difference in state and federal law at the agency level may make little difference. For one reason, the*

EEOC recently argued before the Ninth Circuit that obesity should be covered under the ADA and it’s likely it will treat incoming charges accordingly. Moreover, the EEOC has a workshare agreement with the Washington State Human Rights Commission (WSHRC) and it often defers cases to the WSHRC who can guide claimants to include the appropriate allegations under state law.

Karen Galipeau Forner is the founder and managing member of K-Solutions Law in Bellevue, Washington. Karen represents employers in the areas of workplace safety, workers’ compensation, administrative appeals and employment law. She is a frequent presenter at continuing legal education seminars and to employer groups. Karen has over 25 years’ experience defending and resolving a wide range of workers’ compensation, WISHA and employment law matters. Prior to starting K-Solutions Law, Karen worked as senior attorney at a law firm in Seattle and for the Washington State Attorney General’s Office. She was the Program Advisor for the Industrial Insurance and Washington Industrial Safety and Health Act (WISHA) Discrimination Programs for more than ten years and the Program Advisor for the Workers’ Compensation Self-Insurance Program. Karen also litigated complex WISHA, Industrial Insurance, Third Party and Crime Victims Compensation Act cases. She recently served on the Washington State Bar Association Character and Fitness Board.

CONTRACTORS 101

continued from page 25

field leaders on the system in one year, blowing my mind and confirming that there is more momentum, belief, investment, and care for our workforce than meets the eye.

As well, what makes me really happy is seeing a holistic change where employers and unions are focusing on our workforce as people—not looking at them as a commodity, a vote to be reelected, or a set of skills to be used for a jobsite function. I feel the care out there, and so do those working for you. I can say for certain that was absent when I got on that first flight way back when.

Finally, I’d like to correct the record. The woman who asked about the million miles? I gave her the wrong answer. The real answer is for all those miles, I was gifted an opportunity to make a difference—for an industry and for individuals. It’s the same opportunity every reader of this article has every day in our industry. Let us all use it well to create positive change. Many are counting on us to do so. ■

Mark Breslin is an author, speaker, CEO and influencer inspiring change for workplace success across all levels of business. Mark has improved leadership, accountability, innovation, and engagement for organizations and individuals. He has spoken to more than 400,000 people and published hundreds of thousands of books on leadership and workplace culture. See his work at breslin.biz.

advertiser index	advertiser	page	phone	website
	BuildCentrix	OBC	855.932.3828	www.webduct.com
	FastEST, Inc.	19	800.828.7108	www.fastest-inc.com
	SMACNA-WW	IFC, 9	425.289.5010	www.smacnaww.org
	Star Rentals	11	206.622.7880	www.starrentals.com
	Superior Pneumatic	22	800.521.2282	www.superiorpneumatic.com

it's simple.

1. know where your audience is.
2. be where your audience is.

Sheet Metal

www.sheetmetajournal.com

Western Washington

Journal

enough said.

For details and to reserve your space today contact Christina Tranberg at 877.755.2762 • ctranberg@pointonemedia.com

A photograph of a mechanical shop. In the foreground, a man in an orange hoodie and a black cap is leaning over a workbench, looking at a laptop. In the background, another man in a blue shirt and safety glasses is working with a large piece of machinery. The shop is filled with various tools, pipes, and equipment.

same or new BuildCentrix

Webduct Evolved

Photo courtesy of PSF Mechanical Inc.

Lean construction technology for mechanical and HVAC contractors

BUILT FOR YOUR INDUSTRY

BuildCentrix is a modular multi-trade platform built specifically for integrated mechanical and HVAC contractors.

ALL THE TOOLS YOU NEED, NONE OF THE HASSLE

100% cloud-based, with integration points for accounting, ERP, and fabrication software provide you with a high return on investment without sacrificing the power you need in the field, shop, and office.

Call us toll Free at 1-855-932-3828 for a free trial or email support@buildcentrix.com

See it for yourself. Visit www.buildcentrix.com to schedule an online demo today.