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Solid Fuel Burning Appliance Maintenance and Cleaning

Solid fuel burning appliances require significantly more maintenance than traditional heating equipment, such as oil and gas-fired appliances.

Maintenance

Solid fuel-burning appliances require an annual inspection to ensure that all of the components are operating properly and that the chimney connector and chimney flue are clean. This inspection should include checking the chimney flue and connector for structural damage (e.g., signs of corrosion, loose connections, cracks and obstructions) as well as inspection of the appliance for problems. A qualified professional should conduct the annual inspection.

Cleaning

The safest way of preventing creosote build-up in chimneys, connectors, and appliances is thorough cleaning. Using a steel-bristled chimney brush specifically designed for chimney cleaning is recommended. Different sizes and shapes of brushes are available commercially to fit just about any chimney flue.

The person cleaning the chimney should be experienced and competent. A professional chimney sweep that has the proper tools and expertise to get the job done correctly, without damaging the chimney lining is recommended.

Cleaning should occur as often as necessary to keep chimneys and flues free of creosote build-up. Your chimney sweep will advise you on the cleaning schedule based on the amount of usage. The best time to have a thorough cleaning is immediately after the heating season. Deposits left for long periods in the system can corrode steel components during the summer months.

Ash Removal

Excessive amounts of ash should not be permitted to accumulate in the ash pan in an appliance. There must be a few inches of air space between the ashes and the grate bars to allow for sufficient draft. This air space is necessary to prevent the grate bars from warping due to extreme heat produced by a build-up of hot coals directly under the grate. Many appliance instructions recommend that an inch or more of ashes should be left to protect the bottom of the ash pan from extreme heat, especially if coal is burned.

Ashes that seem cool may contain concealed hot embers, sometimes up to 24 hours after removal. For this reason, ashes should be placed in a metal container with a tight-fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from combustible materials. If the ashes are disposed of by burial in soil or otherwise locally dispersed (where permitted by local authorities), they should be retained in the closed container until all cinders have thoroughly cooled.



Knowing your business matters.

Combustion Gases

There are no solid fuel-burning appliances that function with 100% efficiency. Spend time to become well acquainted with how different settings of an appliance's damper and draft louver will affect its burning patterns.

As buildings become more energy efficient, unwanted drafts are eliminated. This focus on 'sealing' a building, while desirable for energy savings, can lead to the build up of carbon monoxide from solid fuel-burning appliances. Proper installation and inspection of the appliances is required to ensure that combustion by-products are not escaping into the occupied space. It is strongly recommended that buildings with solid fuel-burning appliances install carbon monoxide detection equipment.

Special Precautions

When operating a solid fuel-burning appliance, the following practices should be followed:

- There have been numerous cases documented where people have been seriously injured or killed attempting to start a fire in a solid fuel-burning appliance with a flammable liquid. A fire should never be started with flammable liquids, such as kerosene, lighter fluid, or gasoline. Special precautions should also be taken to ensure that flammable liquids, especially gasoline, are not stored near appliances.
- Except when adding fuel, the appliance door should always be kept closed to prevent sparks from escaping into the room.
- The storage of solid fuels in the same building as a manufacturing process presents a significant fuel load that should be avoided. In plants, storage of solid fuels should be limited to one to two days supply to meet needs. The remaining solid fuels should be stored in separate facilities or in another location, and provided with a 2-hour fire rated separation from the heating unit.
- Inside storage of fuel should be evaluated to ensure that the fuel loading does not exceed the sprinkler systems capacity.
- Auxiliary equipment on heating units such as feed augers, blowers, and damper controls, should be part of a routine maintenance program. Electrical equipment, such as

blower motors, should be listed for the type of unit and operating temperatures present.

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