

OPERATING INSTRUCTIONS

DELUXE BLEND AIR II

7681-8171/B

WARNING

IMPROPER INSTALLATION OR SERVICE MAY DAMAGE EQUIPMENT, CAN CREATE A HAZARD OF ASPHYXIATION AND WILL VOID THE WARRANTY.

NOTE

The words "Shall" or "Must" indicate a requirement which is essential to satisfactory and safe product performance.

The words "Should" or "May" indicate a recommendation or advice which is not essential and not required but which may be useful or helpful.

WHY IS THE Deluxe Blend Air II NEEDED?

Modern homes, including manufactured homes, are tightly built and well insulated.

This type of construction is highly energy efficient, natural ventilation may be restricted significantly.

The lack of natural ventilation (infiltration) helps the home retain its conditioned air, but traps moisture in the home. During the winter, this moisture laden air will migrate to the coldest areas in the home and the attic area. The moisture will condensate, forming pools of water and ice.

In the living area, this will cause warped paneling, mildew, stained window sills and in some cases, thick layers of ice may build up on the inside of windows.

In the attic area, moisture can stain ceiling panels and soak the insulation. When the attic insulation gets soaked, it will lose its effectiveness reducing heat transfer and will increase the home's energy usage.

The Deluxe Blend Air II system installed in your home helps fight these moisture and air quality problems by providing controlled ventilation to both the attic and living areas.

HOW DOES MOISTURE GET IN THE AIR IN THE FIRST PLACE ?

A home which is not occupied will not usually have condensation problems.

Moisture build up in a home is caused by the people who occupy that home. This doesn't mean the homeowner is doing anything wrong. It simply means that normal activities such as; showers, laundry, cooking, and breathing all create water vapor. These are all a normal part of everyday life which cannot be avoided.

There are ways which you can reduce the amount of water vapor present in the home:

When showering, use the bathroom exhaust fan.

When cooking, use the range hood fan.

DO NOT use kerosene heaters in the home.

Be sure the clothes dryer vent is ducted to the outside of the home (not underneath the home).

If you are doing something which obviously creates excessive water vapor, open a window to provide fresh air.

HOW THE Deluxe Blend Air II WORKS

The Deluxe Blend Air II System works from your wall thermostat and is designed to provide two basic functions. The first is to ventilate the attic cavity, the second to introduce fresh air, in a controlled manner, into the living area.

The Deluxe Blend Air II is designed to ventilate the attic automatically on a fixed time cycle (four hours on, four hours off) when the thermostat sits idle.

When the thermostat calls for heat or cooling, the Deluxe Blend Air II blower automatically starts operating if it is in a four hour OFF cycle. The furnace blower then induces fresh air through the damper tube assembly

A typical home with a Deluxe Blend Air II system is shown in Figure 1.

DELUXE BLEND AIR II WHOLE HOUSE & ATTIC VENTILATOR

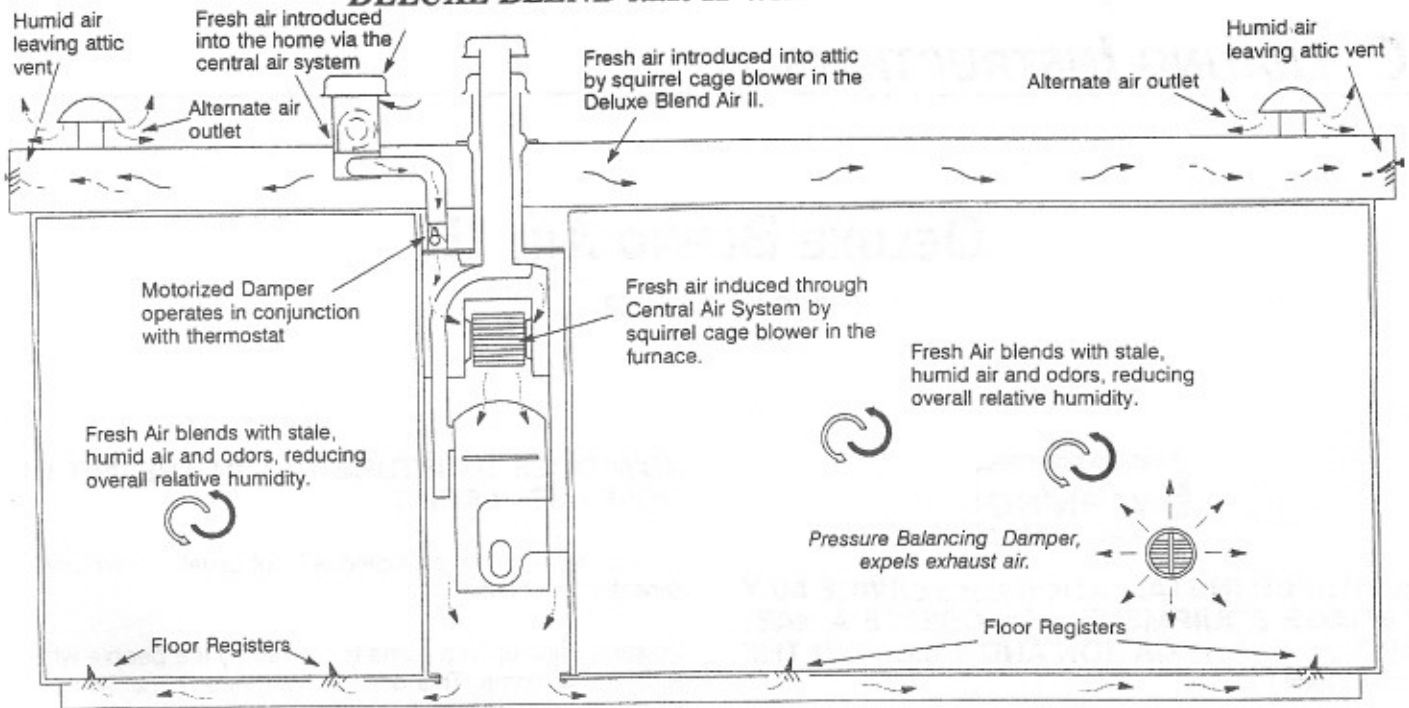


Figure 1 — Deluxe Blend Air II

HOW WILL THE DELUXE BLEND AIR II LOWER THE CONDENSATION IN MY HOME WHEN IT IS COLD AND FOGGY OUTSIDE AND THE UNIT IS PUTTING THAT AIR IN MY HOME ?

Assume that it is 35°F outside at 100% relative humidity. It might seem that drawing this air into the home would increase the moisture content of the inside air. Actually, when the outside air is warmed to 75°F its relative humidity (RH) drops to about 22% RH because cold air is not capable of holding as much moisture as warm air. The mixture of this relatively dry air with the air inside the home lowers the overall moisture content in the air and reduces the chances of condensation.

GETTING TO KNOW THE Deluxe Blend Air II CONTROL BOX

For normal operation, the two slide switches should be in the up position. Deluxe Blend Air II attic blower is provided with a motor failure sensing device. A signal is sent to the control box if one of the following conditions exist:

- a. the motor is not operational
- a. a motor bearing creates excessive heat, or
- a. any condition which prevents the motor shaft from turning.

When this condition occurs, an intermittent beeping noise (1 second on and 5 seconds off) should be heard from the control box. Deactivate the alarm by setting the alarm switch to the down position. Call for service. Fresh air will no longer be introduced into the home or attic.

IMPORTANT: Failure to take corrective action may cause serious structural damage.

The fresh air ON/OFF switch is provided to discontinue the

introduction of fresh air into the living area. This switch is used when extreme environmental conditions warrant the exclusion of fresh air introduction into the home.

The red lamp lights when the alarm is activated and flashes when the alarm switch silences the alarm.

The green light indicates attic fan motor conditions (ON/OFF).

The amber light indicates damper motor conditions (ON/OFF).

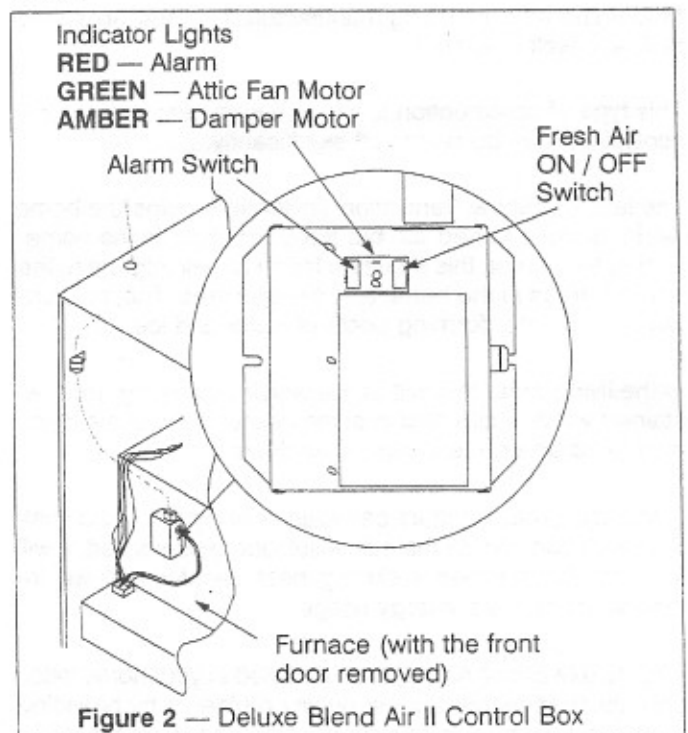


Figure 2 — Deluxe Blend Air II Control Box

System Operational Chart			
	THERMOSTAT	DAMPER (Fresh Air)	ATTIC FAN
Normal Heating & Cooling Modes	Heat – Calling (Vent ^E – Auto)	ON – 1 minute late	ON
	Heat – Satisfied (Vent ^E – Auto)	OFF	OFF *
	Cool – Calling (Vent ^E – Auto)	ON	ON
	Cool – Satisfied (Vent ^E – Auto)	OFF	OFF *
Manual Mode to Run System Continuously	Heat – Calling (Vent ^E – On)	ON	ON
	Heat – Satisfied (Vent ^E – On)	ON	ON
	Cool – Calling (Vent ^E – On)	ON	ON
	Cool – Satisfied (Vent ^E – On)	ON	ON
* Attic "OFF" may be overridden by furnace "ON"			
^E On Evcon thermostats, the "VENT" switch is the "FAN" switch.			

MAINTAINING MOISTURE CONTROL

1. Allow the Deluxe Blend Air II to operate as designed. Do not deliberately disconnect the Deluxe Blend Air II Blower unless service is required.

IMPORTANT

Do not disconnect the power supply to your furnace. The Deluxe Blend Air II uses the furnace power supply to power the 4-hour ON / 4-hour OFF timer. Disconnecting the power supply to the furnace also causes the attic fan to run continuously.

If you wait to run the Deluxe Blend Air II until visible signs of moisture appear, especially on ceilings and wall panels, damage may have already occurred. The condensation problem may then be extremely difficult or impossible to correct during cold weather.

2. Follow the recommendations made by your home's manufacturer for keeping the inside moisture at an acceptable level. Usually these recommendations (normally found in the home owners manual) include the following:
 - a. Operate exhaust fans when bathing, cooking, or whenever other moisture producing activities are occurring.

- b. Insure exterior skirting has ventilation openings to help prevent moisture build-up under the home.
- c. Avoid using humidifiers, unless required for health reasons or air inside home is unusually dry.
- d. Do not line dry laundry inside the home.
- e. Insure all fuel burning appliances are properly vented – especially the clothes dryer.
- f. Do not create moisture producing conditions, such as maintaining large aquariums or large numbers of indoor plants.
3. To help overcome persistent moisture conditions, set the thermostat "VENT" switch to **ON**. This will provide continuous attic ventilation for maximum moisture control.

Operating the thermostat "VENT" switch **ON** for a week or longer may be required to help overcome moisture conditions that may exist at the time of the Deluxe Blend Air II installation.

4. In some cases the amount of moisture removal required to control a condensation problem may be beyond the capacity of the Deluxe Blend Air II system. Consequently, the addition of a dehumidifier may be required.

MAINTENANCE

When the Deluxe Blend Air II system is installed on an electric furnace, the outside air (coming through the flex duct) is filtered by the furnace filter. When the Deluxe Blend Air II system is installed on a gas or oil furnace, the outside air is filtered with an aluminum mesh, permanent type filter.

For maximum indoor moisture control, this filter should be removed and cleaned at least every 6 months.

This filter will be located inside the furnace compartment, at one of the top, front corners of the furnace.

To remove filter:
Push up on filter.
Tilt the filter so that the rim of the filter clears the retaining tabs.
Pull filter down. See Figure 3.
Installation is reverse of the above

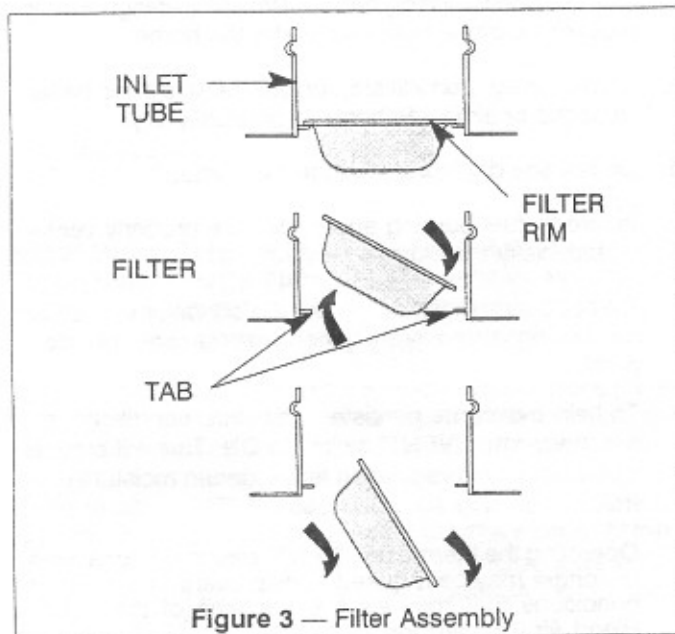


Figure 3 — Filter Assembly

At the start of each heating season the furnace and Deluxe Blend Air II system should be checked by an experienced serviceman.

Blower Unit

The blower unit is the main source of attic air and fresh air for the house; therefore, it must operate without any restriction. For proper operation the unit must be inspected every 3 to 6 months, depending on conditions such as an unusually dusty or heavy pollenated area.

CAUTION

Do not open the control box underneath the rain cap. It contains HIGH VOLTAGE.

To inspect the blower unit, first disassemble the rain cap by removing the three screws holding it down. Inspect the wire mesh for dirt, bugs, pollen, or any material that will prevent fresh air from passing through. Clean the wire mesh from debris by washing it with water.

Attic Air Outlet

Notice in figure 1 that your home should be equipped with either attic or roof vents at each end of the house. These vents should be free of any blockage. Inspect and clean them regularly.

CAUTION

In the event of heavy snow accumulation, keep the Deluxe Blend Air II unit and roof jack cleared of snow to prevent them from being covered. In heavy snow areas, it is recommended that a roof jack extension be used to extend the roof jack an additional 18". Failure to observe this caution may prevent the Deluxe Blend Air II System from inducing outside air and could cause combustion air to be restricted to the furnace, resulting in pilot outage or inefficient operation.

ABOUT YOUR WARRANTY

A limited warranty certificate has been supplied with your Deluxe Blend Air II System.

The system is warranted to the retail consumer for two (2) years against defects in material or workmanship.

In addition, since there can be many variable factors which cannot be controlled by the Deluxe Blend Air II system, the System is not warranted to prevent or cure moisture condensation problems.

Read the warranty for a complete description of the coverage.

THE REGISTRATION CARD

A registration card has been supplied with the Deluxe Blend Air II system. Complete the card with the necessary information (the unit serial number is on the control box, located inside of the furnace). Return of the card is not necessary to register the warranty. Registration of your appliance will enable us to contact you in the remote event that safety notifications become necessary.

OPERATING COST OF DELUXE BLEND AIR II

IMPORTANT

Do not disconnect power supply to your attic fan. Disconnecting power supply to the attic fan will cause the alarm to go off and the attic ventilation to cease. Such lack of ventilation can cause damage to the roof, insulation, and ceiling.

The Deluxe Blend Air II consumes 100 watts of energy to run the attic fan and the annual operating cost is estimated at \$30. This amount is very low compared to the cost of roof decking, insulation, and ceiling repair.

BLEND AIR QUESTIONS AND ANSWERS

DELUXE BLEND AIR II

Question: Why is my Blend Air running constantly?

Answer: Your Blend Air should be running on its timer's pre-set cycle: 4 hours ON and 4 hours OFF. During the OFF cycle, your Blend Air will come on when the furnace is turned on by the thermostat for heating, cooling, or ventilation only. Then when the furnace is turned off again by the thermostat, the blend air may be off if there is still time left for the OFF cycle. Therefore, the cycle ON/OFF repeats itself all the time starting from when the furnace was first powered up. To ensure that the above running modes occur, do not cutoff the furnace power even when it is not needed for heating or cooling.

Question: How do I synchronize the timer so that the Blend Air will not start by itself during the times I try to sleep or any other times?

Answer: First of all, the Blend Air is designed to operate quietly. However, there are two ways you can synchronize the times:

- 1) Turn off the furnace power supply and turn it back on when you want the timer to start; and,
- 2) Inside the control box there is a test pin socket that you can temporarily apply at the location marked "TEST", to cancel the current cycle. For example, if the current cycle is OFF, then by applying the socket at "TEST" you will cancel the OFF and start the ON cycle.

Question: Why do I need the Blend Air?

Answer: There are two types of blend air systems: the Standard Blend Air and the Deluxe Blend Air. The Standard Blend Air is for whole house ventilation only. Deluxe Blend Air is for whole house and attic ventilation. HUD studies have found that ventilation is important for manufactured housing due to tighter construction, chemical vapor from man made materials, and moisture build up inside the house and the attic space. The blend air system is designed to expel moisture out of the air within the home. If the damp air is left untreated, panels or plywood could be damaged.

Question: How much operating cost can I expect to pay for my Blend Air?

Answer: The Deluxe Blend Air attic motor consumes 100 watts of power; therefore, the following formula may be used to figure the operation cost:

$100 \times 12 \text{ hours/day} \times 365 \text{ days/year} = 438,000 \text{ watt hours} = 438 \text{ KWH}$

$\text{Energy cost} = 438 \text{ KWH} \times \$0.05 \text{ per KWH} = \$21.90/\text{year}$.

This amount is very low compared to the cost of repairing the roof decking, insulation and ceiling.

Question: Can I turn the main power supply to my furnace off during non-heating or non-cooling seasons?

Answer: No, your blend air system gets its power supply from the furnace transformer to operate the timer and to switch the attic fan ON or OFF. Furthermore, if the furnace is turned OFF, your attic fan will run constantly rather than 4 hours ON and 4 hours OFF.

Question: Can I turn the attic fan OFF when the house is not occupied for a period of time?

Answer: No, the attic fan is to be left on, but you need to consult your home manufacturer about leaving temperature settings inside the house during summer and winter times so that extreme temperatures will not damage your home or furnishings.

Question: It is high pollen season, and I am allergic to outside air what should I do?

Answer: When fresh air is not desired, you can turn the switch marked "AIR" to the OFF position. By doing so, fresh air is not drawn into the living quarter. Do not turn the attic fan OFF, leave it to ventilate the attic space.

Question: What do I do when the alarm beeps?

Answer: This is a clear indication that something is wrong. First open the furnace door and slide the alarm switch to OFF. This will silence the alarm and disable the damper motor which will not allow fresh air to come in (the furnace still operates normally). Then do the following checks:

*Is there a power supply to the attic fan?
Did any body turn the power breaker to the attic fan OFF?*

Check the edge connections of control cable. If it is unplugged the alarm will sound due to the lack of signal feeding back from upper to the lower board.

If the above checks do not work, call for service.

