

## **Air Conditioner Maintenance**

An air conditioner's filters, coils, and fins require regular maintenance for the unit to function effectively and efficiently throughout its years of service. Neglecting necessary maintenance ensures a steady decline in air conditioning performance while energy use steadily increases.

### **Filters**

The most important maintenance task that will ensure the efficiency of your air conditioner is to routinely replace or clean its filters. Clogged, dirty filters block normal air flow and reduce a system's efficiency significantly. With normal air flow obstructed, air that bypasses the filter may carry dirt directly into the evaporator coil and impair the coil's heat-absorbing capacity. Keeping the filter clean can lower your air conditioner's energy consumption by 5%–15%.

For central air conditioners, filters are generally located somewhere along the return duct's length. Common filter locations are in walls, ceilings, furnaces, or in the air conditioner itself. Room air conditioners have a filter mounted in the grill that faces into the room. Some types of filters are reusable; others must be replaced. They are available in a variety of types and efficiencies. Clean or replace your air conditioning system's filter or filters every month or two during the cooling season. Filters may need more frequent attention if the air conditioner is in constant use, is subjected to dusty conditions, or you have fur-bearing pets in the house.

### **Evaporator/Condensing Coils**

The air conditioner's evaporator coil and condenser coil collect dirt over their months and years of service. A clean filter prevents the evaporator coil from soiling quickly. In time, however, the evaporator coil will still collect dirt. This dirt reduces air flow and insulates the coil, reducing its ability to absorb heat. To avoid this problem, check your evaporator coil every year and clean it as necessary.

Outdoor condenser coils can also become very dirty if the outdoor environment is dusty or if there is foliage nearby. You can easily see the condenser coil and notice if dirt is collecting on its fins.

You should minimize dirt and debris near the condenser unit. Your dryer vents, falling leaves, and lawn mower are all potential sources of dirt and debris. Cleaning the area around the coil, removing any debris, and trimming foliage back at least 2 feet (0.6 meters) allow for adequate air flow around the condenser.

## Coil Fins

The aluminum fins on evaporator and condenser coils are easily bent and can block air flow through the coil. Air conditioning wholesalers sell a tool called a "fin comb" that will comb these fins back into nearly original condition.

## Condensate Drains

Occasionally pass a stiff wire through the unit's drain channels. Clogged drain channels prevent a unit from reducing humidity, and the resulting excess moisture may discolor walls or carpet.

## Trust Master Clean & Green Maintenance Process

### General Condition

- **Visual Inspection:** Inspect physical condition of outside compressor/condenser unit for damage or excessive wear & tear. Inspect start and run compressor contactor, capacitor (s) and relays for bulges, rust and leaks. Tighten and safety test all wires and connections.
- **Cooling Cycle:** Run through a full cooling cycle to ensure proper refrigerant circulation between the outside condenser coil and the indoor evaporator coil. Test operational control sequence to include compressor contactor, capacitors and thermostat.

### Clean Maintenance

- **Air Filter:** Replace air filter and clean filter compartment as necessary.
- **Drain Lines:** Flush condensate drain to protect against overflow.
- **Compressor/Condenser:** Clean compressor/condenser unit so as not to restrict air flow. Clean & straighten fins to ensure proper evaporation.

### System Diagnostics

- **Refrigerant Pressures:** Install gauges and record operating pressures. Measure refrigerant superheat. See notes for system date measurements.
- **Temperature Rise/Drop:** Install gauges and record temperature rise over coil. Test temperature drop at return and supply air, adjust blower speed as necessary. See notes for system date measurements.
- **Compressor/Condenser:** Test operation and condition of compressor and compressor contactor. See notes for system date measurements.
- **Motors:** Monitor voltage and amperage and test for worn bearings in blower assembly and condenser fan motors. Lubricate motors if possible. See notes for system date measurements. See notes for system date measurements.