Home Improvements II

By George R. Carey

My family and I have lived in the same home for almost 18 years. It is a colonial style house about 110 years old. And like many older homes, it has presented us with many "opportunities" to help keep the economy going, i.e.; Spend Money! We've been blessed with opportunities like buying a new roof, adding dormers to the attic and making it into a large family room to accommodate our four kids and all their friends, upgrading all the windows in the house to get away from the old single pane windows, replacing the driveway so the kids could play street hockey and basketball, painting the exterior (so the neighbors would stop commenting…). Basically, we had all the normal things owners of older homes encounter.

Of course, coming from the heating industry, we also have been slowly upgrading the heating system and all its accessories. When we first moved in, the house was heated by a gravity warm air furnace. Originally, it used coal and then later on was converted to oil.

After experiencing the first heating season, with the oil truck in the driveway all winter long, we knew we needed to upgrade the heating system. We started by abandoning the furnace, installing a hot water boiler and running copper baseboard throughout the house.

Instead of zoning the house with thermostats and a relay box, I decided to use an outdoor reset system, which controls the water temperature coming from the boiler based on the outdoor air temperature. I used a mono-flo piping system to feed the baseboard into the individual rooms.

With a single circulator, the outdoor reset system provides constant circulation throughout the house once the outdoor air temperature drops below a set point. To fine tune the individual room temperatures, as well as prevent overheating during the shoulder months of the heating season, I had non-electric zone valves installed in each room.

Because the oil boiler I was using was non-condensing, I had to maintain a minimum temperature of around 140°F to prevent any flue gases from condensing and damaging the boiler. Unfortunately even 140°F is too hot for a good part of the heating season and that is where the non-electric valves come into

The old steel tank in the Carey household.

Mel & Sons, which installed the new tank, laid a new concrete foundation for the replacement tank.

play; they prevent the rooms from getting too hot. And that is how our heating system operated for so many years.

A few years ago, I decided to upgrade the controls in our system. We added a 4-way mixing valve. With some piping changes, that allowed us to take advantage of all the benefits a 4-way valve provides. Now with the valve, the system can circulate whatever water temperature the outdoor reset control calculates. Prior to the valve, the boiler would send out a minimum of 140°F to the system, even though the house didn't need it, especially during the fall and spring, where 100-110°F was all that was needed to maintain 68-70°F.

The rooms wouldn't necessarily overheat because of the non-electric valves, but there were some temperature swings with the excessive water temperature. Once the mixing valve was installed, the control was allowed to send out the exact temperature all the time, making a comfortable heating system even more comfortable!

One other benefit we have noticed is now, whenever there is a call for domestic hot water, as the boiler increases its temperature to satisfy the call, the heating radiation never sees this "spike" in temperature. There are no "pinging" noises or temperature swings; the mixing valve just simply repositions itself to maintain the appropriate water temperature. Overall, with the changes and upgrades we have made, the heating system is operating efficiently and the house is very comfortable.

Our most recent improvement to the heating system, which was done this fall, was getting rid of our old single wall oil storage tank. The tank had to be 70 plus years old and looked every part of it. Whenever I walked past the tank, I would tip toe quietly, so as not to wake it up. We were quite concerned about the potential consequences if it decided to give up its ghost. If there is one negative that "Mr. & Mrs. Joe Q Public" associate with oilheating, it is this perception of a dirty, smelly old tank in their basement. And the utility company that provides the other fuel source isn't bashful about pushing that "perception." My oil company came to me over the summer with a suggestion that I might like to upgrade the storage container. (As a side note or comment…the statement "my oil company" is one of the unique benefits of using oil as your source of fuel. Having the ability to choose who heats your home and provides services is something the Oil Industry should be proud of and needs to promote. My oil company is a family-owned, third generation company that has specialized in providing comfort to its customers for 60 plus years. Homeowners appreciate the "peace of mind" that comes with knowing they can make a phone call and someone is going to respond to their problem or concern without delay.)

Tim and Howard Melanson, owners of Mel & Sons Oil Company, out of Wakefield, MA, gave us a proposal to install a Roth double wall oil storage tank. Tim told us that their company almost exclusively sells and installs this type of tank and proceeded to list the following features and benefits of a double-wall storage container:

The new Roth double-shell tank looks more like an appliance than a tank.

Peace of mind. The inner tank, where the oil is actually stored, is made of a blow-molded, seamless high-density polyethylene. The outer tank is weld-free galvanized steel, capable of holding 110% of the inner tank. It is basically leak-proof and corrosion-resistant. (With "Go Green" and "enviro-friendly" on every newscast, this feature may provide the needed assurance for someone to stay on as an oilheat customer.)

The tank really doesn't look like a traditional oil tank. It is modern looking (as far as an oil tank can be) and actually looks more like an appliance, such as a refrigerator. It is lighter and takes up less floor space than our previous old steel tank. (Being lighter certainly doesn't affect a homeowner one way or the other, but the technicians that had to install the tank certainly appreciated it. It even comes with handles on each end!)

The double wall tank comes with an insurance policy; the policy provides 10 years of insurance of up to $5 million dollars. If there is a release of oil in the basement and the tank is the cause, the tank manufacturer's insurance coverage will cover the clean-up costs for the homeowner. This is very important to any homeowner, especially in today's litigious society.

The last benefit Tim pointed out to us is the fact that there are no fittings below the oil line. The tank's configuration has the fill, alarm, level indicator (naturally) and the oil supply all piped off the top. One of the benefits here is any sediment or sludge that often accumulates at the bottom of the tank will not be pulled into the oil filter. This obviously extends the life of the filter, but more importantly, reduces the chance of a "no-heat" service call because of a plugged oil filter.

Naturally, after hearing what he had to say about the tank, we were convinced that this was the type of tank we wanted in our home. As this article is published, we are heading into the first heating season with our new tank and I will certainly share whatever experiences I have this season.

If you have any questions or comments, e-mail me at gcarey@fiainc.com or call me at FIA. 1-800-423-7187.