

FEC[®] POWER

Source

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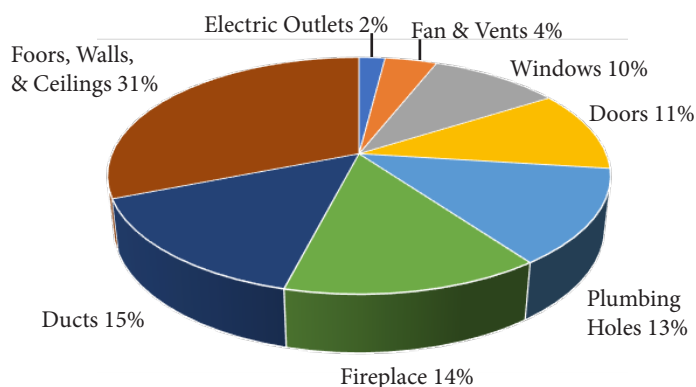
A Touchstone Energy[®] Cooperative

energy efficiency facts | LOCATING & SEALING AIR LEAKS

According to the Environmental Protection Agency, 25 to 40 percent of the energy used for heating and cooling a typical home is lost due to air leakage. Warm air leaking into your home during the summer and out of your home during the winter can waste a lot of energy dollars. That's why tightening up your home is the first step you should take in cutting your energy costs. A modest investment in time and effort can pay real dividends when it comes to reducing energy costs. Experts say a \$25 investment in caulking and weather-stripping could result in hundreds of dollars of energy savings every year.

How does air escape? Air leaks in and out of your home through every hole, nook, and cranny. Common leakage sites include: plumbing holes through walls, floors and ceilings, around chimneys, fireplace dampers, attic access hatches, recessed lights and fans, wiring holes, missing plaster, electrical outlets and switches, moldings around windows, doors and baseboards, and dropped ceilings above bathtubs and kitchen cabinets (see figure 1).

Typical Air Leakage Locations

Source: U.S. Department of Energy, *Energy Savers Guide*

Getting Started

Repair all obvious sources of air leakage first, such as broken windows and holes where air can enter through the ceiling, walls, or floor. Check anywhere building materials join and look for daylight that is visible through the cracks. After these have been properly sealed, you will be ready to tighten up other less obvious air leakage areas.

Caulking vs. Weather-stripping

Caulking is used between non-moving parts where the gap is less than ½ inch wide (e.g. between window frame and wall). Apply caulk on a clean dry surface after removing any old caulk and paint – the best time to caulk is during dry weather when the temperature is above 45 degrees. Weather-stripping comes in cleverly designed strips of felt, rubber, metal, or plastic that fills the spaces around doors, windows, and attic hatches – It compresses and seals when they are shut. There are a variety of weather-stripping materials available from your local hardware store.

No Cost

- Identify and prioritize where leakage might be taking place – air leakage locations are not always obvious and easy to find (see figure 1). Prioritize your air sealing strategy by identifying the biggest leaks first. On a windy day, locate leaks by running your hands near those leakage sites mentioned in figure 1.
- Lock your windows to make sure they are shut. Locking a window helps create an air-tight seal.
- Keep the fireplace damper closed when the fireplace is not in use. Even when the damper is closed it is still

See LEAKS on PAGE 4

Manager's Message...**Lance Adkins, GM****“Look Up and Live!”**

I recently read a story in the June issue of Guideposts Magazine; perhaps a few of our readers saw the story as well. It caught my attention because it involves a tragic accident where a young father came into contact with high-voltage electricity. Farmers' Electric (FEC) places a great deal of importance on educating employees and members about the dangers involved in working with and around electric power sources. FEC conducts electric safety demonstrations in schools, for first responders, and to any group or organization requesting a program.

In addition, we try to have at least one safety message in all print material including this newsletter, enchantment, and even holiday messages folks may see in the newspaper.

“Nothing Short of a Miracle” is told from the perspective of the individuals involved, Zach Short, Jodi, Zach's wife, and others directly involved at the accident scene and through Zach's long road to healing. I appreciate the story because the reader comes away with an overwhelming sense of the number of lives impacted by such an event, much more graphically and effectively than we can with a brief safety message. Zach Short is a son, husband, and father dedicated to living his life and providing for his family through agriculture. Zach Short is a farmer, working his own land, doing custom farming and harvesting for others, and the family operates a repair facility for farming equipment. Zach's story is about faith in God's provision and healing power, a committed and loving family, and a close-knit community that rallies around the Short family, just as we have witnessed in our communities when tragedy strikes.

On the day of the accident, Zach was operating a combine when a fellow employee called out over the radio that a tractor was on fire. All eyes were focused on the burning tires, another coworker driving up observed that the auger on the grain cart was in contact with the overhead powerline at the edge of the field. Before he could warn the others, Zach reached for the ladder on the grain cart and contacted 7,200 volts, a common voltage in rural areas. FEC distribution lines range from 7,200 to 14,400 volts across our service area, with transmission voltages being substantially higher. Many folks believe that overhead lines are insulated, they are not.

I recall from Zach's story a passage where Jodi is told by doctors that her husband's organs were failing, they had already resuscitated Zach once, did she want

*Harvest time... be safe!*

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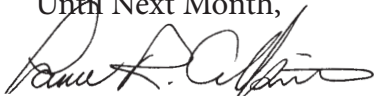
See **ZACH'S STORY** on **PAGE 3**

ZACH'S STORY from PAGE 2

them to continue efforts if Zach's heart stopped again. It is difficult to imagine the thought process, standing over your life-partner's badly burned body and making the decision to let them go. Through the night, Zach's vital signs held, then began to improve. Zach required the amputation of both legs and required substantial skin grafts and surgeries over a period of months. Doctors were able to save Zach's arm where he made contact, restoring much of the function to his hand and arm. After just three months, Zach was able to go home, returning to a community that had turned out to line the streets in a show of support. After one year of extreme effort to recover from his injuries, Zach climbed aboard his combine and participated in the harvest.

In my career at FEC, I am aware of too many individuals who have lost their lives when contacting high-voltage lines and several lives lost when contacting common "household" voltage in wet conditions. An accident affects the lives of many more people than the one injured or killed. As harvest approaches across our service area, and all through the year, I hope folks will remember Zach's story when working in areas where overhead lines are present, including those times when folks see a broken pole or wire down. Never assume the power is off. Folks can find more information about Zach's story on YouTube, by searching "Nothing Short of a Miracle."

Until Next Month,



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Be a Responsible Sportsman

September starts the beginning of bird season and Deer season is right around the corner. It's during this time of year that electric cooperatives experience a higher rate of outages which can be attributed to careless people shooting at power equipment such as line insulators, utility poles, power lines, transmission towers, and transformers.

We realize that the majority of hunters and shooting enthusiasts proceed cautiously and are responsible when enjoying their shooting sport and at the same time, respect the property of others. However, there is a small minority that don't understand that shooting at power facilities and related equipment is vandalism – a crime punishable by fines and/or jail time.



This type of vandalism is very dangerous. Not only can someone be injured by a stray bullet, but the resulting power outages present risks to electric coop personnel who must repair the damage and to the members who may depend on the power for life-supporting equipment.

So please, check your target area carefully and respect the property of others. If there's anything but your game or your target in the sights, don't pull the trigger. If you are hunting or shooting on private land, *always ask the landowner first.*

LEAKS from PAGE 1

- leaking air and taking your money up the chimney. In a well insulated home, an open damper can raise heating and cooling energy consumption by 30 percent. An inadequately sealed fireplace is one of the worst sources of air leakage in the home. According to the Department of Energy, sealing and weather-stripping the fireplace in a typical home can reduce air leakage by 14 percent or more. If you're not using your fireplace, seal it up.

Low Cost

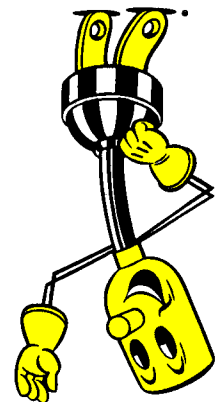
- Window putty** (glazing compound) is used to seal a loose windowpane.
- Select the best product** to do the job. Ask your local hardware store attendant for the best sealing product for your project. Discuss the location, surface type, size of leak, etc.
- Seal the leaks.** The best and most affective place to seal a home is on the inside. This not only prevents air movement, it also prevents moisture from accumulating in the wall and ceiling cavities.
- Caulk the leaks in your ceiling.** Typical insulation does not stop air leakage. When you're up in the attic, look for dirty spots in the insulation. This often indicates a hole where air leaks into and out of your house. Caulk areas where air might escape from such places as ceiling light fixtures, wiring and plumbing holes in the kitchen and bath, electrical junction boxes, and recessed light fixtures.
- A **foam backer rod** is used to fill large or deep cracks; then this is covered and sealed with caulk.
- Rope caulk** can be used to air seal many leaky areas around the home – especially windows. This inexpen-

- sive material is very easy to apply and later, if you want to open the window, it's easy to remove. Note: always designate one window in each room as the fire escape and make sure that it is operable.
- An attic hatch or pull-down stairway** in the heated and cooled part of your home needs to be weather-stripped and insulated.
- Electrical outlet cover gaskets** reduce air leakage through electrical outlets. Although the savings are small (about two percent of heating and cooling costs) the cost is also low and it is an easy do-it-yourself project.
- Window pulley seals** are inexpensive and easy to install. Many older double-hung windows have a rope and weight system to make it easier to raise and lower the window. The peel-and-stick pulley seals stops air leakage at this location while allowing the window to continue to function.

Investment

- The duct system** in a typical home loses about 20 percent of the air that moves through it due to leaks and poorly sealed connections. This results in higher utility bills and an uncomfortable home. Observe the condition of your ducts; particularly how they are sealed; if uninsulated, check for gaps or air escaping at the joints. If the ducts are insulated, make sure the insulation is vapor sealed and securely taped. Consult a duct-sealing contractor and make sure that mastic or UL-approved duct sealing tape is being used (common "duct tape" does not hold up on ducts and should not be used). Also, ensure that the ducts are insulated with R-5 duct insulation and carefully vapor sealed.

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