

bryant

Day &  
Night

PAYNE

# user's information manual

## SINGLE PACKAGE ROOFTOP HEAT PUMP UNITS

664A

864A

Sizes 024-048

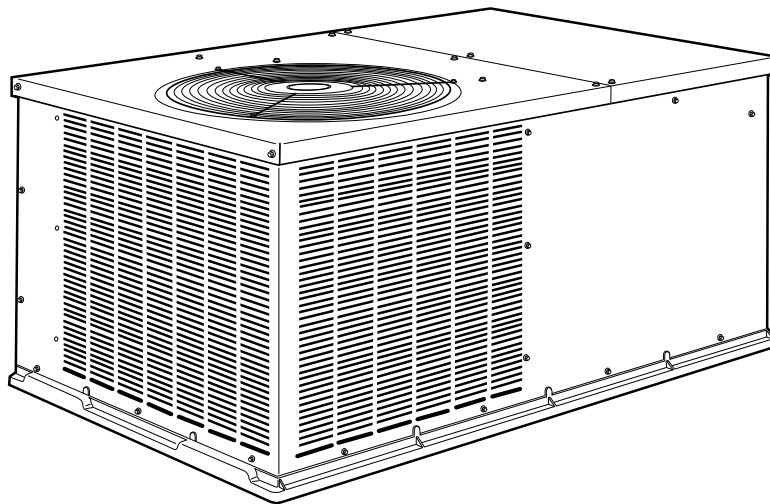
Cancels: New

OM02-55  
5/1/96

### NOTE TO INSTALLER:

This manual should be left with the equipment owner.

**⚠ WARNING:** Before performing recommended maintenance, be sure main power switch to unit is turned off. Electrical shock could cause personal injury.



Models 664A, 864A Packaged Heat Pump

## WELCOME TO EFFICIENT YEAR-ROUND COMFORT

Congratulations on your excellent choice and sound investment in home comfort! Your new heat pump represents both the latest in engineering development and the culmination of many years of experience from one of the most reputable manufacturers of comfort systems. Your new unit is among the most reliable home comfort 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 its peak efficiency.

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

## IMPORTANT FACTS

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

**⚠ 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. Refer to this manual. For assistance or additional information consult a qualified installer, service agency, distributor, or branch office. The qualified installer or agency must use only factory authorized kits or accessories when modifying this product.

- Your heat pump system should never be operated without a clean air filter properly installed. Plan to inspect the filter periodically. A clogged air filter will increase operating costs and shorten the life of the unit.
- Supply-air and return-air registers should not be blocked. Drapes, furniture, and toys are some of the items commonly found obstructing grilles. Restricted airflow lessens the unit's efficiency and life span.
- Outdoor units must have unrestricted airflow. Do not cover the unit, lean anything against it, or stand upon it. Do not allow grass clippings, leaves, or other debris to accumulate around or on top of the unit. Maintain a 12-inch minimum clearance between the outdoor unit and tall grass, vines, shrubs, et cetera.
- Your multipurpose indoor thermostat is the control center for your heat pump system. You should familiarize yourself with its proper operation. Attempting to control the system by other means — for instance, switching the electrical supply power ON and OFF — may cause damage to the unit.
- Thermostat "jiggling" causes rapid-cycling, which is potentially damaging to the compressor. Do not move the temperature selector on the thermostat for any reason for at least 5 minutes after the compressor has shut off.
- 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 building, placement of registers, et cetera. These air pockets may be too cool or warm for your liking. Continuous fan operation minimizes any temperature differences. Also, systems equipped with electronic air cleaners and/or humidifiers offer the added benefits of having the air continuously cleaned year-round, and humidified during the winter season.

- 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. Check this occasionally to be sure the drain system is not clogged. Of course, do not expect to see much drainage if you live in a very dry climate.

## OPERATING YOUR HEAT PUMP

The operation of your heat pump system is controlled by the indoor thermostat. You simply adjust the thermostat and it maintains the indoor temperature at the level you select. Most thermostats for heat pump systems include temperature control selector, FAN switch, and SYSTEM switch. EMERGENCY HEAT control is usually provided with the SYSTEM switch.

The temperature control selector is a dial or lever that allows you to establish the 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. Typical settings are 78 degrees Fahrenheit for cooling and 68 degrees for heating.

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

Typically, the SYSTEM switch on your thermostat offers the following selections: COOL, OFF, and HEAT. Your thermostat may also have a another selection, AUTO. The heat pump will not operate when the SYSTEM switch is set at the OFF position. With the SYSTEM switch set at 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 switch set at the HEAT position, 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 for automatic changeover between cooling and heating cycles. With the SYSTEM switch set in the AUTO position, 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.

Depending on your typical winter heating needs, your home comfort system may include a supplementary heating source. The EMERGENCY HEAT switch provides for convenient selection between two heating modes. Your heat pump will operate when the switch is set at NORMAL. With the switch set at the EMERGENCY HEAT position, the heat pump will turn off and the supplementary heat source will be activated.

## COOLING CYCLE

When operating in the cooling cycle, your heat pump will run until the indoor temperature is lowered to the level you have selected. On extremely hot days, your heat pump will run for longer periods at a time and have shorter "off" periods than on moderate days.

The following are typical conditions that add extra heat and/or humidity to your home. Your heat pump will work longer to keep your home comfortable under these conditions:

- 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 switch of your indoor thermostat set to the HEAT position, the heat pump will operate in its heating mode until room temperature is raised to the level you have selected. Of course, the heating unit will have to operate for longer periods to maintain a comfortable environment on colder days and nights than on moderate ones.

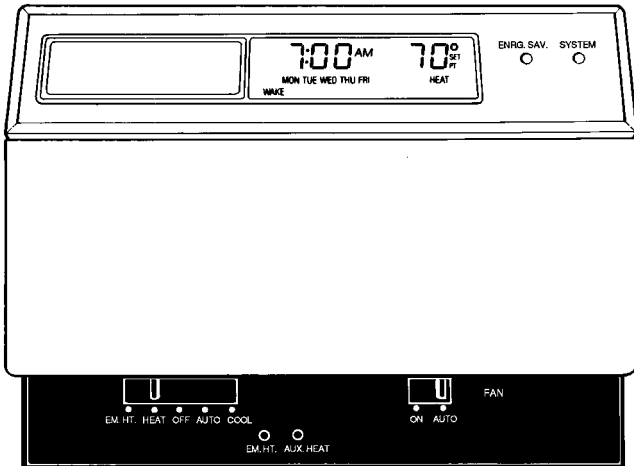
**Defrost Cycle** — When your heat pump is providing heat to your home and the outdoor temperature drops below 45 degrees Fahrenheit, moisture may begin to freeze on the surface of the outdoor coil. If allowed to build up, this ice would impede airflow across the coil and reduce the amount of heat absorbed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

The defrost cycle starts at a preset time interval of 30 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.

**Emergency Heat** — The EMERGENCY HEAT setting on your thermostat refers to any supplementary heating appliance that may be included in your home comfort system. Operation of the EMERGENCY HEAT source may be required if heating demands exceed the capacity of the heat pump, or if the heat pump malfunctions.



The red light on your thermostat will glow if the EMERGENCY HEAT switch is moved to the EMERGENCY HEAT setting. This indicates that the heat pump is off and the supplementary heating appliance is selected for operation.

The AUX HEAT red light will glow under normal operation when the second stage of heat is operating.

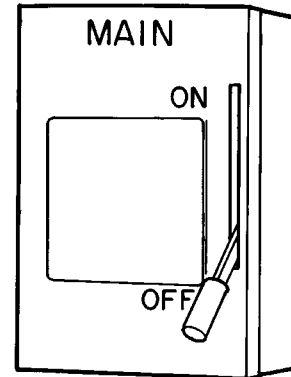
Also, if your particular model of heat pump includes an Efficiency Alarm™ circuit, the red light will glow if the compressor malfunctions. Call your dealer for immediate service if you suspect trouble.

During the heating season, switch to EMERGENCY HEAT if the electricity to your outdoor unit is off for more than 30 minutes for any reason (i.e., power outage). Leave the switch in the EMERGENCY HEAT position for an amount of time equal to that during which the power was off. It is not necessary to exceed 12 hours. If you cannot determine how long the power has been off, leave the switch in the EMERGENCY HEAT position for 8 hours.

### PERFORMING ROUTINE MAINTENANCE

With the proper maintenance and care, your heat pump 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:

- DISCONNECT ALL ELECTRICAL POWER TO THE HEAT PUMP BEFORE REMOVING ACCESS PANELS TO PERFORM SERVICE OR MAINTENANCE. NOTE: THERE MAY BE MORE THAN ONE ELECTRICAL DISCONNECT SWITCH.
- 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. This can cause the components to overheat and automatically shut down. In the extreme, the components will fail and need to be replaced. To avoid inefficient or failed operation 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 shut-down of your unit while a filter is drying, you should have an extra filter on hand. This would allow you to rotate between the two with minimal downtime for your comfort system. Extra filters may be purchased from your dealer.

- The filter(s) and filter rack for a packaged system are supplied and installed by the contractor or dealer. Typically, the filter(s) and rack are located in the return-air duct in the unit or behind the return-air grille(s). Have your dealer show you the location of your filter(s) and the procedures for removal and replacement.

If you have any questions about the removal and/or cleaning of your filter(s), contact your dealer for assistance.

If grass clippings, leaves, shrubbery, and debris are kept away from the unit, minimal care should be sufficient to keep the system functioning properly. However, if the outdoor coil becomes dirty, use a brush or vacuum cleaner and soft brush attachment to clean the exterior surface. 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.

## UNIT SUPPORT

Your packaged unit should be maintained at a level position. If its support should shift or settle so that the unit is no longer level, you should correct the condition. Relevel it promptly to assure condensate drainage 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.

## BEFORE YOU REQUEST A SERVICE CALL

### BEFORE YOU CALL FOR SERVICE, CHECK FOR THESE EASILY SOLVED PROBLEMS:

- Check the 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 grilles. Be sure grilles 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 switch is on the COOL or AUTO position. If you require warmth, be sure the temperature control selector is set above room temperature and the SYSTEM switch is at HEAT or AUTO. The FAN switch should be set at ON for continuous blower operation or AUTO if you wish the blower to function only while the unit is operating.

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 at right.) 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. Service should include proper lubrication of these components.
- Inspection and, if required, cleaning of indoor and outdoor coils.
- Inspection of the indoor coil drain pan, plus the drain line. 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.

## WARRANTIES

A warranty is located at the back of this book. Be sure to read the warranty carefully to determine the coverage for your unit.

## FOR THE RECORD

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

### Installation Data

Date Installed \_\_\_\_\_

Dealer Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_

### Packaged System

Outdoor Unit:

Product No. \_\_\_\_\_

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Heater, if applicable:

Part No. \_\_\_\_\_

Kilowatt Rating \_\_\_\_\_

DETACH & MAIL PRODUCT REGISTRATION CARD

**IMPORTANT: Complete, detach and mail immediately for . . .  
PRODUCT REGISTRATION**

THE FEDERAL CONSUMER PRODUCT SAFETY ACT REQUIRES THAT YOU BE NOTIFIED OF ANY RECALLS INVOLVING THIS PRODUCT. YOUR NAME AND ADDRESS AND THE MODEL AND SERIAL NUMBERS OF YOUR PRODUCT WILL ASSIST US IN NOTIFYING YOU SHOULD THE NEED ARISE.  
Your warranty coverage is not dependent upon the return of this card.

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1.  Mr. 2.  Mrs. 3.  Ms. 4.  Miss

Name (First/Initial/Last)

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

MODEL NO. \_\_\_\_\_ SERIAL NO. \_\_\_\_\_

(Copy from rating plate on unit)

2. DATE INSTALLED \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mo. Day Yr.

3. What brand did you purchase?

1.  Bryant  
2.  Day & Night  
3.  Payne

4. What product did you purchase?

1.  Central air conditioner  
2.  Gas furnace  
3.  Oil furnace  
4.  Electric furnace  
5.  Heat pump

5. When did you acquire your product?

1.  Upon purchase of new dwelling  
2.  To replace an older system manufactured by our company  
3.  To replace an older system manufactured by a competitor  
4.  Within a year of buying new dwelling with no central air system  
5.  2-4 years after buying dwelling with no central air system  
6.  Over 4 years after buying dwelling with no central air system

6. If this was a replacement product, how old was the original?

1.  1-5 years  
2.  6-8 years  
3.  9-11 years  
4.  12-14 years  
5.  15-17 years  
6.  18 & over years

7. Your product is installed in?

1.  Single family/Townhouse  
2.  Multi-family; 2-4  
3.  Mobile home  
4.  Apartment; 1-3 floors  
5.  Apartment; 4 + floors  
6.  Office/Bank  
7.  Store  
8.  Hospital/School  
9.  Manufacturing building  
10.  Other

8. What 2 factors most influenced your purchase?

1.  Our reputation  
2.  Friend's recommendation  
3.  Contractor/Dealer's recommendation  
4.  Price  
5.  Energy efficiency  
6.  Ready availability  
7.  Pedro ads  
8.  T.V. ads  
9.  Newspaper ads  
10.  Magazine ads  
11.  Dealer display

9. Which of the following have you done in the past 6 months? (check all that apply)

1.  Redeemed a product coupon  
2.  Ordered an item from mail order catalog  
3.  Sent in product inquiry card from magazine  
4.  Bought an item from offer received in mail  
5.  Entered sweepstakes/contest

10. In which age group are you?

1.  18-24  
2.  25-34  
3.  35-44  
4.  45-54  
5.  55-64  
6.  65 & over

11. Marital status:

1.  Married 2.  Unmarried

12. Which group best describes your family income?

1.  Under \$10,000 6.  \$30,000-\$34,999  
2.  \$10,000-\$14,999 7.  \$35,000-\$39,999  
3.  \$15,000-\$19,999 8.  \$40,000-\$44,999  
4.  \$20,000-\$24,999 9.  \$45,000-\$49,999  
5.  \$25,000-\$29,999 10.  \$50,000 & over

13. Do you have any children in any of the following age groups who are living at home?

1.  Under age 2 5.  Age 11-12  
2.  Age 2-4 6.  Age 13-15  
3.  Age 5-7 7.  Age 16-18  
4.  Age 8-10

14. For your primary residence, do you:

1.  Own a house?  
2.  Rent a house?  
3.  Own a townhouse/condominium?  
4.  Rent an apartment?

15. Which of the following types of credit cards do you use?

1.  Travel/Entertainment (American Express, Diners Club, Carte Blanche)  
2.  Bank (Master Charge, Visa)  
3.  Gas, department store, etc.

16. What is your occupation? (check one)

1.  Professional/Technical 7.  Housewife  
2.  Upper Mgt./Administrator 8.  Retired  
3.  Sales/Service/Middle Mgt.  
4.  Clerical/White Collar  
5.  Craftsman/Blue Collar  
6.  Student

← STAPLE OR TAPE HERE →

17. Which of the following interests and hobbies do you and your family enjoy?

1.  Tennis  
2.  Golf  
3.  Running/Jogging  
4.  Camping/Hiking  
5.  Hunting/Shooting  
6.  Fishing  
7.  Bicycling  
8.  Racquetball  
9.  Sailing/Boating  
10.  Stamp/Coin Collecting  
11.  Motorbiking/Motorcycling  
12.  Home Video Games  
13.  Physical Fitness/Exercise  
14.  Home Video Recording  
15.  Recreational Vehicle/4-WD  
16.  Photography  
17.  CB Radio  
18.  Home Workshop/Do-It-Yourself  
19.  Gardening/Plants  
20.  Electronics  
21.  Automotive Work  
22.  Sewing/Needlework  
23.  Crafts  
24.  Collectibles/Collections  
25.  Art & Antiques  
26.  Stereo Music Equipment  
27.  Foreign Travel  
28.  Attending Cultural/Arts Events  
29.  Attending Cultural/Arts Events

30.  Gourmet Foods/Cooking  
31.  Health/Natural Foods  
32.  Wines  
33.  Fashion Clothing  
34.  Home Furnishings/Decorating  
35.  Records & Tapes  
36.  Avid Book Reading  
37.  Science Fiction  
38.  Astrology/Occult  
39.  Stock/Bond Investments  
40.  Real Estate Investments  
41.  Self Improvement Programs  
42.  Community/Civic Activities

We appreciate your taking the time to complete this card; the information provided will help us serve you better in the future. We participate in a multi-company program whereby you can receive information about new products, developments, trends, etc. related to the interest areas and other information you have indicated above. Please check here if you would prefer not to learn about such products and services.

Other comments & suggestions about our product:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Fold Here

Fold Here

PLACE  
FIRST CLASS  
STAMP  
HERE

**BDP**  
**Product Registration Center**  
**P.O. Box 17686**  
**Denver, Colorado 80217**



# BRYANT, DAY & NIGHT, PAYNE BRANDS

## FOR SERVICE OR REPAIR, FOLLOW THESE STEPS IN ORDER:

**FIRST:** Contact the installer. You may find his name on the product or in your User's Manual. If his name is not known, call your builder if yours is a new residence.

**SECOND:** Contact the nearest distributor. (See telephone yellow pages.)

**THIRD:** Contact:  
BDP Co.  
Consumer Relations  
P.O. Box 4952  
Syracuse, New York 13221  
Phone: 1-800-428-4326 (TOLL FREE) from U.S.A.  
1-315-432-7885 from Canada

Model No. \_\_\_\_\_ Unit Serial No. \_\_\_\_\_  
Date of Installation \_\_\_\_\_ Installed by \_\_\_\_\_  
Name of Owner \_\_\_\_\_ Address of Installation \_\_\_\_\_

OUTDOOR COOLING, HEATING-COOLING, OR HEATING PRODUCT  
(Units Smaller Than 185,000-Btuh Cooling Capacity)

### LIMITED WARRANTY

**LIMITED 1-YEAR WARRANTY**—This CARRIER CORPORATION (herein after referred to as 'COMPANY') product is warranted to be free from defects in material and workmanship under normal use and maintenance for a period of 1 year from the date of original installation whether or not actual use begins on that date. A new or remanufactured part, at the COMPANY'S sole option, to replace any defective part will be provided, within a reasonable time after return of the defective part, without charge for the part itself: PROVIDED the defective part is returned to our distributor through a qualified servicing dealer. The replacement part assumes the unused portion of the warranty.

**THIS WARRANTY DOES NOT INCLUDE LABOR OR OTHER COSTS** incurred for diagnosing, repairing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts or complete unit. Such costs may be covered by a separate warranty provided by the installer.

**EXTENDED LIMITED 4-YEAR WARRANTY ON COMPRESSOR ONLY** — During the second through fifth years after the date of original installation, the COMPANY further warrants the compressor against defects in material or workmanship under normal use and maintenance. A new or remanufactured compressor, at the COMPANY'S sole option, will be provided under the same conditions as stated in the 1-YEAR WARRANTY.

**THIS EXTENDED WARRANTY DOES NOT INCLUDE LABOR OR OTHER COSTS** incurred for diagnosing, repairing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts.

THESE WARRANTIES APPLY ONLY TO PRODUCTS IN THEIR ORIGINAL INSTALLATION LOCATION AND BECOME VOID UPON REINSTALLATION.

**LIMITATIONS OF WARRANTIES**—ALL IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY) ARE HEREBY LIMITED IN DURATION TO THE PERIOD FOR WHICH THE LIMITED 1 YEAR WARRANTY IS GIVEN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE MAY NOT APPLY TO YOU. THE EXPRESSED WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON WHATSOEVER.

ALL WORK UNDER THE TERMS OF THIS WARRANTY SHALL BE PERFORMED DURING NORMAL WORKING HOURS. ALL REPLACEMENT PARTS, WHETHER NEW OR REMANUFACTURED, ASSUME AS THEIR WARRANTY PERIOD ONLY THE REMAINING TIME PERIOD OF THIS WARRANTY.

### THE COMPANY WILL NOT BE RESPONSIBLE FOR:

1. Normal maintenance as outlined in the installation and servicing instructions or owners manual including coil cleaning, filter cleaning and/or replacement and lubrication.
2. Damage or repairs required as a consequence of faulty installation, misapplication, abuse, improper servicing, unauthorized alteration or improper operation.
3. Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service.
4. Damage as a result of floods, winds, fires, lightning, accidents, corrosive environments or other conditions beyond the control of the COMPANY.
5. Parts not supplied or designated by the COMPANY, or damages resulting from their use.
6. COMPANY products installed outside the continental U.S.A., Alaska, Hawaii and Canada.
7. Electricity or fuel costs or increases in electricity or fuel costs from any reason whatsoever including additional or unusual use of supplemental electric heat.
8. ANY SPECIAL INDIRECT OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER. Some states do not allow the exclusion of incidental or consequential damages, so the above limitation may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Effective on product manufactured after July 1, 1987. Supersedes any other warranty certificates supplied with the product.

