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# HERRMIDIFIER 4000 Owner's Manual

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KEEP THIS MANUAL  
WITH THE HERRMIDIFIER UNIT  
**INSTALLATION  
INSTRUCTIONS**

APPLICABLE TO:

**SERIES 4000**



*A BYPASS EVAPORATIVE HUMIDIFIER  
USED ON FORCED WARM-AIR HEATING  
SYSTEMS FOR AUTOMATIC HUMIDITY CONTROL*

Manufactured by



Herrmidifier Company, Inc.  
1812 Colonial Village Lane  
P.O. Box 111148  
Lancaster, PA 17605 - 1148

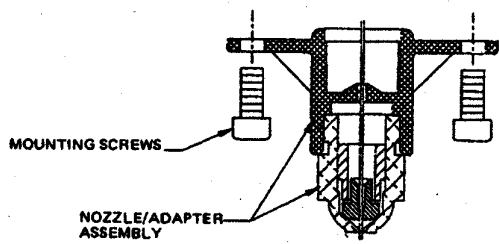
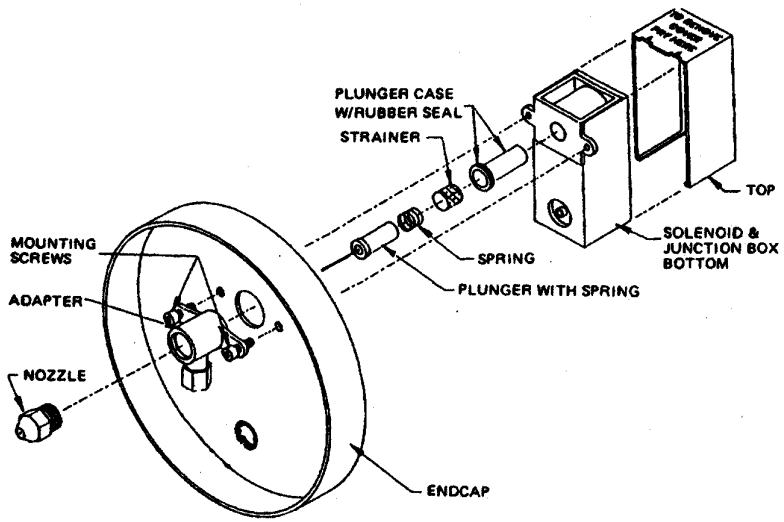
## CLEAN STRAINER:

The following steps outline the method of cleaning the strainer and if appropriate, to replace the nozzle. (Refer to FIG. 4.)

1. Turn humidistat to the "off" position. Shut off saddle valve and **disconnect water supply to the humidifier at the water connection.** Remove the snap on endcap as before. **Disconnect power to the solenoid.**
2. Remove the nozzle adapter mounting screws and then pull the adapter/nozzle assembly straight away from the endcap. The plunger/cleaning pin assembly can be removed from the opposite side of the endcap. **BE CAREFUL NOT TO BEND THE CLEANING PIN.** The strainer can be slipped off the end of the solenoid plunger and cleaned. Care should be taken not to distort the roundness of the strainer.
3. To reassemble, hold the nozzle/adapter assembly upside down and gently "guide" the cleaning pin through the assembly. **When the plunger and cleaning pin have been installed properly, the pin should protrude from the end of the nozzle approximately 1/16".** Next, place the spring onto the plunger, with the **smaller diameter** towards the nozzle. The strainer goes over the spring.
4. Continue to hold the nozzle/cleaning pin assembly upside down, and place the plunger case over the spring and strainer and push the the rubber seal into the recess provided in the plastic adapter. Next, place the endcap over the nozzle assembly and line up the mounting holes.
5. The solenoid can now be placed onto the endcap and the mounting screws replaced to secure the entire assembly to the endcap. **Reconnect power to the solenoid. Reconnect the water supply.** Snap the end cap onto the end of the humidifier. The water connection should be at the bottom of the end cap. Set humidistat at desired humidity level.

## REPLACEMENT NOZZLE:

1. Turn humidistat to "off" position. Remove the end cap. Using a 5/8" wrench, carefully remove the nozzle from the adapter.
2. To reassemble, align the center holes of the replacement nozzle with the cleaning pin and slowly, **WITH YOUR FINGERS**, screw the replacement nozzle into the adapter. **When the nozzle is finger tight, the cleaning pin should protrude from the end of the nozzle approximately 1/16".** Now the nozzle can be securely tightened with the wrench.



CROSS SECTION

FIGURE 4

## TROUBLESHOOTING

SYMPTOM	CHECKPOINTS
No Humidification	<ul style="list-style-type: none"> <li>• Humidistat setpoint</li> <li>• Power supply</li> <li>• Wiring</li> <li>• Water supply</li> <li>• Damper</li> </ul>
Humidifier Operates – Insufficient Capacity	<ul style="list-style-type: none"> <li>• Humidistat setpoint</li> <li>• Evaporator pad (clean or replace)</li> </ul>
Humidifier Operates – Water Leaks	<ul style="list-style-type: none"> <li>• Drain (not connected or clogged)</li> <li>• End-cap assembly (not properly attached)</li> <li>• End-cap assembly – gasket</li> </ul>
Humidifier Operates – Solenoid Noisy	<ul style="list-style-type: none"> <li>• Power supply voltage                             <ul style="list-style-type: none"> <li>— On 24V units: 18V<sub>AC</sub> min.</li> <li>— On 115V units: 97V<sub>AC</sub> min.</li> </ul> </li> <li>• Self-cleaning pin (straighten)</li> </ul>

## SERVICE PARTS

*(Refer to Master Parts List for complete listing)*

Description	4000	4000C
Evaporator Pad	4008	4008
Solenoid & Junction Box	4004-1	4004
End Cap Assembly	4021	4020
Nozzle	4005	4005

## General Description

- Bypass, evaporative, drain-thru humidifier
- 24 or 115 V (see model designation)
- .2 Static Press Diff. (Supply to return)
- Water consumption — 2 1/2 gallons/hr. approx.
- Water discharge — 1 1/2 gallons/hr. approx

## Location/Mountings

1. For best results, the unit should be located on the return air side of the system. However, if space does not permit, it can also be located on the supply (warm air) side of the system. Capacity will be reduced when mounted on the supply side. The bypass connection can be made to the left or right side of the unit. Regardless of where the unit is mounted (supply/return air) or left/right connection, the end cap must always be positioned so that the water connection is at the BOTTOM of the humidifier. See FIGURE 1.
  2. To mount on **sheet metal duct** begin by drilling  $5/32$ " diameter holes and cutting opening as marked on template. Remove template, install the four (4) sheet metal screws with standoffs using spring nuts provided, then place the foam seal around the opening on the plenum. See sketch below. Remove end cap from the notched end of the humidifier. Check that evaporator pad is in the proper position, then "hang" the humidifier on the mounting screws. Unit may be hung with outlet flange pointing left or right as required. Note the directional arrows located on the housing. Remove the plastic protective cap from nozzle and then snap end cap onto the humidifier with the pigtail water connection at the bottom of the cap.
- Note:** For installation on fiberglass duct, follow instructions on template and use Kit IN-FDH.
3. Cut hole in the other air duct and drill  $5/32$ " screw holes, using the flange as template. For best results, bypass duct should be level. Fasten flange and damper to duct using sheet metal screws and spring nuts provided. Flexible duct or hard duct may be used to connect the humidifier to the return air flange. ( The 6" diameter duct and duct clamps are available at Hermidifier - P/N IN - 6 FDK ). The hard duct may be attached directly to the unit. For normal operation, the manual damper must be in the open position.

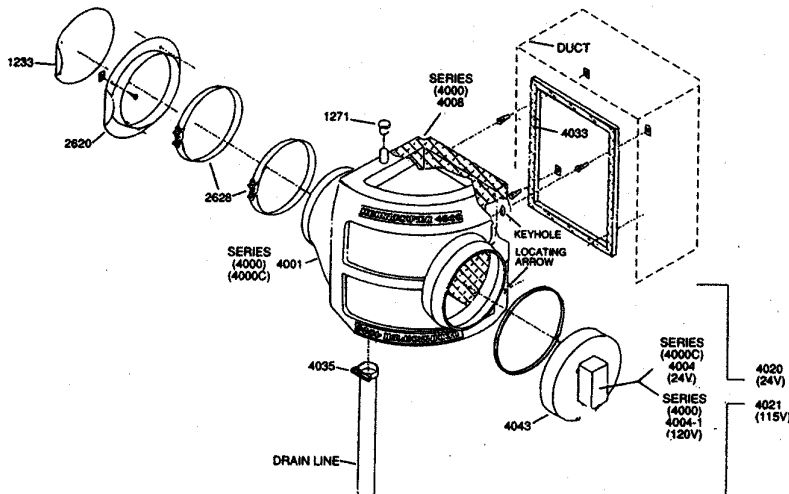


FIGURE 1 - INSTALLATION/HARDWARE

## Wiring/Piping

4. If the humidistat is mounted on the return air duct, follow instructions provided with the control. Duct mounted humidistat must be at least 18" upstream from the humidifier. (Wall mounting the humidistat is an option if desired.)
5. Install saddle valve. See instruction on package. The piping connection between the saddle valve and brass connection may be either 1/4" plastic or copper tubing. Optional hardware is provided depending on choice. After the saddle valve has been installed and piping attached and **BEFORE** attaching to the brass union, open saddle valve and allow water to flow to void the line of any debris that may have accumulated during the installation process. The piping can now be connected to the brass connection with the appropriate hardware.
6. Use 1/2" ID plastic hose to carry the discharge water from the unit to a drain. Be sure drain line has a constant pitch to the drain. Use the plastic snap hose clamp provided to secure the drain line to the humidifier. **DO NOT** braze on or otherwise directly attach a metal drain line to the humidifier drain fitting.
7. Use wiring approved for 115 Volt (FIG. 2) or 24 Volt (FIG. 3) as applicable. The humidifier and humidistat must be wired through the furnace blower such that the humidifier will not operate without airflow.
8. Set humidistat control for desired conditions, suggested 30- 60% range. Operation is automatic.

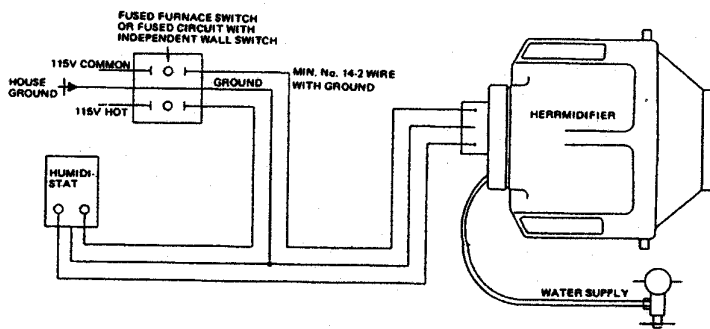


FIGURE 2 - WATER & ELECTRICAL CONNECTIONS  
115 VOLT SERVICE-MODEL 4000

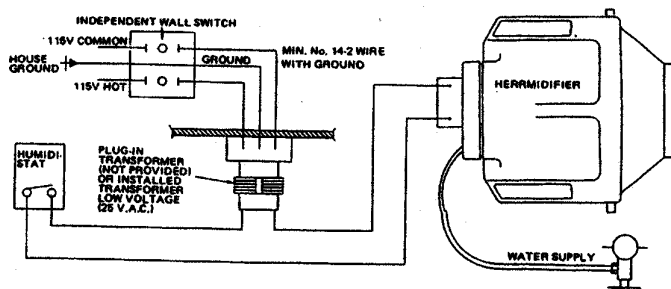


FIGURE 3 - WATER & ELECTRICAL CONNECTIONS  
24 VOLT SERVICE-MODEL 4000C

### Before Leaving:

Fill out warranty card and mail to HERRMIDIFIER Company, Inc. This card must be received to register the warranty.

Instruct the owner in operation and maintenance. Leave the OWNER'S MANUAL with the homeowner.

## Wiring/Piping

4. If the humidistat is mounted on the return air duct, follow instructions provided with the control. Duct mounted humidistat must be at least 18" upstream from the humidifier. (Wall mounting the humidistat is an option if desired.)
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8. Set humidistat control for desired conditions, suggested 30- 60% range. Operation is automatic.

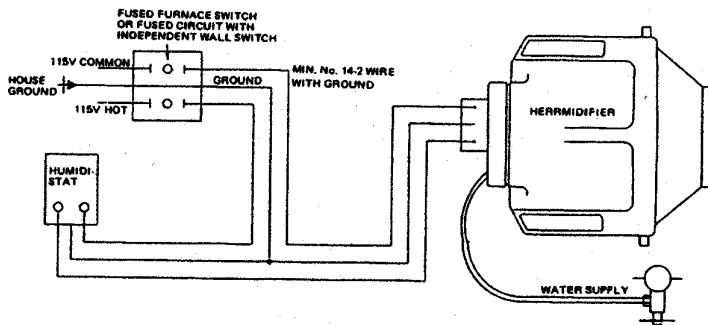


FIGURE 2 - WATER & ELECTRICAL CONNECTIONS  
115 VOLT SERVICE-MODEL 4000

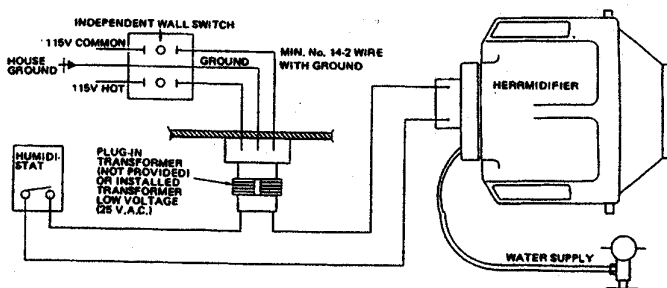


FIGURE 3 - WATER & ELECTRICAL CONNECTIONS  
24 VOLT SERVICE-MODEL 4000C

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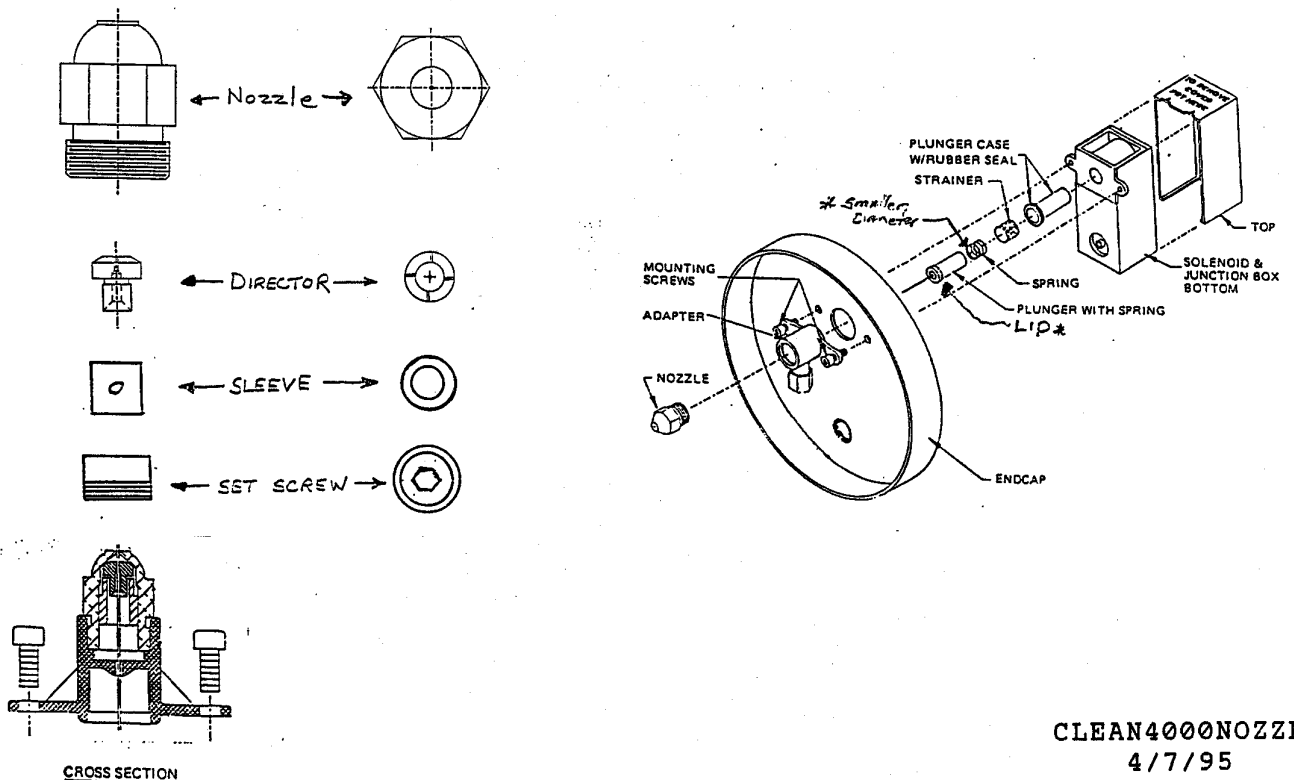
## CLEANING THE 4000 NOZZLE

A PERIODIC CLEANING OF THE NOZZLE IS DESIRABLE. THE TIME BETWEEN CLEANINGS WILL VARY DEPENDING ON IT'S CONDITIONS. IN GENERAL, IF THE SPRAY PATTERN IS NOT AS FINE, A STREAM OR NOT SPRAYING. THE DIRECTOR SLOTS MAY HAVE PARTICLES IN THEM.

### TOOLS NEEDED

3/4" WRENCH  
5/8" WRENCH  
5/32" ALLEN WRENCH  
RAZOR BLADE  
HERRMIDIFIER CLEANER OR 50% WATER MIXED WITH 50% VINEGAR

1. TURN OFF THE POWER SUPPLY.
2. TURN OFF THE WATER SUPPLY.
3. DISCONNECT POWER AND WATER LINES FROM THE UNIT.
4. REMOVE THE END CAP FROM THE CASE.
5. REMOVE THE SPRAY NOZZLE WITH A 5/8" WRENCH.
6. HOLD THE SPRAY NOZZLE WITH THE 5/8" WRENCH, INSERT THE 5/32" ALLEN WRENCH IN THE SET SCREW, TURNING IT COUNTER CLOCKWISE.
7. RINSE AND CLEAN ALL OF THE PARTS.
8. SLIDE THE RAZOR BLADE EDGE THROUGH THE FOUR SLOTS ON THE DIRECTOR. (THIS IS WHAT WILL GIVE THE SPRAY NOZZLE A GOOD SPRAY PATTERN.)
9. REASSEMBLE IN REVERSE ORDER OF DISASSEMBLY PAYING CAREFUL ATTENTION TO EXPLODED VIEW PROVIDED FOR IDENTIFICATION AND PLACEMENT OF PARTS.
10. AFTER MAINTENANCE, OPERATE A FEW TIMES TO BE SURE OF PROPER OPERATION.
11. BEING CAREFUL NOT TO BEND THE CLEANING PIN. BE CAREFUL NOT TO OVER TIGHTEN THE NOZZLE ASSEMBLY. IT SHOULD BE TIGHTENED ONLY TO A SNUG FIT. TIGHTEN THE NOZZLE TO THE ADAPTER SO IT WON'T LEAK AND THE CLEANING PIN IS STICKING THROUGH THE SPRAY NOZZLE HOLE.



CLEAN4000NOZZLE  
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## CLEANING THE 4000 SOLENOID VALVE

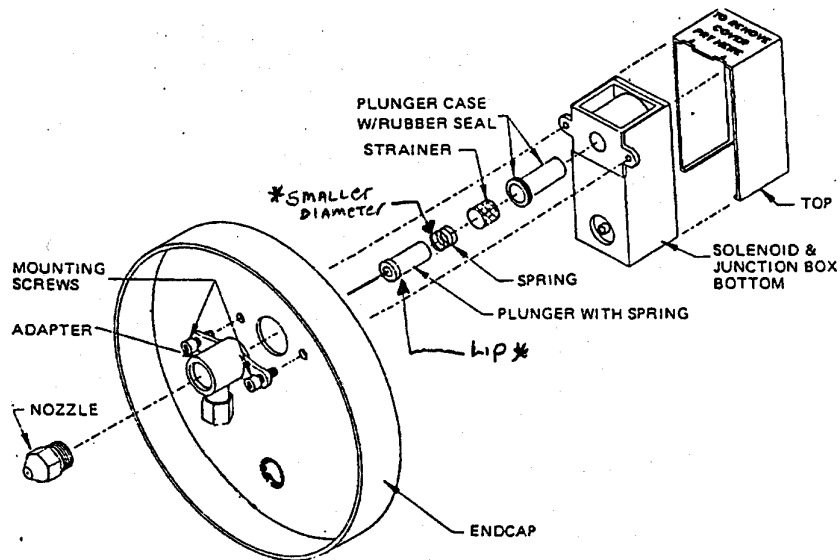
A PERIODIC CLEANING OF ALL SOLENOID VALVES IS DESIRABLE. THE TIME BETWEEN CLEANING WILL VARY DEPENDING ON IT'S CONDITIONS. IN GENERAL, IF THE VOLTAGE TO THE COIL IS CORRECT, SLUGGISH VALVE OPERATION, EXCESSIVE NOISE, CONSTANT SPRAY OR STREAMING WATER, OR LEAKAGE WILL INDICATE THAT CLEANING IS REQUIRED.

### TOOLS NEEDED

PHILLIPS SCREW DRIVER

HERRMIDIFIER CLEANER OR 50% WATER WITH 50% VINEGAR

1. TURN OFF THE POWER SUPPLY.
2. TURN OFF THE WATER SUPPLY.
3. DISCONNECT THE POWER AND WATER LINES FROM THE UNIT.
4. REMOVE THE END CAP FROM THE CASE.
5. REMOVE THE TWO PHILLIPS HEAD SCREWS FROM THE ADAPTER.
6. PULL THE SOLENOID ASSEMBLY AWAY FROM THE END CAP.
7. CLEAN AND REMOVE ALL PARTICLES FROM THE RUBBER PLUNGER, THE ORIFICE ON THE ADAPTER, SPRING AND STRAINER.  
(TO CLEAN THE NOZZLE ASSEMBLY SEE CLEANING THE 4000 NOZZLE)
8. REASSEMBLE IN REVERSE ORDER OF DISASSEMBLY PAYING CAREFUL ATTENTION TO EXPLODED VIEW PROVIDED FOR IDENTIFICATION AND PLACEMENT OF PARTS. BE CAREFUL NOT TO BEND THE CLEANING PIN, ALSO BE SURE THE SMALLER DIAMETER OF THE SPRING IS UNDER THE LIP ON THE PLUNGER (SEE DIAMETER BELOW)
9. AFTER MAINTENANCE, OPERATE SOLENOID VALVE A FEW TIMES TO BE SURE OF PROPER OPERATION.
10. YOU MAY USE TEFLON TAPE ON THE THREADS. DO NOT USE PIPE DOPE THIS WILL CLOG THE NOZZLE.



CLEAN4000PLUNGER  
4/7/95