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Aprilaire®
WHOLE HOUSE HUMIDIFIERS

OWNER'S MANUAL

FOR MODELS 550, 560 & 760

Includes Safety, Operating and Maintenance Instructions and Warranty

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WARNING! 120 volts may cause injury from electrical shock. Disconnect power and shut off water supply before servicing.

CAUTION! Sudden operation may cause personal injury or property damage. Turn humidistat to "off" or lowest setting before servicing.

INTRODUCTION

Thank you for your recent Aprilaire Humidifier purchase. We sincerely appreciate your business and are pleased to add your name to our growing list of customers. With this purchase, you have invested in the highest quality equipment currently available. Research Products Corporation is the largest manufacturer of whole house humidifiers, air cleaners and fresh air exchangers and is a recognized leader in the heating and air conditioning industry today.

Please be assured that in addition to product quality, we are also committed to unit performance as well as customer satisfaction. Your unit will require periodic maintenance to assure you of continued fine performance. Since Research Products does not sell service parts and/or Water Panel® evaporators direct, please proceed as shown on page 4.

Now, please take a few minutes and read the appropriate section of this booklet. This will familiarize you with the benefits you will receive from the equipment you just purchased and help you understand the routine maintenance that will be required. Be sure to register your warranty with us for our records and your protection.

Replacement Water Panel evaporators are available from your installing contractor or from most other local heating and air conditioning contractors in your area. However, if you still have difficulty in obtaining a replacement Water Panel evaporator, look in the Yellow Pages under Humidifying Apparatus or Heating & Air Conditioning Contractors or write us for the name of a dealer in your area.

Your Aprilaire® Humidifier

I. PRINCIPLE OF OPERATION

With your purchase of a humidification system, you have invested in an automatic humidifier that operates on the evaporative principle — nature's own way of adding moisture — and will provide the proper relative humidity (see operating instructions) all during the heating season. It is very possible that you have questions concerning your new humidifier — questions on what it can do for you, and what you should do to receive maximum benefits from it. This booklet is intended to help you do exactly that.

Nature, in producing an invigorating comfortable, April day, combines just the right temperature and the right amount of moisture. Aprilaire Humidifiers employ the same principle, with refinements, to give you the proper relative humidity for maximum allowable comfort all winter long.

The important considerations in the evaluation of a humidifier are Positive Control, Sufficient Capacity, Trouble-free Performance and Minimum Maintenance. The operating principle of your Aprilaire provides all these advantages. Here, briefly, is the method:

The Aprilaire Humidifier is installed to operate in conjunction with the furnace blower motor. When the humidistat calls for humidity and the blower motor is operating, water flows to the distribution pan located at the top of the unit. The water is uniformly distributed across the width of the pan and through a scientifically designed system of outlets. It flows by gravity over the Water Panel evaporator, the heart of the unit. Dry, hot air is moved through the moisture-laden Water Panel evaporator where the evaporation takes place. The now humidified air carrying moisture in vapor form (nature's own way) is circulated throughout the home.

The correct water flow is determined by an orifice equipped with each drain type unit. When the unit is operating, there will be a small, steady stream of water to drain, which flushes away most of the trouble-causing minerals. Do not use the saddle valve to regulate the water flow. It is designed to be completely opened or closed. The minerals and solid residue not trapped by the replaceable Water Panel evaporator are flushed down the drain. The drain also eliminates the problems caused by stagnant water. This is the most effective and least expensive method to dispose of trouble-causing minerals.

Capacity is high because an average-size home (10,000 cu. ft.) requires the addition of approximately 9 gallons of water per day to maintain 35% relative humidity when the outside temperature is 20°. The smallest Aprilaire Humidifier under most operating conditions, has this humidifying capacity.

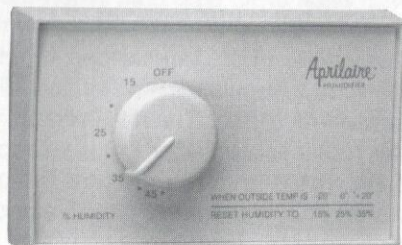
Trouble-free performance and minimum maintenance are assured by the design features of the Aprilaire Humidifier. All unit housing parts that come in contact with water are non-metal and will never rust or corrode. Neither heat nor water will affect them under normal operating conditions.

The Water Panel evaporator, designed especially for uniform, high evaporation, and the Scale Control Insert also efficiently traps mineral deposits which are often the cause of damage to working parts in ordinary humidifiers. No "white dust" can be distributed throughout the living quarters. The Water Panel evaporator is the heart of the unit and must be in good condition to assure high capacity trouble-free performance. It should be changed annually.

The granular coating in the bottom of the distribution tray is designed to provide equal distribution of the water to each of the openings assuring an even flow of water over the Water Panel evaporator. Do not clean the mineral scale off the bottom of the water distribution tray at the end of the humidification season. The scale itself provides an excellent track for the water to follow. This is actually what we try to simulate with the synthetic coating in the bottom of the tray. If the coating is removed, it is not necessary to purchase a new distribution tray or upper housing. You can accomplish the same uniform performance by applying a small amount of liquid dishwashing detergent over the entire lower surface of the water distribution tray. This will allow the water to flow evenly through each of the openings, provided, of course, the unit is level in order to achieve maximum capacity.

There are many humidifiers on the market. They all add moisture . . . with varying degrees of efficiency. None, however, can provide the features, the design, the performance incorporated into your Aprilaire Humidifier.

*Control is positive.
(Note outside temperature
versus relative humidity
settings on humidistat.)
The proper relative humidity
is always maintained.*



II. OPERATING INSTRUCTIONS

Your new Aprilaire Humidifier is controlled by an accurate humidistat installed either in the living area or in the cold air

return. It is important to anticipate a drop in temperature and reduce the setting accordingly to avoid excessive condensation. For example, with an outside temperature of 20° the correct setting will be 35% relative humidity. If the temperature is expected to fall to 0° that evening, then merely reduce the setting to 25% several hours prior to the temperature change.

The recommended settings on the humidistat are based on years of research (see table) and experience as to what is best for the average home. These settings represent a compromise between relative humidity levels that would be most desirable for comfort reasons and humidity levels that are suitable for protection of your home. For example, a

wintertime indoor relative humidity of 50% may be considered ideal, but unfortunately, it probably would result in damage to your home. Observance of the recommended rela-

OUTDOOR-INDOOR RELATIVE HUMIDITY TABLE	
Outside Temperature	Recommended R.H.
+40°	45%
+30°	40%
+20°	35%
+10°	30%
0°	25%
-10°	20%
-20°	15%

tive humidity levels on your humidistat, therefore, is an important safeguard. Condensation of water on inside windows in the form of fogging or frost is usually an indication of too high relative humidity. This same condensation can take place in other areas in your home with the possibility of damage resulting.

Be sure to keep fireplace dampers closed when not in use. They provide an excellent escape route for heat, as well as humidity. Humidity is lost at an even faster rate because water vapor tends to seek its own level and your humidifier would not be able to replace it even when running at full capacity.

The humidistat is a precision instrument that can be used to accurately determine the relative humidity in your home during the winter. Turn the dial to the lower setting, then reverse the dial direction slowly until a "click" is heard. At this point, read the relative humidity on the dial. This will be very close to the actual relative humidity in your home.

To check the humidifier operation, set the humidistat above the click point, make sure that the water saddle valve is open and that there is electricity to the unit. The furnace blower motor must be operating for the Aprilaire Humidifier to function. After the humidifier has operated for several minutes and water is entering the unit and coming out at the drain, reduce the humidistat setting below the click point and the unit should automatically shut off. Now, set the humidistat dial at the recommended inside relative humidity,

depending on the outside temperature. Follow the suggested settings prior to a drop in the outside temperature.

On occasion, indoor moisture producing activities such as clothes drying, cooking, showers, etc., may raise the relative humidity level higher than it should be, even though the Aprilaire Humidifier is not operating. Telltale indications, again, are condensation or frost on cold surfaces such as windows, doors, walls, etc. If such condensation persists for several hours, your home should be ventilated to dissipate the potential damaging excess moisture levels.

III. EFFECT OF WATER CHARACTERISTICS

Your humidifier will operate effectively using either hard or mechanically softened water. Whether to use available tap water, even though it may be quite hard, or chemically softened water, is a common concern to homeowners when installing a humidifier.

Water used in homes contains varying amounts of minerals. The residue remaining as a result of hard water evaporation is primarily calcium and magnesium components and is usually quite hard, scaly, and dense.

Residue from softened water tends to be soft and fluffy and has a greater volume than hard water scale. The service life of a Water Panel evaporator may be extended by using hard water, but in either case, the Water Panel evaporator is usually changed once a year. Actually, any type water, hard, soft, hot or cold, is acceptable for use with the drain type units. This is why proper maintenance is important and necessary. Service hot water, 140° maximum, is recommended with drain type units for increasing capacity and for heat pump applications.

In the drain-equipped models, most of these solids are effectively controlled by flushing them down the drain.

IV. ANNUAL MAINTENANCE

For best performance, we recommend that you replace the Water Panel evaporator in your Aprilaire Humidifier annually.

- Call the installer of your Aprilaire. This information is often found on your equipment.
- Call your heating and air conditioning dealer.
- Look in the Yellow Pages under Humidifying Apparatus or Heating & Air Conditioner Contractors.

—If none of the above is successful and you still need information, please feel free to write us.

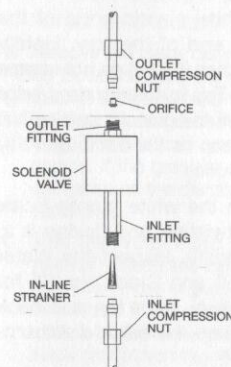
V. ANNUAL SUMMER SHUTDOWN

FOR SUMMER HUMIDIFIER SHUTDOWN, SIMPLY TURN THE HUMIDISTAT CONTROL TO THE OFF SETTING. IF YOUR APRILAIRE HUMIDIFIER IS CONTROLLED BY A TEMPERATURE COMPENSATING HUMIDISTAT NO. 55, YOU SHOULD CONSULT THE SEPARATE OPERATING AND MAINTENANCE INSTRUCTIONS FOR THAT CONTROL.

VI. PERIODIC PREVENTATIVE MAINTENANCE

NOTE: Periodic inspection and preventive maintenance of your total heating system is important for efficient and safe operation. Your heating contractor should include humidifier service at the same time or bring a replacement Water Panel evaporator for you to replace.

Your Aprilaire Humidifier is equipped with an in-line water strainer and orifice as shown below. These parts should be inspected and cleaned periodically to assure continued proper unit performance.

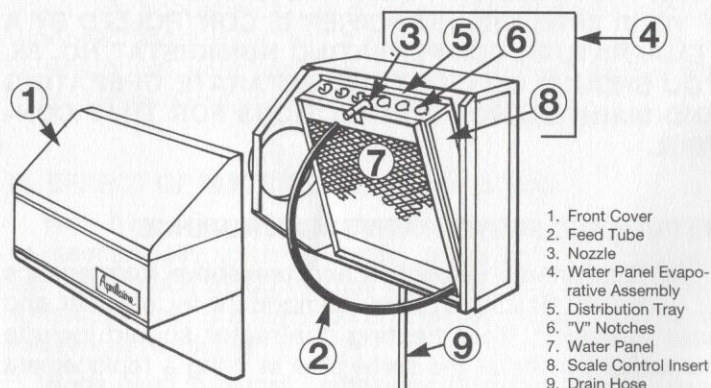


Inspection and Service Instructions

1. Disconnect electrical power to the furnace and shut off water supply.
2. Disconnect the water line at the inlet fitting.
3. Remove the in-line strainer from inside the inlet fitting by using a small nail or wire.
4. Flush the in-line strainer clean or replace with a new strainer, Service Department, Part No. 4004.
5. Disconnect the water line at the outlet fitting.
6. Remove the orifice from the copper or plastic tube and make sure this small opening is unplugged.
7. Replace the orifice and reconnect the outlet water line (**Double Wrench To Prevent Leaking**).
8. Replace the in-line strainer and reconnect the inlet water line (**Double Wrench To Prevent Leaking**).
9. Turn on water supply and reconnect electrical power to the furnace.

MAINTENANCE INSTRUCTIONS for APRILAIRE HUMIDIFIER MODELS 550/560

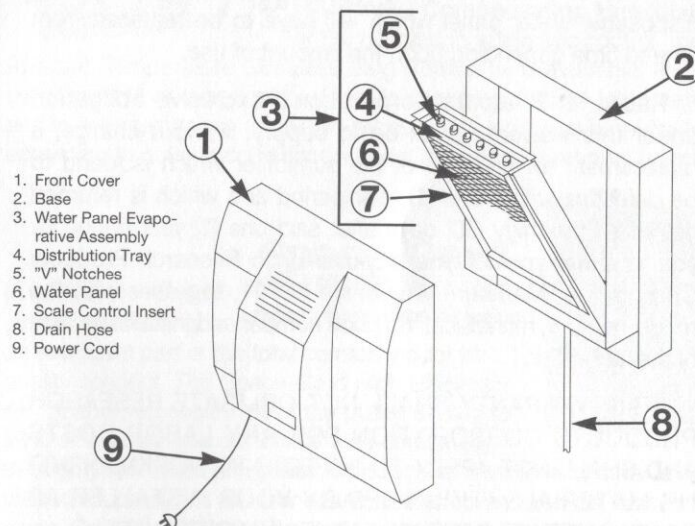
CAUTION! Sudden operation may cause personal injury or property damage. Turn humidistat to "off" or lowest setting before servicing.



1. Note humidistat setting and turn humidistat to the "OFF" position.
2. At the side of the unit opposite the airflow duct pull front cover (1) off holding with both hands and set aside.
3. Carefully pull the plastic feed tube (2) out of the nozzle (3) at the top of the Water Panel evaporative assembly (4). Pull this assembly out by grasping at top and tipping out.
4. Remove the black plastic distribution tray (5) from the Water Panel evaporative assembly by unsnapping the white plastic ends of the Scale Control Insert (8), from the tabs at the end of the tray. Lightly scrape any calcium deposits out of the "V" notches (6), but **do not scrape the granular coating from the bottom of the tray**. This textured surface helps ensure even waterflow for maximum performance. If the granular coating has been removed, place several drops of liquid dish soap on the distribution tray and clean thoroughly. This will only need to be done once.
5. Slide the Water Panel evaporator (7) out from the white plastic Scale Control Insert (8). Clean the insert frame by twisting and flexing it to loosen the calcium deposits, or use a putty knife. Inspect the Water Panel evaporator (Stock No. 10 for Model 550 and Stock No. 35 for Model 560) and substitute a new one if necessary. Slide the pad back into the insert frame with color mark up and snap the black distributor tray back into place.
6. Reinstall the Water Panel evaporative assembly into the unit by fitting its drain tube into the round receptacle at the base of the unit. Push the assembly in at the top against the beveled tabs that will hold it in place. Push the end of the feed tube back firmly into the nozzle and replace the front cover.
7. Remove the drain hose (9) from the bottom of the unit and bend and flex it to loosen the internal calcium deposits. Then flush it with water under pressure and slip it back onto the black drain fitting.
8. Turn up humidistat and check unit operation.

MAINTENANCE INSTRUCTIONS for APRILAIRE HUMIDIFIER MODEL 760

WARNING! 120 volts may cause serious injury from electrical shock. Disconnect power and shut off water supply before servicing.



1. Note humidistat setting and turn humidistat to the "OFF" position.
2. Disconnect electrical power and turn off water supply.
3. Unlatch humidifier cover assembly (1) from base assembly (2) at the bottom of the cover, lift, and set aside.
4. Pull out the evaporative assembly (3) by grasping at the top and tipping out.
5. Remove the black distribution tray (4) from the Water Panel evaporative assembly by unsnapping the white plastic ends of the Scale Control Insert (7), from the tabs at the end of the tray. Lightly scrape any calcium deposits out of the "V" notches (5), but **do not scrape the granular coating from the bottom of the tray**. This textured surface helps ensure even waterflow for maximum performance. If the granular coating has been removed, place several drops of liquid dish soap on the distribution tray and clean thoroughly. This will only need to be done once.
6. Slide the Water Panel evaporator (6) out from the white plastic scale control insert (7). Clean the insert frame by twisting and flexing it to loosen the calcium deposits or use a putty knife. Replace Water Panel evaporator annually with a new Water Panel evaporator (Stock No. 35). Slide the Water Panel evaporator back into the scale control insert with the red colored spot up and snap the black distribution tray (4) back into place.
7. Reinstall the evaporative assembly (3) into the base assembly (2). Push the evaporative assembly (3) in at the top between the retaining ribs that hold the assembly in place in a vertical position.
8. Remove the drain hose (8) from the bottom of the unit. Bend and flex it to loosen the internal calcium deposits. Then flush it with water under pressure and slip it back onto the drain fitting.
9. Reinstall cover assembly (1) by hooking at the top of base assembly (2) and latching at the bottom.
10. Reconnect electrical power (9) and turn on water supply.
11. Turn up humidistat and check unit operation.

LIMITED WARRANTY

Your Research Products Corporation Aprilaire® Humidifier unit is expressly warranted for one (1) year from date of installation to be free from defects except, however, for the disposable water panel which will have to be replaced from time to time depending upon the amount of use.

Research Products Corporation's exclusive obligation under this warranty shall be to supply, without charge, a replacement for any part of the humidifier which is found to be defective within one (1) year period and which is returned not later than thirty (30) days after said one (1) year period by you to either your original supplier or to Research Products Corporation, Madison, Wisconsin 53701, together with the model number, manufacturing code number and installation date of the humidifier.

THIS WARRANTY SHALL NOT OBLIGATE RESEARCH PRODUCTS CORPORATION FOR ANY LABOR COSTS AND SHALL NOT APPLY TO DEFECTS IN WORKMANSHIP OR MATERIALS FURNISHED BY YOUR INSTALLER AS CONTRASTED TO DEFECTS IN THE HUMIDIFIER ITSELF.

IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED IN DURATION TO THE AFORESAID ONE YEAR PERIOD. RESEARCH PRODUCTS CORPORATION'S LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, OTHER THAN DAMAGES FOR PERSONAL INJURIES, RESULTING FROM ANY BREACH OF THE AFORESAID IMPLIED WARRANTIES OR THE ABOVE LIMITED WARRANTY IS EXPRESSLY EXCLUDED. THIS LIMITED WARRANTY IS VOID IF DEFECT(S) RESULT FROM FAILURE TO HAVE THIS UNIT INSTALLED BY A QUALIFIED HEATING AND AIR CONDITIONING CONTRACTOR. IF THE LIMITED WARRANTY IS VOID DUE TO FAILURE TO USE A QUALIFIED CONTRACTOR, ALL DISCLAIMERS OF IMPLIED WARRANTIES SHALL BE EFFECTIVE UPON INSTALLATION.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages so the above exclusion or limitations 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.

Here are four more products to help you in your quest for... Indoor Air Quality



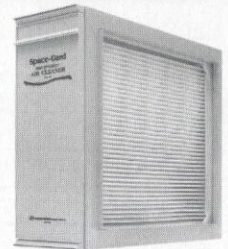
Aprilaire® Temperature Compensating Humidistat

For the ultimate in automatic control, the Aprilaire Temperature Compensating Humidistat is available. Installed out of sight, it automatically adjusts to changing outdoor temperatures, and is your assurance of always receiving the optimum humidity level according to outside conditions without the need for manual resetting.

Space-Gard® HIGH EFFICIENCY AIR CLEANER

Nobody Makes Clean Air Easier.®

In addition to humidification, air cleaning is an important part of the total comfort indoor air quality concept. The Space-Gard High Efficiency Air Cleaner removes 99% of the pollen and up to 90% of the dust and dirt from the air circulating through your forced air system. This high efficiency air cleaner is non-electronic, produces no ozone, and saves money on initial and operating costs. Contact your installing contractor for details on this fine product.



PERFECTAIRE® FRESH AIR EXCHANGER

Only The Freshest Homes Have Perfect Air®

For year-round fresh air in your home, ask your dealer for details on the PerfectAir Fresh Air Exchanger. You can overcome the problems associated with stale, polluted indoor air. The PerfectAir unit incorporates state-of-the-art technology to provide fresh air to your entire home with minimal loss of energy.

PerfectTemp® ZONE CONTROL SYSTEM™

Custom Comfort Throughout Your Home.™

PerfectTemp keeps every area in your home more comfortable by providing conditioned air only to the area of the home that requires it. By directing the conditioned air only where it's needed, PerfectTemp can reduce your energy bills by up to 20%. Ask your dealer for details on the PerfectTemp system; there's no easier way to ensure comfortable temperatures throughout your home.

