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Technology, Energy Efficiency & Giving Thanks to a Veteran: Part 1



ALAN MERCURIO
Lead Technical Trainer &
Assistant Director PPATEC

There is an ongoing opportunity to test and utilize products from our industry. This article was written for the betterment of our industry and, most importantly, as an opportunity for me to thank my co-worker Jessica Reeder for her service to our country as an E-5 Staff Sergeant in the U.S. Air Force.

None of this would have been possible without a number of folks from in our industry. Thank you to:

- Energy Kinetics—Roger Maran, Brian Kiernan, Jay McCay
- R. W. Beckett—Curtis Martin
- Buchanan & Erb (Fuel Oil & Service Provider)—Dwayne Weller and Jon Daniels

My co-worker Jessica Reeder is a consultant who has worked with the Pennsylvania Petroleum Association (PPA) for more than four years to assist with the Education Program as a Program Administrator and as a Membership Support Specialist. Jessica is an Air Force veteran with a Bachelor's degree in Accounting from the University of Maryland, from which she graduated Magna cum Laude. She believes that the training PPA Technical Education Center (PPATEC) offers, and the services PPA provides to members, are vital to the energy industry.

The project

Oil Tech Talk, an online forum and Facebook page for technicians, coordinated and continues to oversee this project and collect valuable data. Jessica's home is a 2,210 sq ft, two-story, three-bedroom house with moderate insulation and newer double-pane windows.

On Jan. 14, a group of us met at Jessica's home to install a new energy-efficient Ascent boiler with a plate exchanger for the domestic hot water. Our goal was to see how much we could reduce energy costs—to heat this home and provide hot water—for the family of four. The home has been consuming an average of 800 gallons of heating oil (+/- 50 gallons) a year from 2016–2021.

Table 1: Annual Heating Oil Usage 2016–2021

Year	Gallon usage	Year	Gallon usage
2016	875.9	2019	761.8
2017	795.2	2020	770.9
2018	642.5	2021	795.6

With the seven years of fuel usage history available, I will record the savings and share them in **Part 2**. I will collect this data remotely with the BeckettLink



The home is a 2,210 sq ft, two-story, three-bedroom home with moderate insulation and newer double-pane windows.



Curtis Martin installing the BeckettLink Tank Gauge, BeckettLink Dashboard and MyTechnician's Mobile App.

Tank Gauge, BeckettLink Dashboard and MyTechnician's Mobile App, which will make tracking and monitoring the savings easy. These were installed by our good friend Curtis Martin, who spent the day with us helping with the installation.

I'd also like to acknowledge Jay McKay and Brian Kiernan of Energy Kinetics, and Jon Daniels of Buchanan & Erb, who really did the bulk of the work during this project.



Jay McKay and Brian Kiernan of Energy Kinetics, and Jon Daniels of Buchanan & Erb, who assisted with the installation.

The savings

There are three key advancements that I believe will provide a significant amount of savings for Jessica and her family.

1. The Ascent is equipped with Hydrostat that allows you to adjust settings to match your individual life style. For greater savings, you can select a Smart Learning Mode at the touch of a button for on-demand operation. If you don't use hot water overnight during the summer, your boiler doesn't have to run. The Ascent Hydrostat is so smart that it learns weekly routines and is ready when you typically need hot water—and it saves your energy when you don't need it.



Jessica Reeder and the author with the newly installed boiler.

2. The Ascent is also equipped with a plate heat exchanger that delivers continuous hot water via a tank-less coil boiler; its permanent, non-stick coated surfaces prevent lime and mineral build up for exceptional long-term performance in hard water applications.

3. The innovative design and engineering of this boiler's spiral heat exchanger and its materials produce more hot water that lasts longer than the previous boiler with a tank-less coil, while efficiently providing warmth and comfort in the Winter.

I am sharing a picture of me and Jessica above; as you can see, she is pretty happy with her new energy-saving heating system, and I'm betting she's going to be even happier when she and her family see how much money this will save them. **ICM**

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