HOMEOWNER REPAIR GUIDE

# BUYING A NEW FURNACE OR BOILER

Forced-air furnaces and boilers usually have a life expectancy of twenty years. If yours is reaching the end of its useful life – or if a cracked heat exchanger or other equipment failure has made replacement necessary – there are a number of issues you should discuss with your contractor before deciding on a new heating unit:

## ISSUES TO DISCUSS WITH YOUR CONTRACTOR

### 1 THE EFFICIENCY OF YOUR BUILDING SHELL

The heating contractor should give you a written analysis of the heat loss in your home, based on its size, structure, and how well your house is (or will be) weatherized. This “manual J calculation” will help determine the right size heating unit for you, one that will operate most efficiently and save you energy. In many cases, it will be important to implement weatherization measures to get the most efficiency for your heating dollar.

### 2 THE EFFECTIVENESS OF YOUR HEATING DISTRIBUTION SYSTEM

It's important to consider not only the heating unit, but also the duct work or water lines, dampers, valves, and other parts of the system that moves the heat throughout your house. Your contractor should help you evaluate your delivery system and adjust it to its maximum performance. (It's likely, however, that you will have to make further adjustments during the first year or two, as you live with your new heating unit.)

### 3 THE EFFECTIVENESS OF THE HEATING UNITS AVAILABLE

Given your needs and the fuel costs in your area, your contractor should discuss with you what heating units he/she would recommend for your situation. Some high-efficiency units are 95% efficient or more, but they are usually more expensive and may involve costly modifications to your chimney or your distribution system. You may find it makes more sense to buy a unit that is slightly less efficient and put the savings into added insulation or toward the extra fuel cost.

### GET AN OUTSIDE OPINION

If you would find it helpful for a heating engineer to help you evaluate your system – particularly before undertaking major modifications – you can hire an outside consultant.

## QUESTIONS TO ASK EACH CONTRACTOR

Considering these factors, you can discuss with your contractor each alternative – including how many years in savings it will take for the new equipment to pay for its installation cost (the “payback period.”) You should also ask each contractor the following questions (and compare their answers):

1. What size furnace or boiler do I need, given my planned or present weatherization measures?
2. Does this unit achieve its efficiency by design, or did the manufacturer take an old design and add features to increase its efficiency?
3. What is the life expectancy of the heating unit being discussed? What does the warranty cover?

4. Are there any unusual operating characteristics to this heating unit? (Some models may need special drain set-ups, may be noisier than usual, etc.)
5. Are any changes needed to my delivery system (ducts, radiators, etc.)?
6. Does this furnace or boiler require installation of a chimney liner? What is its cost?
7. Which of these features is recommended for my situation, and what is the added cost for each?

| FEATURE | APPLIES TO |
|---|---|
| **a. Flue dampers** | Furnaces and boilers |
| **b. Programmable thermostat** | Furnaces and boilers |
| **c. Fresh-air inlet** | Furnaces |
| **d. Zone controls** | Boilers |
| **e. Automatic water feed** | Boilers |
| **f. Higher-efficiency air filter** | Forced-air furnaces – helpful to people with allergies or who are sensitive to dust |
| **g. Water heater** | Included as part of the system with some high-efficiency units |

> **NOTE**
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> If you have reason to want either whole-house air conditioning or a humidifier as part of your heating system, now or in the future, you'll want to make sure the heating unit you choose will be compatible with these options.

8. Is there asbestos to be removed as part of this installation? If so, who will be removing it? What precautions will be taken? (For further information on the dangers of asbestos, you may wish to contact Environmental Health Watch at 216-961-4646.)
9. How often should this unit be serviced? What maintenance is it recommended that you do yourself? (How often should you change the air filter or lubricate the blowers on your new furnace? How often should you check the sight glass or drain off your new boiler?)

> **LEAD-BASED PAINT DUST**
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> In addition, if you are concerned about lead-based paint dust in your home (i.e., if you have a child with elevated blood lead levels, or have severely deteriorated paint surfaces), you may also wish to discuss with your contractor the precautions that will be taken when cleaning or replacing your heating ducts. The EPA pamphlet, *Reducing Lead Hazards When Remodeling Your Home,* has helpful suggestions.

Home Repair Resource center

**Home Repair Resource Center empowers homeowners to maintain their homes for sustainable and diverse communities.**

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