

AIRTRONIC D2/D4

Operators Guide for bunk heater



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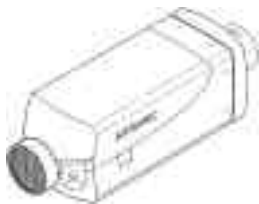


P/N: 615-103-0203

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Introduction

This guide will acquaint you with the operation of the Espar **AIRTRONIC** air heater. The **AIRTRONIC** air heater is a diesel-fired heater which provides a dependable means of compartment comfort without idling your engine. The heater will cycle through four temperature settings in order to maintain the desired temperature. While Espar heaters are simple to operate, certain steps should be followed to assure proper operation.



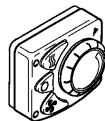
AIRTRONIC

A. Start Up

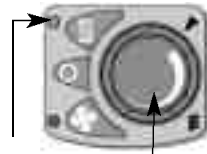
1. Shut off the vehicle's engine.
2. Espars' **AIRTRONIC** can be operated by a Mini-Controller, a room thermostat or an optional 7 Day Timer (see timer instructions for the 7 Day timer).

Mini-Controller

Switch the heater on by pressing the heat button. Control desired temperature range by turning the dial clockwise to increase temperature.



Red LED comes on



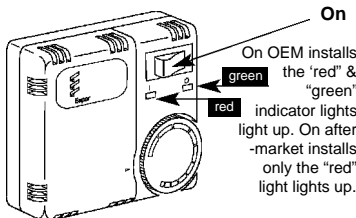
Temperature Dial

Lowest setting - approx. 47°F (8.5°C)
Highest setting - approx. 97°F (36°C)

Thermostat

Turn the on-off switch to the "ON" position. Switch the heaters' temperature setting by adjusting the temperature control dial to the desired temperature range.

Lowest setting - approx. 50°F (10°C)
Mid setting - approx. 68°F (20°C)
Highest setting - approx. 86°F (30°C)



On
On OEM installs the 'red' & 'green' indicator lights light up. On after-market installs only the 'red' light lights up.

3. If compartment/bunk is already up to temperature heater will come on and cycle to low.

There will be a 5 second delay before the heater starts to run. The heater is doing a "systems check" and this is normal.

4. The blower motor starts gradually and the glow pin pre-heats the combustion chamber (approx. 45 seconds).
5. Following the glow pin preheat, the fuel metering pump starts and ignition takes place.
6. Once ignition takes place the heater's flame sensor switch will automatically shut the glow pin off.

If the heater fails to ignite the first time, it will automatically attempt a second start. If unsuccessful, the heater will shut down completely. If the heater fails to ignite after second attempt, consult the troubleshooting manual or call your nearest authorized Espar dealer.

B. Running

1. The heater starts in boost mode when switched on by the operator.
2. Once the temperature setting on the mini-controller or thermostat has been reached, the **AIRTRONIC** will then cycle between *Boost-High-Medium-Low* to maintain the desired comfort level.
3. If the temperature continues to rise, even in the low heat mode the heater will cycle off until the temperature falls below the mini-controller or thermostat setting. The heater will restart, when required.
4. The heater will continue to run in this manner until it is switched off.

The mini-controller or thermostat must be in the off position in order to be sure the heater is completely off and not cycling.

C. Switching Off

Mini-Controller

1. Switch the heater off by pressing the off button.

Red LED goes off.

Off



2. When manually switched off, the fuel pump stops and the flame is extinguished. The combustion air blower continues to run for a 3 minute cool down cycle, then the heater switches off completely.

D. Overheat

The heater will automatically shut down if overheating occurs. Be sure that the air intake screen and the air outlet are free from obstruction.

If an obstruction occurred to cause an overheat, clear obstruction and then heater can be restarted by manually switching the heater off and on again.

Warning

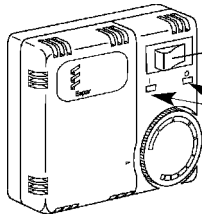
Obstruction of the air intake, air outlet, combustion air intake, or lack of fuel will cause the heater to operate improperly.

Warning

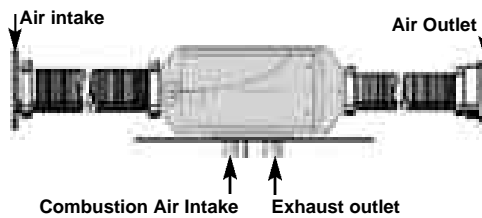
The heater must be switched off while any fuel tank on the vehicle is being filled. The heater must not be operated in garages or enclosed areas.

Thermostat

Switch the heater off by turning the on-off switch to the off position.



The "red" & "green" indicator lights will shut off



Preventative Maintenance

Espar recommends that the following preventative maintenance be performed on the heater prior to every heating season. Additional preventative maintenance dates may be required depending on operating conditions. During every preventative maintenance Espar recommends the following procedures:

1. Operate the heater for a minimum of 20 minutes each month.
2. Remove and inspect the glow pin for carbon build up. Clean and/or replace. See graphic 1 below
3. Clean the atomizer screen to remove any carbon build up, making sure the vent hole is open. Use of a non-detergent 100% volatile carburetor cleaner and an air gun will also help in cleaning. Replace screen with insertion tool provided with your new part. See graphic 1 below for details and **AIRTRONIC** manual for more information. Remove any loose carbon that may be in the glow pin chamber.
4. Inspect the ducting and check the air intake screen and air outlet for blockage.
5. Inspect combustion air intake and exhaust for blockage.
6. Run your heater and check for proper operation during regular preventative maintenance throughout the year.
7. Maintain your batteries and all electrical connections. With insufficient electrical power the heater will not start. Low and high voltage cutouts will shut the heater down automatically.
8. Use fuel suitable for the climate (see engine manufacturers recommendations). Blending used engine oil with diesel fuel is not recommended.

Mini-Controller - Ventilation mode:

Espar's new mini-controller has a ventilation feature which enables the user to run only the fan component of the heater. This feature circulates the air through out the cabin area. To utilize this feature press the fan button.

Fan:Off/On



Blue LED indicates the fan feature is either on or off.

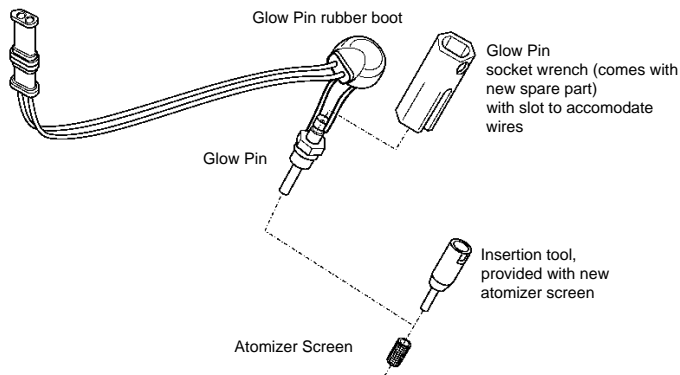
Power Management Tips:

The reserve capacity of your truck batteries is limited. If excessive battery power is consumed while the truck engine is not running (and not charging the batteries), you may not be able to start your truck. The following list may give you a better idea of the power consumption of various 12-volt DC items:

A low-voltage automatic disconnect, split-battery system, or low-voltage alarm may be helpful in effectively managing your battery power. Often, the simplest way to conserve battery power is to ensure items that are not needed are off (i.e. refrigerator, marker lights) when the truck is parked.

Espar's **AIRTRONIC** bunk heater is equipped with a low voltage cut-out system. This occurs when your batteries voltage falls below 10.5 volts.

1



Power Consumptions

Item (12-volt DC powered)	Battery Draw (Amps)
AIRTRONIC air heater	0.67 - 2.8
Hair Dryer	12.0
Fluorescent Lantern	0.5
7-Quart Refrigerator	5.5
30-Quart Refrigerator	6.5
36-Quart Refrigerator	8.5
Coffee-Maker	13.0
Beverage Heater	7.0
Bed Warmer	3.0
Electric Blanket	5.0
Digital Alarm Clock	0.5
Car Seat Heater	7.0
Utility Light	7.0
Halogen Spot Light	4.0
Dome Lights	1.0
Fluorescent Interior Lights	0.5
Interior Light Bar	1.3
Windshield Defroster	6.0
Colour Television	3.0
VCR	2.0
Space Heater	23.0
Cabin Blower (Low)	11.5
Cabin Blower (High)	25.2
Headlights & Marker Lights	20.0