

*AIRTRONIC*<sup>\*</sup> 4 / *AIRTRONIC*<sup>\*</sup> 5  
Installation Instructions for Cargo Applications



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Heater	Order no.
<i>AIRTRONIC</i> D5, 12V	25 2361 05
<i>AIRTRONIC</i> D5, 24V	25 2362 05
<i>AIRTRONIC</i> B5, 12V	20 1859 05
Universal Installation Kit 12V / 24V (does not include heater)	CA 2361 80
Cargo Kit (does not include heater or ducting)	CA0 30 550





## Heater Location

When selecting the heater location, consider the following:

- A. Heater must be located so as not to interfere with such things as fork lift truck operations, product being transported, internal wall structures and trailer logo on the outside of the trailer.
- B. the ducting must be securely mounted and protected from damage and washing spray.
- C. Fuel lines must not exceed specified lengths and the fuel metering pump should be mounted as close to the fuel tank as possible.
- D. Electrical harnesses must be routed directly from the heater down through the trailer walls and under the trailer using holes in the frame cross members. Protect the harnesses using PVC tubing. Main power should be connected directly to the battery.
- E. Exhaust flange location in relation to the outside logo.

## Heater Mounting

- A. Locating the heater and exhaust plate:  
Locate the heater bracket as close to the ceiling and the front curbside of the cargo compartment as possible while still leaving enough room to service the heater glow plug and other components. Remember, the closer to the batteries and the fuel, the better. Decide on an installation that will get as many sheet metal screws or mounting bolts passing through the framing posts (for support) as possible. The standard framing post distance is 24 inches apart and this is reflected in the design of the heater bracket mounting holes. Ensure that no framing posts are cut by the installation of the exhaust plate. Raise the bracket into position, level it and mark the location of the four mounting holes, as well as the exhaust hole.

### **NOTE**

*Check that the proposed location aligns wall framing posts with the heater brackets mounting holes and that the exhaust plate will not damage an outside logo. Drill pilot holes through both inside wall and frame member so as to ensure that the 1/4 inch sheet metal screws catch at the desired location.*

### **NOTE**

*When installing a cargo heater in a RFP (reinforced plywood) cargo compartment, use a nut and bolt assembly to fasten the heater bracket to the wall. Drill through both inside and outside walls with a 3/8 inch bit, insuring that the holes line up with the heater mounting bracket holes. Construct an outer wall support bar and make certain that mounting holes coincide with the heater bracket. This bar will provide needed support for the cargo heater and bracket.*

Next drill the exhaust outlet hole. It would be advisable to raise the heater bracket back into position and double check the marked exhaust outlet location. Once this is finalized, use a 4 inch diameter hole saw and drill through the inside wall only. Allow the guide bit of the hole saw to pierce the outer wall and NO further. After completing this and removing the insulation, drill a 1 1/4 inch diameter hole in the outer wall using the established pilot hole from the previous cut. When finished, the exhaust plate flange will fit snugly into the 1 1/4 inch diameter hole. The exhaust plate is inserted from the outside of the cargo compartment.

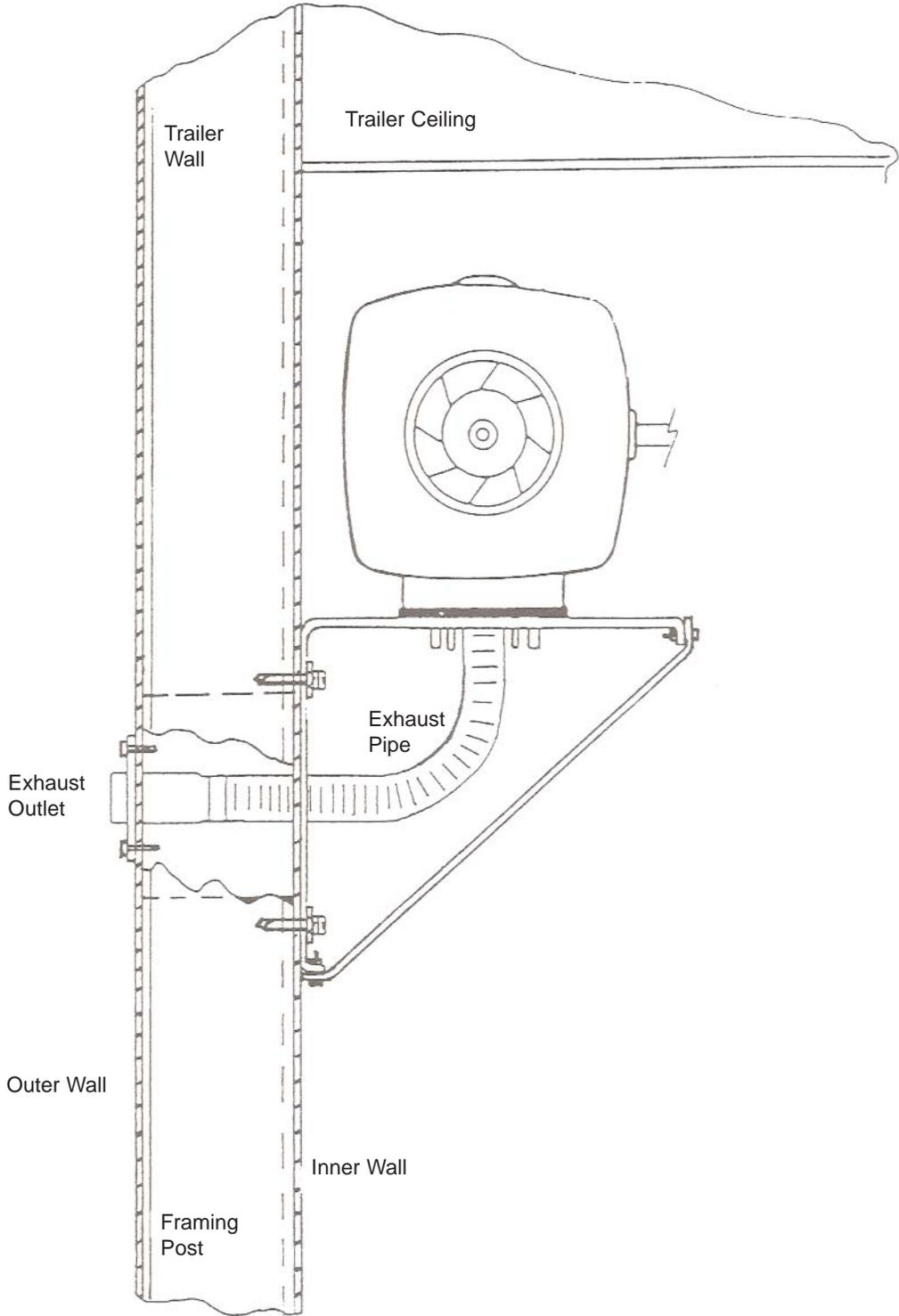
With the exhaust plate in place, mark the mounting hole locations and pre-drill to accommodate the sheet metal mounting screws provided.

Before installing the exhaust plate, apply a wide bead of silicone around the flange of the plate. Install the plate into place and secure using sheet metal screws provided. Wipe away excess silicone which, if any, came out from under the plate.

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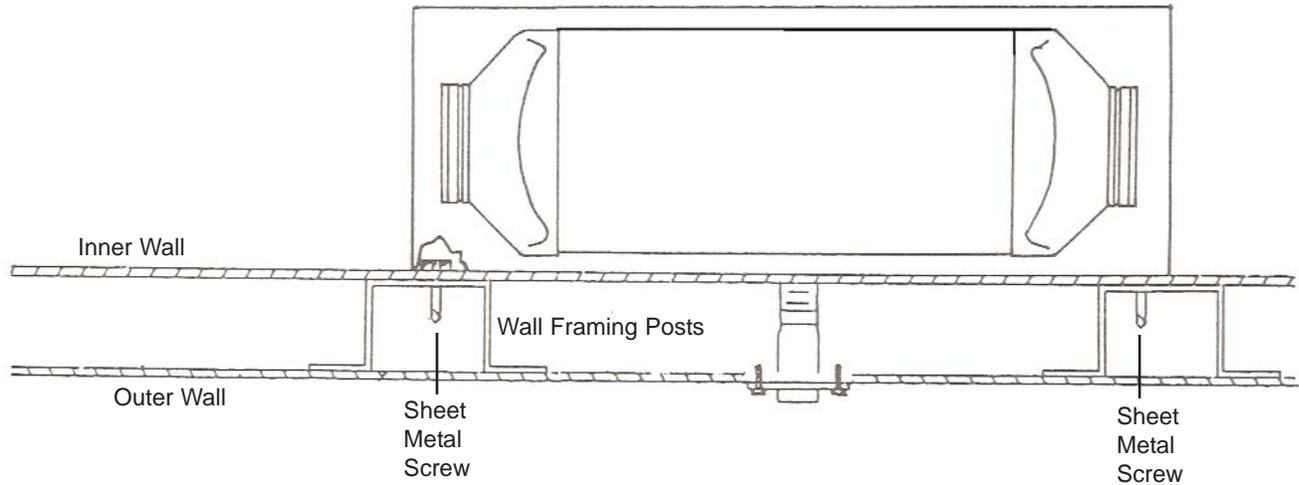
## AIRTRONIC 5 Side View



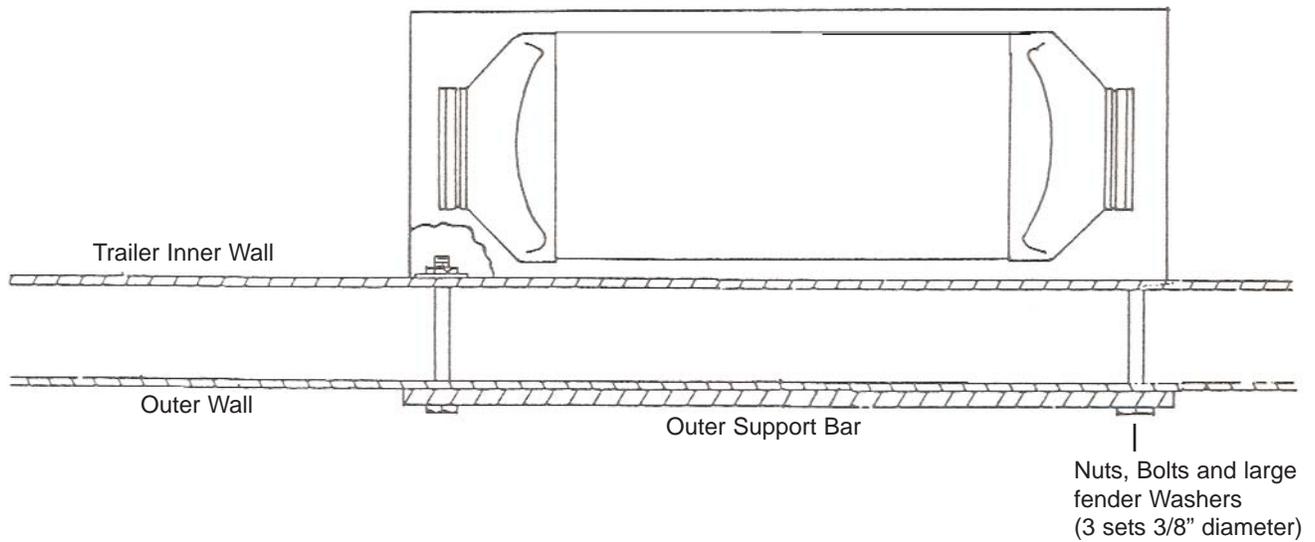
# Installation Instructions



## AIRTRONIC 5 Top View



## AIRTRONIC 5 Top View in a FRP Cargo Compartment



# Installation Instructions

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## Heater Installation

Mount the heater onto the heater bracket and secure the heater using the nuts and washers provided.

## Wire Harness and Fuel Line Routing

The suggested routing for the power harness, switch harness and the fuel line are within the trailer walls. This produces the best protection for the wire harnesses and the fuel line.

Below the trailer, the wiring harnesses and fuel lines can be routed through existing holes in the trailer frame cross members which have been lined with rubber grommets or flexible PVC tubing.

The PVC tubing can be routed through the holes in the frame webbing or it can run underneath the webbing if no holes are available. The harnesses and the fuel lines are passed through the inside of the PVC Tubing, providing maximum protection from sand, snow and mud accumulation. The PVC tubing must be well secured at all points to prevent damage by ice, mud or snow.

A special auger drill with extension is required to drill a hole into the trailer wall through which the harnesses and fuel line can be routed to the heater. In a straight truck, the wiring harnesses and fuel line should enter the cargo compartment at the front curbside corner of the box. For a trailer, the harnesses should enter the cargo area below the process air side of the heater. Where possible, use PVC tubing to protect the wiring and fuel lines within the cargo compartment.

When all harness connections are completed, the wires coming through the trailer wall should be protected from chaffing using plastic loom. Fill the hole(s) with silicone after the plastic loom has been secured into place around the wire harnesses.

### **NOTE**

*If the battery to be sued is in a nose mounted refrigeration unit, conduit tubing must be mounted on the front of the trailer for the routing of the power harness to the battery. Main power and ground are connected directly to the battery.*

### **NOTE**

*When routing the wire beneath the trailer, ensure that the wiring harnesses and fuel line (or the PVC tubing that carries the harnesses and fuel line) are well supported and tied down to prevent damage due to snow, ice or mud accumulation.*

## Heating Air Ducting

The heater installation may be used as is, but the distribution of heated air may not be satisfactory. To increase the heating efficiency, hot air ducting should be used. To promote circular air flow from the floor to the ceiling, optional cold air return ducting should be used.

Espar recommends using 4 inch diameter PVC pipe as ducting for the AIRTRONIC 4 and for the AIRTRONIC 5. The PVC duct should be mounted using sheet metal screws every 12-16 inches long the length of the duct. The fastening location should alternate between ceiling and wall. To do this, you must first drill a 1 inch hole in the opposite side of the PVC pipe so as to gain access with a drill. These access holes will later serve as hot air outlets along the length of the PVC duct.

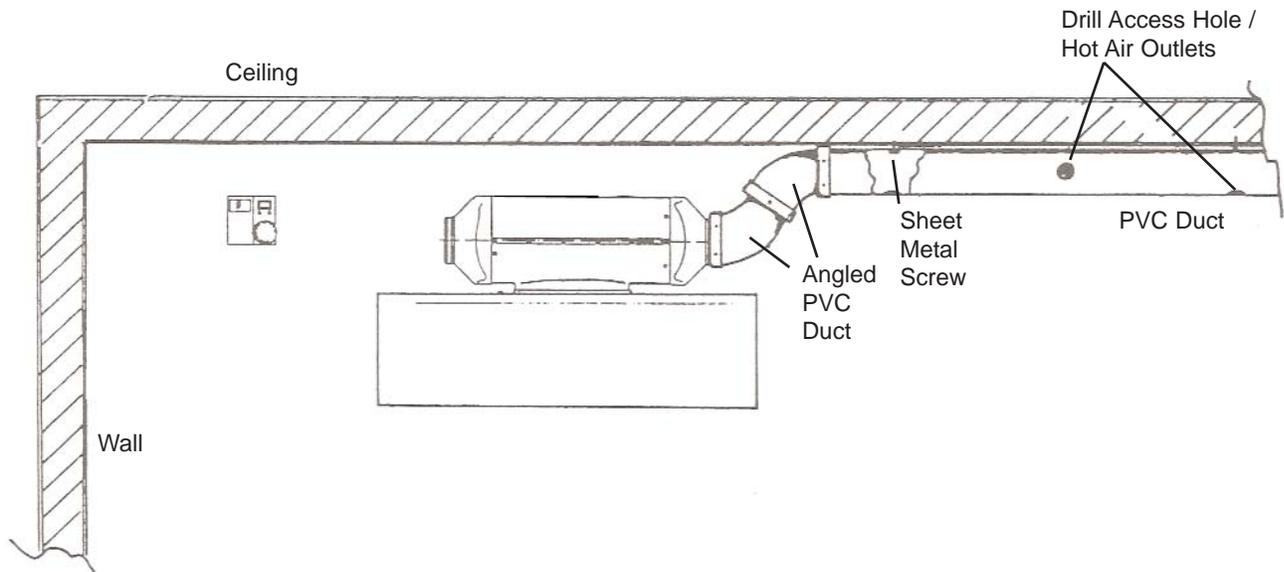
### **NOTE**

*PVC ducting can be purchased at your local hardware store.*

# Installation Instructions



## Side View Installation with PVC Ducting



**WARNING**

*If the component rating of the ducting is exceeded, the heater will shut down in the overheat mode and damage may result.*

**WARNING**

*All ducting components must be rated at 300°F (149°C) minimum.*

**WARNING**

*Outlet air is hot. DO NOT blow directly onto cargo.*

