SUGGESTED APPLICATIONS:

- Any boat stored out of the water
- Boats 25 ft. - 42 ft. (7.62 m -12.8 m)
- Engine compartments up to 650 cu. ft. (18.4 cu. m)
- Boats with twin engines
- Boats with a single engine plus a generator

This BoatSafe® heater is a 750 Watt, forced-air and temperature regulated electrical unit designed to provide a safe heating source for your marine engine compartment when installed and operated in accordance with the manufacturer's specifications. It has been carefully designed for ease of installation and for maintenance free operation.

All components are encased to prevent damage, misuse and tampering. Please return your engine compartment heater to BoatSafe, Inc. for service or repair.

SPECIFICATIONS:

UNIT DIMENSIONS:	61/2"H x 61/2"W x 21" L - 2" mounting bracket at each end of unit. Weight - approximately 7.5 lbs.
UNIT ENCLOSURE:	16 Ga. aluminum. Designed for exceptional strength and long life. CAD vents for proper air flow and maximum heat distribution. Fully powder coated for scratch and corrosion resistance.
HEATING ELEMENT:	750W, cast alloy, completely sealed and specially designed and engineered for this application. Cast alloy provides excellent corrosion and vibration resistance. Will not spark. Lab tested.
THERMOSTAT CONTROL:	Hermetically sealed. Factory calibrated and pre-set to activate heater unit when ambient air temperature falls to approximately 45° F and continues operating until ambient air temperature reaches approximately 55° F.
FAN:	Heavy duty, computer style induction fan. Rated at 105 CFM. UL recognized. CSA certified.
POWER CORD:	20' - 16/3 gauge, 13 A, Marine rated, UL listed, CSA approved, extended temperature range.
UNIT DRAW:	Approximately 6.5A at 120V.
OUTPUT:	2600 BTU/hr
COST TO OPERATE:	6¢/Hr. (Based on average electricity cost of 8¢/KWH)

SINCE 1990
The Standard in Engineering & Safety

The BoatSafe®

Marine Engine Compartment Heaters

BSAT 750 WATT HEATER INSTALLATION & TESTING

- SEASONAL ENGINE PROTECTION
- ECONOMICAL
- ENERGY EFFICIENT
- EASY INSTALLATION
- CONVENIENT TESTING
- MEETS OR EXCEEDS ALL SAFETY STANDARDS

If you feel your heater is not performing as expected after installing and testing the unit, or you simply have questions, please call us.

1-888-BOATSAFE www.boatsafeheaters.com

The BoatSafe® BSAT 750 WATT HEATER

Marine Engine Compartment Heaters

READ CAREFULLY

Careful attention to these installation instructions will assure trouble free operation and maximum utility from your BoatSafe® heater.

INSTALLATION INSTRUCTIONS:

DO NOT deviate from the wiring instructions as incorrect installation could cause an electrical short and create a possible fire hazard.

ALWAYS disconnect shore power to the boat BEFORE proceeding with installation.

Mount the unit with screws through the four mounting holes in the mounting feet. The unit should be mounted on a metal or on a marine rated wood surface in the engine compartment. Mounting must take place in an area free of loose material that could come into contact with the heater. A clearance of six inches or more from the heater vents to the nearest object is recommended.

The preferred and the safest way to wire your Boatsafe® heater is to hard wire into your boat's marine electrical system in accordance with generally accepted marine industry standards. Any power source used to hard wire the unit should be a minimum 15 Amp 120 Volt circuit that is equipped with a fuse or a breaker.

Use of a marine rated plug is acceptable, but to maintain ignition protection, plug-in connections must be outside the engine compartment. Hard wired connections within the engine compartment must be in accordance with accepted marine industry standards and contained within a marine approved junction box. In all cases, the 120 VAC power source must be fuse or breaker protected.

NOTE: Certain standard making organizations have established rules for wiring aboard boats. Those rules applicable to your situation should be followed. *If you are unsure of what rules apply to your boat, please call us or ask a marine electrician for assistance.*

Please use the wiring key below as a guide for hard wiring your Boatsafe® heater or attaching to a marine rated plug.

WIRING KEY:

Green = Ground **Black = Hot** **White = Neutral**

To ensure proper and safe operation, the black (hot), white (neutral) and green (ground) heater leads must be connected to the corresponding leads of the boat's 120 VAC wiring harness or of the shore power supply using acceptable methods and marine grade connectors. It is strongly recommended that wires be traced to the source, either visually or by electrical continuity testing, to confirm consistent color-coding. For plug-in connections, proper wiring of 120 VAC outlets can be confirmed with an inexpensive polarity tester available in the electrical section of most hardware stores. If in doubt, please obtain the services of a qualified marine electrican to complete the installation.

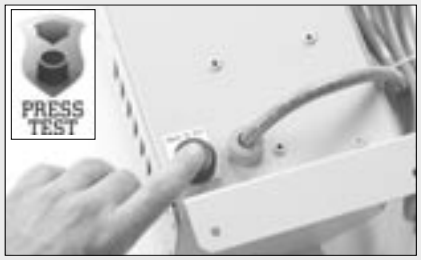
The BoatSafe® engine compartment heaters should be tested at least biannually and especially at the start of your cold season. Testing should be performed with Freeze spray or beginning with the 2008 BSAT 750 Watt heater, with the Press Test button.

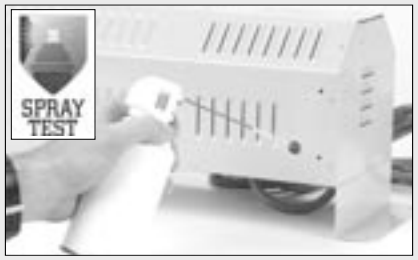
Boatsafe® heaters no longer ship with Freeze spray since the spray itself is a shipping hazard. It can be purchased at RadioShack®, an auto supply store, an authorized Boatsafe® dealer or through the Mariner-Store.com.

TESTING:

PRESS TEST:

- Locate the "Press Test" button on the bottom of the heater and depress the button. The unit will cycle "ON" for 4 minutes.
- By the end of that 4 minute cycle, you should feel warm air blowing from the heater vents.
- Once the heater has turned "OFF", the fan will continue to run for 10 minutes.





FREEZE SPRAY TEST:

- To adequately test the unit when ambient air temperature is above 45° F, you must simulate an ambient air temperature below 45° F.
- With the heater unit properly hard wired into a 120 Volt power source, locate the 1/2" diameter hole marked "Test Here, Use Freeze Spray ONLY" on the end of the unit.
- Using a can of Freeze spray, insert the straw into the nozzle of the can and spray a 2-3 second burst of mist into the "Test" hole. This will trick the thermostat into turning the heater "ON".
- The Boatsafe® heater is not designed to deliver a blast of heat like you would get from turning on a hair dryer. The heat output is gentle, steady and warming to slowly raise the ambient temperature in the engine compartment. Therefore, the heating element must be on for at least 10 minutes to reach normal operating temperature. Otherwise, you may not feel warm air blowing from the heater vents.
- To keep the heater in the "ON" mode for the required period of time, you need to continually trick the thermostat. Within 30 seconds to 3 minutes after you have activated the heater using Freeze spray, you should hear a faint "click" indicating that the thermostat has turned the heater "OFF".
- Spray another 2-3 second burst of Freeze spray into the "TEST" hole to trick the thermostat into turning the element back "ON".
- Repeat this procedure until the element has been operating for about 10 minutes at which time you should feel warm air blowing from the heater vents.
- Once testing is completed, the ambient temperature of your test environment will resume control of the thermostat and turn your heater "OFF". The fan will continue to run for an additional 10 minutes.