



**CONSUMER SERVICES TECHNICAL
EDUCATION GROUP PRESENTS**

R-103

DEHUMIDIFIERS

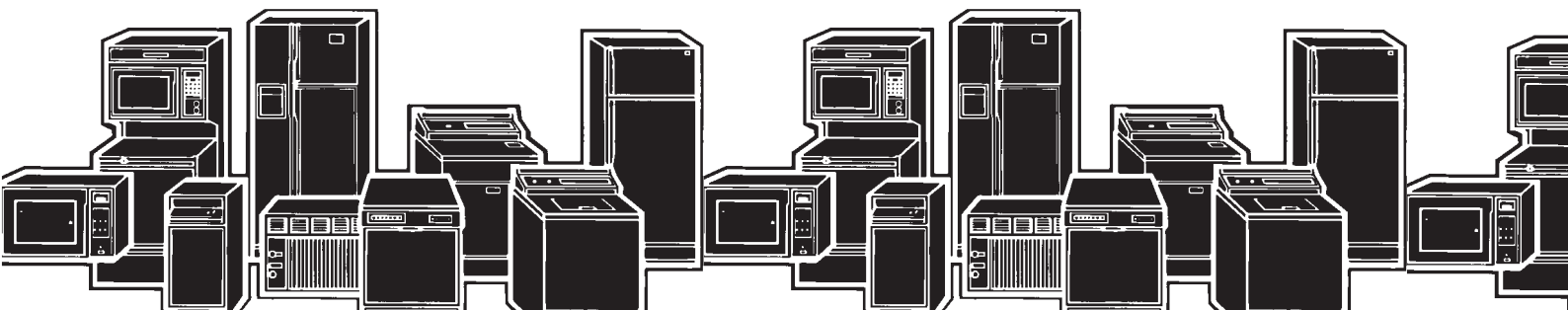


Models: AD25BSS, AD35DSS, AD50DSS



Models: AD35USS, AD50USS, AD70USS

**JOB AID
Part No. 8178563**



FORWARD

This Whirlpool Job Aid, “Dehumidifier” (Part No. 8178563), provides the technician with information on the operation and service of the Dehumidifier. For specific information on the model being serviced, refer to the “Use and Care Guide,” or “Wiring Diagram” provided with the dehumidifier.

The Wiring Diagrams used in this Job Aid are typical and should be used for training purposes only. Always use the Wiring Diagram supplied with the product when servicing the unit.

GOALS AND OBJECTIVES

The goal of this Job Aid is to provide information that will enable the service technician to properly diagnose malfunctions and repair the dehumidifier.

The objectives of this Job Aid are to:

- Understand and follow proper safety precautions.
- Successfully troubleshoot and diagnose malfunctions.
- Successfully perform necessary repairs.
- Successfully return the dehumidifier to its proper operational status.

WHIRLPOOL CORPORATION assumes no responsibility for any repairs made on our products by anyone other than Authorized Service Technicians.

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— NOTES —

GENERAL DEHUMIDIFIER SAFETY

Your safety and the safety of others are very important.

We have provided many important safety messages in this Manual and on your appliance. Always read and obey all safety messages.



This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others. All safety messages will follow the safety alert symbol and either the word “DANGER” or “WARNING.” These words mean:

! DANGER

You can be killed or seriously injured if you don't immediately follow instructions.

! WARNING

You can be killed or seriously injured if you don't follow instructions.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

MODEL & SERIAL NUMBER DESIGNATIONS

MODEL NUMBER

MODEL NUMBER	AD	50	U	S	S	0
PRODUCT GROUP AD = Dehumidifier, Whirlpool RD = Dehumidifier, Roper						
CAPACITY (24 HR.) 25 Pints 35 Pints 50 Pints 70 Pints						
MODEL FEATURES B = Electromechanical, No Deicer, 1 Speed Fan C = Electromechanical, Std. Deicer, 1 Speed Fan D = Electromechanical, Std. Deicer, 2 Speed Fan U = Electronic, Ultra-Low Temp Application, 2 Speed Fan						
MODEL SERIES S = Estar B = No Estar						
YEAR OF INTRODUCTION S = 2006, T = 2007						
ENGINEERING CHANGE DIGITS (0, 1, Etc.)						

SERIAL NUMBER

SERIAL NUMBER	Q	S	21	00043
MANUFACTURING SITE Q = LaVergne, TN				
YEAR OF PRODUCTION S = 2005				
WEEK OF PRODUCTION 21st Week				
PRODUCT SEQUENCE NUMBER				

MODEL & SERIAL NUMBER AND WIRING DIAGRAM LABEL LOCATIONS

Model & Serial Number Label
(Behind Water Bucket)



Wiring Diagram Label
(Inside Front Half Of Cabinet)



— NOTES —

PRODUCT OPERATION

THEORY OF OPERATION

WHAT IS HUMIDITY?

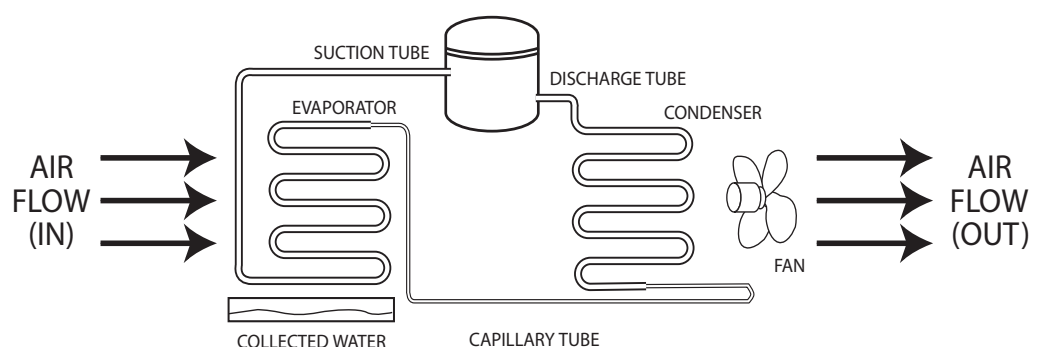
Humidity is defined as the amount of water vapor in the air and is measured as a percentage of the amount of water vapor the air can hold at a given temperature. When the amount of water vapor exceeds 100%, the moisture can no longer remain suspended in the air, usually resulting in precipitation. At levels approaching 100%, mist and fog are present.

Generally speaking, air at low temperatures has less holding capacity than air at high temperatures. Therefore, air with 100% humidity at 45°F has less water vapor by volume than air with 100% humidity at 70°F. Consequently, summer months throughout most of the country can present a problem, because warm moist air trapped inside a structure can become overly saturated with moisture. Generally, humidity levels exceeding 50% in air over 70°F, can be uncomfortable and can cause damage to personal property.

REMOVING UNWANTED HUMIDITY

A dehumidifier is designed to remove unwanted moisture from the air and maintain relative humidity at acceptable levels. A dehumidifier does not remove all of the moisture from the air, as this is not necessary, or desirable. The dryness control on the dehumidifier allows the customer to adjust a variable humidistat to control the relative humidity of room air. Once the humidistat is set to maintain acceptable humidity levels in a room, the dehumidifier will continue to maintain that level, regardless of the ambient temperature of the air, or changes in relative humidity.

A refrigeration system (see the illustration below) is used to collect the moisture. With the refrigeration system working, the evaporator is cooled to temperatures ranging from 33° - 37°F. When moisture-laden room temperature air is drawn across the evaporator, the moisture condenses on the cold coils. The cool dry air is then drawn past the condenser. This cools the condenser and warms the air before it is recirculated into the room. The water collected on the coils of the evaporator runs off into a collection container, or a drain.



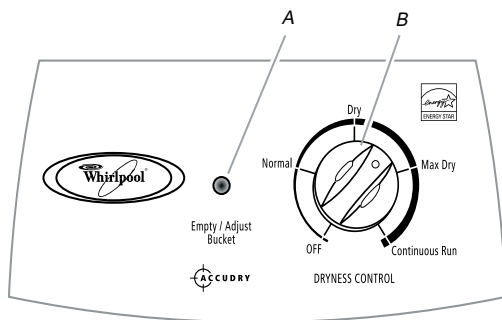
OPERATING CHARACTERISTICS

When a dehumidifier begins its run cycle, a partial frosting of the evaporator can be observed. This temporary frosting is limited by the operating conditions of the unit. In all cases, the frost should completely disappear within 10 to 15 minutes.

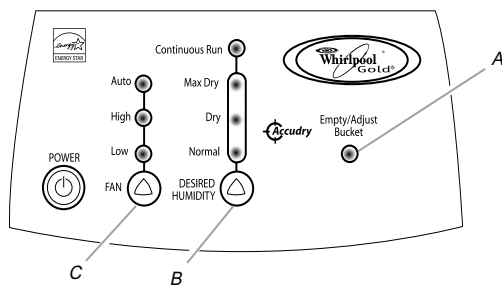
In cool dry conditions, (65°F or lower temperatures, and relative humidity of 60% or less), the evaporator may become completely coated with frost or ice. Under these conditions, the evaporator temperature is reduced to below freezing (32°F) because of inadequate heat load, and it is possible that no moisture will be collected from the air. Mechanical control dehumidifiers without a deicer thermostat are not designed to operate under these conditions, and the customer should be advised to discontinue use until proper ambient conditions are present.

TYPICAL OPERATION

The control panel (see below) provides the customer with control over the speed of the fan, (when this feature is offered), and adjustment of the amount of moisture in the air. An indicator light also provides information on the water level in the bucket, and whether the bucket is properly installed in the unit.



A. Light glows, indicating the bucket is full or is not in correct position.
B. Adjusts amount of moisture removed from room.



A. Light glows, indicating the bucket is full or is not in correct position.
B. Adjusts amount of moisture removed from room.
C. Selects fan speed.

LOW TEMPERATURE OPERATION

Mechanical control models without a deicer thermostat, i.e. AD25BSS, must not be operated below 65°F. Mechanical control models with a deicer thermostat, i.e. AD35DSS, may be operated as low as 55°F.

Electronic control models, i.e. AD35USS, monitor the temperature of the evaporator using a thermistor and may be operated as low as 38°F.

When the thermistor reaches 30°F, the control begins timing. After 10 minutes at or below 30°F, the compressor is turned off. The fan continues to run for a period of 10 minutes before the compressor is restarted. This low temperature operation will continue until the thermistor reaches 40°F for 20 minutes.

ELECTRONIC CONTROL SENSORS

- The humidistat is an electronic version of the mechanical humidistat. It monitors the relative humidity of the room air.
- The thermistor is a device that changes resistance as the temperature changes. The electronic control monitors the resistance and operates the compressor and fan motor accordingly.

DEFECTIVE SENSOR DEFAULT

If either the thermistor or the humidistat fails on electronic control models, the control will operate in the following manner.

- The compressor cycles on for 25 minutes and off for 10 minutes.
- The fan operates continuously at the set speed or High if set to Auto mode.

FAN SPEED: Controls the fan operation, as follows:

High: For faster moisture removal

Low: For slower moisture removal

Auto Fan Speed (Electronic Models):

Automatically sets the fan speed based on the relative humidity of the room. Low speed is used when the relative humidity is within 5% of the Desired Humidity setting. High speed is used when the relative humidity reaches or exceeds 5% of the Desired Humidity setting.

DRYNESS CONTROL: Controls the amount of moisture in the room. Set the control to the normal setting to maintain average humidity conditions. Adjust the control to a higher or lower setting for more or less drying.

When the dehumidifier is first installed, the customer may wish to set the Dryness Control to the DRYER setting to remove extra moisture from furnishings, as well as the room air.

When the humidistat senses the desired humidity level has been reached, the control cycles off the compressor and fan motor. On electronic control models, 30 minutes after the unit cycles off at the desired relative humidity, the compressor and fan will be cycled back

on. If the relative humidity has not increased, the unit will only run for 3 minutes. There is a 3 minute minimum "on" or "off" time used to protect the compressor that requires at least 3 minutes of run time or off time before the compressor stops or restarts.

The reason for the compressor to be turned on 30 minutes after it cycles off is that when the unit cycles off, heat from the condenser and fan motor rises up toward the control. This higher temperature lowers the relative humidity around the humidistat and the unit will not run even if the relative humidity in the room is rising. This assures the room relative humidity is properly monitored. The unit will not cycle off and on when set to continuous run.

ADJUST/EMPTY BUCKET LIGHT: When this light is "ON," it indicates that the unit is not running (see "Setting The Controls, Types 1, 2, or 3 on Pages 2-4 and 2-5). Look for the following conditions:

- **The bucket is full:** Empty the bucket and replace it in the dehumidifier.
- **The bucket is not correctly installed in the unit:** Remove and replace the bucket in the unit so that it fits all the way in. Make sure the light is off, or the dehumidifier will not run.

DEHUMIDIFIER USE

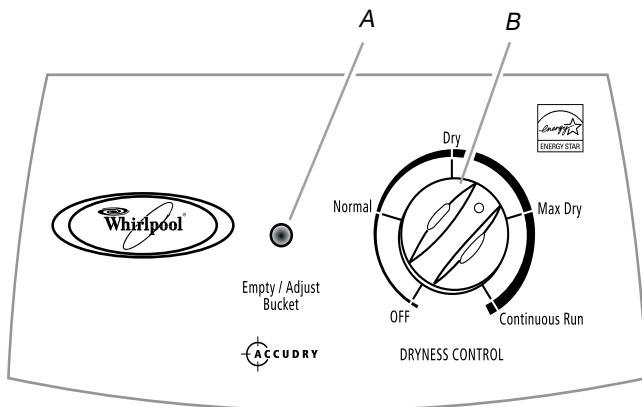
SETTING THE CONTROLS (CONTROL TYPES 1 & 2 ONLY)

Starting/Stopping the Dehumidifier

NOTE: Before turning on the dehumidifier, be sure that the bucket is empty and fits all the way into the dehumidifier.

Control Type 1

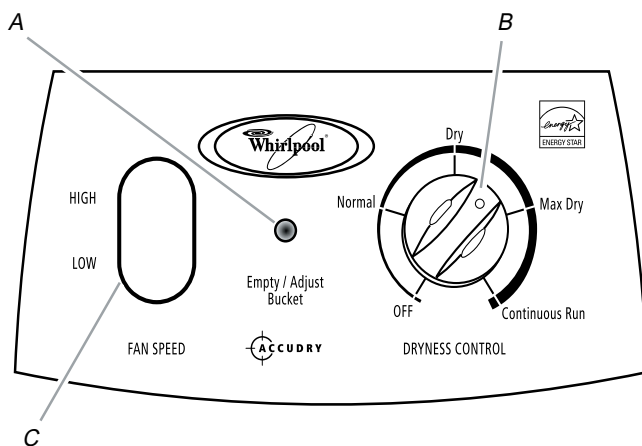
NOTE: Minimum operating temperature is 65°F (18°C).



- A. Light glows, indicating the bucket is full or is not in correct position.
B. Adjusts amount of moisture removed from room.

Control Type 2

NOTE: Minimum operating temperature is 55°F (13°C).



- A. Light glows, indicating the bucket is full or is not in correct position.
B. Adjusts amount of moisture removed from room.
C. Selects fan speed.

⚠ WARNING



Electrical Shock Hazard

Plug into a grounded 3 prong outlet.

Do not remove ground prong.

Do not use an adapter.

Do not use an extension cord.

Failure to follow these instructions can result in death, fire, or electrical shock.

1. Plug into a grounded 3 prong outlet.
2. To turn on dehumidifier, turn DRYNESS CONTROL clockwise.

IMPORTANT: If the Empty/Adjust Bucket light comes on, the dehumidifier will not operate. Empty or adjust bucket.

3. To turn off dehumidifier, turn DRYNESS CONTROL counterclockwise to OFF.

Empty/Adjust Bucket Light

If this light is on, the dehumidifier is not running. This light indicates that you need to check:

- If the bucket is full, empty and reinstall bucket.
- If the bucket is not in position, remove the bucket and reinstall. Make sure the bucket fits all the way into the dehumidifier and the light is off, or dehumidifier will not run.

Fan Speed (Control Type 2 Models Only)

The Fan Speed controls fan operation

- High—for faster moisture removal
- Low—for quieter moisture removal

Dryness Control

The Dryness Control regulates the amount of moisture in the room. Turn the control knob clockwise for more drying. Turn the control knob counterclockwise for less drying. Turn the control knob to “Dry” to maintain average humidity conditions.

NOTE: For the first few days of use, turn the DRYNESS CONTROL clockwise to CONTINUOUS RUN to remove extra moisture from the furnishings as well as the room air.

SETTING THE CONTROLS (CONTROL TYPE 3 ONLY)

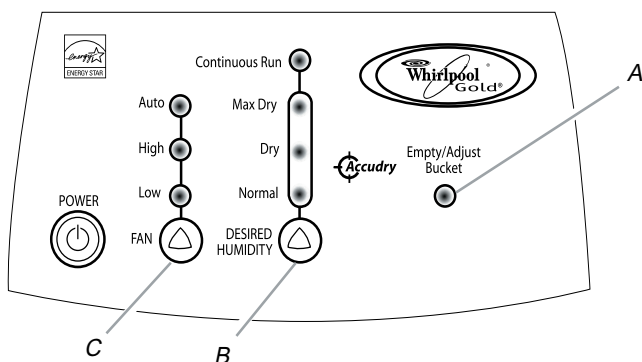
Starting/Stopping the Dehumidifier

NOTES:

- Before turning on the dehumidifier, be sure that the bucket is empty and fits all the way into the dehumidifier.
- Each time you unplug the dehumidifier or power is interrupted, the control will return to your previous settings when power is restored.

Control Type 3

NOTE: Minimum operating temperature is 38°F (3°C).



- A. Light glows, indicating the bucket is full or is not in correct position.
 B. Adjusts amount of moisture removed from room.
 C. Selects fan speed.

⚠ WARNING



Electrical Shock Hazard

Plug into a grounded 3 prong outlet.

Do not remove ground prong.

Do not use an adapter.

Do not use an extension cord.

Failure to follow these instructions can result in death, fire, or electrical shock.

1. Plug into a grounded 3 prong outlet.
2. Press POWER to turn on dehumidifier.
IMPORTANT: If the Empty/Adjust Bucket light comes on, the dehumidifier will not operate. Empty or adjust bucket.
3. Press POWER to turn off dehumidifier.
NOTE: The dehumidifier will retain your last settings.

Empty/Adjust Bucket Light

If this light is on, the dehumidifier is not running. This light indicates that you need to check:

- If the bucket is full, empty and reinstall bucket.
- If the bucket is not in position, remove the bucket and reinstall. Make sure the bucket fits all the way into the dehumidifier and the light is off, or dehumidifier will not run.

Fan Speed (Control Type 3 Models Only)

1. Press FAN to select fan speed.
2. Choose Low, High or Auto.
 - Low—Will reach the desired humidity setting slower with lower sound level.
 - High—Will reach the desired humidity setting faster.

- Auto —Will provide the maximum humidity control by automatically adjusting the fan speed and/or turning the dehumidifier on and off to maintain humidity setting.

Desired Humidity (Control Type 3 Models Only)

1. Press DESIRED HUMIDITY to select the desired humidity setting.
2. Choose Normal, Dry, Max Dry or Continuous Run.
 - Normal—Will operate the dehumidifier at the selected fan speed until the humidity levels are lowered.
 - Dry—Will operate the dehumidifier at the selected fan speed until the humidity levels are lowered more than the Normal setting.
 - Max Dry—Will operate the dehumidifier at the selected fan speed until the humidity levels are lowered to the maximum level.
 - Continuous Run—Will operate the dehumidifier continuously at the selected fan speed regardless of humidity level.

If Auto fan speed is selected, the fan will operate at the High speed setting. The dehumidifier will turn off only if the bucket is full or removed.

NOTE: The Deicer will turn off the compressor if a low temperature condition exists. Pressing the Desired Humidity arrow will not increase or decrease the amount of moisture removed. Compressor operation will resume when the low temperature condition no longer exists.

DRAINING THE DEHUMIDIFIER

! WARNING

Sickness Hazard

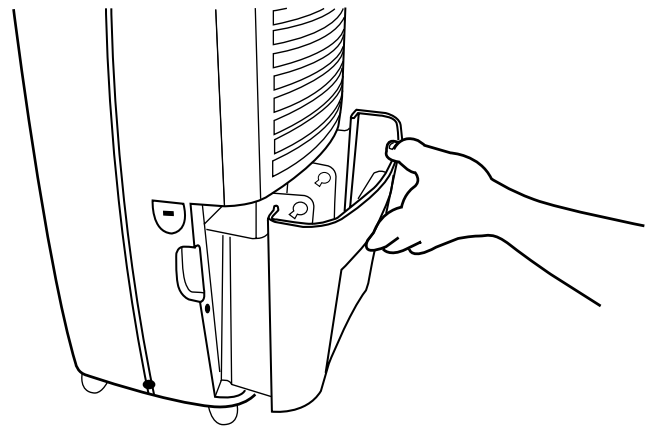
Do not drink water collected in water bucket.

Doing so can result in sickness.

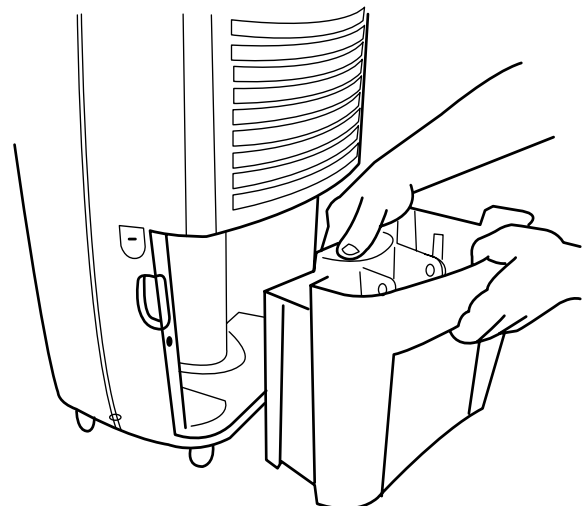
Option 1—Remove Bucket

If a floor drain is not available, or you do not plan to run the dehumidifier continuously, you may want to simply empty the bucket.

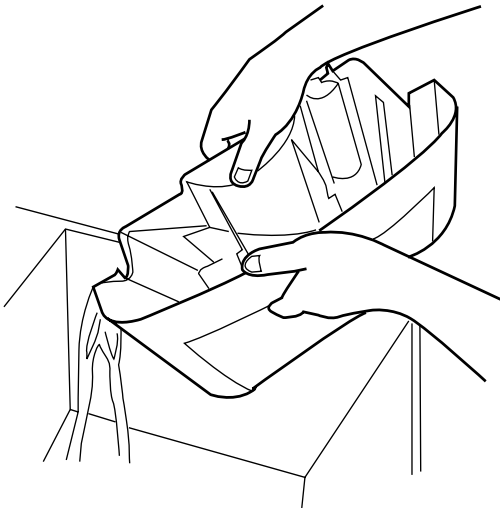
1. Use front handle to slide bucket out.



2. Use front and back handles to lift bucket.



3. Pour water through opening into a sink or tub.



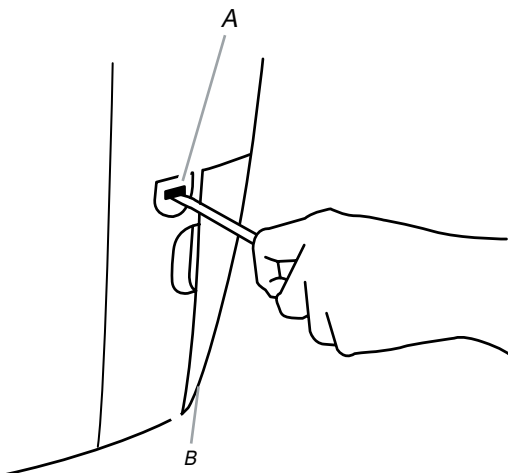
4. Reinstall bucket.

IMPORTANT: If the Empty/Adjust Bucket light comes on, the dehumidifier will not operate. Empty or adjust bucket.

Option 2—Connect Drain Hose

If you plan to run your dehumidifier continuously, you may want to attach a garden hose to the drain hose connector.

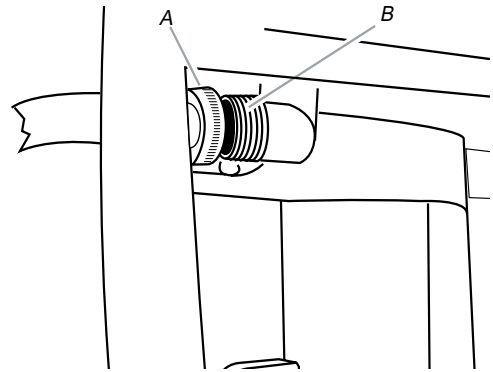
1. Use a flat-blade screwdriver to gently pry out the drain hose connector cover. Discard the cover.



A. Drain hose connector cover
B. Bucket

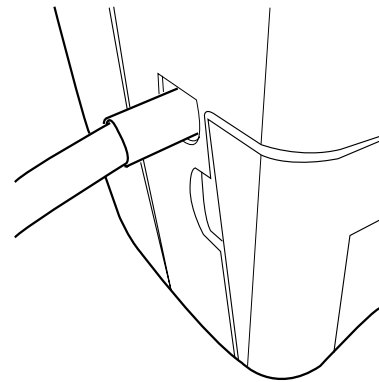
2. Remove bucket.

3. Attach a garden hose to drain hose connector on the inside of the dehumidifier. Hand tighten.



A. Garden hose
B. Drain hose connector

4. Place the other end of garden hose into a floor drain. Check to see that the hose lies flat and is in the drain.
5. Reinstall bucket.



NOTES:

- To use the bucket without the garden hose, remove the garden hose. Then reinstall bucket.
- The bucket must be installed and properly aligned for the dehumidifier to operate with or without a garden hose connected.

NORMAL SOUNDS

When your dehumidifier is operating normally, you may hear sounds such as:

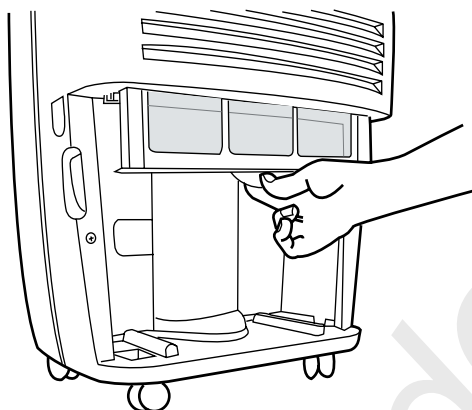
- Compressor sounds, which may be loud. This is normal.
- Clicking sounds when the dehumidifier or compressor turns off and on, and when the Automatic Shutoff Switch is working.
- Air movement from the fan.

DEHUMIDIFIER CARE

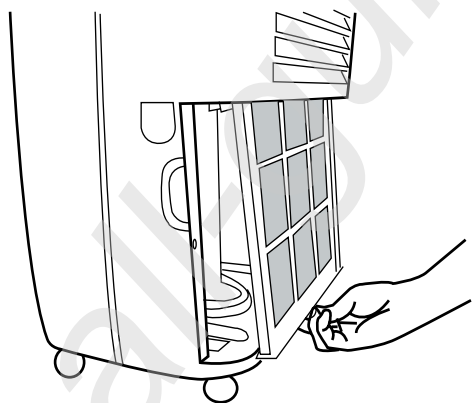
CLEANING THE AIR FILTER (ON SOME MODELS)

The air filter is removable for easy cleaning. A clean filter helps remove dust, lint, and other particles from the air and is important for best operating efficiency. Check the filter every 2 weeks to see whether it needs cleaning.

1. Turn off dehumidifier.
2. Remove bucket.
3. Pull filter down from below front louvers.



4. Pull bottom edge of air filter toward you to clear the bottom of the dehumidifier.



5. Use a vacuum cleaner to clean air filter. If air filter is very dirty, wash it in warm water with a mild detergent. Do not wash air filter in the dishwasher or use any chemical cleaners. Air dry filter completely before replacing to ensure maximum efficiency.
6. Slide air filter up into the dehumidifier.
7. Reinstall bucket.
8. Turn on the dehumidifier.

CLEANING THE DEHUMIDIFIER

Exterior

NOTE: Have an authorized service technician clean and service the interior coils of your product annually.

1. Turn off dehumidifier.
2. Dust front grille and side panels with a soft brush or the dusting attachment of your vacuum cleaner.

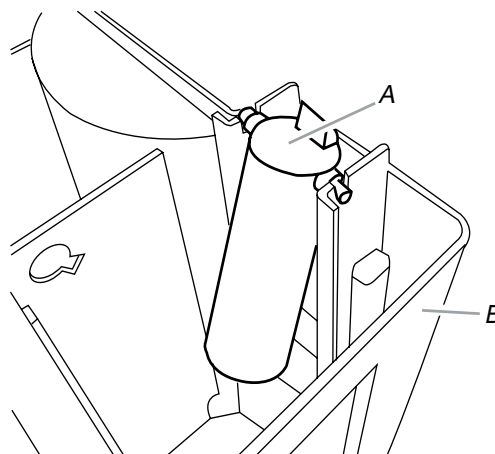
Water Bucket

Every few weeks, rinse the inside of the water bucket with a mild detergent to avoid growth of mold, mildew and bacteria.

Water Level Float

The dehumidifier has an Empty/Adjust Bucket light and a water level float. The bucket must be properly aligned for the water level float and Empty/Adjust Bucket light to work.

NOTE: Be sure float is snapped in place.




A. Water level float
B. Bucket

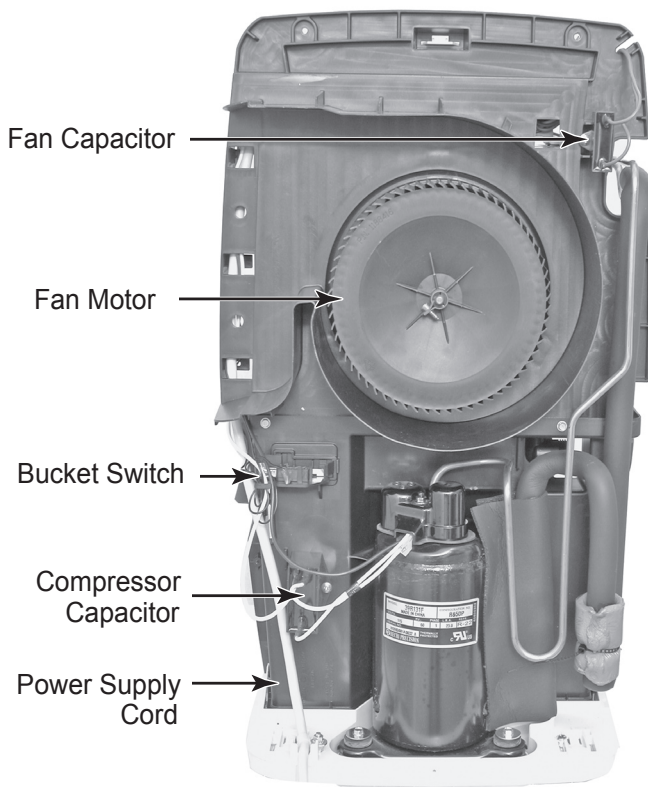
COMPONENT ACCESS

This section instructs you on how to service the Dehumidifier. The components and their locations are shown below. **NOTE:** The sealed system in the Dehumidifier is not serviced.

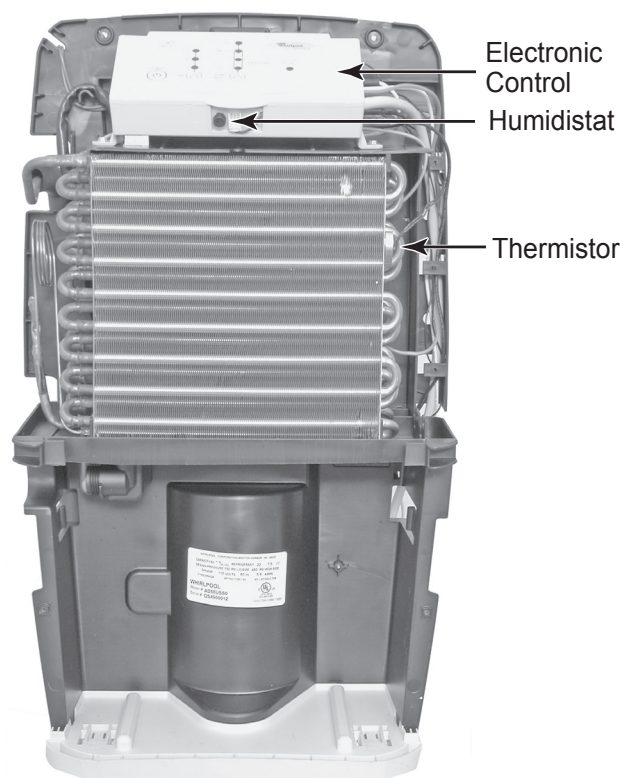
COMPONENT LOCATIONS

	⚠ WARNING
	Electrical Shock Hazard
	Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.

REAR COMPONENTS



FRONT COMPONENTS



Electronic Control Unit Shown

REMOVING THE CABINET

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

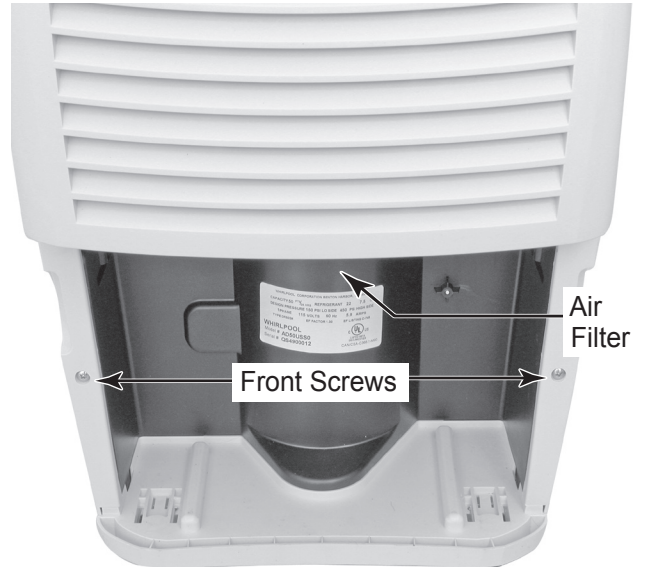
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Unplug dehumidifier or disconnect power.
2. Pull the water bucket out of the dehumidifier and remove it.



3. If present, pull the air filter down and out from behind the front louvers.
4. Remove the two front screws from the front half of the cabinet.



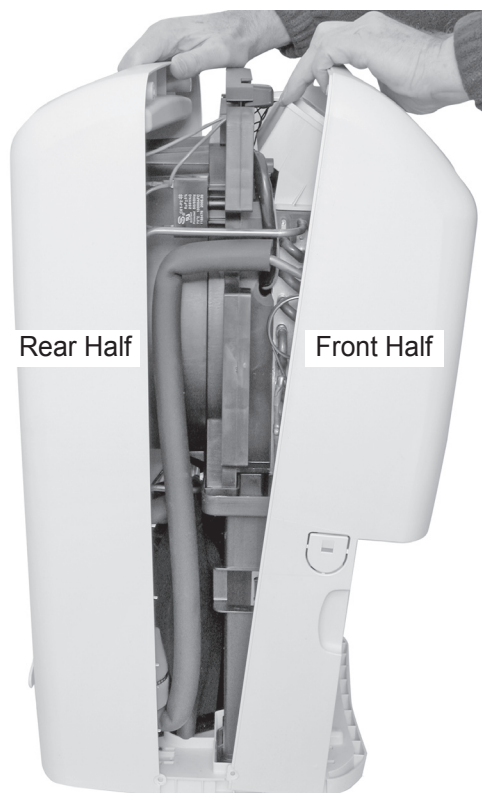
5. Remove the screw from the left and right side of the cabinet.



6. Remove the bottom screw and the two top hex-head screws from the rear half of the cabinet.



7. Pull the front and rear halves of the cabinet from the dehumidifier and remove them.



REMOVING THE ELECTRONIC CONTROL, THERMISTOR, AND POWER SUPPLY CORD

⚠ WARNING



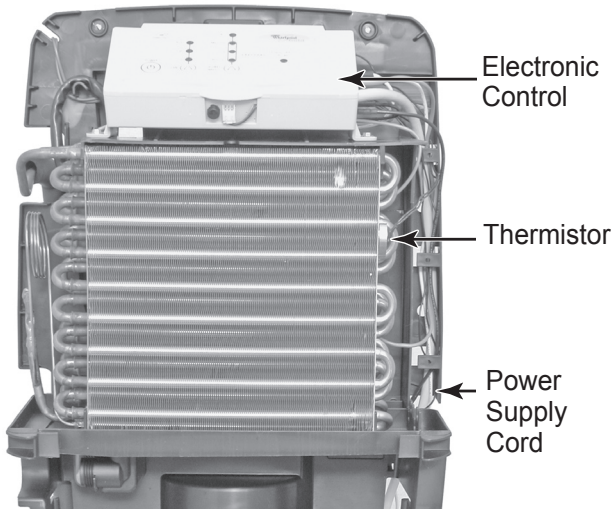
Electrical Shock Hazard

Disconnect power before servicing.
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

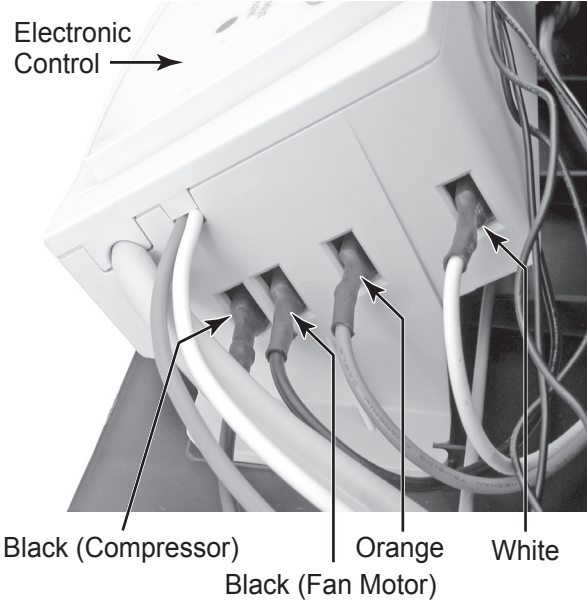
1. Unplug dehumidifier or disconnect power.
2. Remove the cabinet from the dehumidifier (see page 3-2 for the procedure).

NOTE: The electronic control, thermistor, and power supply cord are hard-wired together and are serviced as an assembly.

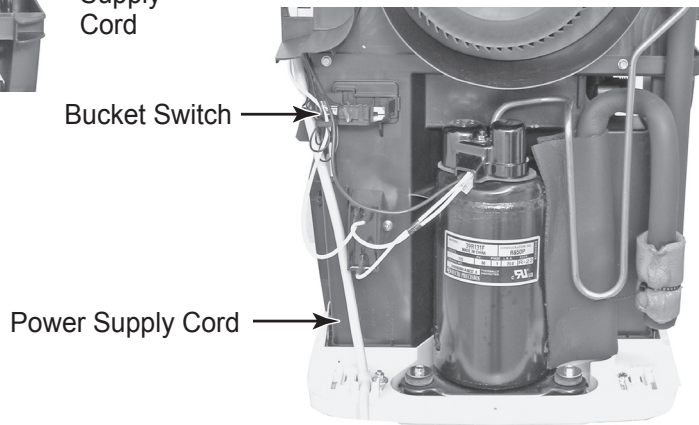


Front View

3. Disconnect the four wire connectors from the electronic control.

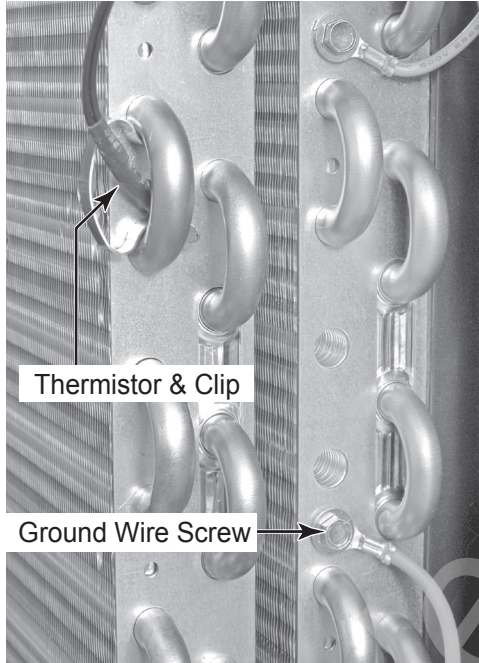


4. Remove the two hex-head screws from the electronic control.

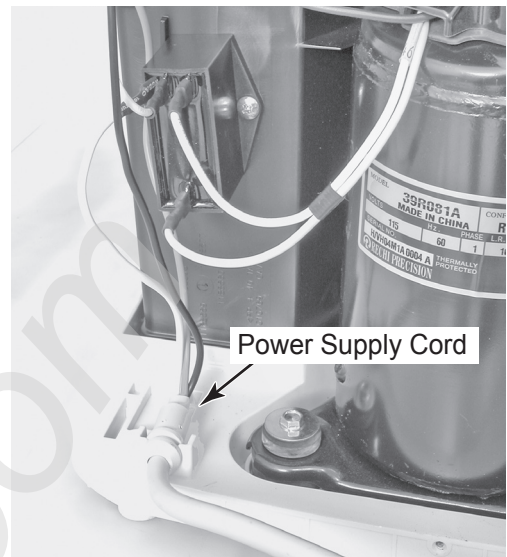


Rear View

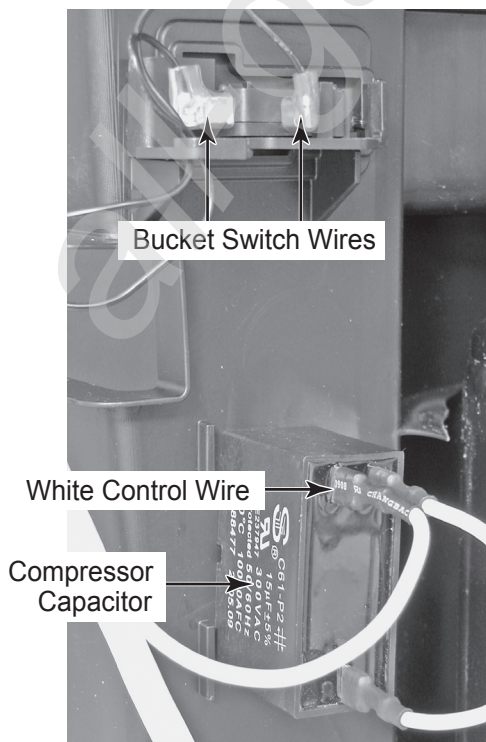
5. Unclip the thermistor from the tubing and remove it. **NOTE:** Do not remove the thermistor from the clip.
6. Remove the hex-head screw from the green ground wire.



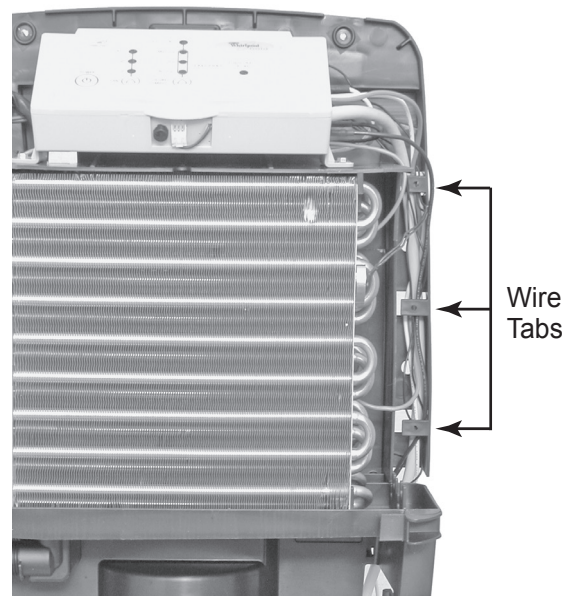
9. Remove the power supply cord from the cabinet.



7. On the rear of the unit, disconnect the two wires from the bucket switch terminals and unclip the wires.
8. Disconnect the indicated white control wire from the compressor capacitor terminal.



10. Remove the wiring from the three tabs, and remove the electronic control assembly from the dehumidifier.



Electronic Control Assembly

REMOVING THE MECHANICAL HUMIDISTAT, LIGHT, AND POWER SUPPLY CORD

⚠ WARNING

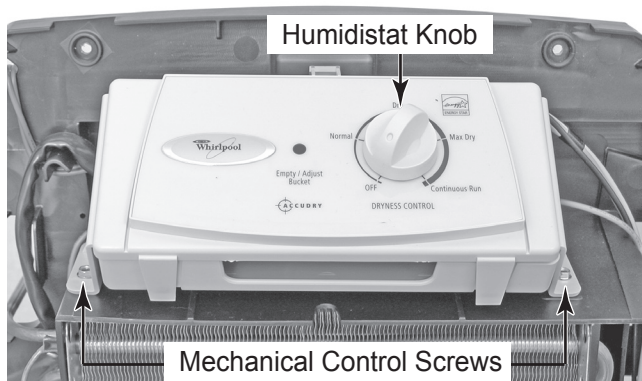


Electrical Shock Hazard

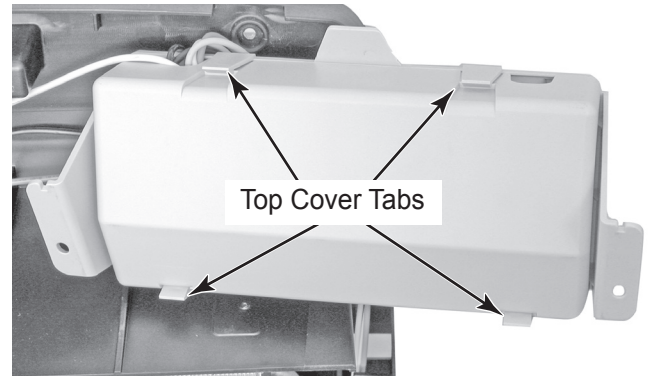
Disconnect power before servicing.
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

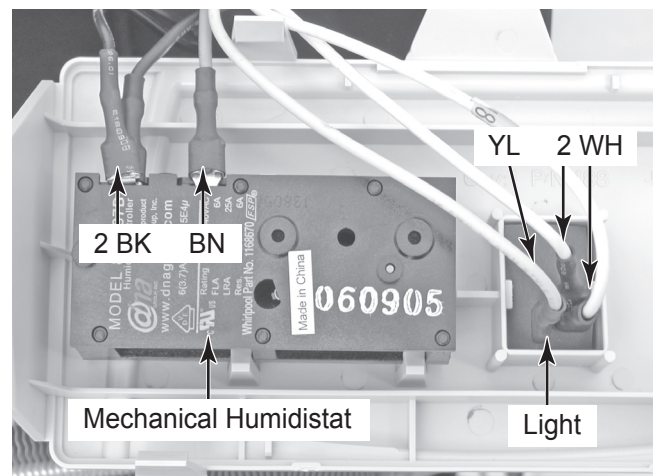
1. Unplug dehumidifier or disconnect power.
2. Remove the cabinet from the dehumidifier (see page 3-2 for the procedure).
3. Pull the knob off the humidistat shaft.
4. Remove the two hex-head screws from the control.



5. Unsnap the four top cover tabs from the mechanical control and remove the cover.

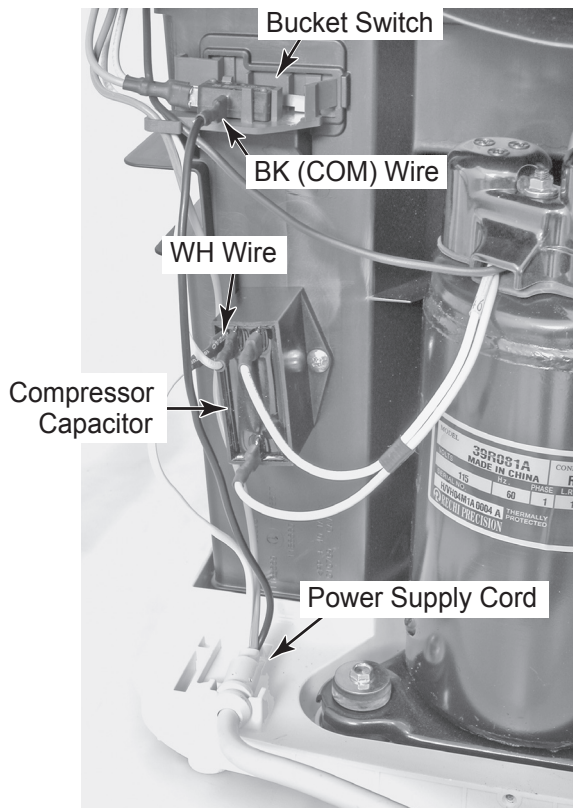


6. **To remove the mechanical humidistat:**
 - a) Disconnect the brown wire and the connector with the two black wires from the mechanical humidistat terminals.
 - b) Unclip the humidistat from the cover and remove it.
7. **To remove the light:**
 - a) Disconnect the yellow and two white wires from the light terminals.
 - b) Unclip the light from the cover and remove it.

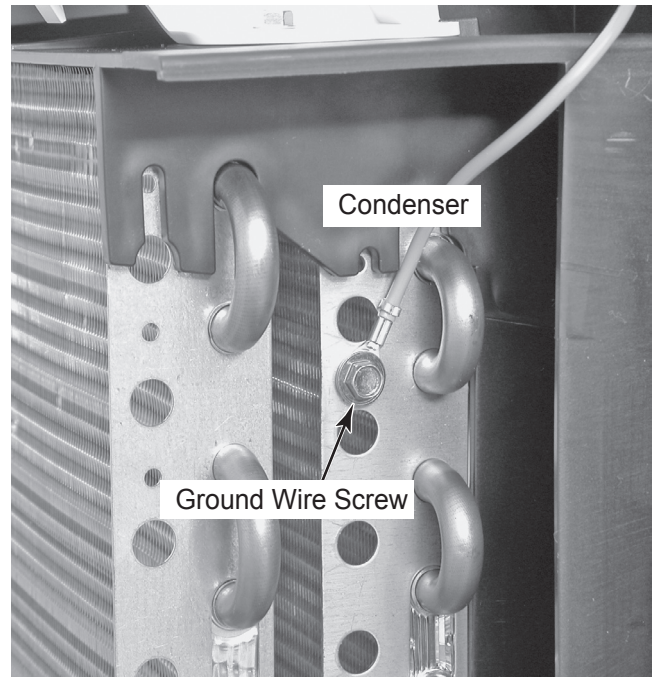


8. To remove the power supply cord:

- a) Disconnect the white power supply cord wire from the compressor capacitor terminal.
- b) Disconnect the black power supply cord wire from the COM terminal of the bucket switch.



- c) Remove the hex-head screw from the green ground wire at the top of the condenser.



- d) Remove the power supply cord from the dehumidifier.

REMOVING THE FAN CAPACITOR AND THE FAN MOTOR

⚠ WARNING



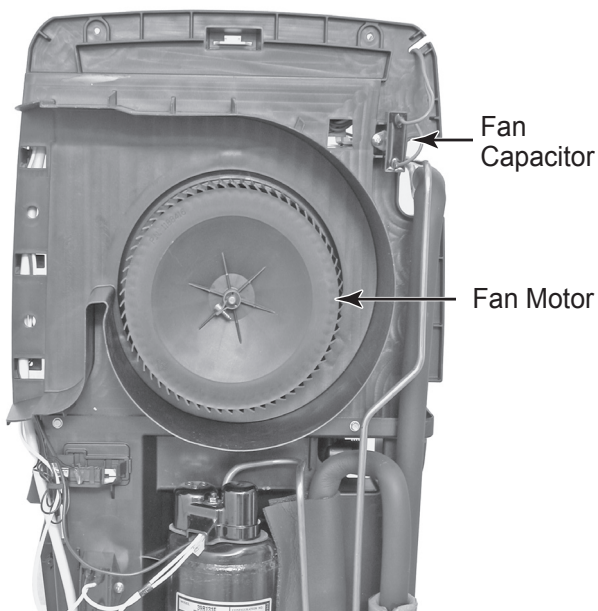
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

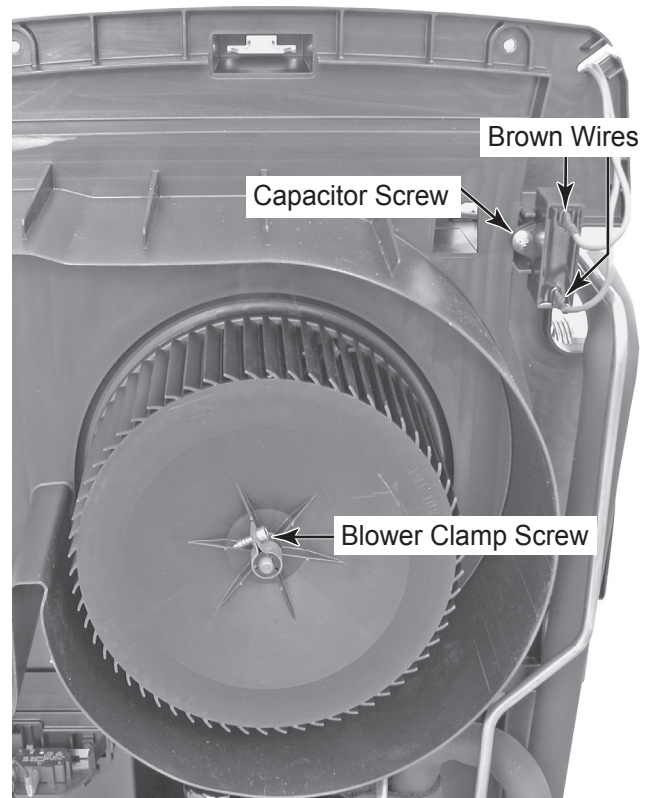
Failure to do so can result in death or electrical shock.

1. Unplug dehumidifier or disconnect power.
2. Remove the cabinet from the dehumidifier (see page 3-2 for the procedure).



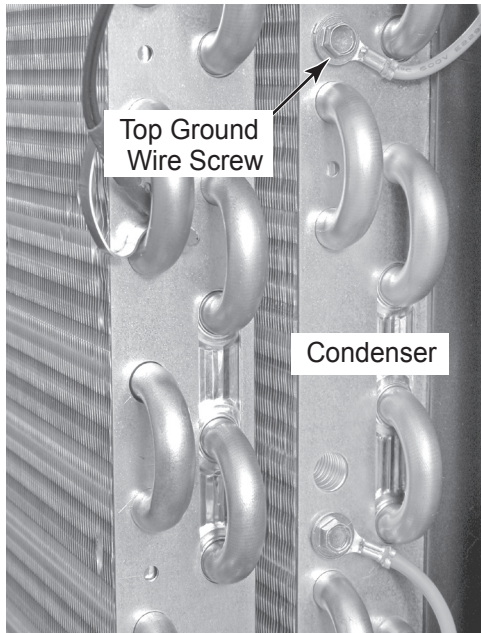
3. **To remove the fan capacitor (see the top right photo):**
 - a) **IMPORTANT:** Discharge the capacitor by touching the leads of a 20,000 ohm resistor to the capacitor terminals.
 - b) Disconnect the two wires from the capacitor terminals.
 - c) Remove the screw from the capacitor.

4. **To remove the fan motor:**
 - a) Loosen the T-20 Torx screw and pull the blower off the fan motor shaft.

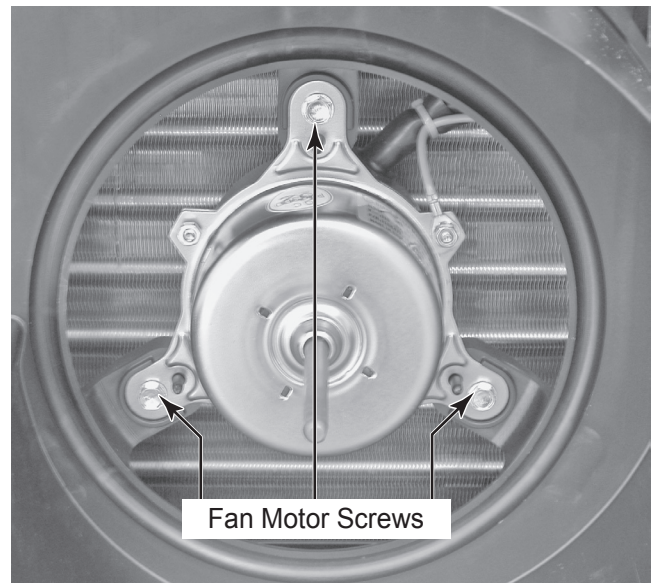


- b) Disconnect the fan motor wires at the following locations:
 - Two brown wires from the fan capacitor terminals (see above).
 - *Electronic Models:* Black, orange, and white wires from the electronic control terminals (see page 3-4).
 - *Mechanical Type 1 Models:* Black and white wires from the humidistat and light terminals (see page 3-6).
 - *Mechanical Type 2 Models:* Black and orange wires from the fan switch terminals (not shown). White wire from the light terminal.

- Top green ground wire on condenser.



- c) Remove the three 5/16" hex-head screws from the fan motor, then pull the wiring out of the access hole and remove the motor.



REMOVING THE COMPRESSOR CAPACITOR AND THE BUCKET SWITCH

⚠ WARNING



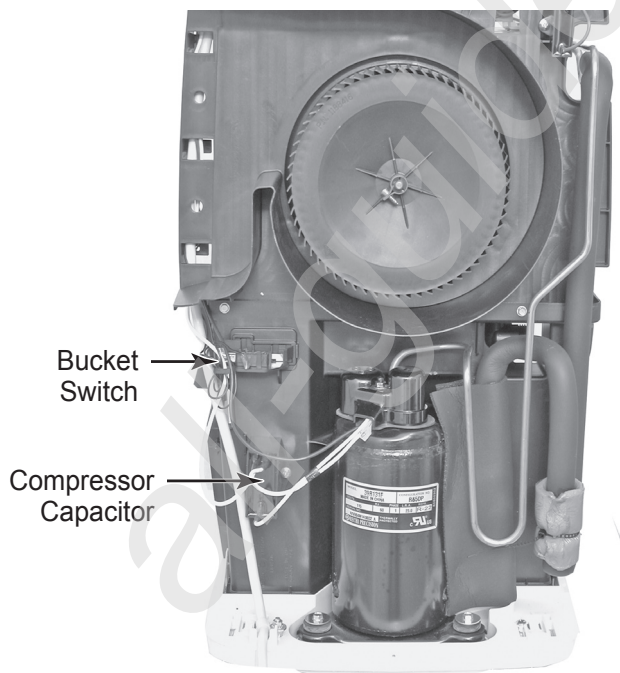
Electrical Shock Hazard

Disconnect power before servicing.

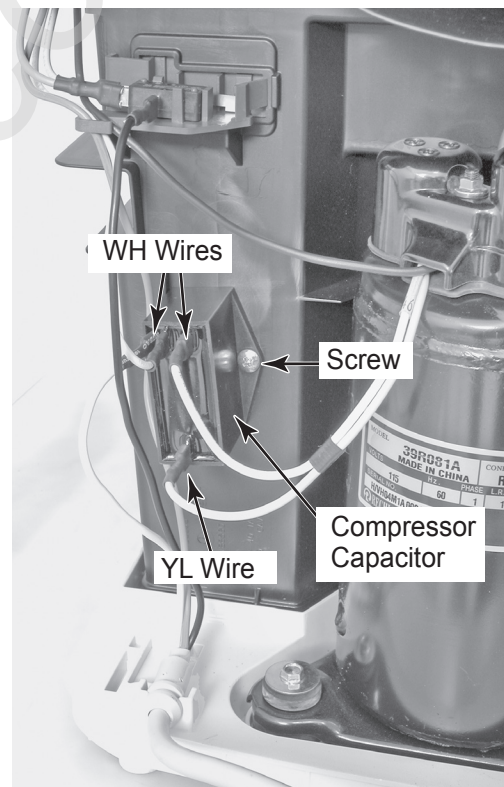
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Unplug dehumidifier or disconnect power.
2. Remove the cabinet from the dehumidifier (see page 3-2 for the procedure).



3. To remove the compressor capacitor:
 - a) **IMPORTANT:** Discharge the capacitor by touching the leads of a 20,000 ohm resistor to the capacitor terminals.
 - b) Disconnect the three wires (electronic control models), or four wires (mechanical models) from the capacitor terminals.
 - c) Remove the screw from the capacitor.



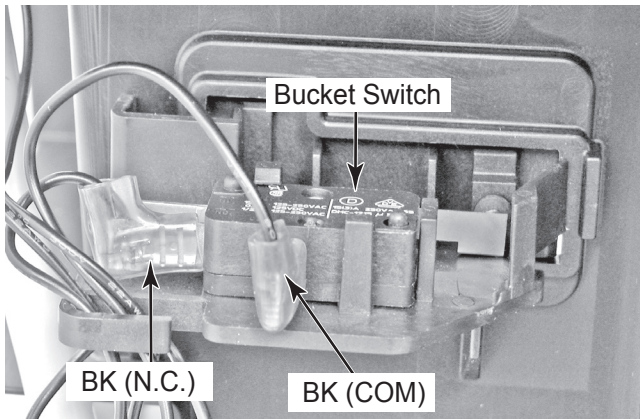
4. To remove the bucket switch:

Electronic Model:

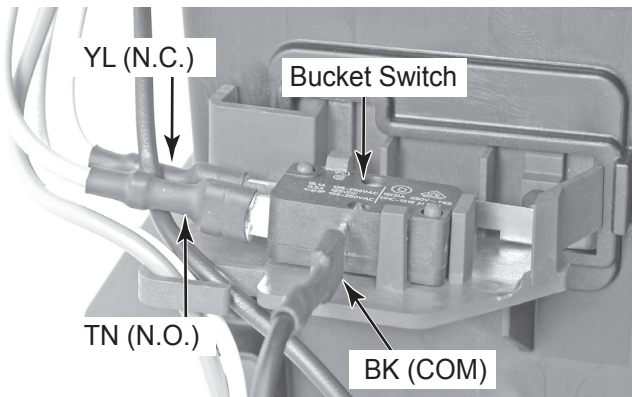
- a) Disconnect the two black wires from the N.C. and COM switch terminals.

Mechanical Models:

- b) Disconnect the black (COM), tan (N.O.), and yellow (N.C.) wires from the switch terminals.

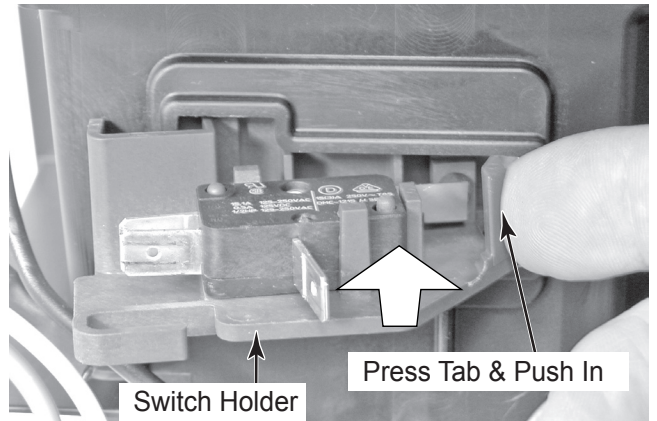


Electronic Model

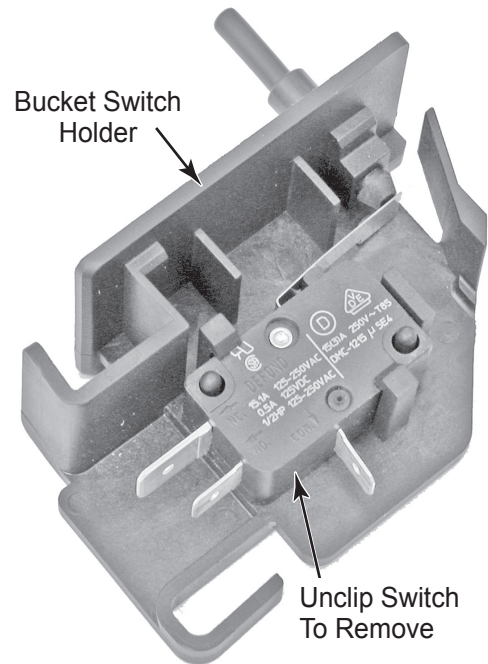


Mechanical Models

- c) Press the locking tab, push the switch holder through the cutout, and remove it from the dehumidifier.



- d) Unclip the bucket switch and remove it from the holder.




— NOTES —

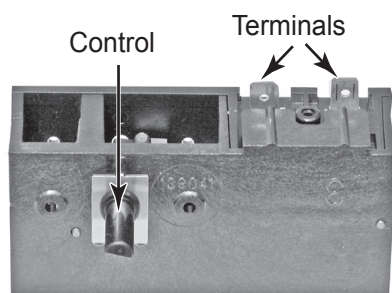
COMPONENT TESTING

Before testing any of the components, perform the following checks:

- The most common cause for control failure is corrosion on connectors. Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures.
- All tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 ohms-per-volt DC, or greater.
- Check all connections before replacing components, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough.
- Resistance checks must be made with power cord unplugged from outlet, and with wiring harness or connectors disconnected.

	⚠ WARNING
	Electrical Shock Hazard Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.

MECHANICAL HUMIDISTAT



Refer to page 3-6 for the procedure for accessing the mechanical humidistat.

1. Unplug dehumidifier or disconnect power.
2. Disconnect the two wires from the humidistat terminals.
3. Turn the humidistat control fully counter-clockwise.
4. Set the ohmmeter to the R x 1 scale.
5. Touch the ohmmeter test leads to the humidistat terminals. The meter should indicate an open circuit (infinite).
6. Turn the humidistat control clockwise until you hear it click. The meter should indicate a closed circuit (0 Ω).

FAN CAPACITOR & COMPRESSOR CAPACITOR



Refer to pages 3-8 and 3-10 for the procedures for accessing the fan capacitor and the compressor capacitor.

1. Unplug dehumidifier or disconnect power.
2. **IMPORTANT:** Discharge the capacitor by touching the leads of a 20,000 ohm resistor to the capacitor terminals.
3. Disconnect the wires from the capacitor terminals.
4. Set the ohmmeter to the R x 1K scale.
5. Touch the ohmmeter test leads to the capacitor terminals. The meter should indicate several ohms, and gradually return to infinity.

⚠ WARNING



Electrical Shock Hazard

**Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.**

FAN MOTOR

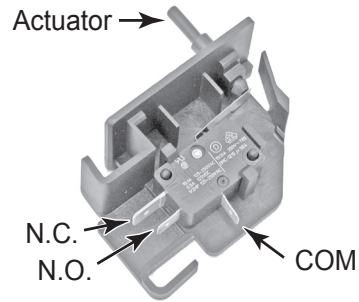


Refer to page 3-8 for the procedure for accessing the fan motor.

1. Unplug dehumidifier or disconnect power.
2. **IMPORTANT:** Discharge the capacitor by touching the leads of a 20,000 ohm resistor to the capacitor terminals.
3. Disconnect the fan motor wires from the capacitor terminals.
4. Disconnect the remaining fan motor wires from the mechanical or electronic control terminals.
5. Set the ohmmeter to the R x 1 scale.
6. Touch the ohmmeter test leads to the indicated motor wire connectors. The meter should indicate as shown in the following chart:

Motor Part #	Motor Type	Capacity (Pints)	Test Lead	Resistance (Ohms)
1188409	1-Speed	25	Wh-Bk	161 ±20%
1188411	2-Speed	35 & 50	Wh-Or	142 ±20%
	2-Speed	35 & 50	Wh-Bk	118 ±20%
1188413	2-Speed	70	Wh-Or	65 ±20%
	2-Speed	70	Wh-Bk	50 ±20%

BUCKET SWITCH



Refer to page 3-10 for the procedure for accessing the bucket switch.

1. Unplug dehumidifier or disconnect power.
2. Disconnect the wires from the bucket switch terminals.
3. Set the ohmmeter to the R x 1 scale.
4. Touch the ohmmeter test leads to the indicated switch terminals. The meter should indicate as follows:
COM and N.C. = 0 Ω
COM and N.O. = Infinite
5. Press the actuator and the readings in step 4 should reverse:
COM and N.C. = infinite
COM and N.O. = 0 Ω

DIAGNOSTICS & TROUBLESHOOTING

DIAGNOSTICS

1. Turn off the dehumidifier with the power button.
2. Remove the bucket.
3. Unplug the dehumidifier for at least 1 second.
4. Reconnect power.
5. Within 5 seconds of restoring power, complete the following 3-key entry sequence in this order: Desired Humidity, Fan, and Power.
 - If you press a wrong key during the 3-key sequence, or if more than 5 seconds elapses before completing the sequence, you will need to restart the sequence from the beginning.
 - After pressing the 3 keys in the correct order within 5 seconds, all the LEDs will light at Step 1 (see chart). Use the Desired Humidity key to advance the steps. Using any other key will exit diagnostics.

IMPORTANT: If you do not complete the diagnostics procedure within 15 minutes, the control will exit the diagnostics.

Step	Test	LED Name	LED Condition
1	LEDs	All	All illuminate
2a	Bucket switch	Bucket	Blinking= Bucket removed (switch open) ON solid= Bucket installed (switch closed)
2b	Thermistor	Normal	On solid= Pass Blinking= Fail
2c	Humidistat	Continuous run	On solid= Pass Blinking= Fail
3	HIGH speed fan	HIGH	ON solid, confirm operation
4	LOW speed fan	LOW	ON solid, confirm operation
5	Compressor (On for 20 seconds)	AUTO	ON solid, confirm operation
Exit			

TROUBLESHOOTING

⚠ WARNING



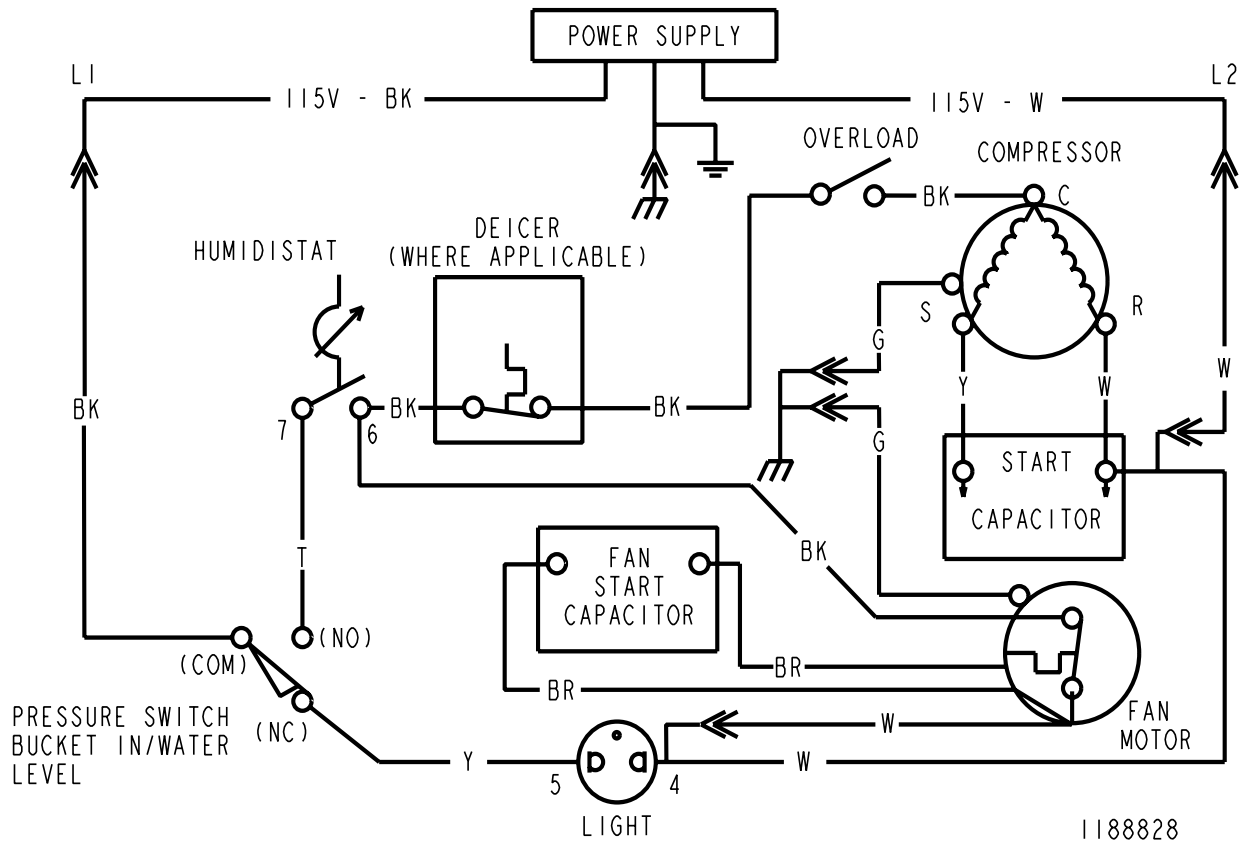
Electrical Shock Hazard

**Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.**

PROBLEM	CAUSE	CORRECTION
Unit will not run - no fan and no compressor.	1. Unit not turned "ON" or not set dry enough.	1. Set control to "CONTINUOUS." This will allow the fan and compressor to run regardless of the ambient humidity.
	2. No power to unit.	2a. Power supply cord not plugged in. Plug in cord. 2b. Unit plugged into outlet that has no power to it (blown fuse or tripped circuit breaker). Advise customer to correct this problem with a qualified electrician.
	3. Bucket In/Water Level switch open.	3a. Empty bucket. 3b. Make sure bucket is installed properly. 3c. Check switch. Replace, if defective.
	4. Defective power supply cord or loose wiring in unit.	4. Check wiring and supply cord. Repair or replace defective parts.
	5. Defective humidistat.	5. Run diagnostics. Replace electronic control, if needed.
Fan runs - compressor does not run.	1. Mechanical Models: Deicer thermostat open.	1a. Let evaporator coil thaw. Normal if coil is frosted over. 1b. Replace deicer thermostat if it is still open after coil thaws and warmed up.
	2. Electronic Models: Thermistor out of range or evaporator is less than 30°F.	2a. Unit in defrost mode. Raise room temperature. 2b. Run diagnostics. Replace electronic control, if needed.
	3. Compressor overload or relay defective.	3. Check both components and replace, if defective.
	4. Compressor windings open.	4. Check continuity and replace if one or both windings are open.
Fan does not run - compressor runs.	1. Fan motor not getting power.	1. Check wiring. Repair or replace, as necessary.
	2. Fan motor defective.	2. Replace fan motor.
	3. Fan blade jammed.	3. Remove obstruction. Replace if fan blade is damaged.
Fan and compressor run - evaporator coil frosted over.	1. Ambient room temperature is too cold (non deicer model).	1. Turn unit off until room temperature reaches 65°F (18.3°C).
Fan and compressor run - no dehumidification.	1. Unit out of refrigerant.	1. Follow sweep charge procedure to find and repair leaks.
	2. Humidity too low.	2. Turn unit off until humidity goes up.
	3. Dirty evaporator or blocked air filter.	3. Clean air filter and/or evaporator.
Unit runs - insufficient dehumidification.	1. Area is not sealed off - open doors and/or windows.	1. Isolate area by closing doors and windows.
	2. Grilles obstructed.	2. Move unit or items so grilles are not blocked.
	3. Dirty evaporator or blocked air filter.	3. Clean air filter and/or evaporator.
	4. Low refrigerant charge.	4. Follow sweep charge procedure to find and repair leaks.
	5. Unit too small for area being dehumidified.	5. Close off into smaller area.

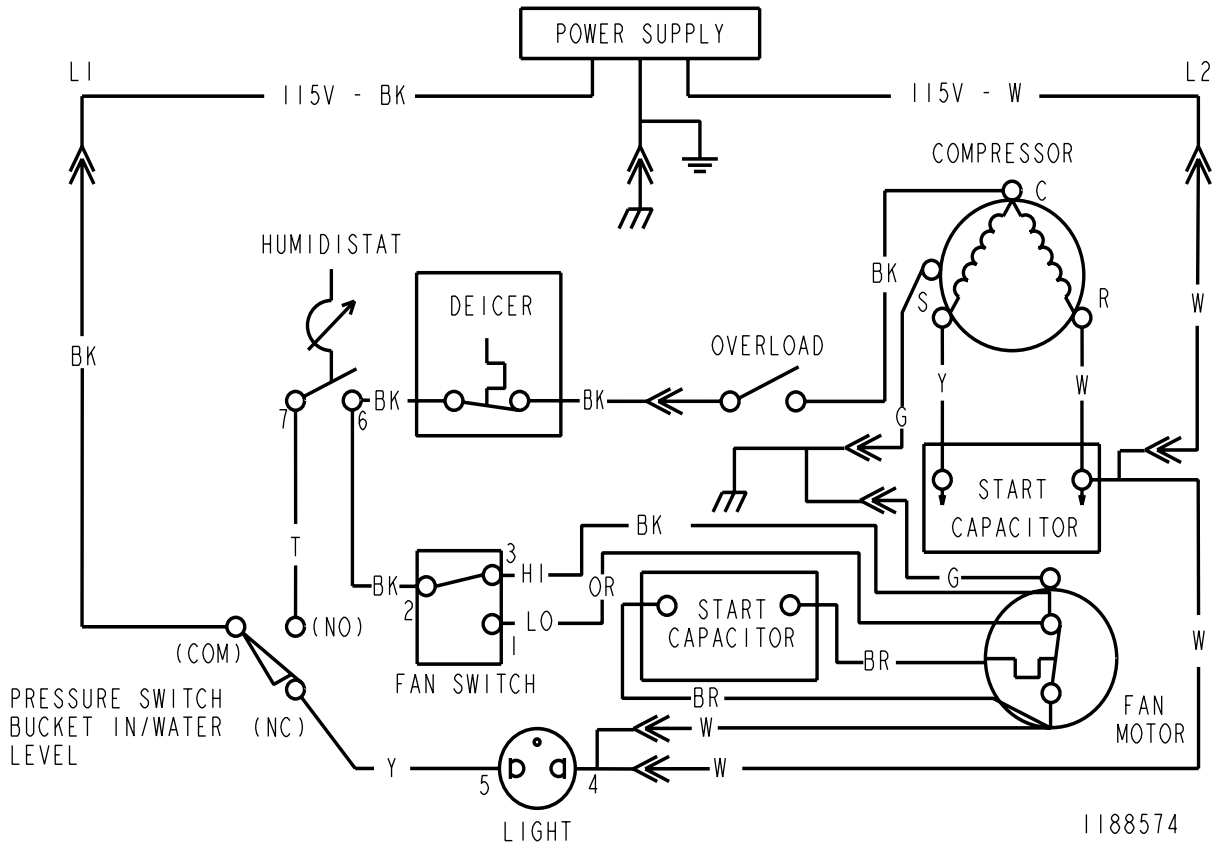
WIRING DIAGRAMS

WIRING DIAGRAM 1



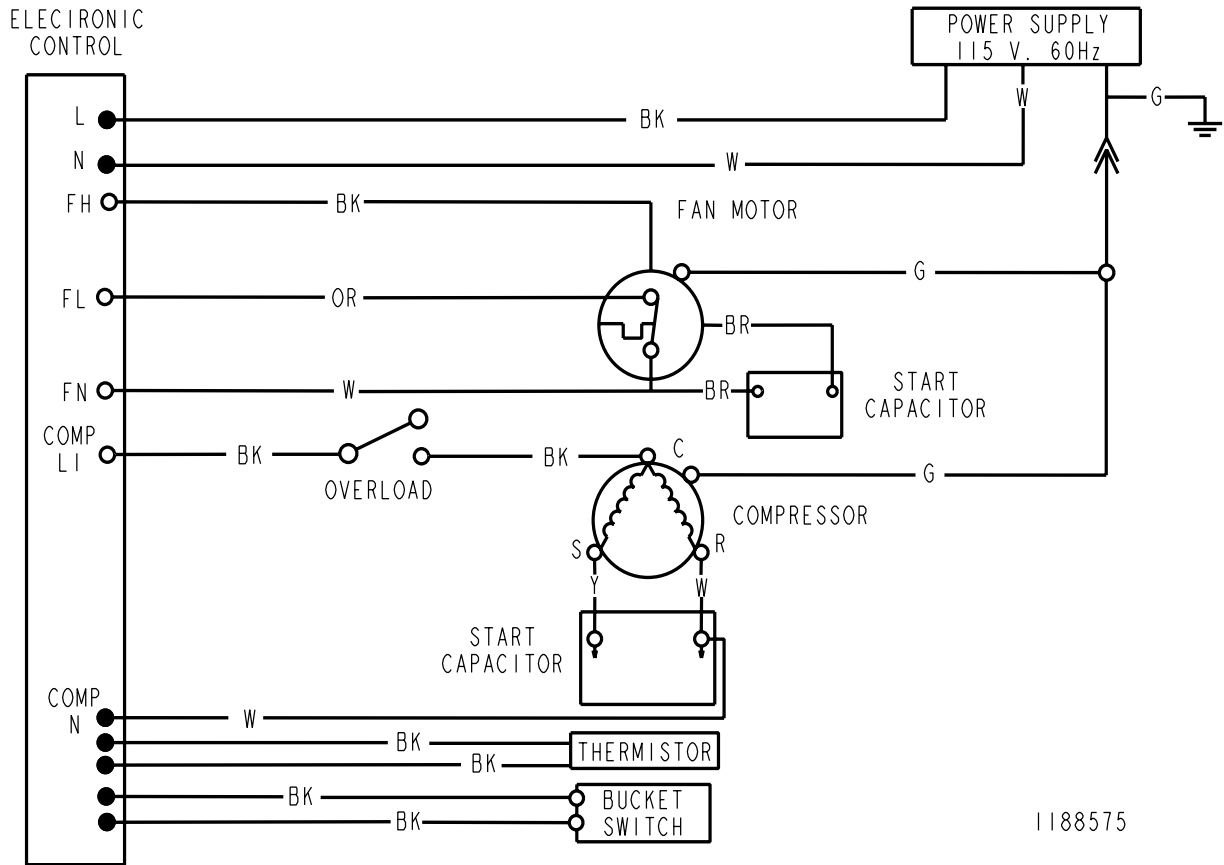
BK	BLACK	R	RED	B/W	BLACK W/WHITE TRACER
W	WHITE	BR	BROWN	OR	ORANGE
G	GREEN	Y	YELLOW	W/A	WHERE APPLICABLE
BL	BLUE	T	TAN	Y/G	YELLOW & GREEN

WIRING DIAGRAM 2



BK	BLACK	R	RED	B/W	BLACK W/WHITE TRACER
W	WHITE	BR	BROWN	OR	ORANGE
G	GREEN	Y	YELLOW	W/A	WHERE APPLICABLE
BL	BLUE	T	TAN	Y/G	YELLOW & GREEN

WIRING DIAGRAM 3



BK	BLACK	R	RED	B/W	BLACK W/WHITE TRACER
W	WHITE	BR	BROWN	OR	ORANGE
G	GREEN	Y	YELLOW	W/A	WHERE APPLICABLE
BL	BLUE	T	TAN	Y/G	YELLOW & GREEN

— NOTES —

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— NOTES —

— NOTES —

PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION SOURCES

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FOR ROPER PRODUCTS: 1-800-447-6737

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