

Wood Heat & Wood Stoves

continued from cover

Fifty-two percent of all structure fires in the state are caused by wood heat appliances, according to Chuck Campbell, public education officer and deputy fire marshal for the City of Eugene. "It's an incredibly large problem," he states.

Campbell also says the specific causes are improper installation/operation or combustible materials left too close to the stove. When people turn in for the night they sometimes forget to move the drying jeans or the rocking chair out of the ignition zone.

Unseasoned wood, the wrong type of chimney pipe, a dirty chimney pipe or a stove pipe too close to framing inside the attic—these are all potential fire hazards when heating with wood. Campbell points out it's not the stove or insert that causes the fire: it's the operator or installer.

Installation Codes

Both the City of Eugene and Lane County have installation codes for wood heating devices that require a stove to be tested and certified safe by an independent laboratory. According to Campbell, "Eugene has the lowest woodstove problem in the state," because of the efforts of the city Building Department.

Eugene Residential Plans Examiner Phil Sullivan said he remembers one or two fires in inspected houses since 1976. He says the \$15.08 fee for the inspection and permit is "a bargain." If you call the city Building Department before 9 a.m. you'll get your first inspection the same day and probably will even if you call by 1 p.m. "I don't like the government coming into my house either," he says. "I wonder what else they are gonna make me do?" But Sullivan points out that Eugene has an unusually high level of caring among its populace, saying this code works hand-in-hand with that. "I would feel terrible if you (for instance) got hurt because your wood stove caught your house on fire."

Stoves which are tested and listed (certified) have labels affixed to them which state this information including who did the testing, the number assigned to the tested unit, as well as serial number and warranty. "Don't just accept the dealer's answer," says Craft Stove dealer Ron Crasilneck. "Look for the label."

According to Crasilneck, testing labs "try to destroy the stove." He describes the "flash-fire test" where the lab gets a nice hot fire going with kiln-dried 1x1's that are stapled together and burned until "the temperature reaches equilibrium—it won't burn any hotter." They also perform radiant heat tests, done with charcoal briquets, and a fuel spillage test.

Certified stoves aren't hard to find. Just about every dealer in Oregon sells them. In July 1986, a state ordinance will require that stoves be tested or listed before they can be legally installed.

Installing a wood heating device properly isn't difficult either.

First of all, it's important to select the right size stove for your environment. If a stove is too large for the space it's heating, the fires will be smaller and cooler than the device is manufactured to burn on a regular basis. Cooler fires deposit more creosote containing vapor on stove pipes and stove walls, in addition to creating more carbon monoxide and fine particulate pollution.

A manufacturer's booklet or stove dealer can help you with your choice. Crasilneck says, "Most dealers base their decisions on experience and manufacturer's specifications. There's no one best way."

Secondly, wood heating devices need to be installed far enough from combustible materials and with the right kind and size of stove pipe.

"Wood is an economical, ecological resource. But there are costs associated with it."

Generally, stoves should be placed 18 to 36 inches from a combustible surface. And to insulate a surface (with brick or asbestos) it's important to leave one inch of dead air space between the combustible surface and the insulation. Otherwise the insulating material will become a conductor and uncontrolled fire may still result.

The stove pipe must be installed the required distance from combustible materials, also. And if your pipe travels through an unheated area (such as the attic or outdoors) an insulated pipe should be used. Otherwise, when the fire smoke reaches this section of the pipe it will cool off, reducing the draft (the pull of the smoke away from the fire), slow down burning, and so reduce the overall temperature of the fire. Here again, manufacturer's literature and stove dealers will help you with installation. The city or county building department will advise as well.

Creosote build-up can be a major problem with airtight stoves. Although it is a normal by-product, it's also a flammable substance that can ignite in your stove pipe and subsequently ignite the framing in your ceiling. Creosote build-up in the stove pipe can also block the flow of the draft from the firebox, reducing fire temperatures even more.

Safe Operation

Once your stove is installed safely, it needs to be operated safely.

The composition of your fire will determine whether you're operating your stove safely and also will affect how much you contribute to the air pollution problem currently caused by wood heat in Lane County.

Both Crasilneck and Marty Douglass, the information representative for the Lane Regional Air Pollution Authority (LRAPA), are emphatic about not burning garbage. Paint can emit lead fumes into the atmosphere which are toxic, says Crasilneck, and milk cartons have wax on them that condenses on the inside of your stove pipe after it burns. Douglass also says not to burn Presto Logs because of what they contain. "Stick to just dry wood if you can."

Douglass also recommends limiting your newspaper burning to "just starting the fire." Less pollution will result.

Dry wood should then be added to your fires, because wood with excess moisture in it burns cooler, and leaves more creosote behind; and doesn't burn as completely, leaving more carbon monoxide and particulates behind.

Douglass says wood takes about six or

is shaped like the stove pipe is the standard basic equipment, as well as a wire brush for the inside of the stove. Many fire departments will let residents use chimney cleaning equipment that they possess. One Elmira/Noti firefighter told me they'd rather let people use the department's equipment to clean a chimney than come to the house with their trucks to put out a fire caused by excessive creosote in the chimney.

Fireplace inserts have the above do's and don'ts and more. Fireplaces are not usually designed to deal with the levels of heat that an insert puts out. This makes it especially important to have an inspection of your existing system done before you install the (listed and tested) insert.

Wood heating is on the rise in Lane County. The most recent LRAPA study states that 64 percent of all local households in the Eugene-Springfield metropolitan area burn wood for at least part of their heat as compared to 54 percent in 1982. This study also reflects a 30 percent increase in the amount of wood burned. This is not necessarily a bad thing. Crasilneck says, "Wood is an economical, ecological resource. But there are costs associated with it."

Air Quality

Particulate emissions from wood stoves are second only to industrial emissions in Lane County; and carbon monoxide emissions from wood burning are second to automobile emissions. Douglass says wood heat's contribution to particulate pollution would be higher if people used it for the entire year.

Particulates, or airborne particles, cause respiratory problems. The smaller they are, the more problems they cause. And wood stoves are prime contributors of fine particulate emissions. Carbon monoxide is a deadly gas which can cause nausea, dizziness, headaches, and in extreme cases—death.

Federal air quality standards have been exceeded several times in Lane County during 1985, having exceeded the carbon monoxide level at least once and the particulate standard several times. Regional and state authorities can't regulate emission standards for wood heating devices, but cities can. The EPA will probably devise a standard for fine particulate levels and the City of Eugene may decide to enact an ordinance. Currently, Medford is the only city in Oregon that has such a standard, according to Douglass.

Crasilneck, Douglass and Campbell are trying to educate the public, hopefully to improve a situation that is now causing problems. The trio hold periodic workshops at the Craft Stove Center outlining wood stove selection, installation, operation, maintenance and fire safety.

Douglass also recommends using an alternative source of heat when air stagnation conditions exist. There were 19 such days in January 1985 in the Southern Willamette Valley.

[Jackie Barry is the news editor for the West Lane News in Veneta and an occasional freelance contributor to What's Happening.]

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