

FIREPLACE INSERTS became popular in the 1970's during the nation's first oil crisis. Homeowners were told they could just slip their woodburning insert into the fireplace opening and, presto, have a cozier, more economical way to winter warmth.

It soon became apparent, however, that inserts presented a unique installation and maintenance challenge. Their safe use as originally hooked up became highly suspect. The Consumer Product Safety Commission and chimney service professionals began to view them with alarm. The incidence of house fires traced to the inadequate installation and maintenance of fireplace inserts escalated.

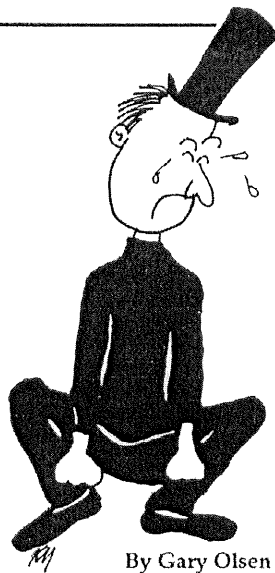
The Problem

Many smoke chambers and chimneys ARE TOO BIG to properly vent an insert stove. A typical masonry chimney, designed to vent an open fireplace, has a 12 by 12-inch tile liner (144 square inches). The average insert stove requires an 8-inch round chimney, or about 51 square inches. This helps speed the much smaller volume of flue gases up and out of the chimney before they have a chance to cool down and cause trouble.

The Hazards

The villain here, the thing that creates a safety hazard, is the excessive production of creosote. Creosote is contained in the volatile flue gases coming up the chimney with the smoke. When these gases are allowed to linger in the flue because of an oversize chimney, they cool, causing the creosote to condense onto the walls of firebox, smoke chamber and chimney.

These creosote deposits constitute a fuel that can cause intense chimney fires when ignited. One chimney fire, or a series of chimney fires, can cause unseen structural damage to the chimney and can



By Gary Olsen & Jay Hensley

The trouble with fireplace inserts

How this popular stove can drive a chimney sweep to tears, and why you should get the thing out of the house if you're not willing to have it properly installed, operated and serviced.

eventually cause adjacent flammable materials (joists, studs, wall paneling, roofing, wallpaper and mantel) to catch on fire. Exposed to heat over a period of time, all of these combustibles undergo a process called "pyrolysis," which causes their ignition temperatures to be lowered so they ignite much more easily than was possible before.

A combustible doesn't need exposure to direct flame. It can ignite whenever oxygen is available and its temperature is raised high enough.

Maintenance

An improperly installed insert is difficult to service because it must be taken completely out of the fireplace and because the creosote is usually of the glassy baked-on variety that is very difficult to remove. Chimney sweeps must charge more than their usual fee, which keeps many homeowners from having the work done often enough, or at all. Looking out for their own liability as well as for the customer's safety, many a sweep will refuse to reinstall the insert, saying, "Don't use this until it is installed with a correctly-sized flueliner clear to the top of the chimney."

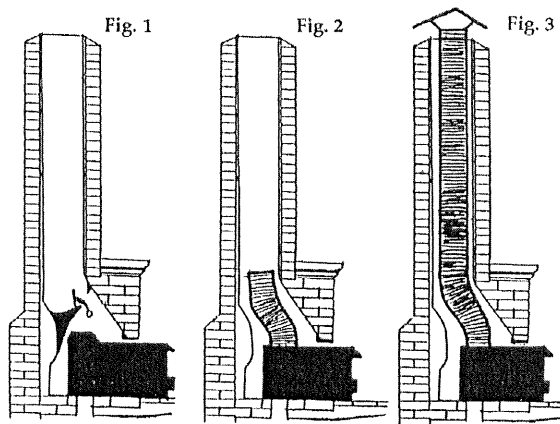
Your Options

A new generation of EPA-certified fireplace inserts is now available. These are better designed, safer to use, more fuel efficient and environmentally friendly.

But you want to keep your old insert? That's okay -- IF you have the chimney system thoroughly cleaned, IF you see to it that the insert is properly installed, IF you operate it correctly, and IF you have it inspected and maintained on a regular basis (at least once a year). *Otherwise, get the thing out of your house.*

Don't be one of those recalcitrant characters who says, "Well, it hasn't burned the house down yet!"

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Three ways you will find fireplace inserts installed. Only Figure 3 meets the full approval of most stove installers and chimney service professionals.

Fig. 1: This shows an improperly-installed fireplace insert. This type of "just-shove-it-into-the-fireplace" installation causes excessive amounts of creosote to be deposited on the walls of the firebox, smoke chamber and flue. The chimney was built for fireplace use and is too big for the combustion-air-controlled appliance it now serves.

Fig. 2: This shows the insert's pipe connected to the first tile of the flueliner. It is the MINIMUM installation required by the National Fire Protection Association's (NFPA) 211 standard. In reality, it does not work well in most cases. It's like using a band-aid when surgery is needed.

Fig. 3: This shows a full liner running from the stove to the top of the chimney. There are many types of tested and listed liners to take flue gases quickly and safely out of the house without allowing creosote time to cool, condense out onto flue walls and cause trouble.