

COLUMN FOR JULY 23, 2005.
HEADLINE; AIR CONDITIONING

Q: We have finally admitted that the current heat wave is getting the better of us and are going to install central air conditioning. What can you tell us about buying and operating an air conditioner?

A: This has become the number one question to cross my desk over the past month or so. The current heat wave certainly appears to be settled in this summer. The first thing you should understand is some of the terms related to a central air conditioning, CAC system for short. There are two main components to the system, the "A" coil which is fitted into the ducting used by your furnace, generally just above the furnace. The other part is the compressor, which includes the coils necessary to create the cooling. This is the cabinet that sits outside your home. There are two kinds of refrigerant that flows thru these coils. The original refrigerant is Freon or R-22 and the newer refrigerant is called Puron or R410A. Freon contains chlorine compounds, which if released into the atmosphere during normal wear and tear or equipment failure has a negative effect on the ozone layer and contributes to global warming. Puron does not contain the same ozone depleting properties as Freon, hence this refrigerant is being phased out. This has caused a reduction in the of supply of Freon however and the cost has risen. Most air conditioners are rated by tonnage, for example a 2-ton CAC would cool the average 2000 sq ft home, we use one ton to 1000 sq ft as a rough estimate. The vast majority of homes use a 1 ½ ton or a 2 ton unit. In 1995 the government issued efficiency ratings for room and central air conditioners. For a CAC system this is called the Seasonal Energy Efficiency Rating or SEER. This rating ranges from 10-17 with 17 being the most efficient. The high end rating usually means a two speed or variable speed fan installation. You can expect to pay anywhere from 1800-2500.00 for a 1 ½ ton unit plus installation. I understand the supply of some models is very tight right now due to the current heat wave so I would shop around to see what is available. It is important to size the unit to your home, as an oversized unit will short cycle during its operation and decrease its efficiency.

Where do you put the unit? Check the local by-laws, in some municipalities there are regulations regarding where these units can be installed. They can be noisy during operation. Locating near a window or door is also not a good idea. Try for a shaded spot if possible but not surrounded by trees and shrubs, the unit needs air to operate. If at all possible have your contractor install the cabinet on a metal frame attached to the foundation. CAC units must be level and I often see the cabinet sitting on a patio stone that has settled considerably. If not already installed, talk to your CAC technician about the possibilities of a two-speed fan for your furnace. CAC units often need more airflow than is required for heating. When the unit is being installed, try and keep the refrigerant lines as short as possible. This will help with the efficiency. Your CAC unit will require a designated power supply and your installer may have to add a separate disconnect if your electrical panel is full. When you get your estimates, make sure the contractor includes all the necessary extras, wall bracket, electrical upgrades, changes in the duct work and entrance thru your wall in his quote.

Once your system is installed and running it will require some regular maintenance. The number one thing I see with CAC systems is people forget the furnace filter. This should be changed at minimum every two months and during this present heat wave I would check it after a month. If your filter becomes blocked it can cause the coil in the CAC unit to freeze up, not good for the system. Keep the area around the exterior cabinet clear, remove any leaves and grass clippings that may become attached to the unit. A garden hose on mist and lower pressure works here if you are careful.

Lastly prepare your CAC system for winterizing. Invest in a cover and turn the unit off at the main disconnect. Do not test or operate the unit below 18.C or if it has been below that within 48 hours. Same for the electrical supply, before the summer season starts turn everything on, remove your cover and let it sit for 24-48 hours before use. I often get asked how long a CAC unit lasts. Some companies advertise 20 year life cycle but in actual fact anything over 12-15 years would be considered an average life cycle.

Now the answer to last week's question. What is a Keystone? The answer was B) the decorative stone placed at the top of stone or brick window arch. Now this week's question. What is a stoop? Is it A) a platform attached to the home at the end of a clothes line B) another name for a stone window sill C) a low platform outside the entrance door to a home. The answer in next week's column.

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