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NAC Mechanical

From Lynn's Desk

We are looking forward to a fulfilling and successful 2019!

Midwest projections show the industry is flat with last year. NAC's diversity means we're positioned to take advantage of industry trends in the marketplace, with the ability to keep all NAC tradespeople working.

NAC continues to diversify by investing in the latest BIM/CAD and building technologies, fabrication equipment, processes and training for our employees.

NAC Team Message

NAC VISION, MISSION & VALUES

OUR VISION

To provide superior solutions by understanding customer needs, leveraging technologies, maximizing efficiencies, building trusted relationships and empowering employee success.

OUR MISSION

To deliver total building solutions that operate efficiently, are sustainable, and make environments safe, secure and comfortable.

OUR VALUES

Safety:

Safe environments through planning and execution.

Customer:

Develop exceptional partnerships through customer-first philosophy.

Integrity:

Fair, honest and truthful to each customer, each employee and to the community as a whole.

Quality:

Best-in-class results, driven by decades of experience.

Innovation:

Utilize latest technologies to maximize building safety and efficiencies.

Single-Source:

Put all your needs in the industry's most capable hands with NAC's full service capabilities.

Employee Spotlight



HAPPY RETIREMENT!

Bruce + Randy are retiring April 12th + 18th

RETIREMENT PARTY!

Thursday, April 11th, 11:30-1pm. Lunch at the Fab Shop

Bruce Bistodeau started in the pipefitting trade in 1975, and has been with NAC for 16 years. In retirement, he's looking forward to camping, traveling, and doing things with the kids, grandkids and wife.

Randy McFarland got his start in the sheet metal trade 2 weeks out of high school, in 1975. He's been with NAC since 2014, and is looking forward to full-time vacation and golfing in his retirement!



THOR MATHISON

BIG WINNER!

Pipefitter Apprentice Competition

When did you start working at NAC? **April, 2014**

Where did you grow up? **East St. Paul, MN**

What food would you never give up? **Doritos: Nacho Cheese**

What do you do for fun? **Go to the Lake and hang out with the family.**

Thor Mathison is a 5th year pipefitter apprentice in Local 455, graduating this April. He participated in the MN pipe trade's State Apprentice Competition on March 20th, 21st, and 22nd, and won! Recommended by his professors and classmates from the 455 Apprenticeship program, Thor showed off his pipefitting skills through written exams, essays, print reading and fabrication of up to 20 different projects. He was judged on quality, time, plan execution, as well as general and skill-specific knowledge. The experience was rewarding and Thor will go on to the regional competition in June. Finalists from regionals will compete in the international competitions.

Most Valuable Skill Learned in Apprentice Program: Double Checking! Math + Trig. Its now second nature, and a great backbone for the fun stuff, like welding.

Advice for someone considering career in the trades: Best thing I ever did. If you enjoy building things and working with your hands

Favorite Part of Your Job: Building things, and seeing it all come together.

Hobbies using your skills: I want to make fountains and water features someday. I started a landscape irrigation company out of high school, and built a major water feature in a friend's restaurant years ago. Now that I have the knowledge and skills from my pipefitting apprenticeship, I know how I'd do it differently with the right materials to last longer.

Code Corner

SECTION 305 PIPING SUPPORT

305.4 Interval of support. Piping shall be supported at distances not exceeding the spacing specified in Table 305.4, or in accordance with MSS SP-69.

TABLE 415.1 SUPPORT OF PIPING

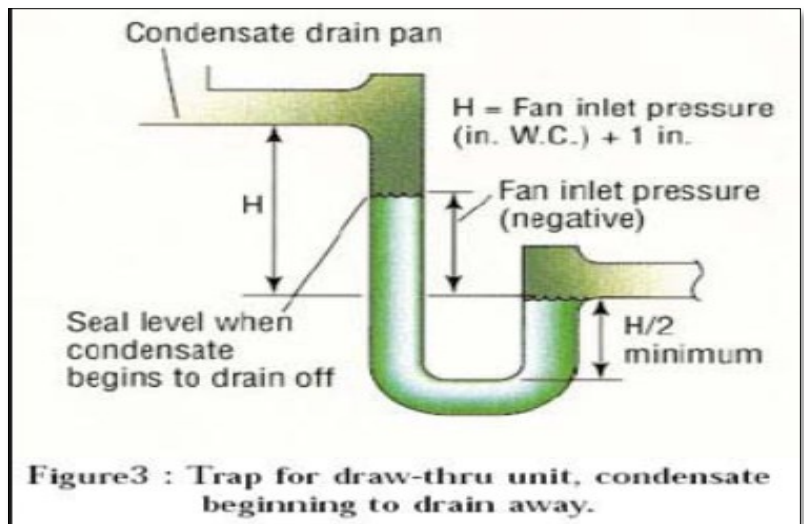
STEEL PIPE, NOMINAL SIZE OF PIPE (inches)	SPACING OF SUPPORTS (feet)	NOMINAL SIZE OF TUBING (SMOOTH-WALL) (inch O.D.)	SPACING OF SUPPORTS (feet)
1/2	6	1/2	4
3/4 or 1	8	5/8 or 3/4	6
1 1/4 or larger (horizontal)	10	7/8 or 1 (horizontal)	8
1 1/4 or larger (vertical)	Every floor level	1 or larger (vertical)	Every floor level

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

SECTION 307 CONDENSATE DISPOSAL

307.2 Evaporators and Cooling Coils. Condensate drain systems shall be provided for equipment and appliances containing evaporators or cooling coils. Condensate drain systems shall be designed in accordance with Sections 307.2.1 through 307.2.4

307.4 Traps. Condensate traps shall be trapped as required by the equipment or appliance manufacturer. (Look for Installation Guide).



SECTION 1101 REFRIGERATION

1101.10 Locking Access Port Caps. Refrigerant circuit access ports located outdoors shall be fitted with locking-type tamper resistant caps or shall otherwise be secured to prevent unauthorized access.

HVAC Troubleshooting Tips:

Balanced Port TXV's

We have all been taught that there are three forces that act on an expansion valve:

1. Bulb Pressure is an opening force
2. Evaporator Pressure (external equalizer) is a closing force
3. The Spring is a closing force, while the system is within its design operating conditions these forces are the primary forces at work that allow the valve to “set” the evaporator outlet superheat.

There is a fourth force and that is the opening force applied by the refrigerant passing through the needle. When the inlet (liquid line) pressure is within the normal operating range this force is accounted for in a normal TXV. In cases where the liquid pressure is higher than usual, the force will be greater allowing more flow through the coil, and when it is less it will allow less flow.

The result of this effect is fluctuating superheat based on liquid pressure, which may be acceptable in small amounts, but can become unacceptable quickly on systems that require accurate evaporator feeding or systems that have a wide swing in condensing temperatures and pressures.

Sporlan largely solved this particular issue in the 40's when they brought the “balanced port” valve to market. While the technology is nothing new, it has been improved on over time.

Balanced port TXVs can vary in design, but they solve this problem by allowing the inlet pressure to effect the top and bottom of the needle (orifice) equally. This eliminates (or reduces) the liquid pressure as an opening force and instead turns it into a “balanced” force that neither opens nor closes the valve.

If you have an application where the head pressure is allowed to change or “float” over a wide range, the balanced port TXV is a great choice.

Customer Comment: “ Thanks for all your attention to detail, NAC has always provided us with quality service. Your technician’s attention to detail sets NAC above all others”.

Safety Focus

Scissor Lifts

Scissor lifts are essential tools in our industry, but must be used properly. Scissor lift hazards include electrocution, falls, tip-overs, falling objects, and crush. Always review the manual, and inspect lift and the work area for hazards: leaking fluids, damaged, ground/overhead obstructions, and power lines (stay 10+ feet away).

Always latch the safety chain, and keep your feet on the lift platform. Standing on the side-rails increases the risk of falling and tip-overs. If access is difficult, you must make a safe work plan to mitigate hazards and risks. Tie-off in lift to prevent falls, tie-off overhead and lockout the lift controls for tip-over risks.

Excavation Safety Stand-Down: April 15-19, 2019

Trench + Excavation: As the ground thaws, we can finally dig in the dirt! All that digging comes with risks: hitting utilities (Call 811!), cave-ins/collapse, and struck/crushed by equipment. 36 people died in the USA in 2016 from trench accidents. The competent person must inspect daily for unstable walls, standing water and hazards.

- 2 feet: distance of spoils and equipment from edge
- 2 feet: max depth to dig below bottom of trench box.
- 4 feet deep: Ladder for access w/in 25 feet, use 4-gas monitor if risk of bad air is anticipated
- 5 feet deep: slope according to soil type, shore, or shield with trench boxes. [Soil:Slope A = 3/4 : 1, B Cohesive = 1:1, C Sandy = 1 1/2 : 1
- 20 feet deep: must have shield system engineered

Coordinator Corner

Large Group Meeting April 18th

Location: North Metro Event Center (Best Western)
1000 Gramsie Rd, Shoreview, MN 55126

Q1 : January - Completed

Q2 : April - Thursday 18th

Q3: September - Thursday 19th

Small Service Group Meetings

Month	Topic	Date
April:	Scheduling	Completed
May:	TBD	TBD
June:	TBD	TBD
October:	TBD	TBD
November:	TBD	TBD

Announcements

Upcoming Classes : June 2019

- Electrical Troubleshooting.
- Economizers
- Schematic Reading classes
- AC Systems Refrigeration Cycle Review

Fab Shop Changes

Pipe Fitter Superintendent: Paul Nemitz

Sheet Metal Superintendent: Darren Olson

CADD/BIM Manager: Ben Nussbaum

Tool Time

Please welcome Brian Wallace to the team! Brian is our new purchasing manager. He was a plumber in the field for 13 years before moving into the office as the logistics manager, and eventually, purchasing. He ran the purchasing departments for mechanical contractors over the last 9 years. The combination of his field experience, product knowledge and purchasing background will help make for a smooth transition into the busy summer months! As usual, send tool, deliveries, and material requests to: **purchasing@nac-hvac.com**. Our goal is to help you, so you can do your best work. Lets work together so we can do it in the smartest and most efficient way. Please send orders in before noon for next day delivery. If you have urgent needs, contact Brian ASAP. *Thank you for your help!*