



Home air conditioning systems

Tips to avoid breakdowns and maximize efficiency

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One of the most common residential air conditioning systems is called a central air conditioning split system. It uses a cooling coil mounted in the furnace ductwork and an outdoor unit called a “condensing unit.” These two “split” components are field connected with a copper “line set” by the system installer.

These are sealed and pressurized systems that use circulating refrigerants to create the cooling effect for the home. The furnace blower circulates the air to lower its temperature and remove excess moisture. When everything is working properly, the result is a comfortable indoor environment, even when it may be hot and humid outdoors.

Keeping the system at peak efficiency and reliability is a combination of owner vigilance of the operating conditions and environment, combined with using a competent service provider for the more complex electrical and refrigeration repairs when needed.

Here is a homeowner checklist to use before each cooling season to make sure the air conditioner is ready for the season:

Outdoor checks

- Trim back any shrubs or bushes that restrict airflow around the condensing unit
- When observed, have the service provider clean leaves and debris from inside the condensing unit
- Have the service provider clean the outside condensing unit coils before each cooling season
- Verify the condensing unit is not able to move on its pad
- Have the service provider straighten any bent condensing coil fins with a fin comb

- Check the wall penetration seals where the refrigerant lines enter the building
- Check for any kinks in copper refrigerant lines and have the service provider repair
- Check for rust on the exterior electrical shutoff box
- Check the cables and outdoor wiring for damage from lawncare service providers

Indoor checks

- Check if the furnace blower motor needs lubrication
- Clean the fan blades on the furnace blower wheel
- Change the air filters in the furnace
- Make sure the air registers are open and unobstructed
- Vacuum dust and dirt off the supply and return air registers
- Ductwork should be cleaned and inspected for leaks and insulation damages
- Air-seal ductwork joints or holes with UL-listed sealing tapes or mastics
- Check the condensate pump for proper flow, shutoff, and leaks
- Clean the condensate water traps

Many of the items on this checklist can be performed by the homeowner. Be sure to add any difficult tasks or system damage repairs to the list for the air conditioning service contractor to perform during their next visit.

