



PIPELINE

FUEL FOR YOUR BUSINESS

MAY/JUN 2022

THE NEWSLETTER OF UTAH'S HVACR INDUSTRY

153 SOUTH 900 EAST, #3 • SLC, UT 84102 • WWW.UTRMGA.ORG

RMGA Education Summit Wednesday, October 12, 2022

We plan to be in-person again with a fun **Networking Icebreaker**

and six hours of Contractor Continuing Education, and we want your input

on what topics should be covered?!

From last year's surveys, **Representative Robert Spendlove**

SAVE THE DATE!

was our top speaker with great information on economic trends in the U.S. and in Utah, so we plan to invite him back. We have also asked **Brent Urnsbach** to present more information on Energy Conservation, which is now a 1-hour CE requirement for all licensed contractors.

The board is currently working on how RMGA can help homebuilders and their HVAC partners **improve duct design and system installations** in new construction, in

order to improve customer comfort and home energy efficiency. Watch for something on this topic.

Would you like to hear from the State Fire Marshall, whose office licenses providers of LP Gas and their employees? Or a primer on Pricing for Profit? Or the latest on Refrigerants?

Please email your Education Summit suggestions to **John@utrmga.com**, and mark your calendar for October 12th. See you there! ■

Six RMGA Scholarships Available Now!

Encourage all 1st and 2nd year HVACR students to apply for one of six, no-strings, \$500 cash awards. Download the RMGA Scholarship Application at:

<https://utrmga.org/certification-and-scholarships/>



Grandfather Your Employees!

Last month, RMGA Grandfathered another 10 Journeyworkers with the Department of Labor. **Grandfathered employees can serve as trainers for new HVACR apprentices.** Forms available at: <https://utrmga.org/rmga-apprenticeship-program/>

Jamie Schumacher
jamie@gunthers.com
801-756-9683 ext 230



MESSAGE FROM OUR PRESIDENT

JAMIE SCHUMACHER

Dear RMGA Members & Friends,

It's not enough to be busy, so are the ants. The question is, what are we busy about?

— *Henry David Thoreau*

I love this quote, unfortunately, I feel that all too often I am simply putting out fires or flying by the seat of my pants. I think to be truly successful I need to take advantage of better time management strategies. I'm sure I'm not unique in that regard so here are a few ideas of how to manage your time better:

Prioritize: Take care of the most critical tasks first. Quite often the loudest voices aren't necessarily the most critical, I find that when the actual critical tasks are resolved my ability to deal with the others becomes easier.

Delegate: Give up control of things that don't really need your personal attention, empower others to do their jobs, even if it means you have to follow up and when necessary, make corrections, I find that I am further ahead.

Don't overcommit: Set realistic expectations, be blunt and find the ability to say no. Overcommitting can stretch you out too thin and cause unneeded stress and pressure.

Stay organized: Plan, write notes, and coordinate your time to be the most effective, being distracted can lead to mistakes which take more time to correct than it would have to have done it right in the first place.

Take breaks: Not taking breaks can lead to exhaustion and stress. When I am stressed, I don't feel that I give the important things enough attention and focus and I am easily distracted. When I have a break to look forward to such as meeting a friend for lunch, or a "quick" round of golf, I find myself focusing on getting the important tasks completed on time so I can get out, and then when I return, I am refreshed and ready to face the next task.

RMGA BOARD BRIEFING

At our March board meeting, Federated Insurance's Jordan Gonzalez talked about nuclear verdicts on commercial auto claims, where industry loss ratios were 55% last year, versus 34% in prior years. To help reduce auto accidents/claims, Federated is offering clients a new Telematics program that lets companies monitor employee driving via their cell phone. Contact Jordan at

jcgonzalez@fedins.com for more information.

It was then announced that **Dave Clayton** with Hercules Industries, a board member of UHACCA/RMGA for over 30 years, retired. The board voted to give Dave an **RMGA Industry Titan Award** at the Education Summit.

We then discussed the Problem House Study, and RMGA's letter to UHBA that got the ball rolling. Jamie shared encouraging words about the UHBA Director's growing understanding that duct design and proper installation are the main contributors to complaints about poor comfort conditions in new construction.

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WELCOME OUR NEW RMGA MEMBER UMC INC.

DeeAnn Devey
1148 N 450 W
Springville, UT 84663
801-254-4038
<https://umc.us/>



MARCH & APRIL 2022

But how we move forward was the question we struggled with for most of April's board meeting. Some wondered if an additional certification for Duct Design and Installation should be developed, while others were more concerned about the vast majority of non-member HVACR Contractors who won't get the message or won't care, if it is not required by law.

Historically, in 2001, when passing the RMGA

Certification Exam was adopted by the State Legislature for HVACR Technicians to legally work in Utah, "comfort concepts" were eliminated from the exam, since only safety concepts were required.

Our next board meeting will be on Zoom at 11:00 a.m., on Wednesday, May 11. Everyone is invited to attend, ask to be invited: john@utrmga.com. ■

RMGA GAS CERTIFICATION CLASSES

CALL 801.521.8340
OR EMAIL
RMGAUTAH@GMAIL.COM
TO REGISTER

May In-Person class sold out. Zoom available!

Take your Pre-Test to evaluate your readiness for the exam!

MAY IN-PERSON (And on Zoom) Salt Lake City

Thursday, May 12
Friday, May 13 &
Saturday, May 14
8 a.m. - 5 p.m.

Dominion Energy CTC Room
1000 West 100 South
Salt Lake City, Utah 84104

**SOLD OUT
In-Person**

JULY IN-PERSON (And on Zoom) Salt Lake City

Thursday, July 14
Friday, July 15 &
Saturday, July 16
8 a.m. - 5 p.m.

Dominion Energy CTC Room
1000 West 100 South
Salt Lake City, Utah 84104

SEP/OCT IN-PERSON (And on Zoom) Salt Lake City

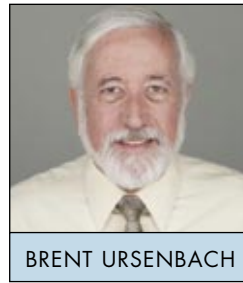
Thursday, September 29
Friday, September 30 &
Saturday, October 1
8 a.m. - 5 p.m.

Dominion Energy CTC Room
1000 West 100 South
Salt Lake City, Utah 84104

All Certification Classes are \$400. Price includes the RMGA Study Guide, IFGC, online video access, 24 hours of instruction, and 2 attempts at the exam (if necessary). Technicians should attend ALL sessions. In-person attendees should bring lunch or plan to visit a local restaurant during the lunch hour. **Take the Pre-Test to evaluate your readiness for the exam at <https://utrmga.org/pre-test/>** Partial funding of RMGA training programs have been provided by the Division of Occupational & Professional Licensing from the 1% surcharge funds on all building permits.

MECHANICAL CODE DISCUSSION

ACCA Manual D – Duct Design – Equivalent Lengths



BRENT URSEBACH

BRENT URSEBACH

**HVAC EDUCATOR/
EXPERT WITNESS**

bursenbach@gmail.com
801-381-1449

“I have a room in my house which is cold in the winter and hot in the summer, I need a bigger system!”
“My house isn’t cooling well so I hired a guy to put in a 5-ton air conditioner.”

No, No, No, it’s an airflow problem.

In our RMGA Board Meeting this week, more than an hour was spent discussing the most significant problem found in residential HVAC systems – duct and airflow issues. My favorite simple analogy: You can have great water pressure at the hose bibb, but if the hose is kinked (multiple times), the flow out the end will be low. Raising the pressure creates even higher, increased turbulence, further reducing flow. Applying this to an HVAC system, an air conditioner will only deliver full capacity when the duct system can deliver the full design airflow.

I often receive phone calls with questions from system designers, builders, HVAC contractors, and building departments, regarding Manual J, D and S designs submitted for building permits. A common concern centers on the installation not matching the design, especially where the design requires fittings with vanes or radiused throats, but the installation includes all square throats. This is a real problem and the source of many cooling problems – restricted airflow equals reduced capacity and poor comfort.

Last issue we discussed the importance of properly accounting for the pressure drop across devices, specifically coils, providing for sufficient available external static for the duct system. Properly applying the procedures in Manual D will ensure the correct airflow throughout a home. Considering that garden hose again, the longer the hose, the greater the friction, the lower the flow. I have a hose reel on

the side of my home with a 100' hose neatly rolled up. If I turn on the water with virtually all the hose rolled on the reel, the flow is much lower than if I roll it out straight, or with smooth gradual bends. For duct systems, in Manual D, we find principles and tables allowing us to identify the pressure loss through the length of the duct, including an equivalent length for each fitting.

Let’s consider three plenum elbows, the most critical fitting, with square inside throats, turning vanes, and radiused inside throat. Courtesy Manual D, we have these graphics from Group 1 Supply air fittings at the air handler:

No Vanes	H / W	EL
1-H	0.5	120
	1.0	85

With Vanes	EL =
1-I	20

Radius	R / W	EL
EII	0.25	40
No Vanes	0.50	20
1-L	1.0	10

◀ (Continues top of next page)

- Please note each fitting style is identified with a Group number and a letter, such as 1-H, 1-I, or 1-L.
- The square throat, H/W ratio of 0.5 is **equivalent** to the friction produced in 120' of straight duct.
- The turning vanes, EL (equivalent length) is 20'.
- The inside radius, R/W ratio of 0.5, EL is 20'.
- The inside radius, R/W ratio of 1.0 EL is 10'.

That square throat used in many new residential systems installed today is at least 6 times as restrictive and turning vanes or radiused throats. Hopefully, those businesses focusing on **retrofits** consider improving the airflow by modifying the plenum elbows and tees. The system performance will undoubtedly improve.

Manual D includes guidance on virtually every fitting in a system, identified in Groups 1 to 13; however, as we don't have space to address each, let's consider just one more, Group 8 Elbows and offsets, in the main trunks.

- Mitered (R = 0) represents a square throat. EL = 90' for a hard/horizontal, 65' for an easy/vertical.
- 6" radius on an 8X12 duct, R/W 0.50. EL = 20 for a hard/horizontal, 10' for an easy/vertical.
- 6" radius on an 8X24 duct, R/W 0.25. EL = 35 for a hard/horizontal, 25' for an easy/vertical.

Returning to the earlier discussion on the installation not matching the design. Wrightsoft and maybe others now include a list of the fittings used in the design.

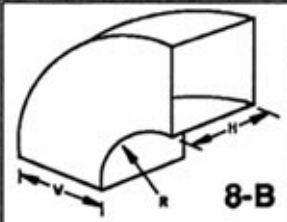


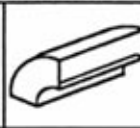
See above for an example ▲

Please note the fitting Group

number is called out with its equivalent length (EL). Looking up the highlighted 8E in Manual D, we find the elbow requires turning vanes. Do you think the installation included turning vanes? Realizing how cumbersome it is to identify the fitting group number, I'm contacting Wrightsoft to see if a fitting image report can be generated. Also notice there is a Total EL for the supply and for the return system, combined we have in the example a total EL of 560'. Sadly, when this system is installed with the incorrect fittings, the Total EL may approach and exceed 1000'. Adjusting the charge, increase fan hp, adding frost stats to stop the coil freezing, blaming it on the inspector, or the equipment

won't fix it. It's too often an airflow problem.

Please expect to hear more about this subject, including education and possibly some system testing

 8-B	Radius Elbow EL Values		
	 Hard Bend	 H / W = 1	 Easy Bend
R/W			
Mitered (R = 0)	90	75	65
0.25	35	30	25
0.5 or Larger	20	15	10

opportunities. If you don't have a copy of Manual D, consider obtaining one.

Please feel welcome to share your thoughts, questions, or concerns. Thanks - Brent ■

Fitting Equivalent Length Details	
Supply	4G=80, 8A7=30, 8A7=30, 2H=100, 8E=10, 1C=35; TotalEL=285
Return	7A=25, 7B2=15, 7C2=30, 7C2=30, 12H1=20, 8E=10, 7E3=60, 5N=55, 5H2=30; TotalEL=275

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to reserve your space!



Develop talent now for a successful future

While incentives such as bonuses and profit sharing are important, recognizing achievements and building self-esteem are priceless.

Some business owners procrastinate or avoid communicating their succession plans because they fear how family members and employees might react. However, their silence may actually create more stress and cause harm to the business. Most employees—including family members—will feel more secure about the future if they know what to expect and how they will fit in.

It's never too late to develop a business succession plan. But the earlier you start, the better. Estate planning experts agree that long-term plans to transfer businesses are generally much more successful than those "patched together" following the unexpected death or disability of an owner.

Business succession actually begins with each employee's first day on the job

Think about it, whether he or she is one of our children or a high school student working part-

A Vision for the Next Generation

time, that young person could someday be the head of the company.

Experts agree—succession planning includes creating an environment that motivates employees to use their talents and skills to reach their full potential and contribute to the success of the business. Sounds simple, but how do you accomplish it?

Perhaps a mentor program or an apprenticeship is a good start. **Talented young people are more likely to stay with the company if they feel involved in something bigger than their own job.** It is wise to provide opportunities by matching experienced workers with newer employees to guide them as they grow in their jobs.

As employees gain experience, they become assets to your business and their value increases. **Providing key employees opportunities to gain well-rounded business experience through cross-functional training and experience is admirable.** This no doubt helps them become dependable managers who can make good decisions and take initiatives to improve operations.

This article from Federated Insurance. More can be found at:

<https://www.federatedinsurance.com/ws/fi/InsuranceResources/index.htm> ■

YOUR BUSINESS

Healthy Habits Crucial for HVACR Contractors

—BY TED CRAIG, AIR CONDITIONING, HEATING, REFRIGERATION NEWS

IT WAS A BAD NIGHT for Ken Goodrich. The CEO of Goettl Air Conditioning sat in his house two years ago, wondering if he would be alive in the morning. The pressure of building a multistate HVAC firm led to eating too much and eating poorly. Goodrich made too little time for sleep, much less exercise.

After that difficult night, Goodrich decided to overhaul his lifestyle. He changed his diet and stopped drinking. He started moving more. This happened during the early months of the pandemic, so Goodrich spent plenty of time on calls. He spent that time walking back and forth, the steps adding up quickly.

The state Goodrich found himself in is all too common for business owners. The body stores energy when under stress, making weight gain easier. Then, entrepreneurs tell themselves they earned that large steak or an extra glass of wine at dinner.

“As you neglect yourself, you are neglecting your family, your employees, your customers, and your business,” he said. “I neglected myself to the point of near death.”

Today, Goodrich weighs 100 pounds less. He was on two medications for high blood pressure, and now he takes neither. Goodrich also no longer uses a CPAP machine at night.

Journey Starts with First Step

The name “First Step” reflects

Goodrich’s philosophy that the way to make a big change is to start small. He started walking and eating better. Then he hired a personal trainer. He cut out sweets and soft drinks, eats lean proteins, and drinks his weight in ounces of water every day.

Plan Ahead for Healthy Eating

Being active on the job is a bonus, but it’s still important to eat healthily



and get cardiovascular exercise.

Many factors contribute to a person’s health, including diet, exercise, and genetics. Healthy eating plays a significant role in preventing diabetes, high blood pressure, and heart disease. This includes a diet made up of lean proteins, whole grains, and lots of fruits and vegetables. As for exercise, it’s recommended to do movement that elevates the heart rate for at least 20 minutes.

You Are What You Eat/Drink

A technician’s busy schedule also

leads to guzzling energy drinks and other caffeinated beverages. These end up having the opposite of the desired effect, because they cause dehydration. It’s better to aim for drinking two liters of water per day, which will actually boost energy levels.

High levels of sugar and large meals also impact energy levels. Restaurant servings are often two or three times more food than most

people should eat in one sitting. Prudent portion sizes are another vital part of healthy eating.

Bringing a sandwich from home or leftovers are better options for lunch. There are plenty of lunch boxes designed for people who work jobs like HVACR technicians. Many of the major tool

manufacturers have their own branded offerings.

Start by bringing a lunch once or twice a week. The rest of the time, try to make better selections.

You can eat out in a balanced way almost anywhere. There is plenty of information available on diet and nutrition these days, but not all of it is valid.

Starting small seems the advice everyone agrees on. It may seem like a slow process, but the goal is progress. Having people join along the path makes it easier.

It’s just a journey, and the way to make a big change is to start small. ■



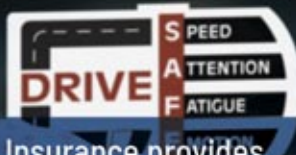
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