

# **Basement / Mechanical**

## **Foundations and Exterior Walls:**

**Normal Expectations:** The foundation walls in your home are subject to moisture from the surrounding ground. Dampness may be evident during wet or humid weather. Like all concrete-based products, cracking of foundation walls is not uncommon.

**Homeowner Care:** Foundations are subject to a wide variety of stresses and strains. The base of the exterior walls, being on the ground, maintains a fairly constant temperature. On the other hand, the top portion, extending out of the ground, is subject to extreme temperature changes. Changes from summer heat to winter cold cause concrete or masonry to expand and contract, which may create minor cracks. This is a normal condition.

The soil temperature, and concrete walls and floor temperatures are fairly constant and relatively cool (approximately 55°F) year-round. This coolness, along with the fact that the concrete absorbs moisture, causes basements to feel more humid or damp relative to the rest of the home.

Therefore, it is important to dehumidify or ventilate the unfinished basement to keep it smelling fresh and prevent mold and mildew from forming. We recommend that you use an automatic dehumidifier operating year round in the basement, especially if you plan to use this area for storage. Do not store boxes directly in contact with concrete, moisture will be “wicked” up from the concrete into your boxes and damage the contents. The use of shelving is recommended.

When considering future finishing of basement rooms, please consult a professional contractor to insure heating, ventilation and air conditioning systems are adapted properly to keep the finished area comfortable and safe.

Because concrete can absorb moisture, you will need to maintain water drainage around the exterior of your home in such a way as to direct surface water and roof run-off away from the foundation wall. (See Landscaping)

**Winter Conditions:** (See Concrete Items, under the Exterior section of this manual)

**Within the “Fit and Finish” Warranty Period:** Centex Homes will repair wall cracks in concrete walls in excess of 1/4" on the exterior by tuck pointing or similar procedure. Walls that bow or show displacement will be repaired to ensure a safe and stable structure.

**Concrete Slab:** (See Concrete Items, under the Exterior Section of this manual)

## **Sump Pump / Drain Tile:**

**Normal Expectations:** Your sump pump should provide an ample exit for water that enters the drain tile system of your foundation. It will serve effectively if the sump pump and sump pump pit is kept clean. However, it does not have the capacity to empty a flooding basement.

**Homeowner Care:** For safety reasons, make sure that the sump basket lid is always properly secured, and that the pump is always plugged into an outlet. It is highly recommended that a 20-foot discharge hose extension be installed outside to carry the water away from the foundation. This prevents the water from recirculating into the drainage system.

Every three months, dump a bucket of water with a ½ cup of household bleach into the sump basket to disinfect the basket. This is also a good test to see if the pump is working correctly. Clogged drain tile may be cleaned by “fishing” a hose into one end of the system tube, turning on the water, and allowing the water to flush out the other side.

**Within the “Fit and Finish” Warranty Period:** Centex Homes will warrant the correct operation of the sump pump within the applicable warranty period. If problems arise that are directly related to accumulated dirt and debris in the sump pit, this warranty may not cover such problems. Centex Homes cannot warrant sump pump overflow due to power outages. In this case, the sump basket would need to be manually bailed by the homeowner to prevent any damage due to flooding. Maintaining your sump pump during power outages is the homeowner’s responsibility. If your pump fails in an emergency, you should replace it. Centex Homes may reimburse you for the cost of the pump if the defect occurred during the warranty period.

## **Heating and Cooling Systems:**

**Normal Expectations:** Both the furnace and air conditioner should operate to correct standards. They should provide adequate heat or cool air, although strong winds and extreme cold may cause certain parts of the house to be colder in winter months. Ductwork should be quiet and secure.

**Homeowner Care:** To obtain the best performance of your heating and air conditioning systems, you should comply with the following recommendations:

- **DO** use filters and replace them monthly.
- **DO** keep windows and doors closed (and pull drapes or shades on windows exposed to sun) during cooling system operation. The less heat and moisture there is to overcome, the lower your operating costs will become. In the winter open drapes or shades during winter weather to facilitate proper ventilation around the glass surfaces of your windows to minimize condensation build-up on the glass.
- **DO** turn on the kitchen exhaust fan when cooking during cool seasons.
- **DO** work that causes heat and moisture in the morning or evening as much as possible. Then your system can offset the effects of washing, drying, mopping, etc. before the afternoon heat arrives.
- **DO** turn on bathroom exhaust fans (or open the window slightly) during showers. Use plastic shower curtains instead of moisture-holding fabric curtains.

- **DO** set the thermostat at the desired temperature and leave it. Frequent changing upsets humidity control and may increase operating costs.
- **DON'T** set your thermostat too low for cooling operation. Most people find 76°-80° F ideal. The greater the difference between the outdoor and indoor temperatures, the greater the operating costs.
- **DON'T** turn off the system just because you will be away for the day or more. It takes quite awhile to restore comfort, but costs relatively little to maintain it.
- **DON'T** be concerned if your cooling unit operates after sundown -- heat is stored in the roof and walls.
- **DON'T** open windows after dark. Night air may feel cool, but it is moisture laden.
- **DON'T** let shrubs, vines or fences block air intake and discharge on a condenser unit outside.
- **DON'T** put a lamp, TV or radio near your thermostat.

**Within the “Fit and Finish” Warranty Period:** Heating and cooling equipment and appliances, both central and individual room units, are covered by the manufacturer’s warranty that has been included with the unit. All warranties are contingent upon regular cleaning of filters, normal maintenance, and periodic lubrication of motors in accordance with the manufacturer’s instructions attached to the unit. All ductwork wiring, piping, and venting systems are warranted against defects in materials and workmanship.

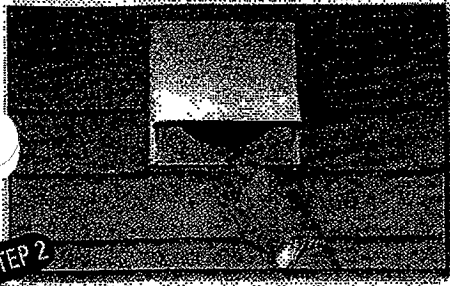
## **Residential Ventilation System**

**Normal Expectations:** The residential ventilation system should operate to correct standards. The residential ventilation system should provide controlled ventilation by drawing the stale humid air out of the house and replacing it with fresh outside air. The residential ventilation system is equipped with a heat recovery core, which reduces ventilation costs in winter.

**Homeowner Care:** To obtain the best performance of your residential ventilation system, you should comply with the following recommendations:

- **DO** clean filters every three months. Use a vacuum cleaner to remove the heaviest portion of accumulated dust, and then wash in water and mild soap.
- **DO** wash heat recovery core once a year at the end of the summer. The heat recovery core must be handled with care. Allow the heat recovery core to soak for 3 hours in a solution of warm water and mild soap. Rinse under a heavy stream of water. **IMPORTANT NOTE:** Hot water will damage the heat recovery core by loosening the glues used to hold the core together.
- **DO** regularly check the screen on the exterior intake hood and clean when necessary. Also check during very cold weather because ice may build up on the screen.
- **DO** perform annual service, including: cleaning filters, heat recovery core and the exterior air intake hood; cleaning the blades of the blower wheels; and cleaning the condensation tray with soapy water (make certain that the drain is not clogged).
- **DO** turn on bathroom exhaust fans (or open the window slightly) during showers. Use plastic shower curtains instead of moisture-holding fabric curtains.
- **DO** adjust the control to match the outdoor temperatures on a weekly basis.
- **DON'T** turn off the system just because you’ll be away for the day or more. It takes quite awhile to restore comfort, but costs relatively little to maintain it.
- **DON'T** let shrubs, vines or fences block air intake and exhaust hoods.

# MAINTENANCE GUIDE



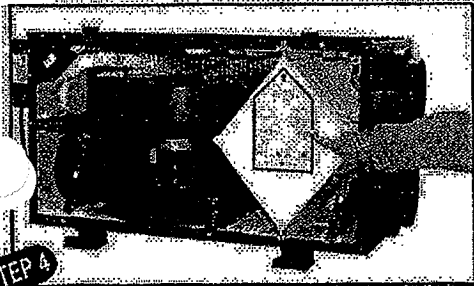
STEP 2

Clean exterior hood screens



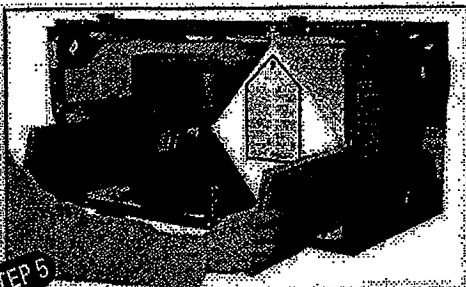
STEP 3

Pull open door clasp



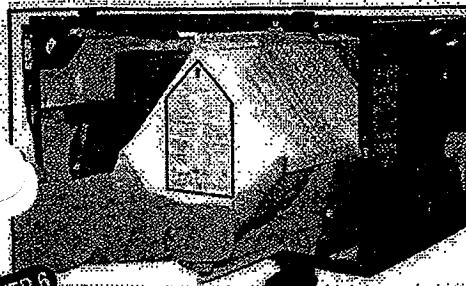
STEP 4

Read maintenance instructions



STEP 5

Pull out and clean filters



STEP 6

Pull out and clean core

STEP 1

**CAUTION:** Dangerous voltage may be present. Turning the unit off is not sufficient. Be sure to disconnect (unplug) before working inside the unit.  
*Warning:* Venmar tries to minimize sharp edges; however, please proceed with caution when handling all components.

The configuration of your Venmar unit may vary from the pictures shown on this maintenance guide. Use this maintenance guide with Venmar models containing a Polypropylene Core.

## Exterior Air Intake and Exhaust Hoods

- ▶ Check the intake and exhaust screen on the exterior hoods for debris and clean as needed.

## Filters

- ▶ Under normal conditions, filters should be checked every 3 months or cleaned as needed.
- ▶ Use vacuum cleaner to remove accumulated dust on the filters and wash filters in lukewarm water, let dry and reinstall.

## Heat Recovery Core

- ▶ Core should be washed once a year. Follow maintenance instructions on the heat recovery core.

## Drain Pan

- ▶ Once a year, while you're cleaning the core, wipe the drain pan with a damp cloth.

## Annual Service Maintenance Recommended by Manufacturer

- ▶ Having a qualified technician come to your home will ensure better indoor air quality, lower energy costs, provide longer equipment life, and peace of mind.
- ▶ Call your Venmar dealer to perform annual service maintenance.

contact info:

**Within the “Fit and Finish” Warranty Period:** Residential Ventilation System equipment is covered by the manufacturer’s warranty, which has been included with the unit. All warranties are contingent upon regular cleaning of filters, and normal maintenance in accordance with the manufacturer’s instructions attached to the unit. All ductwork wiring, piping, and venting systems are warranted for 2 years against defect in material and workmanship.

## **Whole House Humidifier**

**Normal Expectations:** Your humidifier does not operate by itself. It needs your attention and occasional maintenance. Attention should be paid to conditions in your home, so that humidity levels are not set too high. A telltale sign is significant condensation on the windows of your home.

**Homeowner Care:** To help you keep your home at the right humidity level, follow the given instructions/settings on the humidistat, but do not exceed 30%. Important maintenance items include keeping the damper in the correct position. The damper should be labeled on the ductwork entering the humidifier, and it should remain open in the winter and closed in the summer. Once per year the element in the humidifier should be checked. Open the cover on the humidifier and pull out the element for inspection. If you can easily push your finger into it or it shows excessive hard water build-up, it should be replaced. Also, always make sure the humidifier is draining into the floor drain.

**Within the “Fit and Finish” Warranty Period:** Centex Homes warranties this product from defects during the applicable warranty period.

## **Water Heater:**

**Normal Expectations:** Your water heater should operate to correct standards. It should provide hot water to all sinks, showers, and tubs. Be aware that the supply can be depleted temporarily if too much hot water is used over a short period of time. Your new water heater comes with a pressure relief valve, the purpose of which is to allow air to escape the tank when too much pressure builds up inside. This will also allow some water to exit the line. Decreasing the temperature of the water delivered throughout your home to a normal setting will minimize this from occurring.

**Homeowner Care:** Mineral deposits in your water can accumulate and settle in the bottom of the tank. Over time this accumulation can build-up and impede operation. To prevent this from happening, we recommend that you flush out the water heater twice a year. This procedure is documented in the literature attached to the side of the water heater.

**Winter Conditions:** The water heater has a combustion air line, which allows fresh air into the house for water heater combustion. This combustion air line is required by code. For your safety, this line must be left open at all times to maintain indoor air quality in your home.

**Within the “Fit and Finish” Warranty Period:** Your water heater is covered by this warranty, contingent upon the recommended cleaning and maintenance. A copy of the manufacturer’s warranty has also been provided to you.

## **Circuit Breakers:**

**Normal Expectations:** Circuit breakers should not “trip” under normal usage. However, simultaneous operation of many appliances requiring large amounts of power may trip a circuit breaker or main breaker. Power surges and outages may also affect breakers. It is expected that your lights may dim slightly with the use of an appliance that draws high amounts of power from the circuit, such as a clothes iron.

**Homeowner Care:** Circuit breakers protect your home’s electrical system and equipment from overload and surge. They can be reset by first switching the breaker to full off and then back to full on. Resetting a tripped breaker is a homeowner responsibility.

**Master Circuit Breakers:** The master circuit breaker is located in the electrical service panel box. When this breaker is tripped, all of the house's electricity is cut off.

**Arc-Fault Circuit Breakers:** These circuit breakers are installed to meet state requirements for any bedroom electrical circuit within your new home. They are identified by a small reset button on the actual circuit breaker located in the electrical panel for your home. Annual testing should be conducted to ensure operation of this device by simply pressing the “test” button on the arc-fault breakers, which should allow the breaker to trip and cause the need to reset it.

**Power Failure:** In case of complete power failure, first determine if your neighbors have power. If not, notify your electric company. If the power failure has occurred only in your home, check the master circuit breaker. If one breaker trips continuously, you may be overloading that circuit. Unplug or turn off appliances and lights in that area, and then reset the circuit breaker.

**Within the “Fit and Finish” Warranty Period:** Centex Homes will inspect and repair or replace faulty or defective circuit breakers.

## **Electrical Outlets:**

**Normal Expectations:** The electrical outlets in your home should operate correctly.

**Winter Conditions:** It is very common to notice drafts at outlets located on the exterior wall. Convection currents take place along electrical wiring inside of exterior walls. Cooler air falling to the outlet box will flow into the home. Strong winds and cold temperatures affect the amount of cool air inside the wall. Outlet insulation kits, available at hardware stores, help to contain, but cannot totally eliminate, drafts. Never stuff insulation of any type into the outlet box itself. This can cause overheating of the electrical wires and devices, creating a serious fire hazard.

**Within the “Fit and Finish” Warranty Period:** Centex Homes will repair or replace defective or malfunctioning switches and outlets. Outlet covers will be replaced only if this deficiency is noted in the Pre-Settlement Orientation. Air drafts through outlets will not be covered by this warranty. Centex Homes warrants that the wiring system carries the designed electrical load. We will inspect and correct any wiring that does not conform to the local electrical codes or that is otherwise defective.

## **Ground Fault Interrupters (GFI's):**

**Normal Expectations:** Your home is equipped with ground fault interrupter circuit breakers in all bathrooms, outside receptacles, garage, unfinished basement areas, and some kitchen outlets. They are designed to trip with the slightest moisture contact. Many outlets are affected when one GFI outlet is tripped. They are different from other circuit breakers in that they are designed to protect people, not the electrical circuits. For this reason they are very sensitive.

**Homeowner Care:** If one GFI outlet is tripped, simply push the "reset" button. If the reset button does not stay in, do not use the outlet, as it may be faulty, and will need replacement. When your whirlpool, appliances or outlets fail to work, check to see if another GFI in a different location outlet may have been tripped. This may be a simple solution to your problem.

**Within the "Fit and Finish" Warranty Period:** Centex Homes will repair or replace GFI outlets that are defective. This does not include the frequent tripping of a GFI due to homeowner negligence or misuse.