

**Aprilaire®**

**Humidifiers**



## **Owner's Manual**

**For Models 350, 360, 400, 400M, 500,  
500M, 600, 600M, 700 & 700M**

**Includes Safety & Operating Instructions  
and Warranty Information**

**READ AND SAVE THESE INSTRUCTIONS**

## TABLE OF CONTENTS

|   |    |
|---|----|
| Introduction  | 1  |
| Principle of Operation  | 2  |
| Operating Instructions – Models 400, 500, 600 & 700               | 4  |
| • Digital Humidifier Control Indicator Lights                     | 4  |
| • Blower Activation   | 5  |
| • Automatic Mode  | 5  |
| • Manual Mode   | 6  |
| Operating Instructions – Models 350, 360, 400M, 500M, 600M & 700M | 9  |
| Check the Humidifier Operation                                    | 9  |
| Additional Information for All Models                             | 10 |
| Effect of Water Characteristics                                   | 10 |
| Annual Maintenance  | 11 |
| Annual Summer Shutdown  | 12 |
| Periodic Preventative Maintenance                                 | 13 |
| <b>MAINTENANCE INSTRUCTIONS</b>                                   |    |
| Models 350 & 360  | 14 |
| Models 400 & 400M   | 15 |
| Models 500 & 500M   | 16 |
| Models 600 & 600M   | 16 |
| Models 700 & 700M   | 17 |
| Limited Warranty  | 18 |

### 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 the Aprilaire® Humidifier Control to “OFF” or lowest setting before servicing.**

## INTRODUCTION

Thank you for your recent Aprilaire® humidifier purchase. We appreciate your business and are pleased to add your name to our growing list of customers. You have invested in the highest quality equipment available. Aprilaire manufactures whole-house indoor air quality products and is a recognized leader in the heating and air conditioning industry.

Your humidifier will require periodic maintenance to assure continued fine performance. See page 11 to obtain service parts and/or replacement Water Panel® evaporators.

Please take a few minutes and read 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 humidifier warranty online at:  
**[www.aprilaire.com/warranty](http://www.aprilaire.com/warranty)**.

**Genuine Aprilaire® Replacement Water Panel® evaporators are available from your installing contractor or from most other heating and air conditioning contractors in your area. Use the dealer locator in our web site ([www.aprilaire.com](http://www.aprilaire.com)) or look in the Yellow Pages under Humidifying Apparatus or Heating & Air Conditioning Contractors. Purchase only genuine Aprilaire Water Panels to maintain peak performance.**



## PRINCIPLE OF OPERATION

With your purchase of this humidification system, you have invested in a humidifier that operates on the evaporative principle – nature’s own way of adding moisture – providing optimum relative humidity (RH) throughout 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 answer these questions.

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 optimum RH for maximum allowable comfort all winter long.

The important considerations in the evaluation of a humidifier are precise control, sufficient capacity, trouble-free performance and minimum maintenance. The operating principle of your Aprilaire humidifier provides all of these advantages. Here, briefly, is the method:

Except for Models 350 and 360, the Aprilaire humidifier is installed to operate in conjunction with the heating, ventilating, air conditioning equipment (HVAC) blower. When the Aprilaire Humidifier Control calls for humidity and the blower motor is operating, water flows to the distribution tray located at the top of the humidifier. The water is uniformly distributed across the width of the tray and through a scientifically designed system of outlets. It flows by gravity over the Water Panel® evaporator, the heart of the humidifier. Dry, hot air is moved through the moisture-laden Water Panel® evaporator where natural evaporation takes place. The now-humidified air carrying moisture in vapor form (nature’s own way) is circulated throughout the home.

With bypass Models 400, 500 and 600 Series, HVAC system airflow is drawn through the humidifier from the supply duct to the return duct. 700 Series models, and Models 350 and 360 have a built-in fan which draws air through the Water Panel.

Models 350 and 360 must use service hot water (140°F maximum) for a heat source, as heat is needed for evaporation. The other models can work with cold or hot water, but hot water provides maximum output and is recommended if the humidifier is to be run in fan-only mode. While the water going to the humidifier is hot, the flushing water to the drain will be cold. The heat is extracted during the evaporation process.

**The correct water flow is determined by an orifice provided with each drain type humidifier. When the humidifier 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 open or closed.**

The minerals and solid residue not trapped by the replaceable Water Panel® evaporator are flushed down the drain in the Models 350, 360, 500, 500M, 600, 600M, 700 and 700M. This is the most effective and least expensive method to dispose of trouble-causing minerals. The drain also eliminates the problems caused by stagnant water.

There are some homes where drain facilities are not accessible or available. Model 400 Series humidifiers are designed to satisfy these applications.

Trouble-free performance and minimum maintenance are assured by the design features of the Aprilaire humidifier. All humidifier 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 (which encases the Water Panel) effectively traps mineral deposits which are often the cause of damage to working parts in ordinary humidifiers. **The Water Panel® evaporator is the heart of the humidifier and must be in good condition to assure high capacity trouble-free performance. It should be changed at least annually with the exception of Models 400 and 400M which should be changed at least twice per heating season.**

The distribution tray incorporates a synthetic fabric liner that is designed to deliver water uniformly over the entire top surface of the Water Panel® evaporator, provided the humidifier is mounted level. It is normal for some mineral deposits to form in the distribution tray as it dries out between humidification cycles. These deposits can actually help distribute water in the tray, but if they block the openings, they should be removed as described in the “Periodic Preventative Maintenance” section of this manual.

Your Digital Humidifier Control works in conjunction with your HVAC system to control the operation of the humidifier. The control senses indoor RH and outdoor temperature and automatically adjusts the operation time of the humidifier to provide the optimum humidity level in the home.

The Automatic Control can be set to turn on the HVAC blower when humidity is required. Plumbing the humidifier to hot water is required for this mode of operation.

The digital readout on the control displays the RH level inside the cold air return duct. RH is a measure of the amount of moisture in the air as a percentage of what the air can hold. Warm air can hold more moisture than cold air can.

The control has lights which indicate humidifier operation, when the Water Panel needs to be replaced and when service is required. See “Operating Instructions” for more information.

There are many humidifiers on the market. They all add moisture... with varying degrees of efficiency. None, however, offer the features, design, and performance incorporated into your new Aprilaire humidifier.

## OPERATING INSTRUCTIONS – MODELS 400, 500, 600 & 700

The Digital Humidifier Control offers two modes of operation, Automatic or Manual. An explanation of both modes follows. (See **Figure A** on page 5 for Automatic Mode. See **Figure B** on page 6 for Manual Mode.)

When in the Automatic Mode, this system offers the following benefits:

- **You will always receive the optimum amount of humidity so that your home and its furnishings are always protected from the damaging effects of excess condensation or low humidity during the heating season.** The Control automatically adjusts your home’s RH based on the outdoor temperature, increasing the time maximum comfort is maintained.
- **Simple operation with few adjustments.** The Control eliminates the need to manually adjust the control when outdoor temperature changes. It also eliminates the need to turn the dial setting to “OFF” during the summer season.

## DIGITAL HUMIDIFIER CONTROL INDICATOR LIGHTS

**Call Dealer for Service:** The red light indicates that the humidifier is not operating normally and that service is required.

**Change Water Panel:** The yellow light indicates that it is time to change the Water Panel in the humidifier.

**Humidifier On:** The green light indicates that the humidifier is operating normally.

## BLOWER ACTIVATION

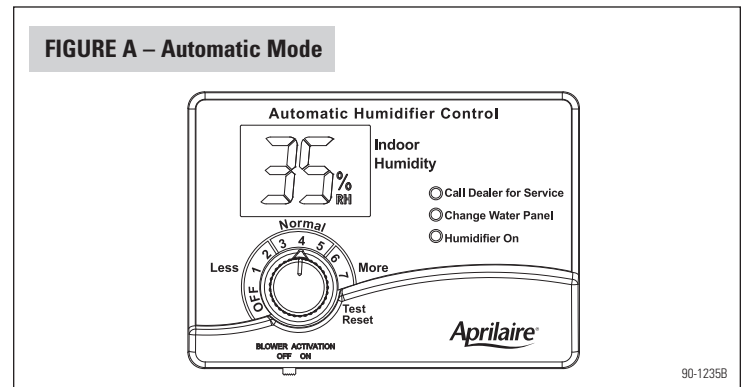
Set the Blower Activation Switch to “ON” to allow the Humidifier Control to activate the furnace fan for additional humidification. Refer to **TABLE 3 – Operation Guide**. This may be required if the humidifier is mounted on a heat pump or a furnace with short run cycles. The humidifier should be plumbed to hot water when using the Blower Activation feature.

When the Blower Activation switch is “ON”, the Humidifier Control will turn on the HVAC blower when humidity is required. In the “OFF” position, the humidifier will only operate if humidity is required and the HVAC system is operating.

When the Blower Activation switch is “ON”, the Humidifier Control may periodically turn the HVAC blower on to sample the RH of the air.

## AUTOMATIC MODE

FIGURE A – Automatic Mode



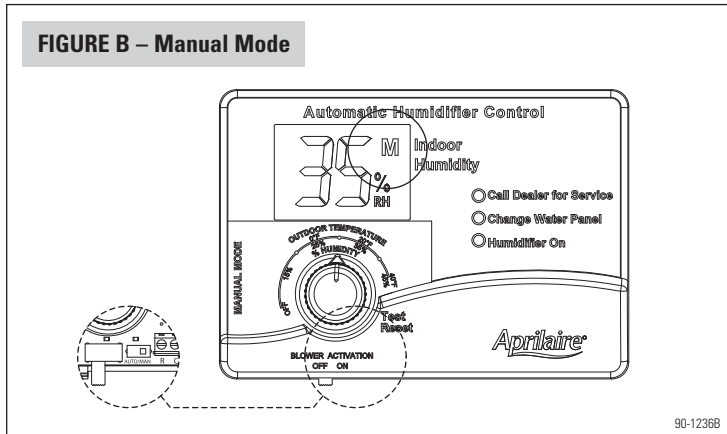
Your Aprilaire Humidifier Control is installed in the cold air return duct. **During the first heating season**, your Humidifier Control needs to be set initially to match your home’s condition. Please follow these steps when adjusting your control (refer to **Figure A**).

1. Turn the dial setting knob to “5”, which is within the normal range. During the next 24-48 hours it may be necessary to adjust the dial for more or less humidity, depending on your personal comfort and home’s requirements. Refer to **TABLE 3 – Operation Guide**.
2. During the coldest portion of the first heating season, minor adjustments may be necessary. This is dependent upon your home’s construction. Refer to **TABLE 3 – Operation Guide**.

The RH in your home will now be accurately controlled to meet your needs and should not need further adjustment during future heating seasons. Make note of the dial setting in the event you temporarily move the knob to “OFF” when performing annual maintenance of your Aprilaire humidifier.

## MANUAL MODE

**FIGURE B – Manual Mode**



90-1236B

When installed in the Manual Mode (see **Figure B** – internal switch in “MAN” position and “M” in the display), it is important to anticipate a drop in outdoor temperature and reduce the setting accordingly to avoid excessive condensation. For example, with an outdoor temperature of 20°F the correct setting will be 35% RH. If the temperature is expected to fall to 0°F, then merely reduce the setting to 25% several hours prior to the temperature change.

See **Table 1** for the recommended settings. These settings, which are based on years of research, represent a compromise between RH levels that would be most desirable for comfort and humidity levels that are suitable for protection of your home and to avoid condensation on your windows. For example, a wintertime indoor RH of 50% may be considered ideal for comfort, but unfortunately, it probably would result in condensation, which can cause damage to your home. Observing the recommended RH levels on your Humidifier Control is an important safeguard. Condensation of water on the inside surface of windows in the form of fogging or frost is usually an indication of too much humidity. This same condensation can occur in other areas in your home, possibly resulting in damage.

**TABLE 1 – Outdoor Temperature/Indoor Relative Humidity**

| Outside Temperature | Recommended RH |
|---------------------|----------------|
| +40°F               | 45%            |
| +30°F               | 40%            |
| +20°F               | 35%            |
| +10°F               | 30%            |
| 0°F                 | 25%            |
| -10°F               | 20%            |
| -20°F               | 15%            |

## WATER PANEL CHANGE INDICATOR

The control keeps track of humidifier operation time. The yellow “Change Water Panel” light flashes after a preset amount of running time has elapsed. This running time is preset by the installer based on the humidifier model and water hardness.

Refer to the Annual Maintenance section for instructions on changing the Water Panel or call your heating and air conditioning dealer for service. After the Water Panel is replaced, turn the Control knob to the “Test/Reset” position until the green “Humidifier ON” light flashes, to reset the Water Panel change timer.

## TEST/RESET

The Test/Reset feature allows the humidifier operation to be checked even if there is no call for humidity. See “Check the Humidifier Operation” on page 9.

## ADDITIONAL INFORMATION

Your humidifier is a precision system that will accurately maintain the RH in your home. For every 2°F change in outdoor temperature, the Digital Humidifier Control will automatically adjust the indoor RH by 1%.

The Digital Humidifier Control will accurately control the humidity in your home to a maximum of 45% RH.

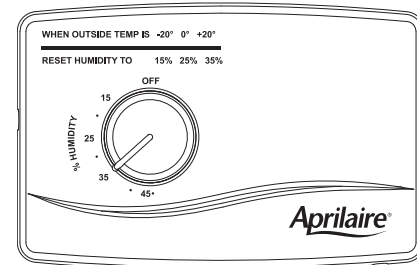
The RH Values in **Table 2** are targets based on outdoor temperature and the Digital Humidifier Control setting. The actual RH may vary due to conditions in the home (cooking, showering, etc.).

**TABLE 2 – % Relative Humidity Guide**

|              |   | Outdoor Temperature (°F) |     |      |      |      |      | Relative Humidity (%) |
|--------------|---|--------------------------|-----|------|------|------|------|-----------------------|
|              |   | -10°F                    | 0°F | 10°F | 20°F | 30°F | 40°F |                       |
| Dial Setting | 1 | 10%                      | 10% | 10%  | 15%  | 20%  | 25%  |                       |
|              | 2 | 10%                      | 10% | 15%  | 20%  | 25%  | 30%  |                       |
|              | 3 | 10%                      | 15% | 20%  | 25%  | 30%  | 35%  |                       |
|              | 4 | 15%                      | 20% | 25%  | 30%  | 35%  | 40%  |                       |
|              | 5 | 20%                      | 25% | 30%  | 35%  | 40%  | 45%  |                       |
|              | 6 | 25%                      | 30% | 35%  | 40%  | 45%  | 45%  |                       |
|              | 7 | 30%                      | 35% | 40%  | 45%  | 45%  | 45%  |                       |

**TABLE 3 – Operation Guide**

| Condition  | Solution   |
|--|--|
| Condensation on windows.   | Reduce the setting on the control dial by 1 increment.   |
| Lack of humidity.  | Increase the setting on the control dial by 1 increment. If the Humidifier Control is already at the maximum setting of “7”, set the Blower Activation Switch to “ON”. The humidifier should be plumbed to hot water when using the Blower Activation feature.   |
| Humidifier does not operate. (Solenoid does not “click” when control is moved to “Test/Reset” position.) | Turn dial to “Test/Reset”. Make certain HVAC blower is operating. If unit still does not operate, consult a heating contractor.  |
| Humidifier won’t shut off.   | Turn dial to “Off”. If unit continues to operate, consult a heating contractor.  |
| Test mode.   | System operation is checked by setting the knob to “Test/Reset”. Make certain HVAC blower is operating. Humidifier will operate for one minute. NOTE: Placing the knob in “Test/Reset” resets the Water Panel change timer.  |
| Red “Call Dealer for Service” light flashes ( <b>Figure A</b> ).   | Note the error code on the display (E1, E2, E3 or E4) and call your heating and air conditioning dealer.   |
| Yellow “Change Water Panel” light flashes ( <b>Figure A</b> ).   | Refer to the Annual Maintenance section (page 11) for instructions on changing the Water Panel or call your heating and air conditioning dealer for service. After the Water Panel is replaced, turn the Control knob to the “Test/Reset” position until the green “Humidifier On” light flashes, to reset the Water Panel change timer. |

**OPERATING INSTRUCTIONS –  
MODELS 350, 360, 400M, 500M, 600M & 700M****FIGURE C – Manual Humidifier Control**

90-1237

Your Aprilaire humidifier is controlled by a Manual Humidifier Control (see **Figure C**). The Manual Humidifier Control is installed either in the cold air return duct or on an interior wall of the home. With the Manual Humidifier Control, it is important to anticipate a drop in outdoor temperature and reduce the setting accordingly to avoid excessive condensation, just as with the Digital Humidifier Control installed in Manual Mode (see page 6).

To determine the indoor RH, slowly turn the knob clockwise and counterclockwise and listen for 2 clicks. The indoor RH is within the range of the 2 clicks.

**CHECK THE HUMIDIFIER OPERATION****DIGITAL HUMIDIFIER CONTROL**

Set the knob to “Test/Reset”, make sure that the water saddle valve is open and that there is electricity to the humidifier. The HVAC fan must be running for the humidifier to function. Note: Turning the knob to “Test/Reset” resets the “Change Water Panel” timer. The humidifier will only operate for 1 minute in test mode. (Model 400 and 400M: Floats must be down for the solenoid valve to allow water flow.) Reduce the Humidifier Control setting to the recommended inside RH, depending on the outside temperature. **DO NOT LEAVE IN TEST MODE AS HUMIDIFIER WILL NOT OPERATE.**

**MANUAL HUMIDIFIER CONTROL**

Set the knob to the highest setting, make sure that the water saddle valve is open and that there is electricity to the humidifier. The HVAC system must be operating for the humidifier to function. Confirm that the solenoid valve is energized and water is flowing into the humidifier. Return control knob to desired setting.

## ADDITIONAL INFORMATION FOR ALL MODELS

Be sure to keep fireplace dampers closed when not in use. They provide an excellent escape route for heat, as well as humidity.

On occasion, indoor moisture producing activities such as clothes drying, cooking, showers, etc., may raise the RH level higher than it should be, even though the Aprilaire humidifier is not operating. Telltale indications 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 potentially damaging excess moisture.

## EFFECT OF WATER CHARACTERISTICS

Your humidifier is designed to operate using hot, cold, hard or mechanically softened water. (Hot water is required for Models 350 and 360 and recommended for all models to ensure maximum performance.)

Water 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 deposits. In either case, the service life of a Water Panel evaporator will be the same. The Water Panel evaporator should be changed at least once a year with the exception of Models 400 and 400M which should be changed at least twice a heating season. In the drain-equipped models, most of the mineral solids are flushed down the drain.

Hot supply water, 140°F maximum, is recommended with drain type humidifiers for increasing capacity and is required for heat pump and air handler applications.

### **WARNING**

**RISK OF SCALDING.** Water temperature over 125°F can cause severe burns and scald instantly. Shut off the hot water supply before disconnecting or tapping into any hot water supply line.

## ANNUAL MAINTENANCE

**For best performance, we recommend that you replace the Water Panel evaporator in your Aprilaire humidifier at least annually with the exception of Models 400 and 400M which should be changed at least twice per heating season.**

The “Change Water Panel” indicator light (Digital Control only) will blink when it is time to change your Water Panel. See individual model instructions for additional maintenance.

To purchase a new Water Panel:

- Call the installer of your Aprilaire humidifier.  
This information is often found on your equipment.
- Call your heating and air conditioning dealer.
- Use our “Dealer Locator” at: [www.aprilaire.com](http://www.aprilaire.com)
- Look in the Yellow Pages under Humidifying Apparatus or Heating & Air Conditioning Contractors.
- If none of the above is successful and you still need information, please feel free to write us.
- Purchase only Genuine Aprilaire Water Panels to maintain performance.

If your humidifier is equipped with a Digital Humidifier Control with Water Panel change indicator, after replacing the Water Panel, turn the control knob to the “Test/Reset” position until the “Humidifier On” light blinks to reset its timer. (Blower must be operating and HVAC calling for heat.) Be sure to turn the control knob back to it’s original setting. If the “Humidifier On” light continues to blink, your humidifier is in Test mode. **DO NOT LEAVE THE CONTROL IN TEST MODE OR HUMIDIFIER WILL NOT OPERATE.**



## ANNUAL SUMMER SHUTDOWN

For Models 400, 400M, 500, 500M, 600 and 600M close the bypass damper, which is a part of the humidifier, with the small damper handle.

### Humidifier Control:

Digital Humidifier Control in Automatic Mode (see **Figure A**): No adjustment is necessary.

Digital Humidifier Control in Manual Mode (see **Figure B**): Set the knob to the "OFF" position.

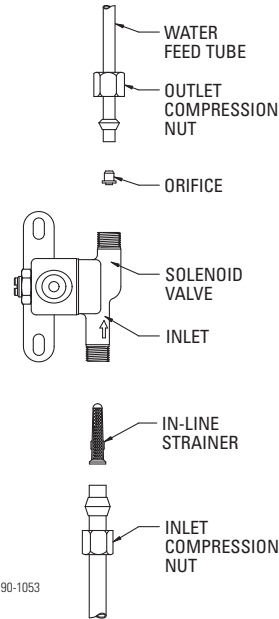
Manual Humidifier Control (see **Figure C**): Set the knob to the "OFF" position.

## PERIODIC PREVENTATIVE MAINTENANCE

NOTE: Periodic inspection and preventative maintenance of your total heating system is important for efficient and safe operation. Your heating contractor can service your humidifier when he services the HVAC system.

All models have a distribution tray above the Water Panel, which should be inspected annually and cleaned of excess mineral deposits.

### WATER LINE INSPECTION AND SERVICE INSTRUCTIONS



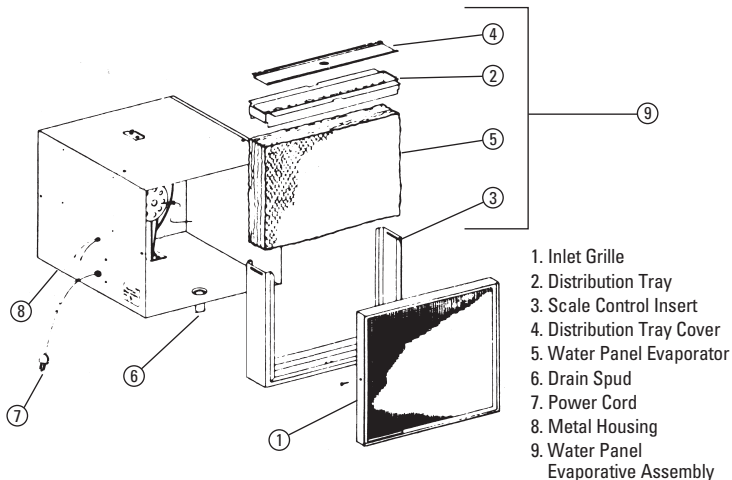
1. Disconnect electrical power to the HVAC and shut off water supply.
2. Disconnect the water line at the inlet compression nut.
3. Remove the in-line strainer from inside the inlet side of the valve by using a small nail or wire.
4. Flush the in-line strainer clean or replace with a new strainer, Part No. 4004.
5. Reconnect the inlet water line. **Double Wrench to Prevent Leaking.**
6. Disconnect the water feed tube at the outlet compression nut.
7. Inspect the water feed tube by gently flexing it and looking for cracks or signs of wear. Replace tube if it is cracked, brittle, or has been damaged.
8. Inspect the orifice in the water feed tube and make sure the small opening is unplugged.
9. Reconnect the water feed tube. **Double Wrench to Prevent Leaking.**
10. Remove the drain line from the bottom of the humidifier. If applicable, flex it to loosen any mineral deposits or blockages. Flush the drain line with water under pressure to clear it of any debris, and slip it back onto the drain fitting. If drain line does not flow properly, replace it. Inspect the drain line to make sure it has a constant downward slope and is not flattened or blocked.
11. Turn on water supply and reconnect electrical power to the HVAC.



## REQUIRED MAINTENANCE INSTRUCTIONS (APRILAIRE HUMIDIFIER MODELS 350 & 360)

### ⚠ WARNING

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



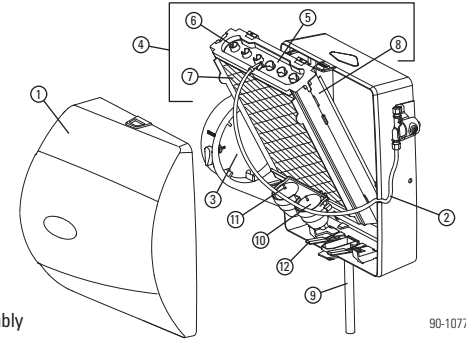
1. Note Manual Humidifier Control setting and turn dial to the "OFF" position.
2. Disconnect electrical power and turn off water supply.
3. Remove inlet grille screws (1). Remove grille from metal housing (8).
4. Lift the Water Panel evaporative assembly (9) out of the humidifier housing (8).
5. To remove the distribution tray (2) from Water Panel evaporative assembly (9), push down on tray and pull out scale control insert (3). To clean the "V" openings of the tray, gently pry the distribution tray cover (4) from the tray. Lightly scrape out or brush off any mineral deposits, being careful not to stretch or loosen the synthetic fabric liner. Soaking the tray in vinegar or a lime-removing agent is helpful when trying to remove stubborn mineral deposits.
6. Slide the Water Panel evaporator (5) out from the scale control insert (3) and dispose of the Water Panel. Clean the scale control insert of mineral deposits. Replace the Water Panel evaporator (Stock No. 35) with a Genuine Aprilaire Water Panel. Slide the Water Panel back into the scale control insert (3) and snap the distribution tray cover (4) into the distribution tray (2). Then snap the distribution tray back into the scale control insert.
7. Inspect the plastic feed tube by gently flexing it and looking for cracks or signs of wear. Replace tube if it is cracked, brittle or has been damaged.
8. Remove the drain line from the bottom of the humidifier and flex it to loosen any mineral deposits or blockage. Then flush it with water under pressure. If it does not properly clear, replace it. Slip the drain line back onto the drain fitting (6). Make sure the drain line has a constant downward slope and is not flattened or blocked.
9. Reinstall Water Panel evaporative assembly (9) and intake grille (1).
10. Reconnect electrical power (7) and turn on water supply.
11. Turn up Manual Humidifier Control and check system operation.
12. Set Manual Humidifier Control to its original position.

## REQUIRED MAINTENANCE INSTRUCTIONS (APRILAIRE HUMIDIFIER MODELS 400 & 400M)

### ⚠ CAUTION

Sudden operation may cause personal injury or property damage. Turn Humidifier Control to "OFF" or lowest setting before servicing.

1. Front Cover
2. Feed Tube
3. Integral Bypass Damper
4. Water Panel Evaporative Assembly
5. Distribution Tray
6. "V" Notches
7. Water Panel Evaporator
8. Scale Control Insert/Float Chamber
9. Overflow Drain Line
10. Float Cover
11. Float
12. Water Level Sensor Assembly



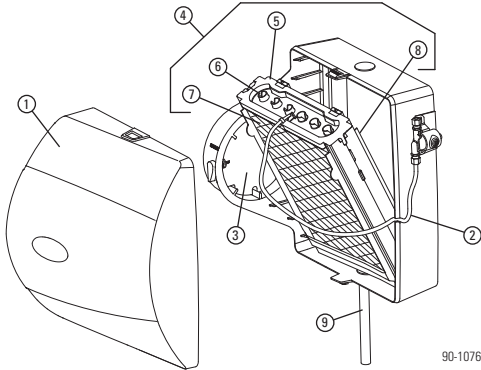
1. Note Humidifier Control setting and turn dial to the "OFF" position.
2. Turn off water supply. Turn the integral bypass damper (3) to the "SUMMER" position.
3. Press the tabs in the latches on the top and bottom of front cover (1) and pull cover off base with both hands.
4. Carefully pull the plastic feed tube (2) out of the distribution tray (5) at the top of the Water Panel evaporative assembly (4). Tip the Water Panel evaporative assembly forward and lift it out of the humidifier. **Do not** tip the Water Panel evaporative assembly more than needed to clear the housing to avoid over-bending the water level sensor assembly (12).
5. Unsnap the distribution tray (5) from the scale control insert (8). Lightly scrape out or brush off any mineral deposits, being careful not to stretch or loosen the synthetic fabric liner. Soaking the tray in vinegar or a lime-removing agent is helpful when trying to remove stubborn mineral deposits.
6. Slide the used Water Panel evaporator (7) out of the scale control insert/float chamber and dispose of the Water Panel.
7. Remove the float cover (10) and inspect the floats (11) and float chamber for mineral build-up. Remove deposits as needed from floats, float chamber and scale control insert. Wash the parts with a disinfecting cleaner. Reassemble the floats and float cover. Make sure stems of both floats extend through openings in float cover and that floats move freely up and down.
8. Inspect the plastic feed tube (2) by gently flexing it and looking for cracks or signs of wear. Replace tube if it is cracked, brittle, or has been damaged.
9. Slide a new Aprilaire No. 45 Water Panel evaporator (7) into the scale control insert/float chamber (8). Snap the distribution tray (5) back on the scale control insert (8).
10. Reinstall the Water Panel evaporative assembly (4) into the humidifier. Take care not to over-bend the water level sensor assembly. Push the top of the Water Panel evaporative assembly firmly back until it snaps into place.
11. Push the end of the feed tube back firmly into the distribution tray. Replace the front cover.
12. Under normal operation the overflow drain line (9) will never have water in it. However, inspect it for mineral deposits and replace if necessary. Make sure the drain line has a constant downward slope and is not flattened or blocked.
13. Turn on the water supply. Return integral bypass damper to appropriate position.
14. Check system operation:  
**Manual Humidifier Control (Model 400M):** With the HVAC blower operating, turn up Humidifier Control and check system operation.  
**Automatic Digital Humidifier Control (Model 400):** (Automatic or Manual mode) Check system operation and reset Change Water Panel indicator by setting the knob to "Test/Reset". With HVAC blower operating and HVAC calling for heat, humidifier will operate for one minute. **DO NOT LEAVE IN TEST MODE AS HUMIDIFIER WILL NOT OPERATE.**
15. Set Humidifier Control to its original position.

## REQUIRED MAINTENANCE INSTRUCTIONS (APRILAIRE HUMIDIFIER MODELS 500, 500M, 600 & 600M)

### ⚠ CAUTION

Sudden operation may cause personal injury or property damage. Turn Humidifier Control to "OFF" or lowest setting before servicing.

1. Front Cover
2. Feed Tube
3. Integral Bypass Damper
4. Water Panel Evaporative Assembly
5. Distribution Tray
6. "V" Notches
7. Water Panel Evaporator
8. Scale Control Insert
9. Drain Line



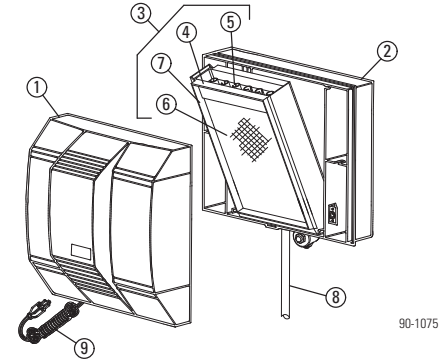
1. Note Humidifier Control setting and turn dial to the "OFF" position.
2. Turn off water supply. Turn the integral bypass damper (3) to the SUMMER position.
3. Press the tabs in the latches on the top and bottom of front cover (1) and pull cover off base with both hands. Set aside.
4. Carefully pull the plastic feed tube (2) out of the distribution tray (5) at the top of the Water Panel evaporative assembly (4). Pull this assembly out by grasping at top and tipping out.
5. Unsnap the distribution tray (5) from the scale control insert (8). Lightly scrape out or brush off any mineral deposits, being careful not to stretch or loosen the synthetic fabric liner. Soaking the tray in vinegar or a lime-removing agent is helpful when trying to remove stubborn mineral deposits.
6. Slide the Water Panel evaporator (7) out from the scale control insert (8) and dispose of the Water Panel. Clean the scale control insert of mineral deposits. Replace the Water Panel evaporator (Stock No. 35 for Models 600 & 600M and Stock No. 10 for Models 500 & 500M) with a new Genuine Aprilaire Water Panel. Slide the Water Panel evaporator back into the scale control insert with the colored spot up and snap the distribution tray (5) back into place.
7. Inspect the plastic feed tube (2) by gently flexing it and looking for cracks or signs of wear. Replace tube if it is cracked, brittle, or has been damaged.
8. Reinstall the Water Panel evaporative assembly (4) into the humidifier by fitting its drain into the round receptacle at the base of the humidifier. Push the assembly in at the top until it snaps into place. Push the end of the feed tube back firmly into the distribution tray and replace the front cover.
9. Remove the drain line (9) from the bottom of the humidifier. If applicable, flex it to loosen any mineral deposits or blockage. Then flush it with water under pressure. If it does not properly clear, replace it. Slip drain line back onto the drain fitting. Make sure the drain line has a constant downward slope and is not flattened or blocked.
10. Turn on the water supply. Return integral bypass damper to appropriate position.
11. Check system operation:  
**Manual Humidifier Control (Models 500M & 600M):** With the HVAC blower operating, turn up Humidifier Control and check system operation.  
**Digital Humidifier Control (Models 500 & 600):** (Automatic or Manual mode) Check system operation and reset Change Water Panel indicator by setting the knob to "Test/Reset". With HVAC blower operating and HVAC calling for heat, humidifier will operate for one minute. DO NOT LEAVE IN TEST MODE AS HUMIDIFIER WILL NOT OPERATE.
12. Set Humidifier Control to its original position.

## REQUIRED MAINTENANCE INSTRUCTIONS (APRILAIRE HUMIDIFIER MODELS 700 & 700M)

### ⚠ WARNING

**ELECTRICAL SHOCK HAZARD.** Can cause injury or death. Disconnect all electrical power supplies before servicing. Turn Humidifier Control to "OFF" or lowest setting before servicing.

1. Humidifier Cover Assembly
2. Base Assembly
3. Water Panel Evaporative Assembly
4. Distribution Tray
5. "V" Notches
6. Water Panel Evaporator
7. Scale Control Insert
8. Drain Line
9. Power Cord



1. Note Humidifier Control setting and turn dial to the "OFF" position.
2. Disconnect electrical power and turn off water supply.
3. Unlatch humidifier front cover assembly (1) from base assembly (2) at the bottom of the cover, lift, and set aside.
4. Pull out the Water Panel evaporative assembly (3) by grasping at the top and tipping out.
5. Unsnap the distribution tray (4) from the scale control insert (7). Lightly scrape out or brush off any mineral deposits, being careful not to stretch or loosen the synthetic fabric liner. Soaking the tray in vinegar or a lime-removing agent is helpful when trying to remove stubborn mineral deposits.
6. Slide the Water Panel evaporator (6) out from the scale control insert (7) and dispose of the Water Panel. Clean the scale control insert of mineral deposits. Replace the Water Panel evaporator (Stock No. 35) with a new Genuine Aprilaire Water Panel. Slide the Water Panel evaporator back into the scale control insert with the colored spot up and snap the distribution tray (4) back into place.
7. Inspect the plastic feed tube by gently flexing it and looking for cracks or signs of wear. Replace tube if it is cracked, brittle, or has been damaged.
8. Reinstall the Water Panel evaporative assembly (3) into the humidifier by fitting its drain into the round receptacle at the base of the humidifier. Push the assembly in at the top between the retaining ribs that hold the assembly in place in a vertical position.
9. Remove the drain line (8) from the bottom of the humidifier. If applicable, flex it to loosen any mineral deposits or blockage. Then flush it with water under pressure. If it does not clear, replace it. Slip drain line back onto the drain fitting. Make sure the drain line has a constant downward slope and is not flattened or blocked.
10. Reinstall front cover assembly (1) by hooking at the top of the base assembly (2) and latching at the bottom.
11. Reconnect electrical power (9) and turn on the water supply.
12. Check system operation:  
**Manual Humidifier Control (Model 700M):** With the HVAC blower operating, turn up Humidifier Control and check system operation.  
**Digital Humidifier Control (Model 700):** (Automatic or Manual mode) Check system operation and reset Change Water Panel indicator by setting the knob to "Test/Reset". With HVAC blower operating and HVAC calling for heat, humidifier will operate for one minute. DO NOT LEAVE IN TEST MODE AS HUMIDIFIER WILL NOT OPERATE.
13. Set Humidifier Control to its original position.

**NOTE: The motor is permanently lubricated and does not need to be oiled.**

## LIMITED WARRANTY

Your Research Products Corporation Aprilaire® humidifier unit is expressly warranted for five (5) years from date of installation to be free from defects in materials or workmanship 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 such five (5) year period and which is returned not later than thirty (30) days after said five (5) year period by you to either your original supplier or to Research Products Corporation, Madison, Wisconsin 53701, together with the model 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 FIVE 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.

## WARRANTY REGISTRATION

Visit us on-line at [www.aprilaire.com](http://www.aprilaire.com) to register your Aprilaire product.

If you do not have on-line access, please mail a postcard with your name, address, phone number, model number of product purchased and date of installation to:

Research Products Corporation, P.O. BOX 1467, Madison, WI 53701

**Your Warranty Registration information  
will not be sold or shared outside of this company.**

# Thank you!

RESEARCH PRODUCTS CORPORATION  
PO BOX 1467 • MADISON, WI 53701-1467