

THE

US

Boiler Report



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Manufacturer of Burnham® Brand Products

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In the “BIG Leagues”

If you haven't already heard (or more appropriately—seen), the USBR is in the big leagues! A special printed edition of this month's newsletter was included in the Septebmer issue of PHC news. This highly regarded industry publication is circulated to over 50,000 professionals in the heating and plubming industry. With that kind of audience, it was a perfect fit for showing the kind of information that is brought to the table every month in the USBR.

If you are a new E-subscriber to our newsletter and signed up as a result of this article, wecome aboard! You can look forward to seeing more features and helpful information, delivered to your inbox every month. In this month's edition we welcome a new column to the publication...“Ask Alexis”. This occasional feature is designed to help business owners navigate the tricky waters of the social media revolution, as well as provide helpful information on how to display your efforts to “the world” in the best and most cost effective manner possible.

As always, this newsletter is for and about YOU!

If you have questions, comments, or something you'd like to see in the US Boiler Report, let us know, we'd love to hear from you!

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Does Biofuel Affect You?

According to the National Biodiesel Board, the governor of Rhode Island recently signed legislation which ensures that by 2014, all of the state's heating oil contains at least two percent biodiesel, which is typically derived from soybean oil.

Biodiesel blends are gaining popularity in Northeastern and Mid-Atlantic states. It comes as no surprise that other states have put legislation into motion that'll accomplish the same as Rhode Island. New York City has required a two percent biofuel blend – called B2 – since 2012.

The remainder of the Empire State adopted the Big Apple's position on the "greener" fuel in June. The New York State Assembly and Senate passed legislation mandating use of B2, but it doesn't go into effect until 2015. The product is also known by its commercial name, Bioheat.

Although New York and other New England states have passed similar bills, Rhode Island appears to be the first to implement a statewide Bioheat requirement. By 2017, the legislation calls for a five percent bio/petroleum blend.

Biofuel 101

"Biodiesel has some interesting affects," said Craig Butler, sales engineer for Beckett's the Mid-Atlantic Region. "Some of these are understood, others are a bit of an anomaly."

"At a two percent blend, there's literally no difference, as far as we're concerned," continued Butler. "The burner doesn't need to be adjusted, and you're not

going to see a difference in efficiency or BTU input. But at five percent, there are a few things to take into account."

Biofuel is an effective solvent, so it breaks down sludge, corrosion or other deposits on surfaces it comes in contact with. While this is a benefit within the burner, it can wreak havoc in a fuel tank, especially an older one. Contaminants in the tank loosened by the fuel often end up clogging the fuel filter. While this generally doesn't present a challenge at a two percent blend, it becomes a real obstacle at five percent – or B5. Old gaskets, as well, can break down with exposure to B5.

"We've gotten a lot of questions about how to adjust burners for B2 or B5, but it's not an issue" explained Butler. "The burner industry has kept pace with this. Any burner you buy today – and most produced in the recent past – are all approved for a five percent blend without requiring adjustment. New gaskets won't present a problem either."

Pure biofuel contains less energy than typical petroleum-based diesel; 124 MBH/gallon and 136 MBH/gallon, respectively. According to Butler, combustion CO2 readings won't start to show a measurable change until blend rates approach 50 percent – B50. At this point, the burner will require an adjustment for efficient operation.

"As a company and as an industry, we're adapting with the changes stemming from the increased use of biofuel," said Butler, who's been with Beckett for 12 years, and in the heating industry for 40 years. "We have to address it to remain viable."



Look for this logo to find unique features that set U.S. Boiler Company apart from the competition. It's a quick, easy way to identify a product or service our competitors don't have – like **The US Boiler Report!**

Did you know?

In case you missed out on the previous editions of the USBR, here's a quick recap of some of the items that have been covered recently:

- U.S. Boiler Company, and its parent company, Burnham Holdings, have donated 150 95% AFUE boilers to Superstorm Sandy relief efforts. These boilers primarily went to elderly, the physically challenged, families with children, and veterans and were placed through the efforts of Rebuilding Together NYC. The total value of these donations exceeded \$600,000.
- The venerable Burnham Series 2 gas boiler now features a state-of-the-art IHC boiler control system and has the ability to easily add features such as low water cut-off and an aquastat.
- A portable diagnostic touchscreen display is now available. This convenient device can easily be plugged into any IHC or IQ control system and provide complete, simplified setup and troubleshooting capabilities. The display communicates with intuitive menus and full sentences, not codes or abbreviations.



**Bare
Bones
BizTips**

By
Ellen Rohr

Down with DEBT

The key ingredient is your commitment. The steps are pretty easy.

“The definition of easy is ‘something you can do.’” ~Jim Rohn

Do you struggle under the mounting pressure of debt...personally and/or in your business? You are not alone. The statistics on debt are troubling:

The average American household has 13 payment cards (credit cards, loan payments and store cards.)

Americans carry, on average, \$8,000 in credit card debt from month to month. If you were to make only the minimum monthly payment on that debt, at 18% interest, it would take 25 years to pay off and cost you more than \$24,000 in total.

- **46% of all Americans have less than \$10,000 saved for their retirement.**
- **96% of all Americans will retire financially dependent on the government, family or charity.**
- **Only 2% of all homes in America are paid for.**

I got these statistics from a website offering debt consolidation services. Unfortunately, most folks misunderstand and misuse these services...and get further into debt. These services can be creditors in disguise.

So, deep breath. No matter how much you owe, you can bring your debt down.

■ Step Four: Read “The Richest Man in Babylon” by George Clason.

This slim book uses a story to teach the basics about reducing debt and increasing your wealth. This timeless classic was written during the Great Depression and offers spot-on advice. Set up a payment schedule, as suggested in the story, and hold yourself accountable for following through with the next few steps...

■ Step Five: Talk to your creditors.

You may be able to work out a better interest rate or payment schedule. Your creditors don't want you to declare bankruptcy.

■ Step Six: Start saving.

A little bit every month adds up. George Clason suggests 10%.

■ Step Seven: Take steps to systematically pay down your debt.

This is the easy-hard part. It is easy to do it. The problem is it is easier NOT to do it.

You can do this...it's easy.

©2013 Ellen Rohr

■ Step One: Get to a KFP – Known Financial Position.

Clean up your business Balance Sheet. Create a personal, family Balance Sheet. Have your bookkeeper and/or accountant help you. On the Balance Sheet, the section called Liabilities is what you owe; it's your total debt. Not looking, being in denial, that's how debt builds up. Be willing to confront the situation. Once you know, you can start bringing that total debt number down.

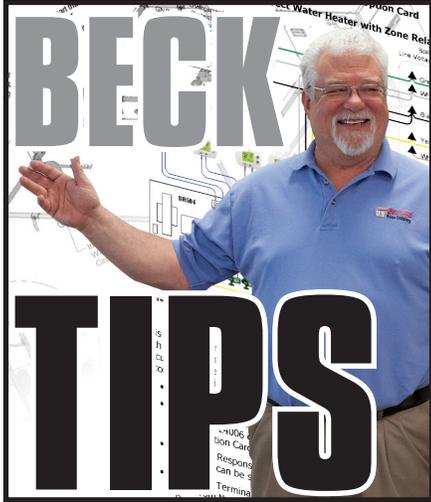
■ Step Two: Start selling at the right price.

Include debt reduction dollars in your Budget. Your customers will have to assume some of the burden of your debt in order for you to create dollars to pay it off. Include in your selling price enough salary to contribute to paying off your personal debt and enough profit to pay down your company debt. You may have to improve your marketing, sales, service and production skills to charge more and “get to yes.” So be it. You deserve it. And your customers will pay more for a great value.

■ Step Three: Stop buying stuff on credit.

On an episode of Saturday Night Live they aired a ‘spoof’ TV commercial for a new debt reduction book called, “Quit Buying Stuff You Can't Pay For.” Genius.

*A business plan can get you all on the same page! Less stress and drama, MORE MONEY!
Download Ellen's free Biz Planning Video Series at: www.BareBonesBiz.com You can also find
“ellenrohr” on Facebook, Twitter and Google+.*



By Ron Beck,
U.S. Boiler Company

When piping a Series 2, Alpine, or any other boiler using a primary/secondary configuration, the spacing between the tees is essential to achieving hydraulic separation. The length of straight pipe before and after the tees is also important to getting a laminar flow instead of a turbulent flow.

You must always pipe the secondary in and out of the branch (or the bull) of the tees, and the run of the tees on the primary pipe. When the rules are broken, there's a possibility of affecting flow through the boiler, or ghost flow where you don't want them. Do not install any fittings or valves between the tees. Aftermarket devices designed with valves between the tees or hydraulic separators are OK, as they're engineered with the pressure drop in mind.

There are three distances that are important when using a primary/secondary piping configuration that includes closely spaced tees:

The length of straight pipe before the closely spaced tees:

The length of straight pipe before the first tee must be at least eight times the diameter of the pipe the tees are

The Rules of Closely Spaced Tees

installed on. If the tees are branching off of three-quarter-inch pipe, the system needs a minimum of six inches of straight pipe before the first tee.

The length of straight pipe after the closely spaced tees:

The length of straight pipe needed after the last tee is at least four times the diameter of the pipe the tees are installed on. If your pipe is three-quarter-inch, you need at least three inches of straight pipe after the tees, before an elbow or another component of the hydronic system.

The distance between the tees

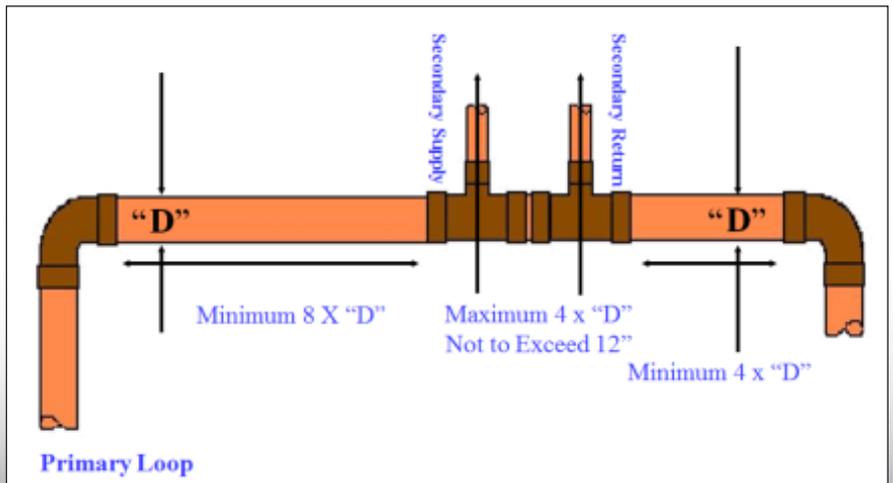
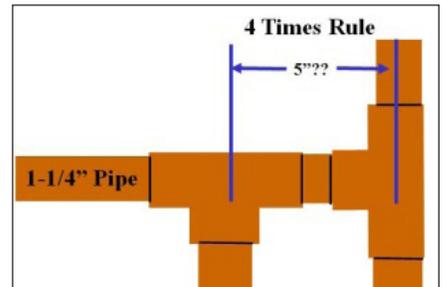
The distance between the tees is possibly the most important for correct hydraulic separation. We don't measure from fitting to fitting, but rather from the centerline of each of the tee branches.

From centerline to centerline, you need at most four times the diameter of the pipe the tees are installed on, but never to exceed 12 inches. If you are using one-and-a-quarter inch pipe, the maximum distance is five inches. Three-inch pipe would allow for a 12 inch gap. But, if you're using four-inch pipe,

the maximum distance would still be 12-inches. Generally, the shorter the distance between the tees, the better.

Below are two applications I've seen in the field. Neither are primary/secondary. The first - rotating one of the tees as seen below - will change the flow in either the boiler or system depending which tee was rotated. The second is not primary/secondary either. Both are considered just bypass piping, not primary/secondary, and hydraulic separation is lost.

Ron Beck is Outside Technical Advisor and Manager of Training for U.S. Boiler Company, where he's been since 1998. Ron's 34 years of experience in the heating industry include climbing the ranks of a HVAC company, from apprentice to service manager. Currently, he's the de-facto, go-to solution guy for contractors in the field. Ron can be reached at: RBeck@usboiler.net or (717) 877-9738



Shrinking the Boilers

Oil to gas...Naturally



Chris Smykyl and Bob Ives of Bow plumbing and heating had the job of converting the heating system in Loudon Elementary School from five oil boilers to four Alpine condensing gas boilers.

Across the country, school budgets are a hot topic. Loudon, New Hampshire is no exception. As the town grows, the realization that more teachers will soon be required is coupled with the need to maintain existing programs that benefit students and families.

Short of raising property taxes, there's no simple way to make all the pieces of the budget come together seamlessly. So, administrators look for areas where cuts can be made without impacting the students' learning environment and quality of education.

Attention quickly turned

to the mechanical room in Loudon Elementary School, where five oil-fired boilers were drinking nearly \$30,000 each heating season. To add insult to injury, the system's underground fuel lines needed to be replaced.

"Not only was fuel consumption an issue, but it would have cost us \$30,000 to replace the fuel lines from the tank to the mechanical room," said Merrimack Valley School District Plant Manager, Neil Barry. "We then learned there was a high-pressure gas line at the street. A \$16,000 rebate from the utility for switching to a high-efficiency gas system, combined with the positive long-term outlook for gas prices, and the

decision was made."

Loudon Elementary – one of 14 buildings in the district - was built in the 1960's, with a circa 1980 addition. Distribution throughout the 59,000 square-foot building consists mainly of commercial fin-tube baseboard, but the gym and cafeteria use air handlers.

After collecting two bids for the project, the school hired Bow Plumbing and Heating, in Bow, New Hampshire. The 10-employee firm installs and services commercial and residential hydronic or air-side heating systems. Owner, Bob Ives, is moving the company into its third

generation with his children Eric, Timothy and Christina.

"We've successfully worked with Bow several times before, but to do my due diligence, I got a second opinion," said Barry. "The bids were nearly identical, and both used Burnham Alpine condensing boilers." What followed would be a boiler retrofit yielding a one-and-a-half year payback.

Go time!

"We started the project in July 2012, and wrapped it up before the back-to-school sales started at the mall," said Bob Ives, president of

-Continues, see "Shrinking", page 6



–“Shrinking”, continued

Bow P+H. “Once it was decided to use condensing boilers, the decision was easy. We’ve installed Burnham boilers for a long time, and this job wasn’t an exception. The Alpine is efficient and easy to maintain. We fire them up, set the controls, walk away, and they perform like we want them to.”

While technicians from Bow P+H were inside, disassembling near-boiler piping and removing large oil boilers, an excavation crew outside removed the

big underground oil tank and all the fuel lines. The school wanted it off the property before it became a liability. In short order, freshly-seeded grass was the only evidence that an oil tank ever existed.

“The new system uses four large Alpine boilers, all connected to a manifold system as shown in the installation instructions,” continued Ives. “This way, we effectively have a 20-to-one turndown. Heck, you can even stack these things two-high if you really need to fit them into a small mechanical space.”

A cat 5 cable runs from one unit to the next. The boilers are set up so that one unit is master, and the other three are slaves. Through the master controller, the boilers alternate which boiler is first on. This ensures that all units have approximately the same runtime hours, making service simple.

“Rick Gendron, the regional sales representative from U.S. Boiler Company, came to the school when we wired the boilers, and again when we fired it up,” said Ives. “U.S. Boiler support staff is known to go above and beyond, and Rick doesn’t disappoint.”

Although the Loudon School isn’t an unusual job for Bow P+H, most of their work is residential. So being familiar with the Alpine boiler line lets their installers pick models from 80-399 MBH. With the modularity of the unit, they can outfit just about any building, whether it’s a small, single-family residence, or a public school.

Downsizing and upgrading

“It’s a big primary/secondary system,” said Ives. “The boilers share a short, three-inch main loop, and radiation throughout the school draws from the secondary loop. This made staging the boilers even easier, if that’s possible.”

Aside from the near-boiler piping and associated boiler pumps, the distribution didn’t change. The secondary loop is pressurized by a pair of redundant Taco 1600 series pumps. Like the boilers, the large circulators exchange duty and standby operation

every so often. The job is a good illustration of how high efficiency need not be over-pumped, over-controlled, or over-engineered.

Even outdoor reset is simplified. It’s included on the Alpine’s factory-installed Sage 2.1 boiler control system. With the severe winters that central NH can experience, Ives used a 0°F outdoor design temp. Although such temperatures are rare, the outdoor reset helped Ives plan for the dramatic temperature swings the area can see, and for a possible future addition to the school.

This past winter, the difference in the budget was dramatic. Heating the school during the 2012/2013 winter came in \$15,000 under that of the prior year, which was mild. Compared to 2010/2011, there was a \$21,000 savings.

According to Barry, he’s now convinced that schools don’t require massive boilers. He’d rather see several smaller boilers, staged to meet the demand. Not only is the fuel expense much less, but boiler maintenance savings at Loudon Elementary alone are over \$1,000 per year.

“I think it surprised a lot of people how a simple retrofit yielded such significant paybacks,” said Barry. “Heat distribution wasn’t changed, insulation wasn’t added; just the boilers. Because of that, I wouldn’t hesitate to retrofit with Burnham Alpine boilers when needed.”

ASK ALEXIS!

by Alexis Gessner

Alexis is the Marketing Media Specialist for U.S. Boiler Company and manages all the company's social sites. She graduated in 2010 with a BS in Business, Digital Media, and Photography, and brings a young, tech savvy perspective to the HVAC industry...a growing trend.

This article is the first part of an occasional series devoted to the many sides of marketing in today's digital media environment. If you have any suggestions or questions for Alexis she can be reached at: webadmin@usboiler.net

The impact that social media has had on our society is immeasurable. From a business standpoint, it simply can't be ignored. For the purposes of this column (and a few to follow) I'm not going to try to convince you that a social media presence can benefit your company; rather, we're going to explore ways to make your online efforts more fruitful.

Youtube, Facebook, Twitter, and even Pinterest can drive traffic to company websites. Each social media platform is different, but Retweets, Shares, Likes, and Pins distribute your message from customer to potential-customer. You don't get that

Social Media...Simplified

with a mailing or an Email blast, both of which can be intrusive and annoying for the recipient.

The difference between social media and a traditional ad, is that the consumer views content on their own accord, as opposed to information being delivered to them whether they're interested or not. Social media can be personable, whereas print media is static. It is truly becoming the voice of a company and the new age "word of mouth."

When using any social media venue, it's important to present your company in an organized, professional fashion. A goal should be developed in what you want to gain from your online campaign. Nonetheless, you don't want to sound overly corporate and stiff. Engaging your audience with relevant news in few words, catchy jokes, and remember: **vivid imagery is explosive.**

Think about the relevancy of what you're posting, why you're posting it, and be ready to answer questions that come as a response from your followers.

Facebook

Facebook is the jack of all trades. It's a great place to host videos, make announcements, post pictures, etc. The downside is that it lacks some of the precision that Twitter provides, in the way of

getting a message to a specific audience.

It's important to ask yourself what your audience would be interested in or, more importantly, the customer feedback and knowledge you can gain by posting questions. Contractors with social media savvy use their sites to promote installation work, post printable coupons, and make recommendations.

One of the most engaging things a company can post is their involvement with the community. The more personable and up-to-date your social channels are, the more intrigued and in-tune your audience is.

YouTube

Like most social media, YouTube is often used for personal and leisure expression, but many service companies are using YouTube to get the word out. Not only that, using video and hosting on YouTube will create content that you can post on other social media venues you're using.

Using video to capture a customer testimonial is one of the best ways to use video to your advantage. A retrofit "before and after" showcase video is another option. An introduction video – complete with employee appearances, office and shop walk-thru, and footage of company vehicles – helps familiarize potential customers with your operation.

Looking professional on YouTube is key. Having a video that appears homemade can impair your reputation. That doesn't necessarily mean you need to hire professionals or buy \$10,000 worth of video equipment; but you should have a decent working knowledge of a basic video camera, some filming techniques, and simple editing software.

Twitter

When it comes to targeting a specific audience, Twitter shines. It provides the ability to hashtag and tweet directly to a consumer (**#youseethiseverywherenow!**)

The biggest advantage to Twitter is having the ability to quickly direct customers to your company site. With a one-line catchy sentence, a tweet can consist of a shortened URL to link to a product or service page from a website. For U.S. Boiler Company, if an updated I&O manual, new value sheet, or instruction sheet is put on usboiler.net, a simple 140 character statement is blasted on Twitter in seconds with the corresponding link.

Another huge advantage of Twitter is being able to tweet directly "@ a particular customer. Customer has a question? Answer with a tweet directed at them, and they will be notified instantly of your response. Have an update crucial for a specific audience?

-Continues, see "Ask Alexis", page 8

Low Water Cut-Off and Auxiliary High Limit Kits

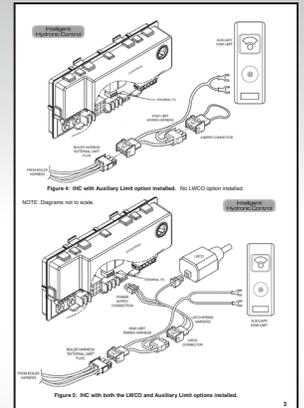


US
UNMATCHED ANYWHERE

Recently, we have gotten feedback from contractors in regard to how to make life easier for them “in the basement” They told us that they’d like to have an easy, plug-in low water cut-off and high limit kits for IHC-equipped boilers like Series 2 and PVG. We listened!

The new LWCO and Auxiliary High Limit Kits from U.S. Boiler offer just that...the devices are easy to plug into the control panel. No removing the cabinet, no stripping wires. Just plug and go. Once plugged into the IHC control panel, the LWCO and High Limit kits communicate with the boiler controls on first power-up.

Follow [this link](#) to the simple wiring diagram to see just how easy it is to connect either device to the IHC controller on Series 2 and PVG!



–“Ask Alexis”, continued

Tweet at more than one person with the important news.

The downside? Being limited to 140 characters can be a challenge when there is a lot of information to be blasted. Additionally, the thousands of tweets sent out every second tend to bury your posts. Nonetheless, stay consistent with your updates... and the message will be heard.



With 50 million users, Pinterest is only one-tenth the size of Twitter, but is also one of the newer media venues. It’s exactly what the name suggests; an online pin board of pictures for users to

share and comment on. For a contractor to see success on Pinterest, one thing is necessary... good photography!

Pinterest’s detractors will mention that its users are mainly women, and that’s true. But it can shine as a business-to-consumer marketing tool, depending on your local demographic.

If you’ve discovered that a good portion of the calls you receive are from women, there’s a good chance that Pinterest could lend itself well to the growth of your company. Know your customer base. Who’s the decision maker in the households you serve?

Like video, it’s important that pictures you post on Pinterest - or elsewhere - look presentable; not dark snapshots of dusty equipment surrounded by mops and boxes of toys.

Get out there!

Once you have a grasp on social media and how it can work to your advantage it won’t seem intimidating. Stay tuned for future *Ask Alexis* columns on Facebook-specific Do’s and Don’ts, a photo tutorial, and video tutorial. A few tips can go a long way to improve and fortify your online presence.

But we don’t just talk the talk...be sure to check out our online venues!

Like us on Facebook: www.facebook.com/usboiler

Check out our YouTube channel: <http://www.youtube.com/user/usboiler>

Or Twitter: [@usboiler](https://twitter.com/usboiler)



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Dan Vastyan (Delta C): 717-587-9595
Ken Niemi (U.S. Boiler): 717-397-4701

Distributor Line: 866-659-3927
Tech Line: 866-684-1463



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