



# 7 MAINTAINING YOUR HEATING AND COOLING SYSTEMS

In order to increase the efficiency of your home's heating, ventilation, and cooling (HVAC) system, it is important that you maintain it properly. You can combine certain "do-it-yourself" measures with annual check-ups by a professional plumbing and heating contractor to ensure that you are getting the most from your heating and cooling system. Proper maintenance may also prolong the system's lifetime.

1. Hire a professional contractor to inspect your home's system at least once a year.

2. Replace or clean filters at least every three months.

Dirty filters can result in reduced air flow, which reduces comfort levels and overworks the systems.

For specific instructions about whether to clean or replace the filter and how often to do so, follow the filter manufacturer's recommendations.

For best results, use 1-inch pleated panel filters that have a permanent electrostatic charge or a MERV (Minimum Efficiency Reporting Value) rating of 8 to 11. These filters typically cost more, but they do a better job of trapping smaller particles that you might otherwise inhale (such as pollen and tobacco smoke). The filter's MERV rating measures the filter's efficiency in removing different sizes of particles from the air. Be sure that the filter fits into place snugly so that air travels through it, not around it.

3. Keep the unit clean and free of debris.

- Every six months, pass a stiff wire through the condensate drain channels to prevent them from becoming clogged. If the channels are not clear, humidity control will decrease.

*For outdoor units only:*

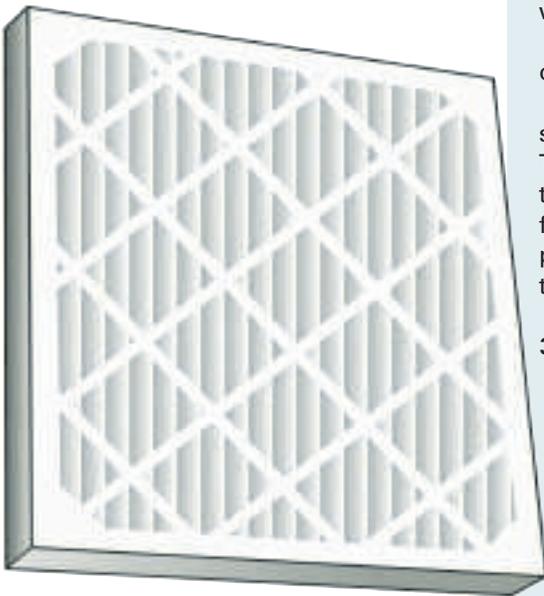
- Use a hose to rinse off the aluminum fins on the outside compressor.
- Spread pine straw or mulch around the unit to prevent dirt from splashing up and clogging the cooling fins.

4. Adjust the thermostat to an energy-saving setting.

- During warmer months, set the thermostat between 74 and 78 degrees when you are home, and around 78 degrees when you are out. During colder months, set it around 68 degrees when you are home and to around 65 degrees when you are not at home.
- Consider installing an Energy Star® programmable thermostat. You can program it to automatically set appropriate temperatures at different times of the day—a convenient way to improve comfort and save energy.

5. Apply caulking and weatherstripping around doors, windows, attic hatches, attic stairs, and other potential leakage points to prevent air infiltration.

PLEATED PANEL AIR FILTER



## 6. Check home insulation.

Adding insulation, especially in the attic, is one of the easiest ways to increase comfort and improve energy-efficiency.

If you have sufficient insulation levels, periodically examine the attic to make sure that no gaps exist in the insulation coverage. Even small gaps can waste energy.

Also take note of dirty, dark spots. Discoloration usually indicates an air leak that you will need to seal in order for insulation to function effectively.

## 7. Check the condition of air ducts.

Leaky, uninsulated ducts waste energy and reduce comfort levels, especially if the ducts pass through unconditioned areas which become cold in winter and hot in summer (such as the attic or crawl space).

- Reconnect any disconnected ducts
- Seal duct connections and leaks. Use mastic (a fiber-reinforced putty compound). Do not use duct tape—it won't last.
- Use spray foam or mastic to seal gaps where ducts connect to the floor or ceiling (Do not use duct tape—it will not withstand high temperatures.)
- You can also hire a contractor that specializes in ductwork to check the condition of the system and insulate ductwork in unconditioned areas.

## 8. Take care of your room (window) air conditioner units.

- Be sure that the seal between the unit and the window frame is intact to prevent air infiltration or leaking.
- Before winter arrives, remove the room AC unit from the window or purchase a cover for the exposed, outdoor section of the unit. This will prevent cold drafts and will protect the unit from the winter elements.



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### Sources:

Atilas, Jorge H. "What Renters Can Do," University of Georgia Cooperative Extension.

"A Guide to Energy-Efficient Heating and Cooling," U.S. Environmental Protection Agency (EPA), [http://www.energystar.gov/ia/products/heat\\_cool/GUIDE\\_2COLOR.pdf](http://www.energystar.gov/ia/products/heat_cool/GUIDE_2COLOR.pdf).

"Better Indoor Air Through Filtration," Southface Institute, <http://www.southface.org/web/resources&services/publications/factsheets/3airfiltr.pdf>.

"Maintaining Your Air Conditioner," U.S. Department of Energy, [http://www.eere.energy.gov/consumer/your\\_home/space\\_heating\\_cooling/index.cfm/mytopic=12390](http://www.eere.energy.gov/consumer/your_home/space_heating_cooling/index.cfm/mytopic=12390).

"Duct Sealing," U.S. EPA, [http://www.energystar.gov/index.cfm?c=ducts.pr\\_ducts](http://www.energystar.gov/index.cfm?c=ducts.pr_ducts).

"Energy Savers: Tips on Saving Energy and Money at Home." U.S. Department of Energy, <http://www.eere.energy.gov/consumer/tips>.

"Insulation Fact Sheet," Oak Ridge National Laboratory, [http://www.ornl.gov/sci/roofs+walls/insulation/ins\\_01.html](http://www.ornl.gov/sci/roofs+walls/insulation/ins_01.html).

"Maintenance Checklist," U.S. EPA, [http://www.energystar.gov/index.cfm?c=heat\\_cool.pr\\_maintenance](http://www.energystar.gov/index.cfm?c=heat_cool.pr_maintenance).

"Types of Air Filters," INDA, Association of the Nonwoven Fabrics Industry, <http://www.inda.org/enduses/homefilters/types.html>.

"Weatherize Your Home- Caulk and Weather Strip," NCSU Cooperative Extension, <http://www.ces.ncsu.edu/depts/fcs/housing/pubs/weatherize.pdf>.

"Understanding MERV Ratings," Aero-Chem®, <http://www.aero-chem.com/technical/mervratings.html>.

### Authors:

**Jorge H. Atilas, PhD**  
Housing Specialist  
**Jonathan Laing**  
Housing Program Assistant

### Reviewers:

Dawn Schueneman, UNIVERSITY OF GEORGIA  
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