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VOLUME 20  
ISSUE 11

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### M.I. HEATER REPAIR

*Coming to a pipe near you!  
Yeah, we can totally do that.*

### HERE WE GROW AGAIN!

*Direct from Dublin, Texas,  
say hello to John Barbaria,  
the newest member of  
Team AEF.*

### UP CLOSE AND PERSONAL

*You met Stephen Hyde and  
Sean Dolgos in our last  
issue. But which one was  
the chimney sweep and  
which was the bull rider?  
Find out inside!*

### ASK BERNADETTE

*The Oracle of Malone has a  
beef with the Oracle of  
Omaha.*

### ALEXANDER THE GREAT

*Well, it was nice while it  
lasted.*



## A.E.F. Launches M.I. Repair Service

Mineral insulated heating cables have been in use since the 1950's. Rugged and built of materials that don't age with thermal cycling, they are designed for a long service life. But sometimes bad things happen to good heaters.

A junction box fills with water. An emergency valve replacement results in a cut heater cable. An installation error leaves a high wattage cable crossing over itself and burning out. Or a heater stops working for no apparent reason. Now what?

Replacing the heater cable is always an option, but it means removing and replacing insulation along the entire pipe. For a snow melting installation where the heater is embedded in concrete, the degree of difficulty can be even higher.

There's a better way. About 90% of the time, M.I. heaters can be repaired in place. That can save a whole lot of time and money.

Call A.E.F. and you'll be asked for some basic background information about your installation. A proposal file is created on our servers, making all documentation available to every team member, so you won't have to repeat yourself when a field tech

*Shall we make a new rule  
of life from tonight always  
to be a little kinder than is  
necessary?*

James Barrie

*The fox knows many  
things, but the hedgehog  
knows one big thing.*

Archilochus

*The difference between  
genius and stupidity is,  
genius has its limits.*

Albert Einstein

*Nobody in the game of  
football should be called a  
genius. A genius is  
somebody like Norman  
Einstein.*

Joe Theisman

*There is something about  
growing up in New Jersey  
that prepares you for  
whatever you might  
encounter.*

Queen Latifah

*This is New York and  
there's no law against  
being annoying.*

William Kunstler

*War is God's way of  
teaching Americans  
geography.*

Ambrose Bierce

*It is a dangerous business  
going out your front door.*

J.R.R. Tolkien

*Sing it now while you still  
have a song.*

Jefferson Starship

## **A.E.F. Launches M.I. Repair Service**

calls you to follow up. With the information obtained on these calls, a preliminary assessment can be made, and when the tech gets to your site he'll have the needed parts, as well as good idea of what the problem is and where to start.

Asking questions and listening carefully to the answers is the next step. Was there any work being done around the cable? Lightning strikes? Power dips and surges?



Next: a physical inspection of the cable, fittings, junction boxes, and the installation area. Small details carefully observed can reveal large amounts of information.

Electrical testing is next. The resistance of the heater is measured and the integrity of the insulation tested. A careful

examination of the hot to cold splice is made, since this is a critical element of the heater assembly.

With a long heater cable, understanding that there is a break in the heater is only the beginning. Knowing *where* the break is can save a lot of time and money. And that's where the TDR comes into play.

The TDR -- time domain reflectometer -- uses radio frequency waves that travel at a speed which can be measured. In a vacuum, the waves travel at the speed of light. Inside a heater cable, the waves travel at a slower speed. When the wave meets an impedance shift or an obstacle, some or all of its energy bounces back to the point of origin. The TDR measures the time it takes for the RF wave to go out and return to accurately calculate the distance to the break, so the insulation (or concrete) only has to be removed at one location.

Now comes the hard part. The damaged section of the cable is typically cut out and a new piece is installed, connected at both ends to the existing heater. A typical M.I. Hot section has a outside diameter of 5/16" or 3/16". That overall dimension includes the sheath, the magnesium oxide insulation, and two conductors. A silver soldered butt splice is used to join the conductors. It has to be a solid splice for the heater to work, but the clearances are so tight any excess solder would cause the conductors to short to each other or to the sheath. The work requires a level of precision more likely to be found in a jewelry store than on a job site.

Now imagine doing it wearing a safety harness, twenty feet above the ground, in zero degree weather.



## ***M.I. Repair Service (continued)***

There are a lot of reasons why so few people can do this kind of work – likely no more than an handful of people in the whole country. Two of the best – John Barbaria and Stephen Hyde – are on Team AEF. Together they represent nearly thirty years of experience in the field repair of M.I. cable throughout the United States and Canada. You can think of them as M.I. All Stars -- sort of like Derek Jeter and Alex Rodriguez (if A-Rod could hit with men in scoring position).

If you've got a problem with a mineral insulated heater cable, give us a call. Help is on the way.

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## ***Meet John Barbaria***

John Barbaria is the newest member of Team AEF. For the last ten years, he's been repairing heater cables all over the United States and Canada for Nelson Heat Trace. When he wasn't out in the field repairing M.I. heaters, he was back at the factory building them.

Over the last decade he's repaired hundreds of heaters and built thousands of them. He was also responsible for maintaining and running the roll mill where the bulk cable for mineral insulated heaters is fabricated. If anybody knows M.I. cables inside and out, it's John.

When he's not on a jobsite wearing a hard hat, it's a pretty good bet he'll be wearing his Yankees baseball cap. Although John grew up in Miami, Florida, he often visited relatives in Staten Island as a youngster and while in the city acquired an affection for the Bronx Bombers.

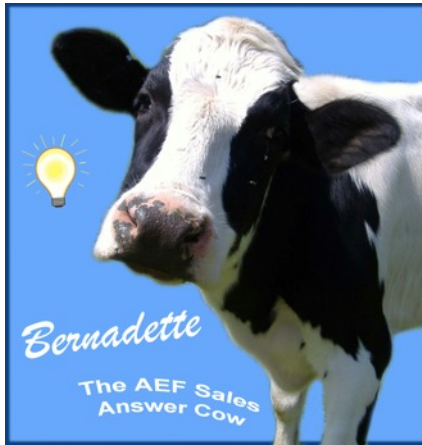
Since leaving Miami, John has lived in Tennessee, Kentucky, Indiana, and most recently in Dublin, Texas, about twenty miles south of Possum Kingdom Lake. (Seriously.)

John has relocated from Dublin to Malone, New York with wife Sabra and their two year old daughter

Kaelyn. When he's not on the road he'll be based at the AEF warehouse. (Although John didn't see snow until he was twenty, we figure he'll start making up for lost time this winter. Malone is only about ten miles from the Canadian border.)

In his spare time, John enjoys fishing and hunting. Welcome aboard!





DEAR BERNADETTE:

I know everybody's trying to cut back on expenses, but how much could a little spool cost? I just got finished trying to install some heater cable--they shipped me a 200 foot piece that was just coiled up, not put on a spool. You know how much time and money I wasted playing with that and getting it untangled? Never again! M.J.

DEAR M.J.:

*If you really want 'Never Again!' you can make that happen by ordering your heater cable from AEF Sales henceforth. You'll get it on a spool, with full installation instructions; plus right on the spool will be a spiffy little label telling you what kind of cable it is, along with*

*maximum circuit lengths and breaker sizing info. Your destiny is now in your own hands, at least as far as heater cable is concerned.*

DEAR BERNADETTE:

I just can't seem to win when it comes buying heater cable. I just had two separate jobs, and issued two PO's for 1000 feet each. On the first one they shipped me 1100 feet of cable, and charged me 10% more than my order was for! Nice, huh?

On the second one they shipped me 900 feet. The good news is they only charged me for 900 feet; the bad news is I ordered a thousand feet cause I needed a thousand feet. I had to pay UPS Red to get the last 100 feet so I could finish the job. I have enough agita on the job without this stuff. N.W.

DEAR N.W.:

*In the teeny-tiny print someplace most cable companies "reserve the right to ship plus or minus 10%." It's very convenient for them; not so convenient for customers. The other tiny-print gem is that they can ship any lengths they want as long as it totals your order (plus or minus the 10%, of course.) This means buying and installing in-line splice kits, adding significant labor costs for you. Sort of a Lose-Lose proposition. Your answer is to call Team AEF. Order the amount of cable you need, and that's what you will get, in one beautiful piece! 'Nuff said!*

CONFIDENTIAL TO W.B.: I don't think you're really fooling anybody. You could pay a lot more just by not taking deductions; or right on your tax form you can note that you are sending extra to help pay down the national debt. You can give the government as much as you want, but *please* leave the rest of us out of it!

**SAGE ADVICE?** For years environmental groups have been asking the US Fish and Wildlife Service to classify the sage grouse as a 'threatened or endangered species'. The answer was NO; with simple logic (surprising in itself) they answered that the sage grouse could not be considered endangered because there are too many of them. Never the less, the US Department of Agriculture has spent \$112 million over the past two years on a Sage Grouse Initiative to help farmers and ranchers in eleven western states to 'restore sage grouse habitat'. Anyone surprised?

**HITCHIN' A RIDE.** Since the last Space Shuttle was put out to pasture this summer, how will American astronauts get to the International Space Station? Not a problem; the Russian Space Agency has agreed to give them a lift. The round-trip will cost \$63 million, unless the Russians go for a fare hike. (It is sort of a seller's market.) We're assuming that will include snacks and soft drinks.

**THE NEW YOU.** Every one of the cells lining your intestines are replaced every few days. All twenty billion of your red blood cells are replaced every four months. According to one recent scientific estimate, by this time next year 98% of the atoms in today's version of you will have been replaced by other atoms that you take in via air, food, and drink. Mangia bene!

*In a time of drastic change, it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists.*

Eric Hoffer

*The more you observe politics, the more you've got to admit that each party is worse than the other.*

Will Rogers

*The true measure of a man is how he treats someone who can do him absolutely no good.*

Samuel Johnson

*It's tough to make predictions, especially about the future.*

Yogi Berra

*If you devote your time and attention to the highest advantage of others, the Universe will support you, always, and only in the nick of time.*

Buckminster Fuller

*To travel hopefully is a better thing than to arrive.*

Robert Louis Stevenson

*No person can be consistently cheerful and calm who does not consistently think kind thoughts.*

Arnold Bennett

*The old believe everything, the middle-aged suspect everything, the young know everything.*

Oscar Wilde



Some members of Team AEF gather in the warehouse for early morning calisthenics and singing of the company song. From left: Steven Bonchick, Pietro Fasolino, Scott Horne, Brandon Monette, Brandy Monette, Stephen Hyde, Fred Eigenrauch, and Sean Dolgos.

## Stephen and Sean (Part Deux)

In the last issue of AEF/FYI, you met Stephen Hyde and Sean Dolgos. Sort of. Due to an editorial oversight, there was virtually no information about these two gents beyond their heat tracing bona fides. So in this issue we bring you Stephen and Sean, up close and personal.

**Stephen** grew up in the Memphis, Tennessee area and has been married for twenty one years to wife Michelle. Besides heater cable (sorry) his interests include motorcycles (a Harley Ultra Classic), bowling, volleyball, and collecting coins and stamps. After high school Stephen worked his way through college with a variety of jobs, from selling television sets in a department store to working as a chimney sweep. *Chim chim-in-ey, chim chim-in-ey chim chim cher-ee! A sweep is as lucky, as lucky can be.* Must be true: shortly after beginning his career in heat tracing, Stephen walked into a job trailer in Nebraska and walked out with an \$800,000 heat trace order, followed with a \$750,000 order the next day.

**Sean** counts being a husband, father, and a diehard Fighting Irish Football fan among his current interests outside of work. (Living in the shadow of the Golden Dome may have something to do with this.) Golf, hunting, and fishing are other favorite spare time activities for Sean these days.

In his younger days, he took up a somewhat more energetic pastime -- bull riding. On and off for eight years, Sean rode in regional events under the auspices of the International Professional Rodeo Association. Fun fact about bull riding: both the rider and the bull are scored by judges. The rider has to stay on for 8 seconds to get a score, but the bull gets a score no matter what.



## Great

Alexander the Great was one of the world's true geniuses. He marched 22,000 miles, conquered two million square miles, and never lost a battle.

Born in 356 B.C., he was the son of the ruler of Macedonia. At thirteen he studied with Aristotle; at eighteen he was a cavalry commander; King of Macedonia at twenty. At thirty he ruled an empire that stretched from Greece east to India, and south to Egypt. At thirty-three he was dead.

At his death he left no successor---his top generals vied for power, and his empire ceased to exist within ten years of his death.

Once while in Corinth, Alexander – by then the most powerful man in the world – wanted to meet the famous wise man Diogenes. Diogenes lived in a barrel, which he rolled from place to place, and spent his days sitting in the sun and saying wise things. Diogenes refused to go see Alexander, so Alexander went to Diogenes. "Diogenes, I have heard a great deal about your wisdom. Is there anything I can do for you?"

"Yes, you can," answered Diogenes, "you can stand a little to the side---you're blocking the sun."

*Do not anticipate trouble, or worry about what may never happen. Keep in the sunlight.*

Ben Franklin

*The only time that companies lose to competitors is when they become fixated on those competitors and reactive to competitors. They they start doing things that are designed for the purpose of crushing competition, instead of things designed to make their customers happy.*

Andrew Mason

*When you are younger you get blamed for things you never did and when you're older you being to get credit for virtues you never had. It evens itself out.*

Casey Stengel

*I keep a bottle of whiskey handy in case I see a snake, which I also keep handy.*

W.C. Fields

*I accept chaos. I'm not sure whether it accepts me.*

Bob Dylan

*Most people don't know the difference between an inconvenience and a problem. If you break your neck, if you have nothing to eat, if your house is on fire-- then you've got a problem. Everything else is an inconvenience. Life is inconvenient. Life is lumpy. Learn to separate the inconveniences from the real problems. You will live longer and you will not annoy people so much.*

Sigmund Wollman

## Products and Services

### Heat Trace Services

- Heater System Design
- Field Technical Support
- Heater System Audits
- Turnkey Installations
- M.I. Heater Field Repairs

### Controls & Monitoring

- Mechanical Thermostats
- Electronic Thermostats
- Microprocessor- Based Controls
- Floor Warming Controllers
- Snow & Ice Sensors and Controllers

### Heater Products

- Self-regulating Heater Cable
- Mineral Insulated Heater Cable
- Constant Wattage Heater Cable
- Floor Warming Cable and Mats
- Hot Water Maintenance Cable
- Roof and Gutter De-Icing Cable
- Silicone Tank Heating Panels

### Transformers and Utility Products

- Transformers to 20mVA
- Network, Subsurface, Station Power, Zig-Zag, Phase Shifting, and Phase Changing Transformers
- Traction Power and Current Limiting Rectifiers
- Rebuilding and Rewinding
- Single Phase Distribution Transformers
- Wildlife Guards, Bushings, and Switches