

A consumer's to maintaining and buying



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Most homeowners know little about the furnace in their home other than a house is cold if a furnace isn't working. Uninformed buying decisions, improper installations and poor maintenance can be a waste of money, result in an uncomfortable home, and be the cause of serious health problems for residents. Tight new construction and energy saving home improvements can create "sick house" conditions in many homes.

Energy savings ratings have become the first consideration in brochures, government regulations and furnace company sales pitches. This can be as misleading. Usually other factors in the home matter far more than the efficiency of the furnace.

These are often found by home inspectors when a home is being sold. The sad news is that nobody wants to pay to fix old mistakes when they are selling a home. There is nothing like having lived with a furnace problem and then fixing it for new owners.

Common Furnace Defects

Orphan hot water tanks: Though not specifically a furnace defect, it is the result of improper work when the furnace is installed. The "orphan hot water tank" term refers to a hot water tank that previously vented into a chimney with a furnace, but is now an "orphan" because the new furnace vents out the side of the home. This results in flue gases including moisture and carbon monoxide staying in the home. That problem can be avoided by installing a flue liner when a high efficiency furnace is installed. Many installers charge between \$200 to \$300 during the time a furnace is installed. The cost can escalate to \$800 or more when not combined with a new furnace installation.

Insufficient combustion air: Intermittent odor of gas or moisture is a common symptom. A home can become unhealthy when the furnace pulls fumes back into the home from other gas appliances. Skuttle manufactures a "Make-up and Combustion Air Diffuser" that can solve the problem with less than \$200 in parts.

Gas leaks: The compound that seals gas line leaks at fittings dries out with age. It becomes brittle and gas can leak out. Have gas fittings checked with your annual furnace service.

Blocked chimneys: Chimneys should be checked every year. Birds, squirrels, loose mortar and soot can block a chimney. Moisture that seems like a chimney leak, black carbon on vent pipes or corrosion on your gas appliances can indicate a blocked chimney.

Disconnected ductwork: Over time a section of ductwork can come loose in walls, attics or crawlspaces. This is wasteful of energy and often results in unexplained cold rooms.

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Air conditioner condensate lines connected to a sewer pipe: This can result in drawing sewer gas into the air circulating into the home.

Ductwork openings in a crawlspace or garage: This can push mold and other odors from wet crawlspaces or fumes from the garage into the rest of the home.

Dips, sags or loose connections in pipes for high efficiency furnaces: If not properly sloped and supported, water can collect in sags in the pipes which disrupts operation of the furnace. Loose connections can result in carbon monoxide entering the home.

Dirt: The importance of properly cleaning a furnace can't be over stated. Clogged air filters in today's furnaces can result in premature furnace failure. Thin heat exchangers will overheat with improper air flow. Dirt on blowers and air conditioner coils are a source of wear, damage and mold growth.

Leaks from venter fans, air conditioner a-coils and condensate tubing: These leaks can deteriorate a furnace or short circuit the electronic components. Have repairs made as soon as possible if water or rust appears around or inside of a furnace.



items.

Questions to ask your HVAC installation contractor:

- Did you calculate the size of furnace I need?
- What is the make and model number for the furnace you suggest?
- Do you make service calls on evenings and weekends?
- What do you charge for the services I will need after the installation?
- Have you checked the ductwork for the furnace?
- Will you change the gas shutoff valve and check the house for gas leaks?
- Do you include a new fuse and shutoff switch at the furnace?
- Do you make sure the hot water tank is also vented to code?
- Does the thermostat need moved?
- What are my choices for a new thermostat?
- How will the condensate be handled?
- Do I need makeup air for my gas appliances?
- How can you provide that makeup air if needed?
- Will you install my furnace with the proper air space under the unit?

Common furnace replacement costs using the same ductwork and location:

- 80% efficiency furnace models: \$1,300 to \$1800
- 90% efficiency furnace basic economy models: \$2,000 to \$2,400
- 90% efficiency furnace models with premium features: \$ 2,400 to \$ 4,000
- Fabric Air filters: \$ 200 to \$ 300
- Electronic Air Cleaner: \$ 600 to \$ 800
- Humidifier: \$ 300 to \$ 500
- UV anti bacterial light: \$ 300 TO \$ 400

There are very important financial, comfort and health considerations in selecting HVAC equipment and contractors. Tight home construction along with the changes in construction and equipment have complicated consumer choices.

For links to additional information about heating your home go to: www.envirospect.info/hvac

Consumer Information for Buying a New Furnace

New furnaces generally fall into two categories. Many furnaces are in the 80-89% efficiency range. More efficient units are in the 90% and up range. Selection of furnace equipment and the installing company is an important decision.

The size of the home and ductwork as well as the windows, doors and insulation all matter in equipment selection. Improper sizing can result in much less efficiency, short equipment life, and uneven heat or cooling. A HVAC person who takes the time to match your home to your needs may have a higher bid, but save you a lot of money in the long run.

Cost of the equipment and the time that you will remain in a home should be considered. The longer that you will be living in a home, the more time you have to recoup additional costs for higher efficiency or longer life expectancy options. Maintenance costs are also important. A less expensive item that needs maintenance will cost more in the long run than more expensive, low maintenance

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