MAINTENANCE

If installed on a forced warm air or cooling system where filters are properly installed and maintained no cleaning of the DUCT BOOSTER® blower wheel should be required.

If installed on a gravity warm air heating system which does not include filters, the DUCT BOOSTER® should be removed from the duct and cleaned at the start of each heating season. The motor is permanently lubricated so no oiling is necessary. The DUCT BOOSTER® motor normally runs hot to the touch.

LIMITED PARTS WARRANTY

Tjernlund Products, Inc. warrants the components of its products for one year from date of installation. This warranty covers defects in material and workmanship. This warranty does not cover normal maintenance, transportation or installation charges for replacement parts or any other service calls or repairs. Products that are tampered with, damaged, installed improperly, wired incorrectly or defective due to malfunctioning appliances are not covered under this warranty. This warranty DOES NOT cover the complete DUCT BOOSTER® if it is operable, except for the defective part.

DUCT BOOSTER® MODEL DB-2

DESCRIPTION

The DB-2 DUCT BOOSTER® is designed to increase the flow of heated air in warm air heating systems, or cooled air in central air conditioning systems.

Its size and design limits its use to branch ducts serving individual rooms, not the main supply or “truck line” duct. The DUCT BOOSTER® can be mounted on round or flat ducts. It is frequently installed on a warm air duct of a gravity warm air furnace to provide heating for a basement area.

SPECIFICATIONS

Motor: 120/1/60, 1550 RPM, 40 watts, .52 FLA

GENERAL INFORMATION

NOTE: Under normal operating conditions the motor casing of the DUCT BOOSTER® will feel hot to the touch. The motor has been designed to run at this temperature and is Recognized by Underwriters Laboratories (UL). This normal operating temperature will not harm the motor provided the operation and maintenance instructions enclosed with each unit are followed.

These units have been factory tested and rated in accordance with AMCA standard 210, test code for air moving devices.

Each DB-2 is electrically factory line tested before shipment.

After opening carton, inspect thoroughly for hidden damage. Fan wheel should rotate freely. If any damage is found, notify freight carrier and your distributor immediately and file a concealed damage claim.
INSTALLATION (Tools Required)

DRILL 1/4" NUT RUNNER
5/16" DRILL BIT 1/4" WRENCH
SCREW DRIVER TIN SNIPS

NOTE: If installing the DUCT BOOSTER® on a flat duct, the housing flanges will have to be bent at a 90° angle before inserting DUCT BOOSTER® into duct. This will allow screws to better align with the speed clips provided.

1. Opening should be cut in the bottom or top of a horizontal duct or any side of a vertical duct. The motor shaft will then be in the horizontal position. Apply the mounting template provided to the duct, cut opening and drill four 5/16" holes noted on template.

WIRING DUCT BOOSTER® IN PARALLEL WITH HEAT CYCLE OR COOLING/BLOWER "ON" CYCLE

CAUTION: The duct booster® cannot be wired into both the low (heating) and high (air conditioning/ fan "on") cycles of the DUCT BOOSTER®. Doing so will short out the blower.

CAUTION: The fan/limit switch, fan center relay, and associated wiring must be rated for the additional power consumption of the DUCT BOOSTER®.

NOTE: If DB-2 actuation is necessary during all blower conditions, use a Tjernlund Products, Inc. Model PS1503 Duct Airstat.

IMPORTANT

1. For electrical supply connections use wires suitable for at least 75°C when the duct booster® is used on a heated duct system.
2. When the duct booster® is installed on a warm air system without filters, flexible conduit or equivalent with sufficient slack in the conduit should be employed to facilitate the cleaning of blower wheel. Refer to "Maintenance" for annual cleaning.
3. Electrical conduit must be routed away from warm air system ducts. Use adequate supports if necessary.
4. The black motor lead wires are connected to the power source. The green wire is used for grounding purposes only.
2. Attach speed clips to vent pipe and align with four holes drilled in step 1.

3. Insert DUCT BOOSTER® in the slot with the adjustable damper curved plate above blower wheel pointing in the direction of air flow. The front flange goes inside the duct and the side flanges go on the outside. Bend the flanges to conform to the duct. Secure DUCT BOOSTER® to duct utilizing speed clips and screws provided. Use wrench to tighten nut behind electrical box.

**INSTALLATION RESTRICTIONS**

Do not install the DUCT BOOSTER® where temperatures of air within the duct exceed 200°F. This temperature would only rarely be found on a forced warm air system but could exist close to the furnace on a gravity warm air system. Locating the DUCT BOOSTER® near the outlet end of a duct will provide the most efficient performance.

The DUCT BOOSTER® must be installed with the motor shaft horizontal. It can be installed on the bottom or top of a horizontal duct or any side of a vertical duct.

**CAUTIONS**

1. Failure to install, maintain and/or operate the DUCT BOOSTER® in accordance with manufacturer's instructions may result in conditions which can produce bodily injury and property damage.

2. Disconnect power supply when making wiring connections and servicing the DUCT BOOSTER®. Failure to do so may result in personal injury and/or equipment damage.

3. Make certain the power source is adequate for the DUCT BOOSTER® requirements.

**ADJUSTMENT OF VARI-DRAFT DAMPER**

The DUCT BOOSTER® is shipped from the factory so that the maximum CFM is established when unit is installed. To reduce the CFM, slide the Vari-Draft damper so it will penetrate into duct further. Adjustments should be made prior to installing the DUCT BOOSTER® into duct.
OPERATION

The DUCT BOOSTER® can be operated and controlled in several manners:

1. By means of a standard ON/OFF switch.

2. By wiring the DUCT BOOSTER® in parallel with a gas or oil fired central furnace blower motor.

3. By using the optional Tjernlund Products, Inc. Model PS1503 DUCT AIRSTAT pressure switch, sold separately. The DUCT AIRSTAT will automatically control the operation of the DUCT BOOSTER® in both heating and cooling systems. When the air handler supplies warm or cool air, the DUCT AIRSTAT senses positive pressure and starts the DUCT BOOSTER®.

ELECTRICAL WRING

NOTE: All wiring must be appropriate Class 1 wiring as follows: installed in rigid metal conduit, intermediate conduit, rigid non-metallic conduit, electrical tubing, Type MI Cable, Type MC Cable or be otherwise suitably protected from physical damage.

CAUTION: When wiring DUCT BOOSTER® in parallel to a gas or oil fired central furnace blower motor the following conditions must be fulfilled.

In addition, the DUCT BOOSTER® cannot be wired into both the low (heating) and high (air conditioning/fan “on”) contacts of the blower relay. Doing so will short out the blower motor.

A. The gas or oil-fired central furnace may include refrigerant cooling coils, however, it must be equipped with 120 VAC single phase blower motors. The DUCT BOOSTER® SHOULD NOT BE WIRED IN PARALLEL WITH 240 VAC BLOWER MOTORS.

B. The basic furnace wiring and components should not be disturbed except for wiring interconnection of the DUCT BOOSTER® and furnace blower motor at a splice box in the furnace.

C. The rating of furnace blower motor controller must be adequate to control blower motor and the DUCT BOOSTER® motor. The DUCT BOOSTER® motor is rated 0.5 amps. NOTE: Blower motor controller should not be a variable speed tap type, solid state speed control or any other type not suitable for dual motor control.

D. The existing short circuit and ground fault protection for the furnace blower motor should be of a size and type which will adequately protect the DUCT BOOSTER® motor. Refer to Section 430-53 of the National Electrical Code.

E. The wiring from the furnace to the DUCT BOOSTER® must be 14 AWG and the furnace should be protected by over-current protection (fuses or circuit breakers) rated at 15 amperes or less, (as applicable for 14 AWG conductors).

F. IMPORTANT: Refer to Section 430-53 (d) and Table 310-16 of the National Electrical Code for additional limitations.