



## Engine Compartment 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. Register by recording your model and serial number (labeled on the under- side of your heater) below, and filling out the registration form on the Xtreme website: <https://www.xtremeheaters.com/pages/warranty-form>

**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. Installation instructions and tips are provided in this manual, with additional detail found on our website: [www.xtremeheaters.com](http://www.xtremeheaters.com).

Your heater is factory-calibrated to operate automatically when the compartment temperature falls below 40 °F (approximately), and to continue operating until an ambient temperature of 55 °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. If your heater ever requires service, do not return it to your retailer, rather contact us directly via our website ([www.xtremeheaters.com](http://www.xtremeheaters.com)) or call toll free: 877-360-HEAT(4328) for an RMA number. Package your heater carefully, preferably in its original packaging, and send it to:

**Xtreme Heaters, Att. WARRANTY**  
**5322 Palmero Court, Suite 300**  
**Buford, GA 30518**

# How Xtreme Heaters Work

## Heater Operation

When first plugged in, the heater will run a self-test. The LED on the back of the heater will flash red briefly, the fan will start and the LED will flash green for about 30 seconds. After the self test, the fan will turn off and the LED will stop blinking and show a steady green light. This is standby mode. When the temperature drops below 40 degrees, the LED will turn red, the heater will power up and generate heat. When the temperature reaches off point of 55F, the heating element will turn off and the LED will turn amber. This is cool down mode during which the fan will continue to run for 10 minutes before it shuts off and the LED returns to solid green. Cool down mode is used to evacuate the remaining heat from inside the case for efficiency and to prevent the warm internals from fooling the thermostat into thinking it's warmer than it really is in the compartment.

NOTE: If the heater is already cold when plugged in, it will skip the self-test and go directly into heating mode.

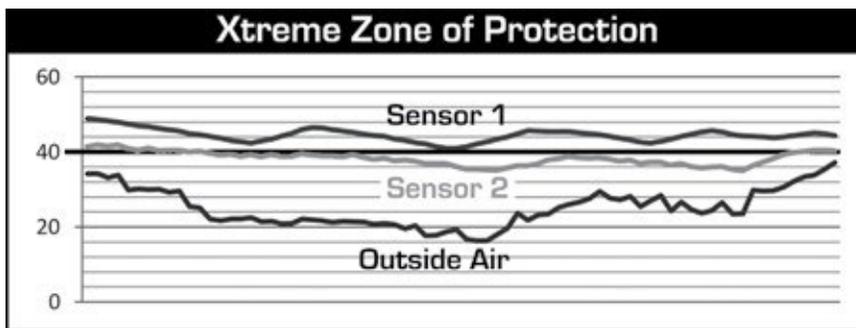
Xtreme Engine Compartment Heaters are designed specifically to keep your engine space safely above freezing temperature, without wasting energy heating the space to unnecessary levels. Our fixed thermostat is factory-set to turn on the Xtreme Heater at 40° Fahrenheit (+/-3°) and off at 55 °F, keeping your bilge space safely above freezing temperatures.

## Operational Example:

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 55 °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 compartment 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. Additional installation tips, including tips for specific types of boats, RV's and other enclosures can be found on our website: [www.xtremeheaters.com](http://www.xtremeheaters.com) and on our [YouTube Channel](#).*

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 seasonally, without tools, using our optional quick release bracket, described later in this manual.

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

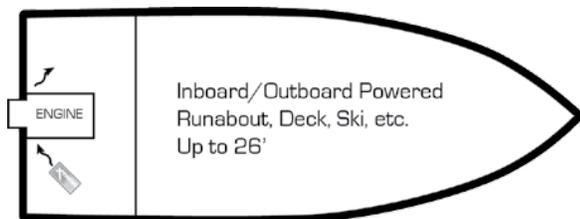
### Installation Tips for Boats

#### 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.

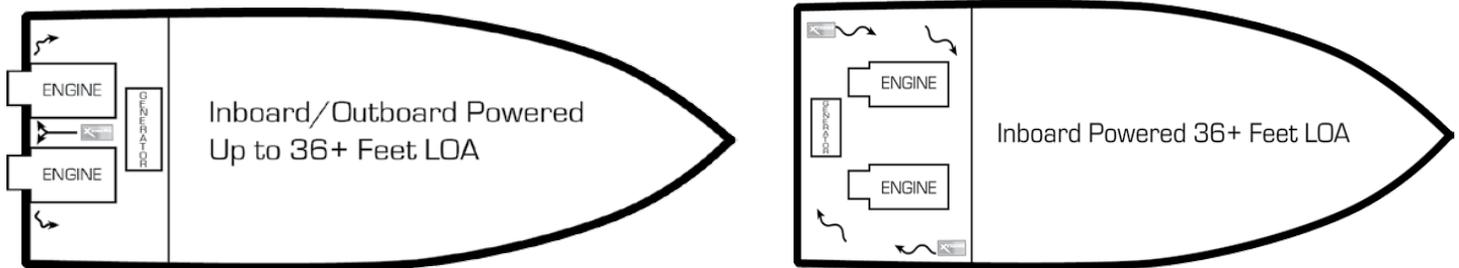
#### Single Engine Runabout

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.



## 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.



## 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 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.

## Wiring

If you wish to wire your heater permanently into the boat's electrical panel, **we strongly recommend a qualified marine electrician be contracted to perform the work, following ABYC specifications.** The power cord provided with the Xtreme Heater was chosen based on ABYC requirements for engine space wiring and is suitable for permanent wiring to a spare breaker on your boat's 110v panel. The 15' cord should reach most panels without splicing 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: If you choose to perform your own electrical work, make sure the boat is disconnected from shore power and your generator is off.**

## Installation Tips for RV's

RV's come in all shapes and sizes. Xtreme Heaters are used in various compartments of your RV to protect plumbing, pumps, valves and batteries from freezing temperatures.

The fixed thermostat in your heater will activate at 40F (+/- 3F) and turn off at 55F (+/- 3F). The on and off settings were selected to keep the space above freezing without wasting energy maintaining human comfortable temperatures. The thermostat is sealed and water resistant for safety and durability. The heat output of your Xtreme Heater is regulated to be lower than standard heaters, with exit air temperatures that are safe for tight compartments. Xtreme Heaters can be mounted in any orientation which offers flexibility when deciding the best location for maximum circulation.

Choose a location for your heater that will allow for the warm air to circulate as completely as possible. The thermostat is on the back side of the heater and must share the air with the area in front of the heater to be able to sense when to turn off. **If the thermostat can't tell when the compartment has reached 55 degrees, it will continue to run, warming the compartment to a higher temperature than necessary.**

When considering mounting locations, avoid spots that are close to equipment that may generate heat such as water heaters, battery chargers or converters.

### Heater Operation

When first plugged in, the heater will run a self-test. The LED on the back of the heater will flash red briefly, the fan will start and the LED will flash green for about 30 seconds. After the self test, the fan will turn off and the LED will stop blinking and show a steady green light. This is standby mode. When the temperature drops below 40 degrees, the LED will turn red, the heater will power up and generate heat. When the temperature reaches off point of 55F, the heating element will turn off and the LED will turn amber. This is cool down mode during which the fan will continue to run for 10 minutes before it shuts off and the LED returns to solid green. Cool down mode is used to evacuate the remaining heat from inside the case for efficiency and to prevent the warm internals from fooling the thermostat into thinking it's warmer than it really is in the compartment.

NOTE: If the heater is already cold when plugged in, it will skip the self-test and go directly into heating mode.

For best performance and efficiency, make sure the compartment you have installed the heater in is as well sealed as possible. Consider adding insulation if there is room to further improve efficiency.

## 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 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: Boat / RV 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 Specifications

	Small XHEAT	Medium XXHEAT	Large XXXHEAT
Nominal Power (watts)	400	600	800
Typical in-rush current last 2 seconds (Amps)	8.2	11.4	13.4
Typical operating current (Amps)	3.6	5.2	6.2
Suggested fuse/breaker rating (Amps)	10	15	20
Fan volumetric flow (CFM)	40	40	40

## Testing Your Heater



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 and also available from [www.xtremeheaters.com](http://www.xtremeheaters.com).

Direct a 3-4 second burst of the spray toward the test port labeled on your heater where the thermostat control 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.



# Xtreme Heaters FAQ

**Q:** How long can I leave my Xtreme Heater unattended?

**A:** Your Xtreme Heater is designed for unattended, fully automatic operation. That said, it is always a good idea to check on your rig periodically. If you have suffered a power loss on your dock, you may want to check to make sure no circuit breakers have tripped with restoration of power. You should test your Xtreme Heater annually, but otherwise your heater is maintenance free.

**Q:** Can my Xtreme Heater be mounted upside-down?

**A:** Any of the heaters we have available can be mounted at ANY angle (upside down, sideways, etc.). The forced-air design of Xtreme Heaters makes them effective at any mounting angle, and allow you to direct the circulation toward areas of concern.

**Q:** Can I just set the heater in the compartment or do I have to mount it with screws?

**A:** Some of our customers take the heaters in and out of their boats. If you wish to do so, we suggest you use our quick-disconnect mounting bracket to secure your heater. If you choose to set your heater in the bilge without securing it, please make sure it won't fall into any collected water or moving parts of the motor.

**Q:** What happens if the power fails?

**A:** Your Xtreme Heater will not operate during power outages. Short power outages should not affect your boat or RV as it takes a bit of time for the warm components to chill down to freezing temperatures. Your Xtreme Heater will simply resume operation when power is restored. If the power is expected to remain out for an extended period, you should be prepared to winterize your in traditional fashion, according to the manufacturer's instructions.

**Q:** What should I expect the temperature range to be in the compartment the heater is in?

**A:** There are a lot of variables that will affect your specific situation, such as the local climate conditions, where the vehicle is stored, and where you are measuring temperature, just to name a few. Your Xtreme Heater is designed to turn on at 40°F and off at 55°F, which should keep your engine compartment comfortably above freezing. If you notice temperature drops below 35°F, you should check to see if you are losing heat through vents or other air passageways. If you find that your compartment is well sealed from air loss, you should consider a larger or additional Xtreme Heater.

**Q:** How can I tell if my heater is on?

**A:** If you purchased your heater after 2009, when your heater is plugged in to a live circuit and receiving power, the power LED on the rear of the heater should be lit, red in color. Heaters manufactured prior to 2009, included an LED that lights when the heater is actually generating heat. These heaters can be tested with freeze spray to ensure they are operating properly. Heaters built after 2021 will have an LED that glows green when in standby mode, red while heating and amber while in cool down mode.

**Q:** My heater doesn't turn on when I plug it in, what's wrong with it?

**A:** You may have an earlier version of the Xtreme Heater (pre-2009), in which case the LED will light when the heater is activated, generating heat. Use freeze spray to test your heater for proper operation. Alternatively, the outlet you have plugged the heater into is not active. Try plugging in another electrical appliance and check the circuit breakers to make sure there is power to the outlet.

**Q:** Can I wire my heater directly into my electrical panel?

**A:** Many of our customers have their heater permanently installed and wired into your breaker panel. If you are not familiar with wiring and electricity, we strongly encourage you to consult a professional to complete the job. Cutting the end off of the power cord to do this does not void your warranty.

**Q:** Can I use a power strip or extension cord with my heater?

**A:** Extension cords and power strips are not recommended for use with your heater. Power strips are not ignition protected, nor moisture resistant, and should never be placed in the engine compartment. Improperly sized extension cords can cause voltage drop to occur and could even present a fire hazard. If you must use an extension cord, make sure it is heavy-duty to handle the electrical load of the heater, and rated for the environment you intend to use it (i.e. outdoor, wet conditions). Extension cords should not be used in the engine space unless also rated for fuel/oil resistance and 105°C temperatures, as ABYC standards dictate.



## Two Year Limited Warranty

To activate your warranty, please register your purchase at [www.xtremeheaters.com](http://www.xtremeheaters.com). Your original receipt may also be used as proof of purchase.

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 the 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.

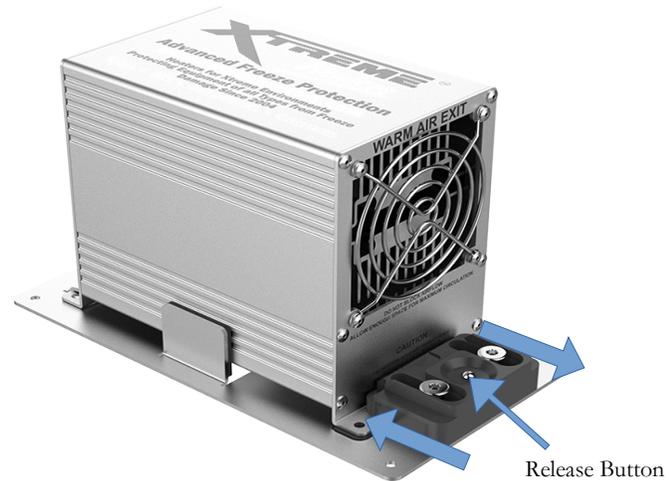
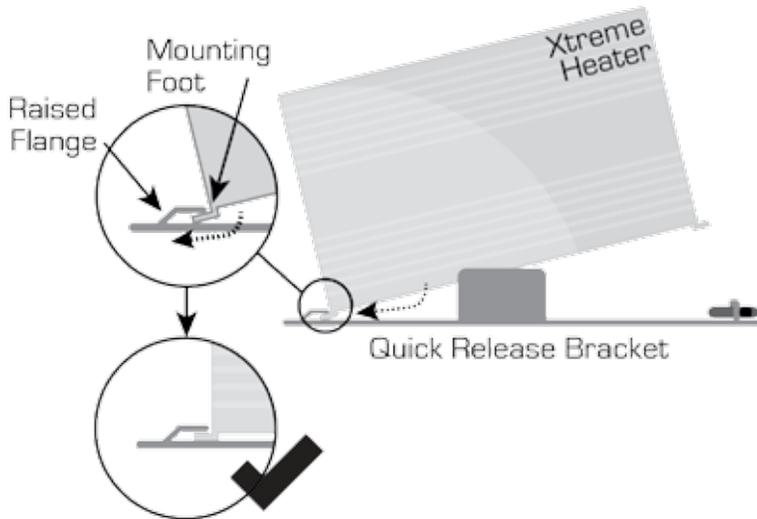
### Returning your heater for repair:

**Do not return your heater to a retailer. Send your heater directly to Xtreme for repair/ replacement under warranty.** All returns must include an RMA (Return to Manufacturer) number. Heaters shipped to Xtreme Heaters without a corresponding RMA number will be returned. Please call 877-360-HEAT(4328) to obtain an RMA number prior to returning product. Include a note describing the problem, your return shipping address and a phone number and email address at which we may reach you. Pack your heater well to avoid shipping damage, using the original packaging if possible. Send your heater to:

**Xtreme Heaters | Att. WARRANTY | 5322 Palmero Ct | Suite 300 Buford | GA 30518**

## Installing the Quick Release Bracket (Optional)

First, slide the rear mounting foot of the heater under the raised flange of the Quick Release Bracket, nestled between the two padded “ears” on the sides of the bracket. Next, slide the clip over the front mounting foot of the heater. To remove the heater from the bracket, press the release button in the center and slide the clip away from the heater. Then tilt the heater up a bit and slide it out from under the rear flange.



Slide clip toward the heater, over the mounting flange to install. To remove, press the release button and slide the clip away from the heater.