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I have an older forced-air gas furnace.
How can I enhance its efficiency and keep it
operating safely throughout the winter?



As the coldest months of the year fall upon us, a furnace may operate for up to 15 hours a day. In order to ensure its safe and efficient operation, proper care and maintenance is your best defense against unsafe conditions or non-performance.

Follow the guidelines below to keep your furnace operating safely and efficiently.

- To reduce fuel consumption by 20 percent, install a programmable thermostat to allow the furnace to operate at lower temperatures when the home is not occupied, or while you are sleeping
- Clean or replace furnace filters every two months or as required
- Keep combustible materials or obstructions away from the furnace area
- Keep cold air returns and heat distribution vents free and clear of obstructions to allow proper flow of air
- Ensure that an adequate supply of combustion air is available for the appliance to function properly. Combustion air is the air that mixes with fuel to allow combustion to occur
- Have a professional clean your ducting properly every three to five years
- Contact a licensed/qualified heating contractor each year to perform routine service and maintenance as per manufacturer's specifications

In addition, consider replacing your forced-air gas furnace with a high-efficiency model. Did you know that for every \$1 that is spent on gas for a conventional forced-air gas furnace, approximately 30 cents goes up the chimney, while every dollar that is spent on gas for a high efficiency furnace results in the loss of 10 cents or less? Upgrading to a high-efficiency furnace can provide a substantial cost savings for a homeowner.

A heating contractor or your local AmeriSpec home inspector can assist you when deciding if an upgrade would be a worthwhile investment.

I am listing my home for sale, but my realtor expressed concerns with the underground oil storage tank that provides fuel supply to my oil-fired furnace. Why should I worry about the underground storage tank and how can I determine its condition?

Environmental impact is the greatest concern with an underground fuel oil storage tank. Ask yourself two questions:

- Has any oil spillage or leakage occurred?
- If so, what environmental impact has the leakage or spill created?

Fuel oil spills may have occurred during filling or maintenance activities associated with the tank (i.e. by a fuel oil supply contractor), and are typically easily noticed because they occur quickly and are often above ground.

Fuel oil leakage is usually slow, subtle and unnoticed because it often occurs below ground. Leaks can be caused by:

- A deteriorating tank, which can be influenced by the tank construction material (i.e. fiberglass vs. metal), tank age, and soil chemistry (i.e. corrosion)
- The quality of workmanship during installation of the tank (i.e. pipe fittings that have loosened)
- The presence and persistence of moisture/groundwater against the tank wall which can physically damage the tank/piping (i.e. due to shifting caused by buoyant forces) or a chemically damaged tank (i.e. corrosion)



Both spills and leaks can have a potentially serious impact on the environment, contaminating soil, groundwater and surface water as well as impairing the safety/ health of people, animals and ecological systems.

The main challenge with establishing the condition of underground oil storage tanks is that the tank and piping are not visible. Aside from obvious indicators like visible oil and persistent hydrocarbon odors, the following tasks can be completed to further evaluate tank conditions:

- Reviewing fuel delivery records for potential increases while taking temperature extremes into consideration. For example, if fuel delivery rates increase while temperatures remain consistent, there may be a potential leak. Consulting with your fuel supply contractor may assist you in completing this task

- Consulting with a qualified contractor to complete a pressure test of the tank and associated piping to establish if holes are present in the tank or piping
- Collecting soil samples in close proximity to the base of the tank (using soil boring techniques) and analyzing the soil samples at a laboratory for the presence of fuel oil parameters
- Excavating soil from around the tank to visually inspect the conditions of the tank and associated piping

If you're concerned with the condition of your tank, it may make sense to forego a potentially expensive investigation and simply replace it with an above-ground tank to improve marketability of your home. It is important to note that some insurance companies are extremely cautious about insuring underground fuel storage tanks, since underwriters are unable to inspect underground tanks due to their inaccessible nature. Discuss the specifics of your situation with your realtor to decide whether you might consider contacting a professional engineer that is an expert in the field of underground storage tanks for further evaluation.

To speak with a certified and trained AmeriSpec home inspector, contact us today.

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