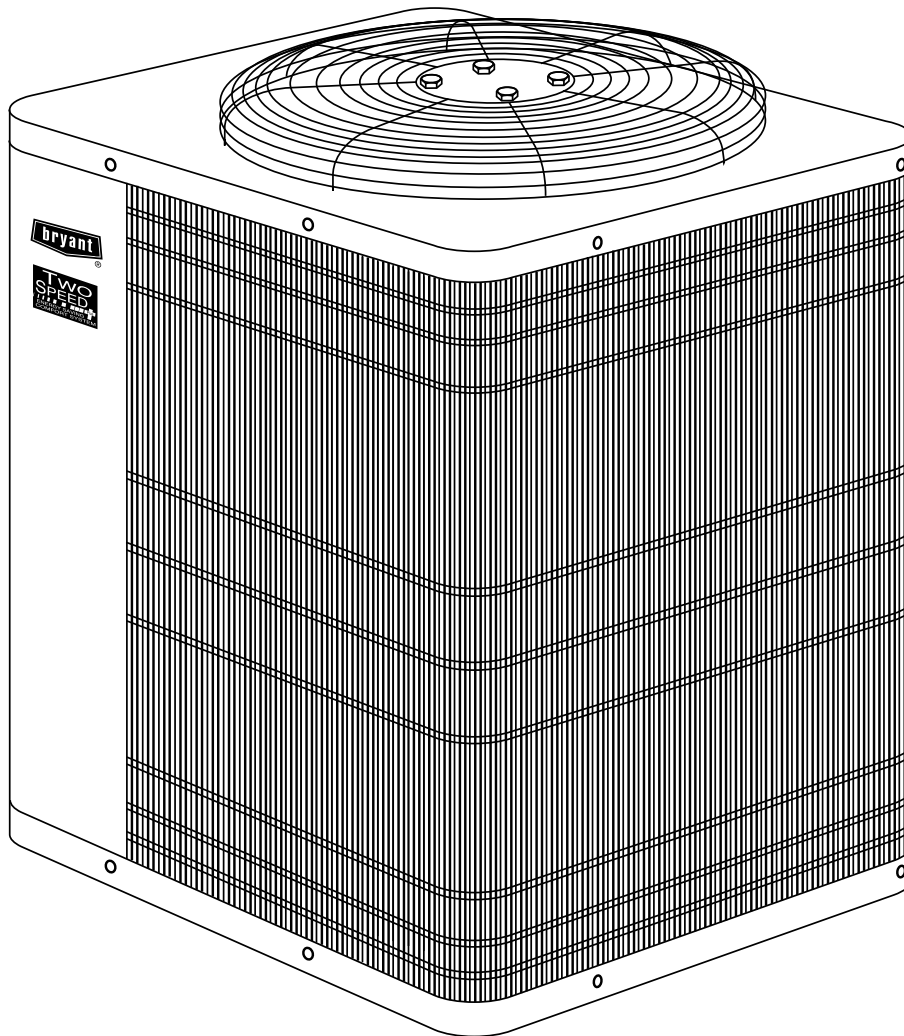


MODEL 698A TWO-SPEED PLUS HEAT PUMP



***NOTE TO
INSTALLER:
This manual
must be
left with the
equipment user.***

WELCOME TO EFFICIENT YEAR-ROUND COMFORT


Congratulations on your excellent choice and sound investment in year-round home comfort!

Your new heat pump represents the culmination of many years of experience from 1 of the most reputable manufacturers of comfort systems.

Your new unit is among the most reliable and energy-efficient heat pump products available today. To assure its dependability, spend just a few minutes with this booklet now. Learn about the operation of your heat pump, and the small amount of maintenance it takes to keep it operating at peak efficiency.

With minimal care, your new heat pump will provide you and your family with year-round home comfort—both now and for years to come.

SAFETY CONSIDERATIONS

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **would** result in minor personal injury or product and property damage.

WARNING

Improper installation, adjustment, alteration, service, maintenance or use can cause explosion, fire, electrical shock, or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product.

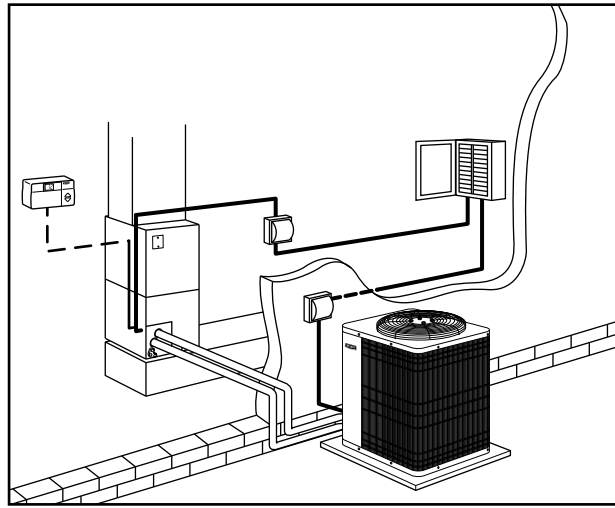


Fig. 1—Typical Split-System Installation

WARNING

To prevent personal injury, death, or property damage, read and follow all instructions and warnings, including labels shipped with or attached to unit before operating your new heat pump.

YOUR COMFORT SYSTEM

Identifying Your System

Take the time to get to know the type of system you have. This will be useful in understanding the basic operation of your new heat pump.

The type of heat pump you have purchased is a split system. The split-system type has an indoor and an outdoor unit, each of which contains a coil. These units are interconnected by refrigerant tubes, as shown in Fig. 1.

Each unit has a rating plate affixed to it. A rating plate provides necessary information for specific identification of a unit. You should familiarize yourself with the product, model, and serial numbers listed on each rating plate. Record them for future reference on the last page of this booklet.

IMPORTANT FACTS

To better protect your investment and to eliminate unnecessary service calls, familiarize yourself with the following facts:

• Keep Filter Clean

Your heat pump system should never be operated without a clean air filter properly installed. Plan to inspect the filter once per month. A clogged air filter will increase

operating costs and shorten the life of the unit.

• Do Not Block Registers

Supply-air and return-air registers should not be blocked. Drapes, furniture, and toys are some of the items commonly found obstructing registers. Restricted air-flow lessens the unit's efficiency and shortens its life span.

• Do Not Cover or Block Outdoor Unit

The outdoor unit must have unrestricted airflow. Do not cover the unit, lean anything against it, or stand on it. Do not allow grass clippings, leaves, or other debris to accumulate around or on top of the unit. Maintain a 12-in. minimum clearance between the outdoor unit and tall grass, vines, shrubs, etc.

• Get To Know Your Thermostat

Your multipurpose indoor thermostat is the control center for your heat pump system. You should familiarize yourself with its proper operation. (See Fig. 2 and 3.) Attempting to control the system by other means—for instance, switching the electrical supply power on and off—may damage the unit.

During the heating season, never increase the indoor thermostat setting more than 1- or 2-degree increments. If larger adjustments are made, the supplementary heating source will be turned on automatically. Needless use of the supplementary heat reduces potential energy savings.

• Continuous Fan

You may find that you can maintain greater personal comfort by running the fan continuously. Air pockets can form due to the structure of the house, placement of registers, etc. These air pockets may be too cool or warm for your liking. Continuous fan operation minimizes any temperature differences.

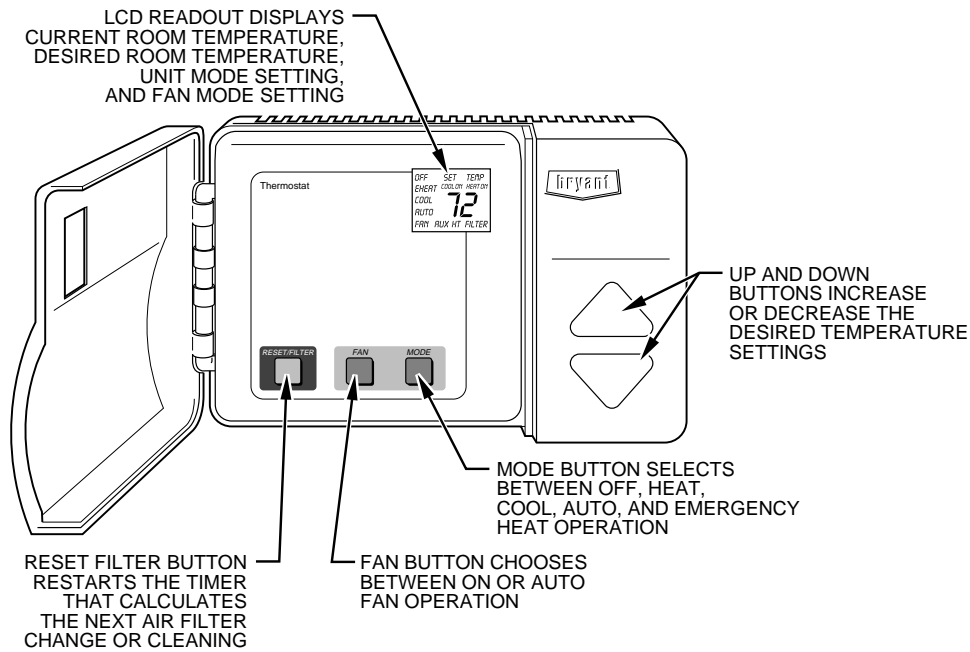


Fig. 2—Bryant Non-Programmable Two-Speed Thermostat

• **Air Cleaners and Humidifiers**

Systems equipped with electronic or mechanical air cleaners and/or humidifiers offer the added benefits of having the air continuously cleaned year-round, and humidified during the winter season.

• **Ventilation**

A system equipped with a heat or energy recovery ventilator offers the advantage of exhausting stale air from the home and allowing fresh air in from the outdoors while minimizing heat loss.

• **Zoning**

Your system may also be equipped with a zoning system which allows individual control over the temperatures of separate areas of your home.

• **Check Condensate Drain**

Your heat pump will remove humidity from your home during the cooling season. After a few minutes of operation, you should be able to see water trickle from the condensate drain of the cooling coil. Check this occasionally to be sure the drain system is not clogged. Do not expect to see much drainage if you live in a very dry environment.

• **Heated Air Temperature**

During the heating cycle, air from your registers may seem cooler than you might first expect because the air is being delivered at a higher velocity and a more constant flow than air supplied by a conventional furnace. Also, your heat pump supplies air at 90 to 105°F instead of in sudden bursts of hot air as with a conventional furnace. The air may feel cool because it is slightly less than your body temperature. However, it is sufficiently warm to keep you comfortable.

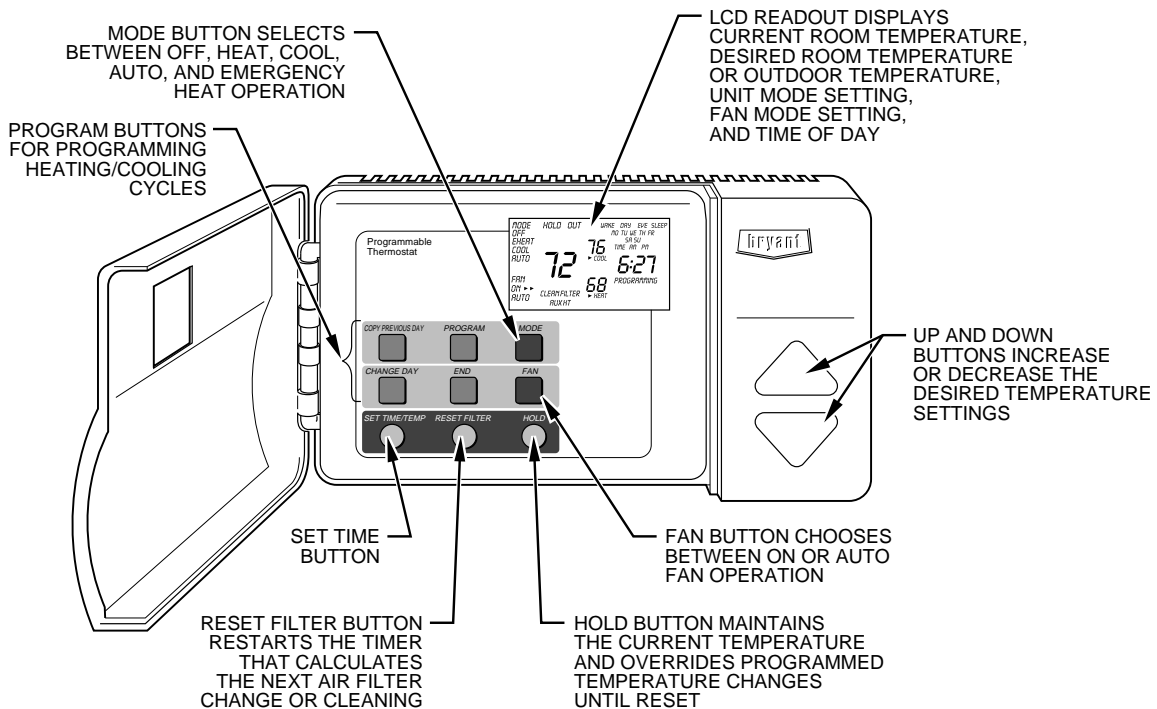


Fig. 3—Bryant Programmable Two-Speed Thermostat

- **Don't Worry About Ice On Your Unit**

Ice or frost will tend to form on the outdoor coil during winter heating operation. Your heat pump is designed to automatically melt the ice. When in this defrost cycle, it is normal for steam or fog to rise from the outdoor unit. Do not be alarmed!

- **When Not To Use Your Unit**

Do not operate your unit in cooling mode when outdoor temperatures are below 55°F.

Do not operate your unit in heating mode when outdoor temperatures are above 66°F.

OPERATING YOUR HEAT PUMP

The operation of your heat pump system is controlled by the indoor thermostat. You simply adjust the thermostat to maintain the indoor temperature at the level you select. Most thermostats for heat pump systems have three controls: a temperature control selector, a FAN control, and a SYSTEM or MODE control. Thermostats may vary from those shown in Fig. 2 and 3. These thermostats have an ENERGY SAVINGS indicator which lights up when your 2-speed unit is operating at maximum efficiency and a TROUBLE indicator which lights up when the unit requires professional service.

The temperature control selector is a dial, lever, or set of buttons that allow you to establish the degree of temperature that you wish to maintain for your personal comfort. Some thermostats possess two temperature control selectors: one for setting the temperature desired during the cooling cycle, and one to set the heating operation temperature.

The FAN control offers two options for controlling the indoor blower: AUTO and ON. When set to AUTO, the blower will run only during the time the heat pump is operating. When set to ON, the blower will run continuously.

Typically, the SYSTEM or MODE control on your thermostat offers the following selections: COOL, OFF, AUTO, HEAT, and EMERGENCY HEAT. The heat pump will not operate when the SYSTEM or MODE control is set to OFF. With the SYSTEM or MODE control set to COOL, your heat pump will operate in its cooling mode when the indoor temperature rises above the level that you wish to maintain. With the SYSTEM or MODE control set to

HEAT, your heat pump will provide warmth whenever the indoor temperature falls below the level that you have selected.

The AUTO selection found on some thermostats provides automatic changeover between cooling and heating cycles. With the SYSTEM or MODE control set to AUTO, the cooling mode is activated when the indoor temperature rises above the thermostat cooling temperature setting, or the heating mode will be activated when the indoor temperature drops below the thermostat setting for the heating cycle.

Your thermostat may be PROGRAMMABLE or NON-PROGRAMMABLE. A NON-PROGRAMMABLE thermostat (See Fig. 2.) does not allow the temperature settings to be varied throughout the day or week without physically changing the settings. A PROGRAMMABLE thermostat (See Fig. 3.) allows various daily temperature changes to be preset. During the winter, for example, you may wish to "set back" the temperature of your home at night, then have the temperature return to normal prior to waking up. The home's temperature can then be lowered again during the day when no one is at home, but again be at peak comfort level when your family returns home. During the summer, the opposite changes might be programmed. When properly used, the programming can result in energy savings on your home's heating and cooling.

If you wish to program your accessory electronic indoor thermostat, please refer to thermostat Installation Instructions.

Depending on your typical winter heating needs, your home comfort system may include a supplementary heating source. The EMERGENCY HEAT (EHEAT) setting provides for convenient selection between the two heating appliances. Your heat pump will operate when the SYSTEM or MODE control is set to HEAT. With the SYSTEM or MODE control set to EMERGENCY HEAT, the heat pump will turn off and the supplementary heat source will be activated.

NOTE: Your 2-speed heat pump system has several special features built in to protect the unit.

- **5-MINUTE TIME DELAY**—Unit will delay operation upon initial start-up or short-cycling of the indoor thermostat.

- **1-MINUTE TIME DELAY**—When changing speeds from low to high, or high to low, there is a 1 minute time delay. During the speed change delay, the outdoor

fan will continue to run.

- **2-MINUTE LOW-SPEED MINIMUM**—If the unit has not operated within the past 30 minutes, upon the next cooling demand, it will operate for a minimum of 2 minutes on low speed.

COOLING CYCLE

With the SYSTEM or MODE control of your indoor thermostat set to COOL, your heat pump will run in cooling mode until the indoor temperature is lowered to the level you have selected.

Your 2-speed heat pump spends about 80% of its time operating in low-speed cooling. This means that it will operate for longer periods of time than a single-speed heat pump even on moderate days. This longer operational time in low speed results in higher efficiency operation, lower operating noise, and better humidity control than a single-speed heat pump could achieve.

The following conditions typically add extra heat and/or humidity to your home and make your cooling unit work longer to keep your home comfortable:

- Entrance doors are frequently opened and closed
- Laundry appliances are being operated
- A shower is running
- More than the usual number of people are present in the home
- More than the normal number of electric lights are in use
- Drapes are open on the sunny side of the home

HEATING CYCLE

With the SYSTEM or MODE control of your indoor thermostat set to HEAT, your heat pump will operate in heating mode until room temperature is raised to the level you have selected. It may be assisted by a supplemental heat source if equipped. Of course, your heat pump will have to operate for longer periods to maintain a comfortable environment on cooler days and nights than on moderate ones.

Your 2-speed heat pump spends about 80% of its time operating in low-speed heating. This means that it will operate for longer periods of time than a single-speed heat pump even on moderate days. This longer operational time in low speed results in higher efficiency operation and lower operating noise than a single-speed heat pump could achieve.

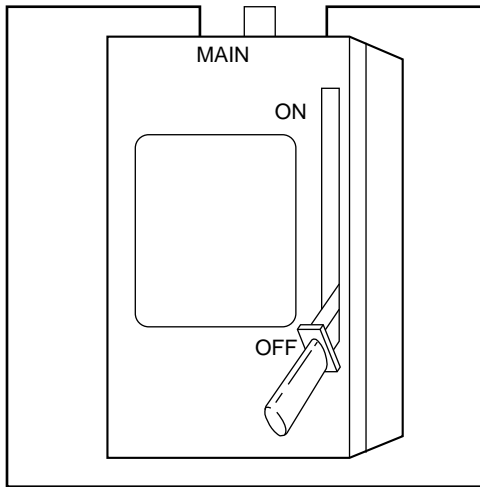


Fig. 4—Main Electrical Disconnect

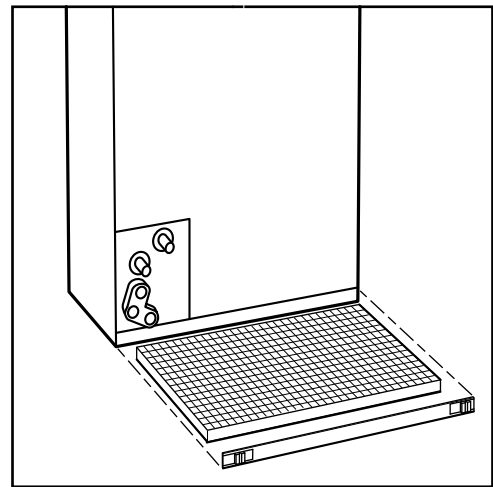


Fig. 5—Removing Filter from Fan Coil Unit

SUPPLEMENTAL HEAT

Your heat pump is your primary heating source. Your system may also be equipped with a supplemental heating source such as electric, gas, or oil. On cold days and nights, your system will automatically turn on the supplemental heat in order to maintain the level of comfort you have selected.

Your Bryant electronic thermostat will display the words ENERGY SAVINGS when the heat pump is providing all the heat that is necessary. When additional heat is required, your thermostat will turn on the supplemental heat (if equipped) and will display the AUX HT message.

DEFROST CYCLE

When your heat pump is providing heat to your home and the outdoor temperature drops below 45°F, moisture may begin to freeze on the surface of the outdoor coil. If allowed to build up, this ice would impede airflow across the coil and reduce the amount of heat absorbed from the outside air. To maintain energy-efficient operation, your heat pump has an automatic defrost cycle.

The defrost cycle starts at a preset time interval of 90 minutes, although it may be reset to either 30 or 50 minutes. Defrost will start at the preset time only if the ice is sufficient to interfere with normal heating operation.

After the ice is melted from the outdoor coil, or after a maximum of 10 minutes in the defrost mode, the unit will automatically switch back to normal heating operation.

Do not be alarmed if steam or fog appears at the outdoor unit during the defrost cycle. Water vapor from the melting ice may condense into a mist in the cold outside air.

During certain weather conditions such as heavy snow and freezing rain it is not uncommon for ice to build up on the outdoor unit grille. This is normal for these weather conditions. Do not attempt to remove the ice from the outdoor unit grille. This condition will not affect the proper function of the unit and will clear within a few days.

EMERGENCY HEAT

The emergency heat (EHEAT) setting on your Bryant electronic thermostat can be used to turn off your heat pump and use only the supplemental heating source (if equipped). The Auxiliary Heat Indicator (AUX HT) will be displayed while your system is operating in EHEAT mode.

Emergency heat is not normally used. There may be situations, however, where it is necessary. Your Bryant programmable electronic thermostat has a service alarm indicator. In the heating season, if the thermostat ever displays the TROUBLE message, switch your thermostat to EHEAT mode and call your dealer. This allows your supplemental heating source to keep your home warm until your heat pump can be serviced. Also, if the electricity to your heat pump has been off for more than 30 minutes, switch your thermostat to EHEAT mode before restarting your heat pump. Leave the system in EHEAT mode for an amount of time

equal to the power outage. It is not necessary to exceed 12 hrs. If you cannot determine how long the power has been off, leave the system in EHEAT mode for 8 hrs.

PERFORMING ROUTINE MAINTENANCE

With the proper maintenance and care, your heat pump unit will operate economically and dependably. Maintenance can be accomplished easily by referring to the following directions. However, before performing maintenance, consider these important safety precautions.

⚠ WARNING

Disconnect all electrical power to the indoor air handler or furnace before removing access panels to perform any maintenance. Disconnect power to both the indoor and outdoor units. NOTE: There may be more than 1 electrical disconnect switch. Electrical shock can cause personal injury or death.

⚠ CAUTION

Although special care has been taken to minimize sharp edges in the construction of your unit, be extremely careful when handling parts or reaching into the unit.

CHECK THE AIR FILTER

A dirty air filter will cause excessive strain on the compressor and blower motor, causing the components to overheat and automatically shut down. In the extreme, the components will fail and need to be replaced. To avoid inefficient operation or failure of your unit, **CHECK THE FILTER(S) EVERY 3 TO 4 WEEKS.** Replace filter(s) when necessary, or clean the filter(s) if you have the reusable type.

Disposable filters should be replaced by similar, new filters of the same dimensions.

Reusable, permanent filters should be washed in a solution of cold water and mild detergent, then rinsed and thoroughly dried. **THE FILTER MUST BE COMPLETELY DRY BEFORE BEING REINSTALLED.** To avoid prolonged shutdown of your unit while a filter is drying, you should have an extra filter on hand, allowing you to rotate between the two filters with minimal downtime for your comfort system. Extra filters may be purchased from your dealer.

There are no filters in the outdoor unit of a split system. If your indoor unit is a gas or oil furnace, refer to your furnace Owner's Manual for filter location and procedures for replacement or cleaning.

If your system includes an indoor fan coil unit, the filter is located in the unit where it connects with the return-air duct or plenum. (See Fig. 5.) Remove the filter access plate, then pull out the rack and filter. The clean filter must be reinstalled with the cross-hatched (when used) side facing the blower. With the clean filter in place, secure the spring tensioner, slide the tray into the unit, then secure the locks.

INDOOR COIL

If the indoor coil has only been operated with a clean filter in place, it should require minimal cleaning.

If coil cleaning is required, call your dealer for service. It may be necessary to clean the coil with a detergent solution and rinse it with water, which could require removing of the coil. **DO NOT** attempt this yourself.

OUTDOOR COIL

If grass clippings, leaves, shrubbery, and debris are kept away from the outdoor unit, minimal care should keep the system functioning properly. For proper drainage, debris must be removed periodically from the base pan. However, if the outdoor coil becomes dirty, use a vacuum cleaner with soft brush

attachment to clean the exterior surface. Vacuum coil surface using an up and down motion. Be careful not to bend or damage coil fins. If dirt is deep in the coil, contact your dealer for service. The outdoor fan motor may have to be disconnected and the top panel removed to gain access to the coil for thorough cleaning. Do not attempt this yourself.

OUTDOOR COIL— SEA COAST

If your unit is located near the ocean, special maintenance is required. Ocean mist/breeze carries salt, which is corrosive to most metals. Although your new unit is made out of galvanized metal and is protected by top-grade paint, you should take the precaution of additional maintenance, by periodically washing the unit. By washing all exposed surfaces and coil you will be adding additional life to your unit. Consult your installing contractor for proper intervals/procedures for your geographic area or service contact.

UNIT SUPPORT

Your split-system outdoor unit should be maintained at a level position. If its support shifts or settles so that the unit is no longer level, you should correct the condition. Relevel it promptly to assure that water drains out of the unit. If you notice that water or ice collects beneath the unit, arrange for it to be drained away from the unit.

Heat pumps installed in snowbelt areas should be elevated with support feet or a snow stand.

BEFORE YOU REQUEST A SERVICE CALL

CHECK FOR THESE EASILY SOLVED PROBLEMS:

- Check the indoor and outdoor disconnect switches. Verify that circuit breakers are on or that fuses have not blown.
- Check for sufficient airflow. Check the air filter(s) for any accumulations of dirt. Check for blocked return-air or supply-air registers. Be sure registers are open and unobstructed.
- Check the settings on your indoor thermostat. If you desire cooling, see that the temperature control selector is set below room temperature and the SYSTEM or MODE control is set to COOL or AUTO. If you require heat, be sure the temperature control selector is set above room temperature and the SYSTEM or MODE control is set to HEAT or AUTO. The

FAN control should be set to ON for continuous blower operation or AUTO if you wish blower to function only while the unit is operating.

- Check note concerning special features and time delays in "Operating Your Heat Pump" section.

If your comfort system still fails to operate, contact your servicing dealer for troubleshooting and repairs. Specify your apparent problem, and state the model and serial numbers of your equipment. (You should have them recorded on the last page of this booklet.) With this information, your dealer may be able to offer helpful suggestions over the phone or save valuable time through knowledgeable preparation for the service call.

REGULAR DEALER MAINTENANCE

In addition to the routine maintenance that you perform, your home comfort system should be inspected regularly by a properly trained service technician. The inspection (preferably each year, but at least every other year) should include the following:

- Routine inspection of air filter(s). Replacement or cleaning as required.
- Inspection and cleaning of the blower wheel, housing, and motor as required.
- Inspection and, if required, cleaning of indoor and outdoor coils.
- Inspection of the indoor coil drain pan, plus the primary and secondary drain lines. If supplied, the auxiliary drain pan and line should be inspected at this time. Service should include cleaning if required.
- A check of all electrical wiring and connections.
- A check for secure physical connections of individual components within units.
- Operational check of the heat pump system to determine actual working condition. Necessary repair and/or adjustment should be performed at this time.
- Your servicing dealer may offer an economical service contract that covers seasonal inspections. Ask for further details.

FOR THE RECORD

Record the model, product, and serial numbers of your new equipment in the spaces provided. This information, along with the other ready-reference facts requested, will be necessary if you ever require information or service.

INSTALLATION DATA

Date Installed _____
Dealer Name _____
Address _____
City _____
State _____ Zip _____
Telephone _____

MODULAR INDOOR UNIT, if Applicable:
Blower—Product No. _____
Model No. _____
Serial No. _____

Coil—Product No. _____
Model No. _____
Serial No. _____

SPLIT-SYSTEM

OUTDOOR UNIT:

Product No. _____
Model No. _____
Serial No. _____

Heater—Product No. _____
Model No. _____
Serial No. _____

INDOOR UNIT OR COIL:

Product No. _____
Model No. _____
Serial No. _____

ACCESSORIES

Product No. _____
Product No. _____
Product No. _____
Product No. _____
Product No. _____

