

# **XTREME** *Heaters*

Marine Engine Compartment Heater  
**Owners Manual**



**SAFE**  
**RELIABLE**  
**EFFICIENT**

1

Introduction &  
**Registration**

2

How your Heater **Works**

3

Heater **Installation**

6

Tips for Maximum  
**Performance** and **Efficiency**

8

**Testing** your Heater

# Introduction & Registration

*Thank you for purchasing an Xtreme Heater!*

It is our privilege to have you as a customer and want you to have the best experience possible with your new Xtreme Engine Compartment Heater. Your Xtreme Heater is the best engineered, highest quality and best supported product of its kind. Designed to last the life of your boat, careful attention to these installation and care instructions will assure many years of trouble-free operation and maximum performance from your Xtreme Heater.

Before getting started with the installation, take time to register your heater purchase with us.

**Serial Number:** \_\_\_\_\_

**Purchase/Install Date:** \_\_\_\_\_

Your Xtreme Engine Compartment Heater is designed to provide a reliable heating source when installed properly and connected to a reliable electrical supply.

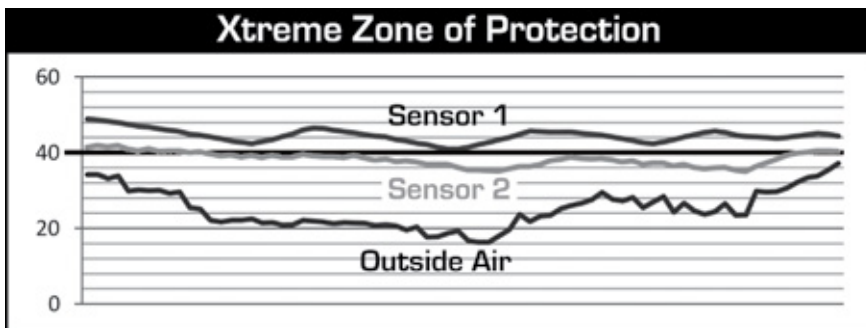
Your heater is factory-calibrated to operate automatically when the engine compartment temperature falls below 40 °F (approximately), and to continue operating until an ambient temperature of 50 °F (approximately) has been attained. By operating within this temperature range, extreme cold conditions are avoided. All heaters are sealed as there are no user serviceable components. Please do not attempt to open or alter your heater as this will void your warranty.



# How your Heater Works

Xtreme Engine Compartment Heaters are designed specifically to keep your engine space safely above freezing temperature, without wasting energy heating the space to unnecessary levels. Our fixed thermostat is factory-set to turn on the Xtreme Heater at 40° Fahrenheit (+/-3°) and off at 50 °F, keeping your bilge space safely above freezing temperatures.

The graph below represents a 74-hour log recorded on a boat equipped with an Xtreme Heater. The boat is stored in a wet slip over the winter. The top line of the graph, labeled Sensor 1, represents a sensor that was placed near the Xtreme Heater, and the 2nd (lighter) line, labeled Sensor 2 is a sensor that was placed further away from the heater. The lowest line, labeled outside air, recorded the air temperature outside of the boat.



As you can see from this illustration, outside air temperatures and engine compartment temperatures fell on a similar curve, until they approach the **Xtreme Zone of Protection**. When the engine compartment reaches 40 °F (+/-3), the Xtreme Heater takes action, running until the engine compartment reaches 50 °F (+/-3). The small peaks and valleys illustrate the heater cycling to maintain our target temperature range. The engine compartment was never allowed to reach freezing levels, nor was energy wasted to heat the space to unnecessary, “human” levels of comfort.

Toward the end of the series, as the outside air temperature rises back above freezing, the engine compartment temperature curve begins to flatten. The Xtreme Heater, sensing less need for heat, cycles less frequently, and finally returns to stand-by mode.

How often the heater cycles, and how long it runs is dependent on how well your boat is prepared to maintain the heat generated. For example, on a boat with open vents to the engine compartment, the heater will cycle more frequently, working harder to overcome heat loss through the uncovered vents. Review the tips section of this manual for suggestions regarding how to preserve the heat generated by your Xtreme Heater, maximizing the efficiency and level of protection provided by your heater.



# Installing your Heater

*Follow these installation instructions carefully to ensure maximum effectiveness, safety and efficiency from your Xtreme Heater.*

Installing your Xtreme heater is as easy as selecting a mounting location and plugging in the heater. Your Xtreme Heater can be installed permanently, or easily installed for winter and removed for boating season, without tools, using our optional quick release bracket (see inside back cover).

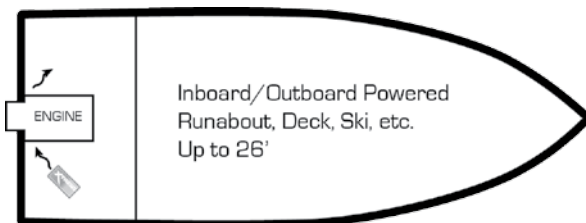
The design of the Xtreme Heater takes advantage of true forced air, opening up a wider range of location options in your engine compartment. Your heater can be mounted in any orientation, including upside down, to maximize air flow and circulation throughout your engine compartment.

## Choosing a Location

First, examine your engine compartment to determine what your heater will be protecting. In addition to preventing freeze damage to the engine(s), is there a generator, sea strainers, pumps or any other equipment that require protection? Select a location that offers maximum airflow and circulation, directing airflow toward the most critical components in the engine compartment. Since heat naturally rises, try to locate your heater as low in the engine compartment as possible, directing airflow toward the bottom of the engine(s). Select a location that minimizes the chances of immersion in bilge water, as your heater, while resistant to moisture, is not designed for immersion.

## Single Engine Runabout

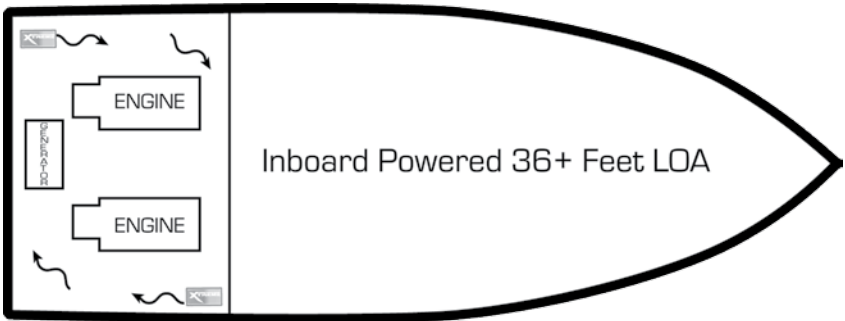
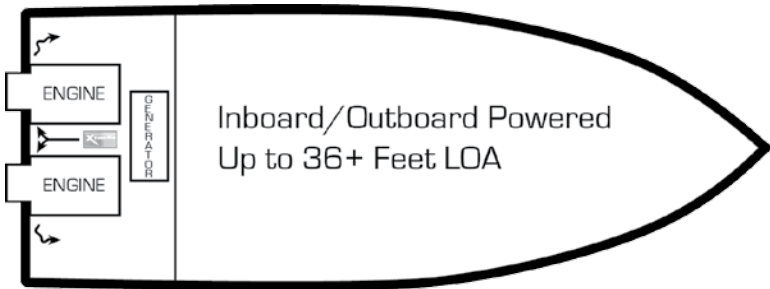
For a runabout with an inboard/outboard power plants, direct the flow toward the outdrive connection to the engine. The exposed outdrive can conduct cold into the engine compartment. This is particularly true if the boat is stored out of the water on a trailer or lift. In the right conditions, wind can direct cold air through the propeller exhaust port, up through the risers and into the engine.



# Installing your Heater

## Twin Engine Cruisers and Houseboats

Single and twin engine cruisers or houseboats may have a generator and other systems to protect. The engine compartments on these boats are often packed tightly with additional equipment such as generators, pumps and plumbing. Try to place the heater in a location that directs airflow to the lower portion of the engine(s), where the water jackets and pumps are located. Consider the location of additional equipment that needs protection, and try to direct airflow to those areas. A single heater placed between the engines, blowing from front to back will create a pattern of circulation that should evenly distribute heat throughout the compartment. If you are installing two Xtreme Heaters, place them outboard of the engines, facing in opposite directions, to promote a circular flow of air in the engine compartment.



# Installing your Heater

## Vents

Engine compartments are vented to supply fresh air for your engine, and to allow fumes to escape. During the winter, the vents also allow heat to escape. As heat rises, a “chimney effect” can literally begin to suck the warm air out of your bilge, reducing the effectiveness of your Xtreme Heater. Cover or plug your vents during periods that the heater will be working, and be sure to uncover your vents and run your blowers before operating the boat!

## Mounting

If you are mounting your Xtreme Heater permanently in the engine compartment, consider the location and material that you are mounting too. If your heater is being mounted upright, on a flat surface, the included self-tapping screws will work fine to secure the heater in place. If the surface is wood, be sure to seal the holes with a bit of caulk to keep water out. If mounting your heater horizontally, or upside-down, consider through-bolting the heater to the surface, using fender washers for additional support and nylon lock nuts to prevent loosening from vibration. Again, if the mounting surface is wood, seal the holes to prevent moisture intrusion.

## Wiring

If you wish to wire your heater permanently into the boats electrical system, the power cord on the Xtreme Heater was chosen based ABYC requirements for engine space wiring and is suitable for permanent wiring to a spare breaker on your boats 110v panel. The 20’ cord should reach most panels without splicing of additional wire into the circuit. We strongly suggest your Xtreme Heater be installed on a dedicated circuit with its own breaker. If you are installing two heaters, we suggest each be installed on a separate breaker. Check the breaker requirement for the heater(s) you have selected to be sure the circuit breaker(s) are of adequate capacity.

Wiring should be routed away from moving parts such as belts and pulleys in the engine space. Wiring should be secured and protected from chafing on sharp edges along the run.

**CAUTION:** We strongly recommend a qualified marine electrician be contracted to permanently wire your heater(s) into your boats electrical system, following ABYC Specifications. If you choose to perform your own electrical work, make sure the boat is disconnected from shore power and your generator is off.



# Tips for Maximum Performance and Efficiency

## Tip: Vents

Your Xtreme Heater will operate more efficiently when you have covers over the vents on your boat. Consider having a canvas or upholstery shop, make a set of simple “snap-on” covers to fit over the vents. When you are ready to use the boat, remove the vent covers. When you leave the boat, snap the covers back on. Other Xtreme owners have reported using boat shrink wrap material, or shrink wrap seam tape, which is designed to be removed without leaving a residue on your boat. Left uncovered, your vents will allow heat to escape which could prevent the heater from performing to its full potential, greatly reducing efficiency.

## Tip: Trailer-/Lift-Stored Boats

A boat on a lift or a trailer will get much colder than a boat in the water. If you store your boat suspended on a lift, in addition to covering your bilge blower vents, you might wish to consider covering the outdrive unit. During extreme cold, consider lowering the boat into the water to keep cold air from circulating around the bottom of the boat, and allow the boat to extract heat from the water. You can also use a heavy mil plastic to slip over the outdrive unit and/or exhaust ports and tie it at the top to prevent the heat in the engine compartment from being lost by dissipation through the metal of the outdrive unit.

## Tip: Cabin Spaces

Remember, your Xtreme heater is only going to protect the area it is placed in. A heater placed in the engine compartment, will not protect the hoses running the plumbing in the cabin area (sinks, showers, ice makers, etc). Some customers add additional Xtreme Heaters to their cabin area to prevent freezing of cabin plumbing. When using an Xtreme Heater in your cabin, it is best to open cabinets and drawers to let the warmth circulate to hidden plumbing lines and fixtures.

## Tip: Keep the Boat Covered

Keeping your cockpit cover on the boat will help preserve heat, reducing heater runtime and maximizing effectiveness and efficiency of your heater.

## Tip: Prepare for the Unexpected

Xtreme Heaters require a reliable source of power to operate properly. Should a storm knock out your power, you will have a short window of time before freezing occurs. Always have a backup plan.

Weather can be an unpredictable foe. Even if power remains on, if you've sized your heater(s) for “normal” conditions in your area, they may not protect your boat as effectively during extreme weather events. It is up to you to monitor your boat, and take the appropriate precautions when extreme weather conditions threaten. Have supplies on hand, and be prepared to winterize your boat according to the manufacturer's instructions.





# Electrical Information

## 115V Heater Specification

	Small XHEAT	Medium XXHEAT	Large XXXHEAT
<b>Nominal Power</b> (watts)	300	450	600
<b>Typical in-rush current last 2 seconds</b> (Amps)	10	13	16
<b>Typical operating current</b> (Amps)	3	4	6
<b>Suggested fuse rating</b> (Amps)	10	15	20
<b>Fan volumetric flow</b> (CFM)	32	32	32

## 230V Heater Specification

	Small XHEAT	Medium XXHEAT	Large XXXHEAT
<b>Nominal Power</b> (watts)	300	450	600
<b>Typical in-rush current last 2 seconds</b> (Amps)	8	10	14
<b>Typical operating current</b> (Amps)	1.5	2	3
<b>Suggested fuse rating</b> (Amps)	10	15	20
<b>Fan volumetric flow</b> (CFM)	32	32	32

## Wire Identification

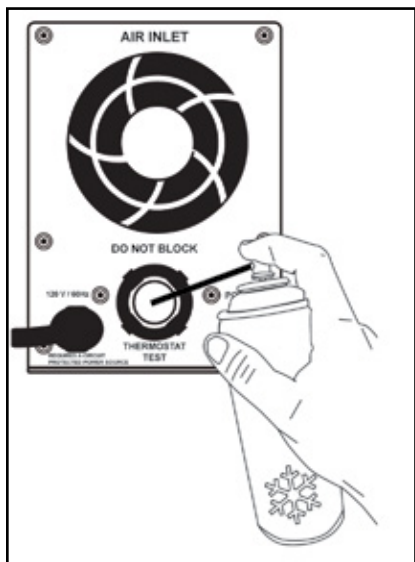
110 V		230 V	
Neutral	White	Neutral	Blue
Hot	Black	Hot	Black
Ground	Green	Ground	Yellow/Green



# Testing Your Heater

The LED power light on all Xtreme Heaters indicate that your heater is powered up and ready for use.

If you would like to test your heater further by simulating freezing conditions, this can be accomplished using refrigerant (or freeze) spray commonly found in electronics supply stores. Direct a 3-4 second burst of the spray toward the test port labeled on your heater where the thermostat control



**Direct Freeze Spray Toward Thermostat**

is located. After the burst of freeze spray, the thermostat should click, the fan should start and heat can typically be felt within a few seconds.

It is a good idea to test your heater periodically, particularly at the start of each cold season to ensure proper operation.

If you can't find refrigerant spray anywhere, it is possible to test the heater by placing it in an environment below freezing, such as a freezer. Leave the heater in the freezer for at least 1 full hour. It takes time for the metal to cool enough to fool the heater into thinking it's winter! Plug the heater in immediately after removing it from the freezer, and it should activate.

It is also a good idea to test your heater after the boat has been serviced by a third party. Depending on the work done, the heater may have been moved, wires may have been disconnected or tapped into for additional equipment, or circuit breakers may have been turned off.



## Two Year Limited Warranty

Xtreme Heaters warrants your heater to be free from defects in materials and craftsmanship under normal use and service by the original consumer for a period of two (2) years from the date of purchase. This limited warranty does not apply if the heater has been damaged by accident, improper installation, unreasonable use, submerged, lack of proper maintenance, unauthorized repairs or modifications, or other causes not originating from defects in materials and craftsmanship.

The obligation of Xtreme Heaters under this warranty is limited to the repair or replacement at Xtreme Heaters discretion, any part or component thereof, which examination discloses to our satisfaction to have been nonconforming or defective. Xtreme Heaters, after establishing customer's purchase date and determining problem to be under warranty, will repair the product at our facility. Transportation charges are the responsibility of the customer.

Heaters that are repaired or replaced under warranty will continue to be warranted for the remainder of the original warranty period. Xtreme Heaters shall in no event be liable to BUYER for any incidental or consequential damages, or loss of use, or other losses, however occasioned.

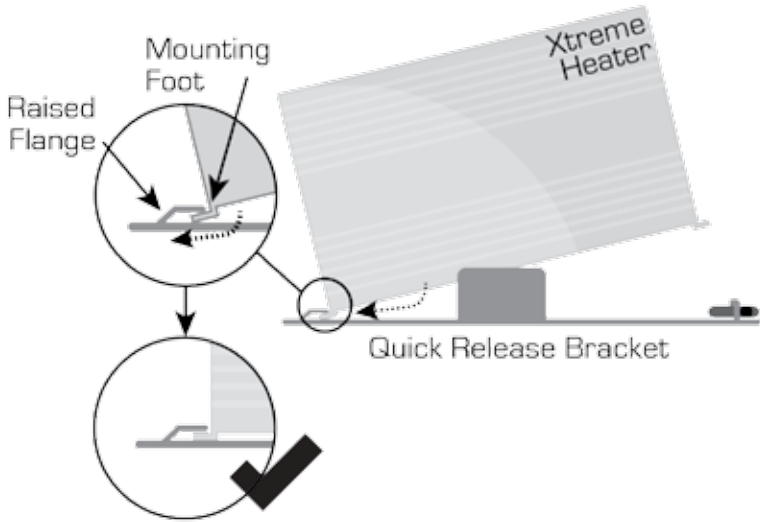
Implied Warranties of merchantability and of the fitness of the product for any purpose are warranted for a period of two (2) years on parts and labor. Xtreme Heaters makes no warranties, expressed or implied after that time. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



# Installing the Quick Release Bracket

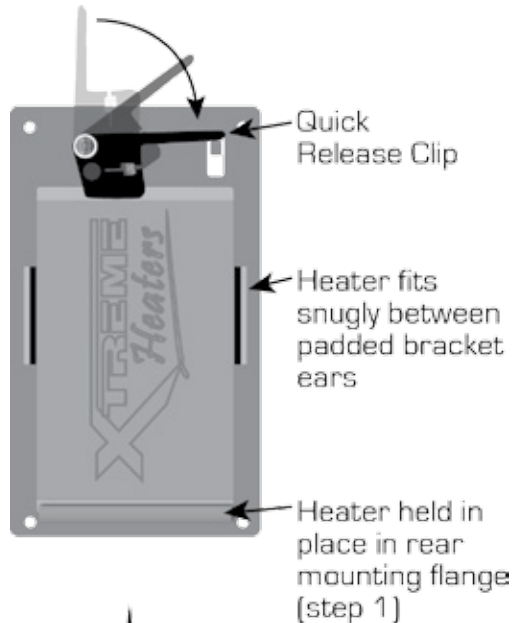
## Step 1.

Slide the rear mounting foot of the Heater under the raised flange of the Quick Release Bracket.



## Step 2.

Swivel Quick Release Clip into place



# X-TREME Accessories

## Quick Release Bracket •

Driven by customer demand, our **Quick Release Bracket** was designed specifically for your Xtreme Heater, and allows you to easily install and remove your heater(s) in seconds, without the need for tools, leaving just the low profile bracket installed and ready to go.

Order the small (for XHEAT models) or medium/large (for the XX- and XXXHEAT models).



## • Freeze Spray

The BEST way to test your Heater is with Freeze Spray. We recommend testing upon installation, at the beginning of each season and periodically during the cold season.

# X-TREME Accessories

## • Fender Anchor



### Safe and Damage-Free Docking

Tired of your fenders sliding or rolling out of position when you need them most? Anchor your fenders in place with **Fender Anchor** to protect your boat from dock contact and maintain a neat appearance. Hang fenders vertically or horizontally to protect swim platforms and hull sides. Great for PWC's and dinghies too!

Made from injection-molded, reinforced and UV-resistant plastic, the fender anchor withstands harsh marine environments. The anchor easily attaches to your dock with included hardware.

### Plug into your Power Pedestal!

Power adapter plug converts 30amp shore power receptacle to standard 3-prong plug.

Run tools such as drills and buffer, and appliances such as your vacuum directly from your dock pedestal.

- Heavy Duty Over Molded Construction
- Custom Grip for Comfort
- 5-Year Warranty



## Marine Shore Power Adapter •

# Xtreme Heaters User Guide Addendum

## New Feature for 2016

Xtreme Heaters manufactured during and after 2016 include Smart Test circuitry that make it simple to verify proper operation of your Xtreme Heater. Here's how Smart Test Works:

When the heater is first plugged in, the LED indicator on the back will blink during the power-on self test. The fan will briefly power on to let you know it's working as well. Once the test is complete, the heater will automatically enter stand-by mode, waiting for the temperature to drop to the low range of the Active Heating Range (about 40°F).

When the heater is activated by low temperature conditions, the heater will power up, and the LED will glow red, indicating that the heating element is active. The heater will produce heat in about 30 seconds, and continue until the thermostat is satisfied (about 50°F).

When the thermostat is satisfied, the LED will switch to Amber, while the fan continues to run until the cool down period ends (about 10 minutes). When the cool down period ends, the fan will stop, and the LED will glow Green once again, indicating stand-by mode.

### **LED Colors:**

Green = Stand-by

Red = Heating Element is Powered Up

Amber = Cool Down Mode (fan on, no heat produced)