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| RADIANT CONVERSION |

Radiant heat does the heavy lifting at this makeover

Mechanical firm, sturdy friends and manufacturers team-up for a much-needed retrofit – a gift, just in time for Christmas

Last winter was a brutal one for central Pennsylvanians. They received a decade's worth of snow in four months, with lower-than-normal temperatures. "Even with all of that, and being out of work for months, what I remember most painfully was the deregulation of electric prices on January 1 of last year," recalled homeowner Randy Steffy.

Randy and Deanna Steffy's home, a small Manheim, Pa., ranch built in 1985 was heated by electric resistance baseboard and had a builder-grade

Things got ugly when the economy tanked and, soon after that, the full effect of deregulation hit. The last thing Randy wanted to do was to close the gym.

"I refused to close the gym, and I needed to heat it too. Today it's more for the community than it is for me. I like to think I'm helping build people of character," Randy said. "And yet, I'm not doing the work. They are. I've only given them a place to evolve and mature."

Steffy's gym has the look and feel of boxing rings from long ago in urban New York, tucked-away places where athletes first became enthusiastic about the sport. Walls are covered with a patchwork of mirrors, an Arnold Schwarzenegger poster, and a printout of The Power Lifter's Prayer. There is a punching bag and the sturdy weight gear that Randy crafted throughout the years. Closest to the leg sled is the record of bench-press accomplishments by the gym's users, often referred to as Randy's Wall of Pain. Three flat benches topped off with Olympic bars are the meat 'n potatoes of the operation. There are also two incline benches, a full power rack, York weight plates and dumbbells of every size.

Along one wall, two lifters were spotting for a young athlete, Jesse Tornabe, squatting 405 pounds, enough to bend an Olympic bar. Earlier in the year, Tornabe made Randy's Wall of Pain with his 300-lb. bench press, an impressive feat for anyone, let alone a 180-lb. 17 year-old. "Randy's a real inspiration to all of us," said Tornabe. "Physically, socially and spiritually, he's always here for us."

Out with electric heat

Hearing of the Steffys plight and with donated gear from several manufacturers, Mark Haldeman, owner of

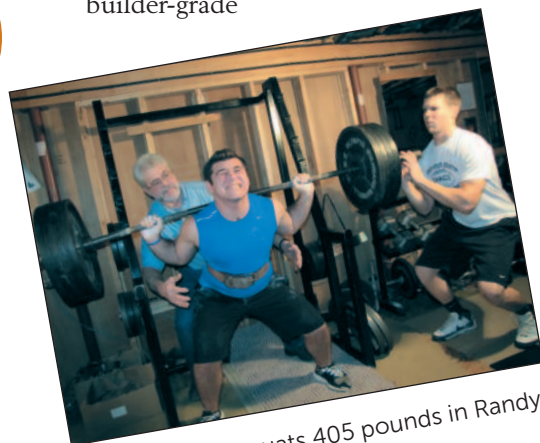


The skilled crew of Tavi Nistor (left), Bill Aller and Gary Forry of Haldeman Mechanical Inc. proudly show off the radiant system they installed to replace an outdated electric-baseboard system at the Steffys' home in Manheim, Pa.

Manheim-based Haldeman Mechanical Inc., and John Dodson, heating services manager, offered to help. In April, Dodson visited Randy and Deanna's home. He did a heat load calculation and spoke enthusiastically about doing a "radiant heat makeover" — with a little help from their friends.

A few weeks later, he called to say that Haldeman pros would install and connect a donated Bradford White CombiCore1, a Watts Radiant Hydronex panel and radiant manifold, Taco pumps and components and Watts hydronic gear.

In June, Randy's lifting crew volunteered to install the 2,000 lineal feet of 3/8" EPDM synthetic rubber Onix radiant tubing and to reinsulate the ceiling. "Over the years, the baseboard heaters, installed when the house was new, eliminated our



Jesse Tornabe squats 405 pounds in Randy Steffy's basement gym.

electric water heater. "We were paying up to \$400 a month for electric before the prices increased 30% to 50%," Steffy said. "With no income, our savings were dwindling. All we could do was keep the temperature at 60° and pray for work."

Yet, one facet of Randy's life wasn't going to change, at least without a fight. Randy was a natural body builder in his younger years and, at 57, still puts up a lot of weight these days. Over the years, he turned his basement into a miniature Gold's Gym. In an effort to reach out to the young people in the community, Randy allowed anyone to lift weights in his basement, free of charge, all the while getting expert instruction. In a typical week, 30 to 40 young men and women spend time in the gym.

Being an industrial welder by trade, Randy bypassed the high cost of serious weightlifting equipment by fabricating most of the gear himself.



A preassembled, two-zone HydroControl panel from Watts Radiant includes two Taco variable-speed, ΔT pumps, a 4900 Series air separator and a zone control. Watts provided a backflow prevention/auto-feed valve; a two-gallon expansion tank; ISO valves; pressure, temperature and relief valves and balancing valves.

nest egg. The gift of the materials, Haldeman's expertise and the installation of radiant tubing by the guys was an answer to our prayers," said Randy.

A fast-paced workout

The weekend when the tubing was installed was one that the Steffys won't easily forget. Randy and Deanna's part was to supply the tools and fuel for the masses.

"Hey Big Ned ... aaaall right Big Dave ... hey Big Brett," Steffy greeted the crew at the door. "Big" was right; a bunch of Manheim's heavy-hitters were ready for action. The crew warmed up by pulling fiberglass batting out of the joist bays, exposing the subfloor. A few could barely squeeze into XL asbestos abatement suits donated for the ugly job of insulation removal. Others began drilling perimeter holes according to Haldeman's staple-up plan.

Hours later, a crew of brawny dudes uncoiled 200-foot rolls of Onix tubing donated by Watts Radiant. The tubing was ideal for the task. It was doubled up and recoiled so it could be pulled twice as fast, from the center of the loop; a time saving tactic only possible with Onix.

While drilling holes in the floor joists, Big Brett accidentally demolished an industrial, half-inch right angle drill, one marketed as "indestructible." Between Brett's massive forearms and a large nail stopping the 2¹/₄" bit, the drill's front assembly proved the weakest link. Mangled chunks of drill were picked out from the wood shavings and bagged for return to the manufacturer. "Wait'll they do the forensics on that one!" quipped Randy.

The workers were educated and amused along the way. "No tubing here," were Dodson's instructions, avoiding heat under the refrigerator and kitchen cabinets. And they all admired and laughed at one helper's neatly stapled flexible tubing in two

"We wanted the system to be as simple as possible from the start."

other places, arranged in a tighter pattern to double the heat where bare toes would be warmed when the commodes were in use.

"Look, overhead tricep extensions!" said one helper as he pulled an entire loop through joists the whole way

across the basement. On deck for lunch on the big installation day: mountains of baked beans, a bushel of spuds, 15 or 20 feet of sausage and buckets of BBQ chicken parts, all washed down with gallons of Gatorade.

Big on efficiency

Long before the radiant makeover, mechanical system needs and heat load numbers were given to the manufacturers. Bradford White



Tavi Nistor (standing) and Bill Aller install the control panel and manifolds for the 2,000 feet of Onix tubing the project required.

donated their newly-redesigned CombiCore1 water heater, now the Steffys' source for domestic water and space heating.

In addition to the Onix tubing, Watts Radiant began preparation of a small, preassembled, two-zone HydroControl panel. Following Haldeman specs, Taco provided two variable-speed, ΔT pumps, a 4900 Series air separator and a zone control. Watts provided a backflow prevention/auto-feed valve; a two-gallon expansion tank; ISO valves; pressure, temperature and relief valves and balancing valves. There wasn't a foreign-manufactured part in sight.

When the last of the mechanical system packages arrived, the Haldeman crew — installers Bill Aller, Tavi Nistor and Gary Forry — arrived at the Steffy home in mid-December. They quickly set out to install the LP-fired CombiCor1 and connect it to the control panel and

manifolds and to purge and fill the system. "We wanted the system to be as simple as possible from the start," said Dodson. "Taco and Watts Radiant helped design the control panel while spec'ing the parts perfect for the job. One key function was variable-speed flow control for both zones (main living area, master bedroom and spare bedroom). Initially, we considered outdoor reset, though Taco's VDT pumps, tied to programmable t-stats would provide gradual, steady circulation — the next best thing."

Internal temp for the CombiCor1 was set to 120 degrees (mixed to 110 F for DHW delivery). The unit's 72 gallons of stored water easily exchanges heat through the large, stainless steel coil, with source heat outbound for the 10-loop, two-zone radiant loops at a steady 111°F

At the manifolds, 10 additional supply and return ports remain. "Randy's an optimistic guy," said Dodson. "Someday, he'd like to enlarge the gym and add a great room to the house. He can easily add radiant loops to the system."

When the installation was complete, Aller stood back to admire the work. "This is hydronics in its simplest form, perfect for what it's meant to do. The combination of the dual-function water heater and the panel is ideal. I sure wish I had one of these systems for my home."

"We have a strong connection to the community," added Dodson. "When we heard about Randy's mission among athletes from the area, we couldn't pass up the opportunity to help him out."

Local recognition

Haldeman Mechanical has been serving the Lancaster County region since 1939. The 11-person firm focuses on residential and light commercial installation, replacement and service.

Lancaster Newspapers recently published an article about Steffy's gym and new mechanical system. "It's the season of giving," said the reporter when she visited with the Steffys. "How fitting that, after years of giving to the community, the community's given back."

"Of course, we'll be paying for propane," said Steffy, "but it won't be anywhere near the amount of money we'll save on electric. And for the first time in my life, Deanna and I will be comfortable all winter long, even with bare feet!" ●