

Hooker family of St. George

Retired teacher learns to save

Home Fast Facts

- Built in 1970
- 1,100 square-foot, brick ranch style
- Crawlspace with attic
- 2 occupants
- Average monthly electric bill: \$240



Harry Hooker retired two years ago year as a public school vocational teacher, and his wife, Cynthia, is a school nurse. On their own, they replaced light bulbs with CFLs, and installed a timer and blanket on their water heater, but it wasn't enough to reduce their high energy bills or lessen their carbon footprint.

Comprehensive Home Analysis

- Bennie Marshall of Your Crawlspace, Inc. conducted a blower door diagnostic test and learned the home was twice as drafty as it could be if properly air sealed. He learned the heat pump and water heater were in poor working condition.

Heating and Air Conditioning

- Myatt and Bates Heating and Air replaced the 2-ton heat pump that was more than 15 years old and operating at 8 SEER (Seasonal Energy Efficiency Rating) with a 2-ton Lennox heat pump system that performs at a SEER 15 – an improvement that doubled efficiency.
- The manual thermostat was replaced with a programmable, touch-screen thermostat that allows for temperature and dehumidification settings, and setbacks for cooling savings of 20 percent or more.

Ducts

- Your Crawlspace, Inc. sealed several ducts in the crawl space although air leakage was not a large concern once the crawl space itself was fully insulated (see below).

Air Sealing and Insulation

- In the crawl space, Your Crawlspace, Inc. cleaned and sealed the exposed ground floor with 20-mil thick, fire retardant vapor barrier, then insulated the foundation walls with DOW Thurmax product. This continued the envelope of the home to the ground, increasing the conditioned space.
- In the attic, Your Crawlspace, Inc. air-sealed all the top plates with two-part expanding foam, while all the electrical and plumbing penetrations were sealed with one-part foam. The stove vent was vented through the roof and sealed at the ceiling thermal barrier. Then, they added Insulsafe blown fiberglass in the attic to bring it up to a R30 efficiency level.
- Your Crawlspace, Inc. custom-made a reflective DOW Thurmax box for the attic entry pull-down, and sealed the hatch in a way that can be removed easily when entering the attic.

Water Heating

- Roto-Rooter Charleston replaced the electric storage water heater with a 50-gallon Rheem Marathon water heater that is 94 percent energy efficient and guaranteed for life against rust and leaks.
- Your Crawlspace, Inc. fixed a tub leak.

Health and Safety

- Your Crawlspace, Inc. installed a carbon dioxide and smoke detector, and fixed loose wiring in the attic.

How the House Was Helped

Shape Your Crawlspace, Inc. South Carolina
Presented by The Home Depot

Results

The home’s overall air leakage was reduced by an estimated 25 percent as measured by the blower door diagnostic testing. Harry Hooker thought he knew all about home construction through his past careers, but he says he “got a Ph.D.” about the advances in building diagnostics and energy efficient practices from the folks who worked on his home. “My crawl space is now clean enough to be a surgical room,” said Hooker. “I can’t believe how clean and well-insulated it is now, and the air sealing work that the insulation crews did in my attic is equally impressive. As much as I love my new heat pump, I must admit that it’s barely come on now that my house is so well insulated. And my new water heater looks like something from Star Trek, it’s so advanced. The first month my utility bills dropped by over 1/3 compared to last year, and the crews weren’t even finished yet. I tell people that my house is now like living in a cooler... it’s so comfortable.”

Costs

Actual Investment

- Comprehensive assessment, air sealing, insulation and more by Your Crawlspace, Inc.....\$5,072
- Heat pump system replacement by Myatt and Bates Heating and Air with Lennox.....\$6,200
- Rheem Marathon water heater installation by Roto-Rooter Charleston.....\$1,100

Total estimated value of weatherization efforts in this home.....\$12,372

NOTE: The value of work on this home exceeded the \$10,000 per-home cap set for **Help My House!** energy makeovers because the statewide and local sponsors and installers who donated their time and materials on the project insisted on doing the job right. The additional effort and expense were necessary to weatherize this home to their high standards.

Who Helped

Heating and Cooling System installed by



www.myattandbates.com
(843) 769-4771

Heating and Cooling System provided by



www.lennox.com

Comprehensive Home Analysis, Air Sealing and Insulation installed by



www.yourcrawlspace.com
1-877-44-CRAWL (27295)

Participating Electric Cooperatives



Water Heater provided by



www.marathonheaters.com

Water Heater installed by



www.charlestonrotorooter.com
(843) 556-4320

Media Partner





Shape Up Your Home for Energy Savings

Presented by The Electric Cooperatives of South Carolina

Home Energy Efficiency Makeover

The Harry Hooker, Jr. family, St. George, SC

On his Help My House! contest entry form, homeowner Harry Hooker, Jr. wrote, “I am a retired public school vocational teacher and my wife, Cynthia, is a school nurse. Energy saving changes will help us to lessen our carbon footprint and save us a significant amount of money on our monthly bill.”

BEFORE



Mold, mildew and time had taken their toll on the home’s 15 year-old heat pump, an 8 SEER (Seasonal Energy Efficiency Rating) unit that was performing roughly half as efficiently as modern ones. A manual thermostat controlled the antiquated system.

AFTER



Myatt and Bates Heating and Air installed a high-efficiency Lennox packaged heat pump system and a programmable thermostat that will dramatically improve comfort, energy savings and air quality.



Unsealed areas and poor insulation were wasting energy. Under the house, duct and wiring penetrations like the ones above compounded the problem, and the dirt floor of the crawl space created mold and mildew issues.



The team from Your Crawlspace, Inc. air-sealed the attic and added blown fiberglass insulation. They also cleaned and sealed the crawl space with a vapor barrier and insulated the walls with DOW Thurmax.



By installing an insulated blanket and timer, Mr. Hooker was doing what he could to maximize the energy efficiency of his aging water heater. However, as with many older appliances, the best solution was replacing it.



Roto-Rooter Charleston removed the old water heater and installed a 50-gallon Rheem Marathon water heater that is 94 percent energy efficient and guaranteed for life not to leak or rust.