# The ZappBug Oven 2™

# Owner's Manual



IMPORTANT NOTICE:
Read Warnings Before Use!

## SAFE PROVEN EXTERMINATION™

V1.01.18

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# Contents

# Important Safety Information

You must comply with all safety information when using this product. Please read all Warnings outlined in this section. Failure to comply could result in fire, injury, or damage to property!

**Warnings** describe serious consequences resulting from misuse of this product.

## STOP

# Read This <u>WARNING!</u> Before Proceeding

## WARNING! – Power Outlets Can Be Dangerous

Power Outlets with poor electrical connections can become <u>dangerously overheated</u> and may result in fire, severe injury and/or damage to property.

**Follow the steps below for safe use of <u>ANY high-power appliances</u>:**

1. **Inspect outlet connection and contact strength.**

   Insert a standard, two-prong plug (without third, Ground connection) into outlet. Ensure that both prong connections offer equal and strong resistance when inserted. If the two-prong plug does not offer strong resistance or one prong feels easier to insert than the other, this outlet could be unsafe for high-power appliances. Have an electrician inspect and/or replace outlet before use.

2. **Ensure that the outlet is no older than 15 years.**

3. **Inspect outlet and timer plug <u>after each use</u>.**

4. **If you are unsure about an outlet, have an electrician inspect and/or replace the outlet.**

## Explanation

High-power appliances require more electric current than most household items. Old and high-use outlets can have poor or loose connections. The high current required by this product, combined with a poor electrical connection can cause outlets to overheat and melt. It is important to make sure that any outlets used with this product have strong electrical contact.

## Warning: Extension Cords

Some extension cords are not adequate to carry the load of current drawn by this heating unit without becoming dangerously overheated. If an extension cord *must* be used, do not use a cord set rated less than *1500 watts* or *15 amps*, and of a minimum size of 16 Gauge. Use only an extension cord with the UL seal. Use of an inadequate extension cord may result in overheating of the extension cord or fire.

## Warning: Old Electrical Wiring and Outlets

Each ZappBug heating unit will draw 12-15 amps of current (1500 Watts) and must be run on circuits rated **15 amps and above** only. Some old electrical wiring and outlets may not be capable of sustaining these loads. If you are unsure of the electrical wiring or outlets in your location, contact an electrician before operating ZappBug or any other high-current products. If electrical cord(s) appears deformed or feel hot to the touch, unplug immediately and contact ZappBug customer service. Old or faulty electrical wiring could lead to damage, dangerous fire and injury.

## Additional Warnings

- Failure to comply with the Warnings presented by this manual may result in severe injury and/or damage to property.
- Incorrect assembly or improper use may result in hazardous conditions. Only assemble according to instructions in this manual.
- Do not block air intake or exhaust vents on heating unit. Obstructions of the intake or exhaust vents can cause the heating unit to overheat.
- Do not use outdoors or in a wet environment. This product is designed for use indoors only.
- Do not block exhaust vents. This can cause damage to the heating units.
- Do not reach into or insert objects into ventilation fan while running. This may result in injury or damage.
- Do not place flammable objects or aerosols inside the ZappBug Oven 2™
- Some items may be damaged during heat treatment. Use Caution when heat treating fragile items such as antique books, items made of wood, and other belongings.
- Consult the manufacturer of items in question (such as electronics) for a maximum safe temperature before placing them in the ZappBug Oven 2™. Always monitor temperature to ensure that temperature never exceeds safe level.

# Hints & Tips

**BED BUGS**

- Researchers have found that bed bugs at **all life stages** die quickly at temperatures at or above **120°F.**
- Bed bug eggs are nearly translucent and incredibly difficult to detect. A best practice is to **heat treat all items** that may have been in the vicinity of bed bugs even if no bed bugs are found. For pictures of bed bugs and bed bug eggs, please visit *zappbug.com/bed-bug-pictures*
- Bed bugs can survive for up to **18 months without feeding**. It is critical that all potentially infested items are heat treated or, alternatively, sealed and stored for 18 months.
- Bed bugs can **flatten their bodies** and slip into tiny cracks.
- Bed bugs are unable to climb smooth, nonporous surfaces like those lining the ZappBug Oven 2™.
- Bed Bugs suffer from thermal shock and are immediately unable to move at temperatures **above 150°F**.
- For more information please visit **www.zappbug.com/get-rid-of-bed-bugs**

**THE ZAPPBUG OVEN 2™**

- Think about heat treating your belongings in the same way that you think of **drying clothes in the sun**. If your belongings are densely packed together, it will take significantly more time for them to reach bed bug killing temperatures. Always use provided ventilation blocks and/or net to ensure maximum air circulation around your belongings.
- Bed bugs suffer from **thermal shock** and cannot escape through the heater duct while the heating unit is on. Make sure to turn the heating unit on **before placing potentially infested items inside the ZappBug Oven 2™**.
- Only use indoors with an ambient room **temperature above 70°F**. The heating unit works by adding heat to the air from the room in which it is located. If the ambient temperature is below 70°F, the ZappBug Oven 2™ may not reach bed bug killing temperatures.
- Always **monitor temperature** inside the ZappBug Oven 2™ with a thermometer. (Wireless thermometer included.)
- Do not place the ZappBug Oven 2™ directly on cold floors such as concrete. **Always place the ZappBug Oven 2™ on surfaces at room temperature (above 70°F)**.

# Components Included

The Following components are required for proper use of this product. If you did not receive all of the components listed below, contact ZappBug immediately (email: support@ZappBug.com). Some components may appear different from the representations below.
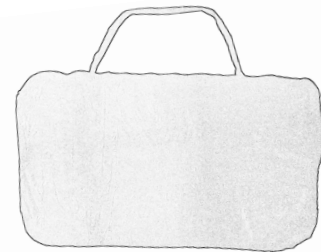
## Support Block
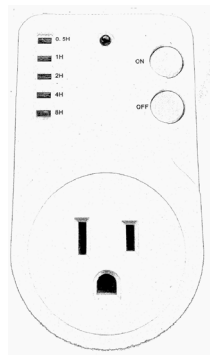
X4

## ZappBug™ Heating Unit

X2

## Support Net

X1
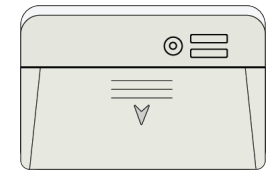
## Carry Bag & Folding Oven

X1

## One-Touch Timer

X2

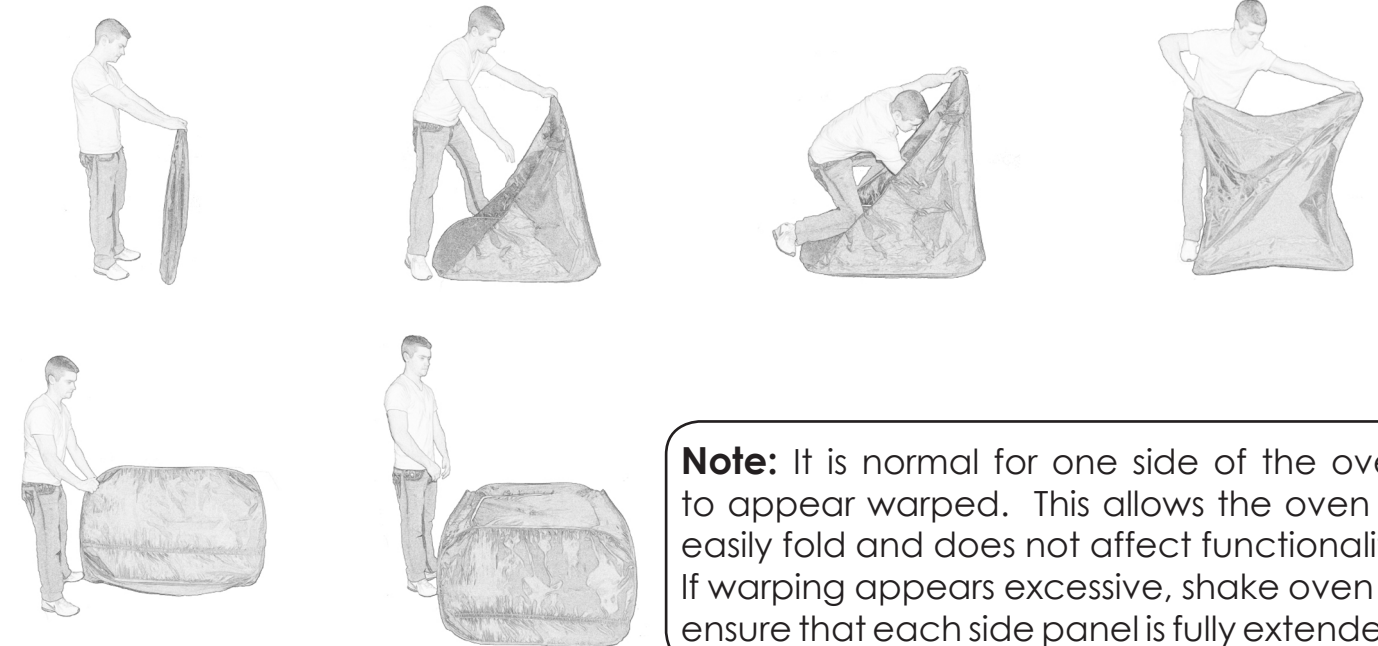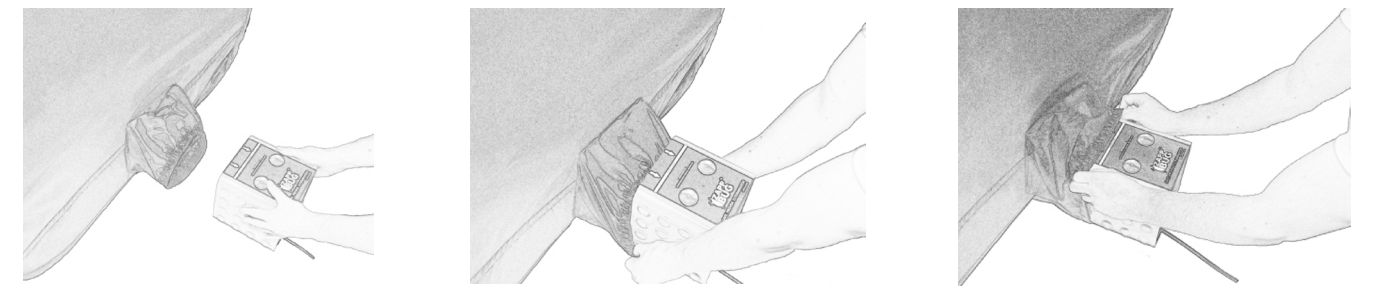## Wireless Thermometer

X1

## Extension Cord

X1

# Use & Operation

## 1. Unfold The Oven

**Note:** It is normal for one side of the oven to appear warped. This allows the oven to easily fold and does not affect functionality. If warping appears excessive, shake oven to ensure that each side panel is fully extended.

## 2. Connect Heating Units (X2)

**Locate Ventilation Tube**

**Place Base of Heating Unit In Tube**

**Stretch Tube Around Heating Unit**
(Observe "Do Not Cover" markings)

**Note:** It is normal for small gaps to appear between the textured side of the Heating Unit and the Ventilation Tube. Bed bugs will not escape through these gaps if the Heating Unit is on. Bed bugs experience thermal shock and are not capable of moving toward the Heating Unit. Always ensure that Heating Units are on when placing potentially infested items inside the ZappBug Oven 2 ™.

# Use & Operation (continued)

## 3. Select Appropriate Support Configuration

The ZappBug Oven 2's unique and modular support system is designed to accommodate a wide range of items. Support blocks allow for **ventilation around** rigid, heavy items such as luggage and small furniture. A combination of **Support Blocks** and the **Support Net** allow for ventilation around loose items such as books and clothing. Select the appropriate support configuration for your items as shown below. It is critical that air is allowed to flow freely around the items you are heat treating.

**Support Blocks**
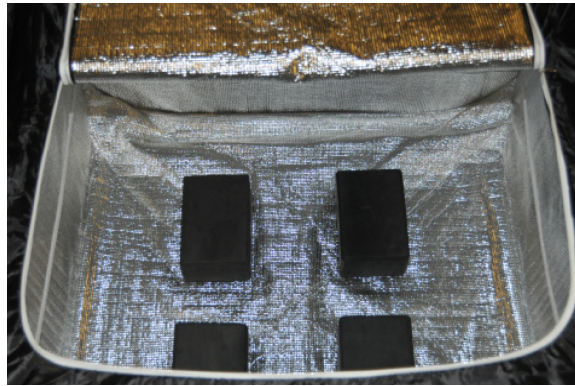
**Support Net**
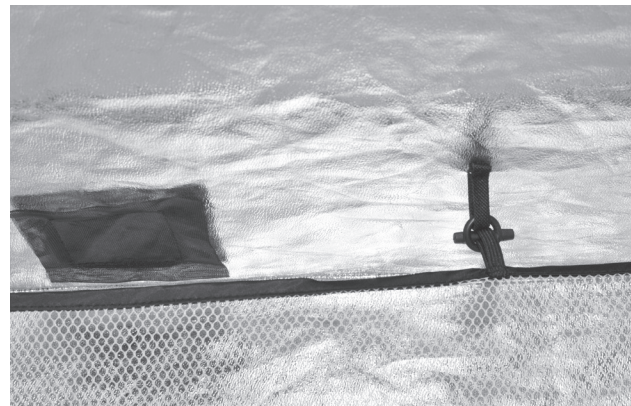




Attach all Toggles of **Support Net** in the Oven 2™

## 4. Locate Two Independent Power Outlets

**NOTE: Each heating unit must be powered from it's own circuit. Typical residential and commercial buildings have one circuit per room. Use the included extension cord to reach outlets in other rooms (where necessary).**

One power extension cord is included in each ZappBug Oven 2. Plug one heating unit directly into a nearby electrical outlet.

Locate an electrical outlet in another room or area that operates on a separate electrical circuit. Typically, each room will have it's own independent electrical circuit. Use the included power extension cord to connect the remaining heating unit to this separate electrical outlet.
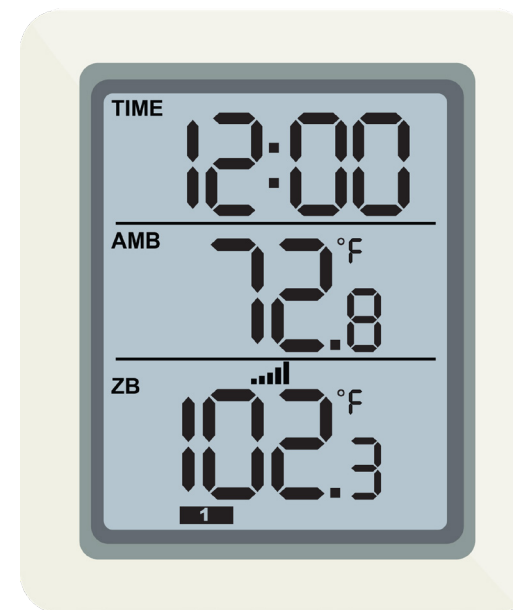
# Use & Operation (continued)

## 5. Insert Items For Heat Treatment

Place items inside the Oven 2™ on top of Support Blocks/Support Net. To **ensure adequate airflow**, items should not touch walls or ceiling of the Oven 2™. Place wireless thermometer probe inside deepest (most insulated) location in items being treated. After that, zip the top cover closed.
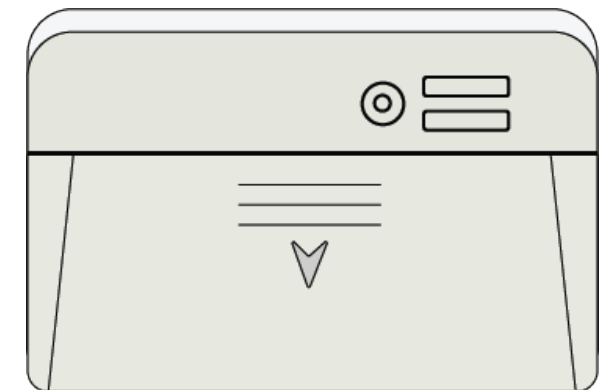
**Hint:** Always open luggage and **"fluff" items** to ensure air circulation. If items are densely packed, they take longer to heat.

## 6. Wireless Thermometer Setup

The ZappBug Oven 2™ comes with an included thermometer base station and a remote probe, pictured below.



**Thermometer Probes**

**Thermometer Base Station**

**Note:** Setup Thermometer Base station first

# Use & Operation (continued)

## Thermometer Base Station Set Up

1. Remove the battery door on the back of the base station, shown in **Figure 1** image below.
2. Insert one AA battery. All of the LCD segments will light up for a few seconds to verify all segments are operating properly.
3. The thermometer base station will instantly display the ambient temperature. The probe temperatures will update on the display within a few minutes after you place batteries in probe.**(see Thermometer Probe Setup on page 13)**
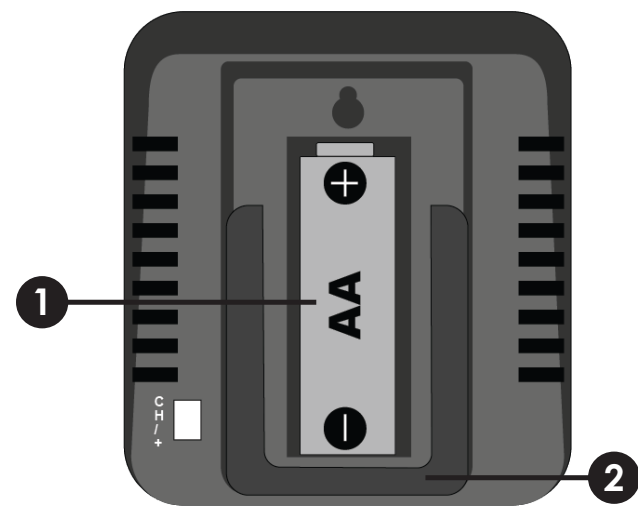
**Figure 1**

1. Battery Compartment
2. Stand Mount

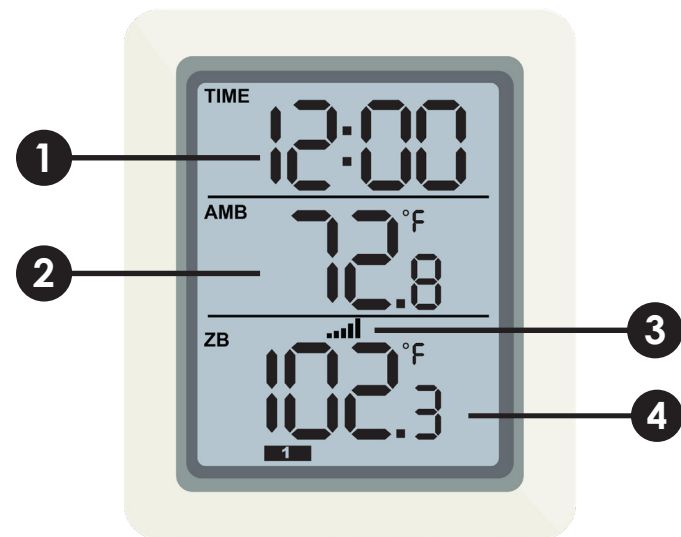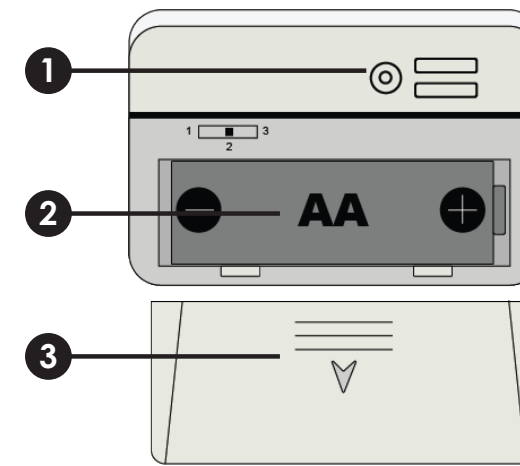**IMPORTANT: Insert batteries and Setup Thermometer Base Station first**

**Figure 1**

**Figure 2**

1. Time
2. Ambient Room Temperature
3. Reception Icon
4. ZappBug Sensor Temperature

**Figure 2**

# Use & Operation (continued)

## Thermometer Probe Set Up

**Thermometer Probe**

1. Wireless Transmitter LED
2. AA Battery
3. Battery Compartment Cover

1. Remove the battery door on the back of the thermometer probe by sliding the door down and insert one AA battery.
2. After inserting the battery, the remote sensor LED indicator will light for 4 seconds, and then flash once per 60secs thereafter. Each time it flashes, the sensor is transmitting data.
3. Close battery door.While in search mode, the reception icon ▁▃▅▇ will flash on the thermometer base station.
4. Place the wireless thermometer probe in the deepest (most insulated) part of your luggage (or item begin treated) and allow the ZappBug Oven 2™ to run for 60 minutes or longer after the temperature reaches 120°F in all three locations.
5. If you are not present while the unit is running we advise setting the timers to 8 hours, however this is generally more time than required for the ZappBug Oven 2™ to reach 120°F and maintain it for one hour.
6. If the base station does not update, view troubleshooting tips on page 18

# Use & Operation (continued)

## 7. Turn On Heating Units

Plug each heating unit into the included timers, then plug included timers into outlets. Select the appropriate time setting on the timer by pressing the "on" button to cycle through the time options after the timer is plugged in.
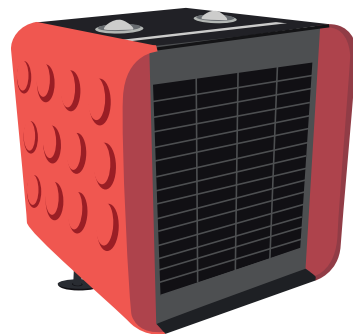
We recommend using the 8 hour setting for large loads and the 4 hour setting for small to medium loads. Always use the included thermometer to confirm that temperature reaches lethal levels (**see step 6**).
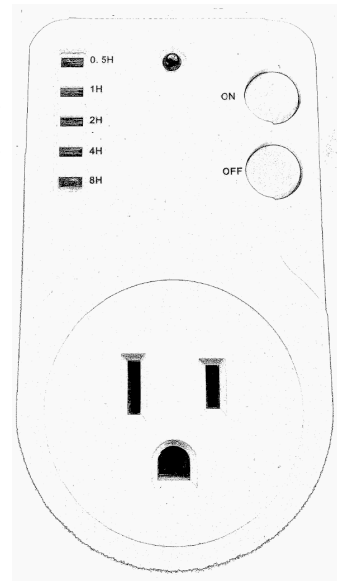
**Included Digital Timer**
(actual appearance may vary)

# Heating unit not turning on?

When the heating unit is plugged in and timer is on they should automatically be powered on. If they are not check the safety tip-over switch - that will be a little black button on the bottom of the red square heating unit. This button needs to be pressed in for the heating unit to turn on and is designed so that if the unit is knocked over (possibly blocking the vents) it turns off for safety. When the heating unit is plugged into a wall outlet and the red unit is flat on the ground the button should naturally be pressed in and the heating unit should turn on.

Safety Tip-Over Switch

**Safety Note:** Each heating unit draws 1500 watts of electrical power. **Each heating unit should be plugged into separate circuits, using the included extension cord if necessary.**

# Use & Operation (continued)

## 8. Wait Appropriate Time

# 60 minutes at or above 120°F

It is impossible to know the temperature at every location in your items so we have developed and tested a foolproof strategy to ensure that your heat treatment is effective.

Bed bugs die at temperatures of 120°F or above in less than two minutes. However, they begin dieing at **temperatures above 113°F**. Several studies have shown that bed bugs die over a range of temperatures and that the higher the temperature, the less time it takes to kill them. Standard practice for heat treating is to measure the temperature at one, representative location. When the temperature at this location reaches 120°F and is held at 120°F (or above) for one hour, **you can be confident** that any bed bugs in your belongings are dead.
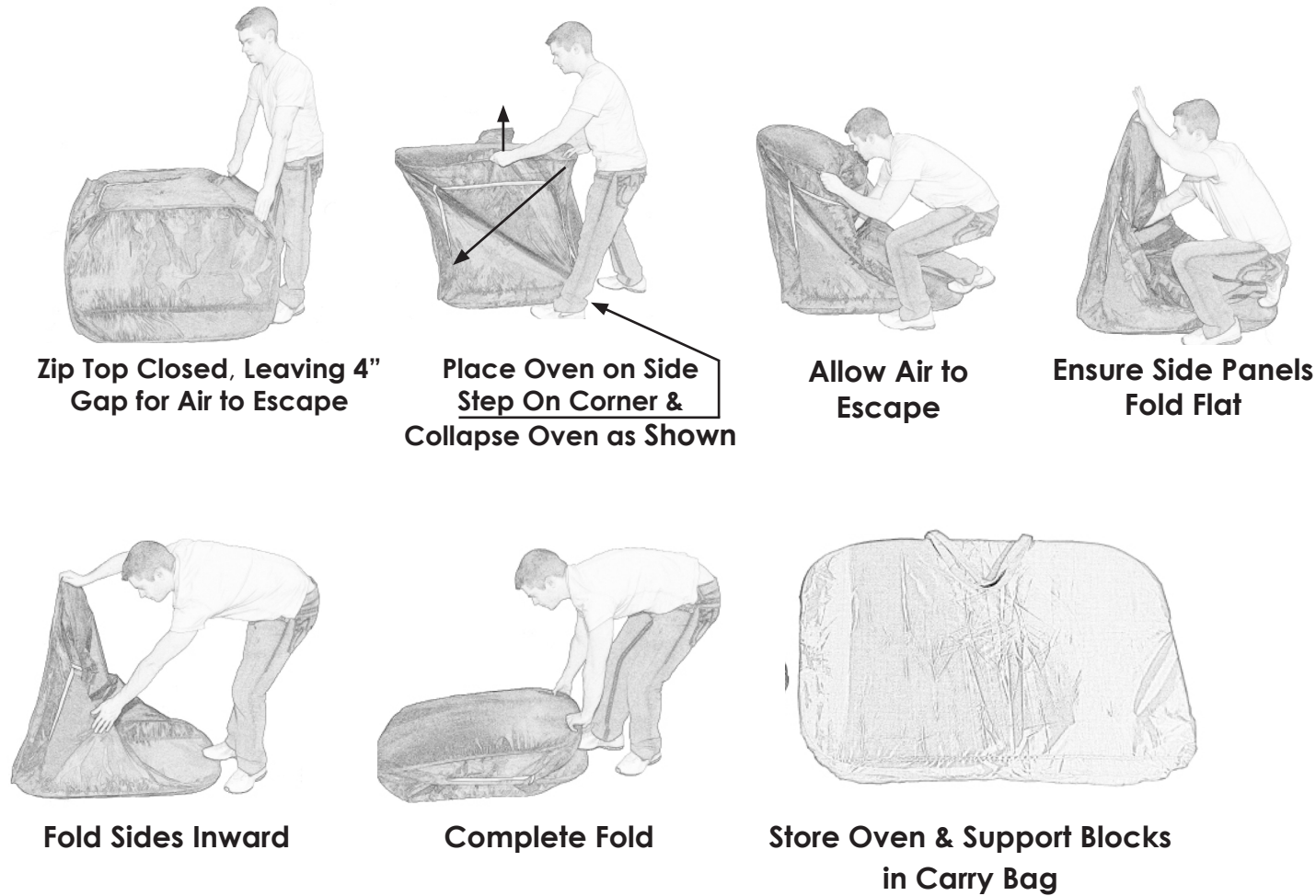
# Use & Operation (continued)

## 10. Remove Items After Heat Treatment

**WARNING:** Items may be hot after heat treatment. Wait for items to cool before handling. Items such as metal zippers can remain hot after heat treatment and cause burns.

**Hint:** If your home is infested with bed bugs, place all items into sealed plastic bags or containers immediately after heat treatment.
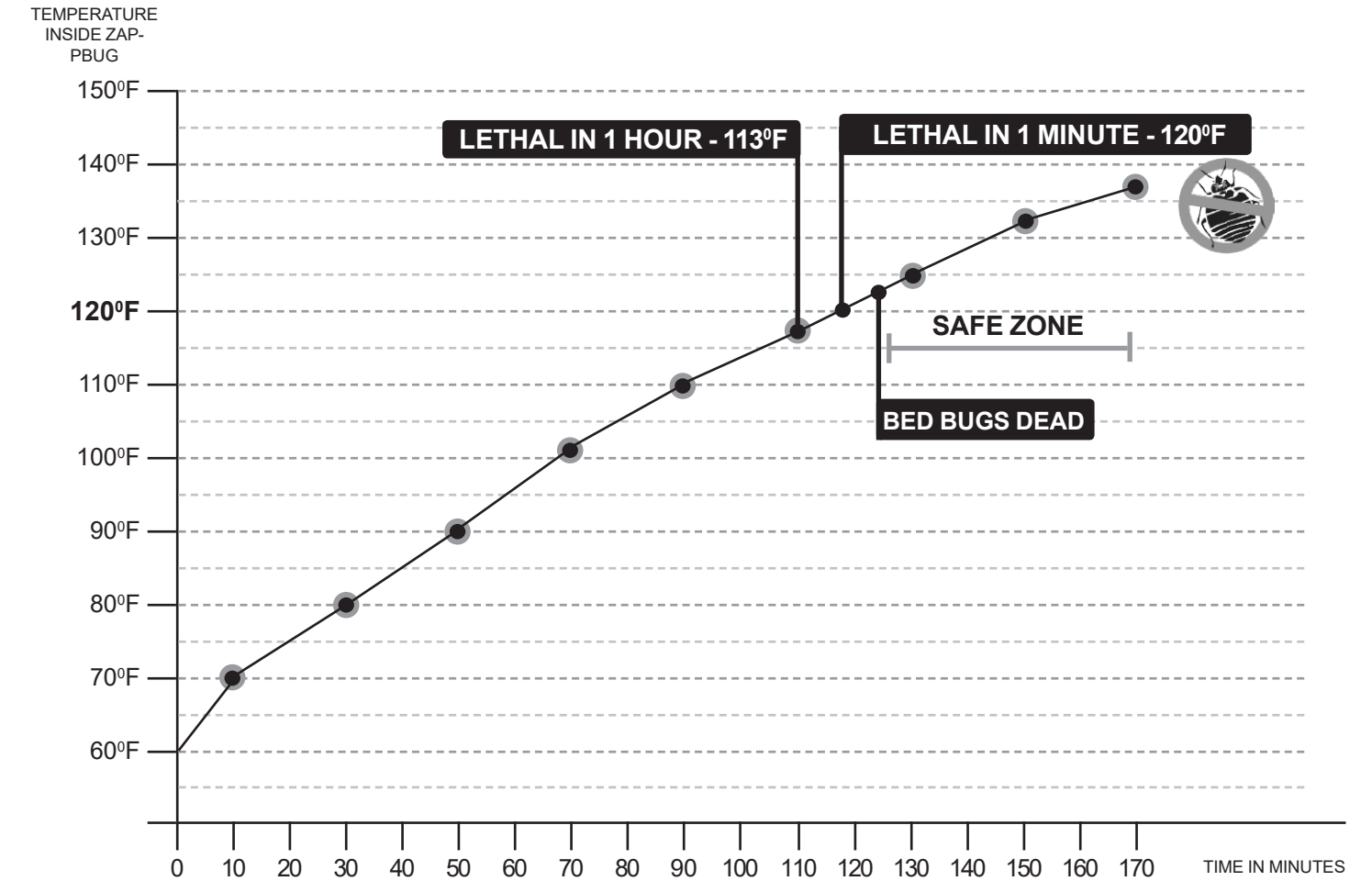
## 11. Folding & Packing Up The ZappBug Oven 2™

**Zip Top Closed, Leaving 4" Gap for Air to Escape**

**Place Oven on Side Step On Corner & Collapse Oven as Shown**

**Allow Air to Escape**

**Ensure Side Panels Fold Flat**

**Fold Sides Inward**

**Complete Fold**

**Store Oven & Support Blocks in Carry Bag**

Store the **folding oven**, **thermometer**, **timer**, **support blocks** and **net** inside the carry bag. Store heating unit separately.

# Heat Treatment Chart
## Typical Heat Treatment
(Actual Treatment Times Will Vary)

TEMPERATURE INSIDE ZAPPBUG

LETHAL IN 1 HOUR - 113⁰F

LETHAL IN 1 MINUTE - 120⁰F

SAFE ZONE

BED BUGS DEAD

TIME IN MINUTES

| PEST | TREATMENT TEMPATURE | HOW LONG BEFORE THEY DIE | PEST | TREATMENT TEMPATURE | HOW LONG BEFORE THEY DIE |
|---|---|---|---|---|---|
| Ants | 120°F | 5 mins | Termites | 125°F | 10 mins |
| Bed Bugs | 115°F | 7 mins | Scabies | 122°F | 10 mins |
| Cockroaches | 130°F | 7 mins | Lice | 130°F | 30 mins |
| Dust Mites | 140°F | 8 mins | Moths | 120°F | 30 mins |
| Fleas | 140°F | 10 mins | Carpet Beetles | 120°F | 30 mins |

Always add one hour more than necessary to treatment time to ensure bug mortality.

## Common ZappBug Troubleshooting Tips

### Thermometer Reset

If you're having issues getting a temperature reading, you may need to do a simple thermometer reset. To do that, take the batteries out of both the sensor and the display screen at once. Then put them back in the **DISPLAY SCREEN FIRST**, followed by the sensor.

It can take a while for the unit to fully heat up (sometimes 2-3 hours or more depending on ambient temperature or the size of the treatment load).

Keep in mind that the display screen may lose signal if it is too far away from the unit, or if the unit heats above 140°F. If this happens, simply follow the reset instructions above.

### Safety Tip-Over Switch

If you plug in your heating unit and it does not turn on, please check the safety tip-over switch - that will be a little black button on the bottom of the red square heating unit. This button needs to be pressed in for the heating unit to turn on and is designed so that if the unit is knocked over (possibly blocking the vents) it turns off for safety. When the heating unit is plugged into a wall outlet and the red unit is flat on the ground the button should naturally be pressed in and the heating unit should turn on.

### Getting up to Temperature

The most common reasons why the unit struggles to get up to 120°F are ambient conditions and item arrangement. The ZappBug Oven 2™ works best in rooms that are 70°F or above. Whenever possible do not run the unit on concrete flooring; if you must place insulation such as cardboard or area rugs between the ZappBug Oven 2™ and the floor in order to limit heat loss.

Always arrange items as spread out as possible to allow air to flow easily throughout the unit.

### Thermometer Probe Channel

If you are aren't able to receive a signal from the thermometer probe you may need to set probe channel. To do that, take the back off each thermometer probes' back and change the channel by sliding the button to position 1. Each probe needs to be on the correct channel in order to monitor treatment correctly.

### Circuits popping

Make sure each red heating unit is on its own circuit.

## Notes:

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# Questions?

Please contact us <u>before place of purchase.</u>

ZappBug's expert staff are here to help! If you have any questions about ZappBug or are experiencing any issues, please don't hesitate to give us a call (or email). Our experts are ready to assist Monday-Friday, 9 AM to 5 PM PST.

(206) 430-5514          ✉ service@zappbug.com

# Warranty Information

## One Year Limited Warranty for the ZappBug Oven 2™

ZappBug™ warranty obligations are limited to the terms set forth below:

ZappBug™ warrants this product against defects in materials and workmanship for a period of 365 days (one year) from the date of original retail purchase. This warranty is good only to the original purchaser.

**What Does This Warranty Cover?**

This warranty covers any defects or malfunctions in the ZappBug Oven 2™. This includes all of the items included with the ZappBug Oven 2™: the heating unit, the folding box, the carry case, the support net, the support blocks, the timer and the wireless thermometer. Coverage terminates if you sell or otherwise transfer the ZappBug Oven 2™.

**What Does This Warranty Not Cover?**

This warranty does not cover the following:

1. Any defect or malfunction of the ZappBug Oven 2™ caused by abuse, misuse, neglect, carelessness, or accident.

2. Any defect or malfunction caused by alteration or modification of the ZappBug Oven 2™.

3. Any defect or malfunction of the ZappBug Oven 2™ which would not have occurred if instructions in the owner's manual had been followed.

4. The cost of repairing or replacing any electronics that are placed in the ZappBug Oven 2™. (In our experience, the ZappBug Oven 2™ operates at temperature ranges that are safe for most electronics, but we do not cover any damage to electronics that might occur while using ZappBug Oven 2™.)

5. The cost of repairing or replacing any property which is damaged when the ZappBug Oven 2™ does not work properly.

6. The cost of repairing or replacing any property which is damaged due to not following the instructions in the owner's manual.

**What is the Period of Coverage?**

Coverage under this warranty is for 1 Year (365 days) from the original date of purchase. Coverage terminates if you sell or otherwise transfer the ZappBug Oven 2™.

**What Will We Do to Correct Problems?**

If there is a problem, we will replace or repair (our option) the ZappBug Oven 2™, free of charge. You are responsible for shipping charges to send the ZappBug Oven 2™ to us for repair or replacement. We are responsible for shipping charges to send the repaired or replaced ZappBug Oven 2™ to you.

**How Do You Get Service if There is a Problem?**

Email us at service@zappbug.com or call us at (206) 430-5514. Tell us the problem and when and where you purchased the ZappBug Oven 2™. We will email you back with instructions on how to send us the ZappBug Oven 2™ for repair or replacement.

**How State Law Applies**

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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**ZappBug™ Customer Service**
service@zappbug.com
(206) 430-5514
Experts are waiting to assist
9am-5pm Pacific,
Monday-Friday.