



Homeowner's Operating Responsibilities and Limited Warranty Information Manual



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Introduction

Your comfort is one of the most important parts of your life and most people take the comfort system in their home for granted.

When we are not in our comfort zone, our lives are not as enjoyable and our health may suffer as a result.

Your cooling and heating system should be compared to your automobile or another system that requires regular maintenance and check-ups. You wouldn't drive your car without proper oil or tire pressure maintenance, would you?

One of the most expensive parts of a home is the cooling and heating system and without regular service, unnecessary costs can accumulate over the years. Most systems are designed to last 10 years or more; however, failure can occur much sooner if system upkeep is neglected. Not only will regular service prevent those expensive problems that can leave you without heat and air conditioning, but it will also increase the lifespan of your systems and decrease the cost of its operation.

We are offering you the opportunity to join one of our membership clubs with a small monthly fee that will guarantee service when you need it. Put the comfort of your loved ones in the hands of a company that has the qualified technicians needed to provide high quality service you deserve.

Please examine our Club Membership's benefits. Regardless of the one you choose, you'll discover that your membership will pay for itself.

Texas A&M University — Test results showed that the Seasonal Energy Efficiency Ratio of a unit decreased from 9.6 to 8 with a 10% refrigerant undercharge.

Texas Power and Light Company — A cooling system undercharge of 32% could go unnoticed by a homeowner and result in a 52% loss of efficiency.

In most cases, the cost of regular service will be paid in the savings received from lower utility bills.



Introduction

We are proud to have been chosen as the contractor to install your cooling and heating system. We have installed a technologically advanced environmental comfort system designed to give you a comfortable living environment for years to come.

Installed is a quality system that should have no difficulties in meeting or exceeding your comfort needs. Please read this manual to understand how your new system operates. It is best to read this manual before calling our office since many problems can be solved with the contained information, saving you the cost of a service call.



Most new systems carry a minimum of two year limited parts and labor warranty and five years parts per manufacturer; however, there are certain items that are the homeowner's responsibility which are listed in this manual. Most manufacturers require proof of yearly maintenance or the parts warranty may not be honored.

If you have questions regarding your new equipment or have any problems, please call our office.

If an extended warranty did not come with your new system, you may join our Platinum or Gold Club which includes a warranty on your equipment. This opportunity must be purchased before the system is two years old. We recommend investing in a club membership to prevent having unexpected repair bills, extend the life of your equipment, and lower operating expenses. Due to the government's regulation on the handling of refrigerants, some repairs may be expensive. Although a quality system has been installed, there's always a possibility of mechanical equipment failure.

Please call our office or visit our website at www.davisac.com about investing in our Discount Club Memberships.

Design of Comfort System

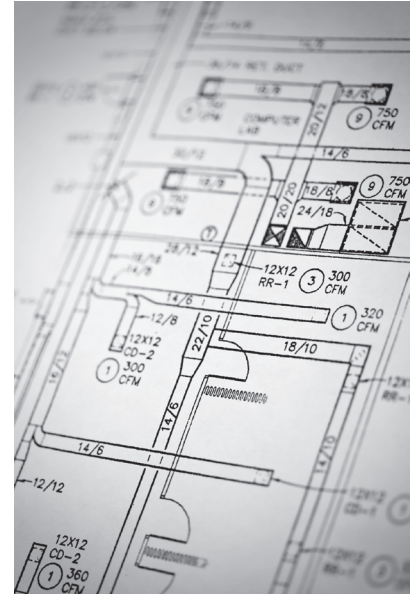
The heating and cooling system in your home was designed with a computer using the latest requirements of Air Conditioning Contractors Association of America in their Manual "J" method. This takes into consideration the direction your home faces, type of windows, construction R factors of materials used, and the number of people in your home. Manual "J" assumes that windows are covered with drapes. Mini blinds and light drapes will increase heat load into home.

We have run calculations on each individual room and designed ductwork accordingly to have even temperatures throughout the house. There can be a 2-3 degree temperature swing due to the sun moving from one side of the house to the other during cooling season or from the effects of a cold front during the heating season.

Your system was designed for a 20 degree temperature difference between the inside of your home and the outdoor ambient temperature. This means that if it is 95 degrees outside, then your system will cool down to 75 degrees.

The average air conditioner runs 2400 hours a year in our climate. It is designed to remove humidity as well as maintain a comfortable temperature in your home. It is not unusual for a properly designed system to run all day in hot weather. A properly sized A/C unit will remove more humidity and decrease utility bills than an oversized unit cycling off and on too frequently.

You should not compare utility bills with neighbors and expect them to be the same due to different lifestyles. Some like to keep their home cooler than others, do more cooking, or have children going in and out frequently. Some attics are also ventilated better than others and uncovered windows add tremendous heat inside the home.



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Design of Comfort System

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Filters

We recommend pleated filters unless you have an electronic air cleaner or Honeywell F-100 or equivalent. Electrostatic air filters, which are not recommended, not oversized at least 150%, can reduce air flow which may increase the cost of utility bills decrease the capacity of the system, and harm the compressor with liquid slugging. Therefore, it is best to stay away from electrostatic air filters. Dirty filters will produce a dirty evaporator which will result in loss of cooling and may cause algae to form in the evaporator which will result in clogged up condensate drains. For this reason, it is highly recommended to change your filters monthly. Clean filters will keep the evaporator cleaner, reduce condensate blockage, and keep the air inside your home cleaner.



Air Balance

The ductwork in your home was designed for the in-home temperature to have no more than a 3 degree variation between rooms. Most homes, due to design and installation, will not require an air balance. After reviewing the following procedures, if a problem that requires air balance still exists, call our office to schedule a service appointment.

Some homes are difficult to balance and may not have a variation during both heating and cooling seasons due to the design of the home. It is best to balance for the cooling season because you have approximately 1000 heating hours of operation and 2400 cooling hours of operation in the greater Houston area. If the home has been balanced for heating, it may require re-balancing in the cooling season. All windows must have drapes or insulated shades (unless they will not be covered) to properly air balance a home.

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Design of Comfort System

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A. It is not unusual for homeowners to think their home is not properly balanced when the following occurs:

- a.** Home has lots of glass and the sun changes directions allowing radiant heat in the room.
- b.** Cold front comes in and strong winds increase infiltration in home.
- c.** Humidity decreases in winter and your body feels cold when room temperature is normal.
- d.** Door closed and room becomes pressurized.
- e.** Two story home with one system will have a heat rise problem. This can be satisfied with continuous fan operation.
- f.** Homes with high ceilings and large open areas may require continuous fan operation.

B. Rooms with doors kept closed and that do not have a return duct installed require doors kept open or undercut enough to prevent room pressurization. Supply air may not be adequate enough if room is pressurized and will prevent room from being properly heated or cooled.

C. Please check the temperature in room and see if it is within 3 degrees of thermostat before requesting air balance.

D. Inspectors checking for proper temperature difference in room air supply need to check air in box, not at outlet of grill. The air has been mixed with room air after it leaves the register. Infrared thermometers will not correctly read air temperature. You need to be sure you read the air temperature, not the register.



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Design of Comfort System

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Thermostat

Set the thermostat to a reasonable comfort level rather than to an exact degree number. You cannot have maximum energy savings and maximum comfort at the same time. Thermostats are designed with a 3 to 5 degree variation. Do not expect to raise the temperature setting in the morning and return home in the evening and expect the system to cool down immediately in hot weather.

Programmable Thermostats

Programmable thermostats help in energy saving, but they have a number of limitations. In the summer season, the temperature should not be set to rise more than 8 degrees above normal cooling temperature and should not be set above 85 degrees.



Drain Lines

Drain lines require periodic maintenance. If the drain works the first 90 days of cooling system, then it is properly installed. Any failure is caused by neglect to change filters or natural algae. We recommend Clorox, coil cleaner, or algacide tablets installed in the drain twice a year to kill algae forming in the drain lines.

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Design of Comfort System

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Soot & Dirt Around Registers & Ceiling

Registers can have a mildew looking effect that is actually only dirt coming through filters. Filters need to be changed monthly and should be pleated for best performance. Electrostatic filters, unless oversized 150%, will result in poor airflow and possible damage to the equipment.

Candle burning and fireplaces in tightly constructed homes sometimes cause an accumulation of "black soot" in homes. This is caused by the incomplete combustion of a yellow flame. If soot is noticed in your home, discontinue candle burning and be sure damper is open in the fireplace. Open a window 1 to 2 inches when using the fireplace so the natural draft will carry soot and gases out of your home.

Breakers, Disconnect, Switches

The condensing unit has a set of electrical breakers that can trip during low voltage or power surges, or switching off and on too quickly. There are two breakers to the condensing unit since it is 230 volts.

Electric air handlers have two breakers that can trip. The low voltage that controls the condensing unit comes from the air handler and a tripped breaker can cause the failure of the air handler and/or condenser.

Gas furnaces have one breaker in the electrical box and a light switch which is in an area near the attic access or close to the furnace in the attic. Accidentally turning off the switch is a common cause of the equipment not working. The low voltage control circuit that controls the entire HVAC system is located in the furnace. Failure to check for these problems can result in a service charge since these items are not under warranty.



Customer Responsibilities

The most common calls for air conditioning and heating systems not working in a new installation is that power has been cut off for the reasons below. Calling for service without checking these items could result in a service charge. Disruption of power is not a warrantable call.

Gas furnaces usually have a light switch in the attic or hallway near attic access. The switch is usually turned off by mistake. Control circuit is in furnace and nothing will work if switch is off.

Electric furnaces may have a breaker box or disconnect at furnace or it could be in the main breaker box. Control circuit is in the air handler and nothing will work if breaker is tripped.

Air conditioning units have a disconnect at unit unless breaker box is on the same side of the house and in sight of the air conditioner. Disconnect may be a pull-out or breaker tripped.

Breaker Box

Check to make sure breaker has not been tripped. Breakers may be off even if they look like they're in the "on" position. Turn breakers to the "off" position and back to the "on" position to make sure they are on. If breakers trip after reset, call for service.

Reasons for breakers tripping: Low voltage from the power company, power surge from power company, lightning, and turning the thermostat off and back on too quickly.

Thermostat

Cooling: Make sure the thermostat is in the "cool" position and is set 2 degrees cooler than the existing temperature.

Heating: Make sure the thermostat is in the "heat" position and is set 2 degrees warmer than the existing temperature.

How To Operate Your HVAC System

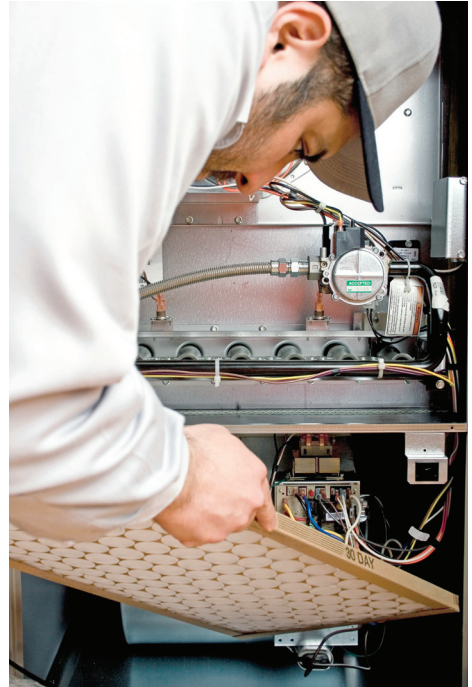
- A.** Turn thermostat to “heat” or “cool” unless you have a thermostat with an automatic switchover.
- B.** Set at temperature that will satisfy your comfort level.
- C.** For continuous fan operation, set the fan switch to the “on” position. Set to the “auto” position for fan to cycle on and off with cooling or heating.
- D.** If you want equipment to come on, set 2 degrees below the actual home temperature for cooling and 2 degrees above for heating.
- E.** If equipment does not operate, make certain the breakers are on. And the power switch, located close to the furnace, is on. If the failure is with gas heating, make sure that the plumber’s gas cock is on.
- F.** Leave the thermostat at your comfort level and do not manually lower or raise it in order to save money. This type of operation generally increases utility cost unless left off for a period of 8 hours or more.
- G.** Do not turn the thermostat on and off in rapid succession. It could seriously damage compressor. Wait 3 minutes before restarting.
- H.** Do not expect the system to give adequate performance without running 15 to 20 hours each day in hot weather.
- I.** Check condensate drain at least twice a year and install Clorox, coil cleaner or algaecide tablets into the drain line to prevent algae build up and line blockage.
- J.** Clean or replace filters monthly. A clogged or dirty air filter will increase operating cost, reduce comfort, and shorten compressor life. Not doing filter maintenance may result in evaporator having to be cleaned sooner.
- K.** Air conditioners should be checked yearly to ensure maximum operating efficiency and to extend lifetime. Dirty coils and inadequate refrigerant levels can increase operating cost and shorten equipment lifetime. Lubrication of motors is required, unless motor has sealed bearings.
- L.** Gas furnaces should be checked yearly to ensure proper combustion, venting of furnace, and working order of safety devices. A carbon monoxide test should be made at this time, and heat exchanger examined for any developed imperfections. Lubrication of motors is required, unless motor has sealed bearings.
- M.** Plan and follow a routine preventive maintenance schedule. We offer a maintenance program where the savings in your utility bills will more than pay for the agreement.

Are you changing filters before it's too late?

We have found that many of our customers are not aware of the importance of changing their filters on a regular basis. It is recommended that one inch filters are changed every month, while four inch filters should be changed every 6-12 months. Filter changes will vary on the amount of traffic in your home and environment. Filter changes are important because dirt gets through and can deposit on your evaporator. A dirty evaporator can lead to the following problems:

- Air quality will suffer
- Excess dirt and dust in carpet and furniture
- Higher utility bills due to a dirty/less efficient evaporator
- Unable to cool due to a stopped up evaporator
- Condensate drain(s) plugged due to algae

Some of our customers have four inch pleated filters in their homes and other have the standard one inch. We do not recommend any of the filters that are not pleated as they do not filter well. Filters with a high MERV rating are most efficient. Most homes can install the Honeywell F40R filters in their return grills to avoid frequent changes. Customers with the FC100A filters can upgrade to the FC200E filter if they choose MERV 13. Filters are available online at discounted prices through us at: **www.davisac.com**





Warranty and Service

Warranty Service

Warranty begins on closing date or start-up date, whichever occurs first. Each piece of equipment and thermostat has decals which list service and emergency phone numbers.

Hours of operation for warranty service:

Monday through Friday 8 a.m. – 6 p.m.

Emergency Service: 1-800-254-8124

All calls not classified as emergency will be billed with a \$50 call out fee.

An emergency exists if there is no heat or cooling anywhere in the home and outdoor temperatures warrant the need of such. A single zone HVAC system failure is not considered an emergency unless there is a health threat to someone in the home. Air balancing is not considered an emergency. Otherwise, such problems should be handled during regular business hours.

Service After Warranty

Davis A/C is committed to customer satisfaction and we would appreciate the opportunity to serve you after your warranty expires. We continue to strive to be the leader in the HVAC field. Our iPad dispatched fleet is equipped with the state of the art testing equipment and carries a large assortment of parts to ensure the best response in meeting your service needs.

Our service technicians undergo technical training from the manufacturer as well as our own in house training. Technicians are given a written examination upon hiring and most have graduated from a technical training program prior to employment. Our company sponsors continuing education on a regular basis to keep abreast of ever changing technology and to provide you with quality service. We at Davis A/C believe that ethical business practices are top priority. As a commitment to these practices, our technicians are hourly paid and do not receive any commissions on parts. We use customer assurance pricing where we charge a diagnostic fee to determine what repairs are required and give a price to do the work before we actually do the repairs. This guarantees a set price regardless of how long a repair takes or how difficult it is.

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Warranty and Service

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Standard warranties for residential installations do not apply to commercial installations. Limits and conditions apply on all warranties.

Standard warranty on most systems are as follows:

- A.** Two year labor furnished by Extended Comfort. Manufacturer does not furnish labor warranty.
- B.** Parts warranty is five years per manufacturer. Most gas heat exchangers have a 20 year parts warranty per manufacturer. Manufacturer can refuse warranty if failed due to maintenance not being performed.
- C.** For warranties other than standard, check with our office.
- D.** Extended warranties are available and listed in this manual. Extended warranties must be purchased before existing warranty expires.
- E.** Davis will not honor any labor warranty performed by others.
- F.** Your comfort system is like your automobile and requires maintenance. Manufacturer recommends yearly maintenance.
- G.** Homeowners with health problems or those who want to prevent equipment failure at inconvenient times should look at the options available in Extended Comfort, LLC with Platinum Club or Gold Club.
- H.** These warranties are available on equipment if purchased before two year warranty expires.
- I.** Homeowners interested in equipment operating at maximum efficiency and increased life time should take a look at club memberships.
- J.** If equipment fails due to maintenance not being performed, warranty may not be honored.

Club Memberships

Davis Air Conditioning and Heating, Inc. offers its customers membership in the **Silver, Gold, or Platinum** Clubs for Service and Maintenance of their HVAC System(s). The function of the Discount Clubs is to assure the preservation of the function, capacity, and efficiency of their HVAC systems in a cost-effective proactive manner.

The maintenance only Silver Club is administrated and performed by Davis Air Conditioning and Heating, Inc. However, to fully comply with the State of Texas requirements for Service Provider Contracts, Davis has elected to contract with **Extended Comfort LLC** to manage the program for Gold and Platinum Club Members. Extended Comfort LLC is a separate entity from Davis Air Conditioning and Heating, Inc. that meets all of the regulatory requirements to administrate the Service Provider Contracts. Davis Air Conditioning and Heating, Inc. is the sole performing contractor for Extended Comfort LLC.

Davis Air Conditioning and Heating, Inc. Silver Club

1. The Silver Club membership is for homeowners that desire a low cost HVAC System maintenance only agreement that keeps the system performing at top efficiency, helps extend the life time of the equipment, and meets the manufacturer's equipment parts warranty maintenance requirements. Silver Club members receive a 15% discount on repairs.

Extended Comfort LLC Gold and Platinum Clubs

1. The Gold Club provides the system maintenance benefits of the Silver Club but additionally adds HVAC equipment repairs on parts that fail at no cost to the homeowner. The Gold Club member is assured that all repairs, both simple and major, are covered under the terms of membership.
2. The Platinum Club provides system maintenance benefits of the Silver Club and the no cost repair benefits of the Gold Club but was additionally created for homeowners on the go, people with busy schedules, long working days, people who want to keep their comfort system working with surety and efficiency. The Platinum Club also adds the benefit of checking or adjusting the system thermostat controls from a remote location through a smart phone or PC.* The Platinum Monitoring System will also send a service alert to Davis Air Conditioning And Heating, Inc. when a HVAC system capacity deviation occurs so that an abnormal condition can be proactively serviced before a total loss of capacity occurs in most cases. Same day service is guaranteed if called in by 8:00 P.M.

* The Wireless connection must be provided by the homeowner. Not all smart phones or PC's may be compatible.

Club Memberships

(Continued)

For information on purchasing one of these agreements call the office at 1-877-339-8124 x 114 or discuss with the Davis Service Technician at the time of service.

Club Membership Conditions

- a.** Hours of operation for all HVAC Club services are Monday thru Friday; 8:00 A.M. until 6:00 P.M.
- b.** Additional charge of \$35.00 per system if maintenance is performed during the peak season months of June, July, or August.
- c.** Club Memberships are offered as a once or twice per year visit configuration.
- d.** Gold and Platinum Club Members receive After Hours Emergency Service benefits at no additional fees.
- e.** An Emergency Service is defined as:
 - i.** An emergency exists if there is no heat or cooling anywhere in the home and outdoor temperatures justify the need of such.
 - ii.** A single HVAC system failure in a multiple system home is not considered an emergency.
 - iii.** Air balancing is not considered an emergency.
 - iv.** Non-emergency services need to occur during regular business hours.
 - v.** All calls after hours that are not considered an emergency will be assessed an after-hours call out fee.
- f.** See the back of the Club Membership Agreement for the comprehensive list of Club Membership Conditions.
- g.** Conditions are subject to change.