

12 HEATING & AIR CONDITIONING EQUIPMENT

Heating and cooling your home uses more energy than any other system in your home and can typically be 40%-50% of your utility bill. Whatever your system, it makes sense to always maintain and upgrade your systems to ensure more comfort and lower energy bills. While homeowners assume their equipment is functioning properly, the national average of equipment performance efficiency is only 60%. A typical problem in the heating and cooling industry is oversizing the equipment. If you are considering a new system, we strongly recommend you require your contractor to provide a properly created room-by-room load calculation to help ensure proper sizing.

General Recommendations

- a) Set your thermostat as low as is comfortable in the winter and as high as is comfortable in the summer.
- b) Clean or replace furnace filters once a month or as needed.
- c) Clean registers, baseboard heaters and radiators as needed and ensure they are not covered by furniture, carpeting or drapes.
- d) During the heating season, keep draperies and shades on south facing windows open during the day to allow the sunlight to enter your home and closed at night to reduce the chill you may feel from cold windows.
- e) During the cooling season, keep the window coverings closed during the day to prevent solar gain.

	Location	Size Furn	Age	Size AC	Filter/Loc	System Type	Status
System 1	Crawl	40k BTU	6-10 yrs	2.0 ton	Air Hndlr	Forced Air Gas	Needs Attention
System 2	Attic	30k BTU	6-10 yrs	1.5 ton	Air Hndlr	Forced Air Gas	Acceptable
System 3							
System 4							
System 5							
System 6							

12.0 General Comments

Recommend replacing the air handler in crawl space. Since unit however is functioning, I recommend to first perform a complete duct renovation of the first floor crawl space system. Important to install manual dampers throughout during retrofitting to enable proper air and temperature balancing during final tuneup.



12.1 System Performance Testing (NIC Static Pressure)

Duct testing indicates a high amount of static pressure in the crawl space duct system. This is most likely due to crimped ducts and undersized returns. Recommend further testing prior to retrofitting duct system.

12.2 System Advanced Diagnostics

Recommend advanced diagnostics to determine if adequate airflow is being provided to bonus room area. My rough airflow test indicates that there is inadequate airflow - due in part by crushed ducts in the attic area.

12.5 System Tune-Up

Homeowner currently receives maintenance service twice per year. Recommend insuring the service provider test the following in addition to their typical service: Total system airflow, proper refrigerant charge using superheat or subcooling method, static pressure, proper combustion and equipment efficiency %.

12.6 Heat Exchanger

There may be a cracked heat exchanger. I tested for carbon monoxide at the first register and reading is acceptable. This should be checked during Green Collar Tuneup.

12.7 Register & Grill Design

Replace register style in master bedroom to provide better airflow across zone between master bed and master bathroom.

12.9 Humidification

Recommend disconnecting the humidification system. Homeowner reported no one in family experiences dryness during the winter. It is best then to reduce all possible moisture from the home.