



Owner's Manual

Quick



Effective



Simple



How Do Bed Bugs Infest My Home?

Bed bugs do not fly. They move from room to room or from building to building by attaching themselves and their eggs to objects like clothing and suitcases. Female bed bugs are more likely to "hitch-hike" to a new location after mating. A female can lay eggs for several weeks after mating, thus a single bug can lead to an infestation.

The Ranger is designed to be an effective tool to prevent the spread of bedbugs, beetles, lice, and other pests. This manual has the basic guidelines for proper use. Please read all instructions.

Product Features

Kills Bed Bugs

100% effective, non-toxic chemical-free and safe



Large Capacity

Easily fits luggage, clothes, bedding, books, and other household items



Digital Thermometer

Verifies heat reaches 120°F (49°C) to kill all bed bugs and eggs



Collapsible Design

Lightweight, portable unit folds for travel or storage



Built-In Timer

Timer powers off when treatment is complete



How does the Ranger work?

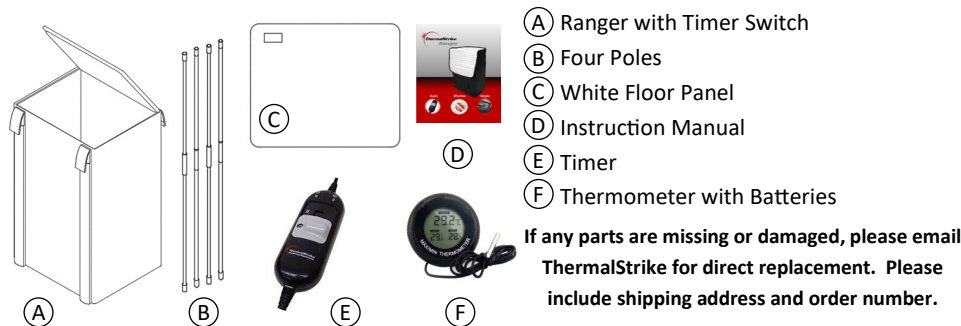
The Ranger provides a uniform heat on all six sides and will regulate wall temperatures around 155°F (similar to a commercial dryer or the dashboard of a car parked in the sun). This will be warm to the touch, but will not burn or damage most items.

During a heating cycle, the core temperature typically rises slowly at first, then ramps up as the heat penetrates from all sides. **Although bed bugs and other insects will die at lower temperatures, we recommended exposure to 120°F for 30 minutes at the core** to ensure the lethal temperature for bed bugs has been reached throughout the items inside the Ranger.

This table is provided by the National Pest Management Association to illustrate how various combinations of time and temperature will achieve lethal effects against all stages of life. Let's get started.

Temperature Required to Kill Bed Bugs & Eggs	
Temperature	Exposure Time
118°F (48C°)	90 minutes
120°F (49C°)	30 minutes
122°F (50C°)	< 1 minute

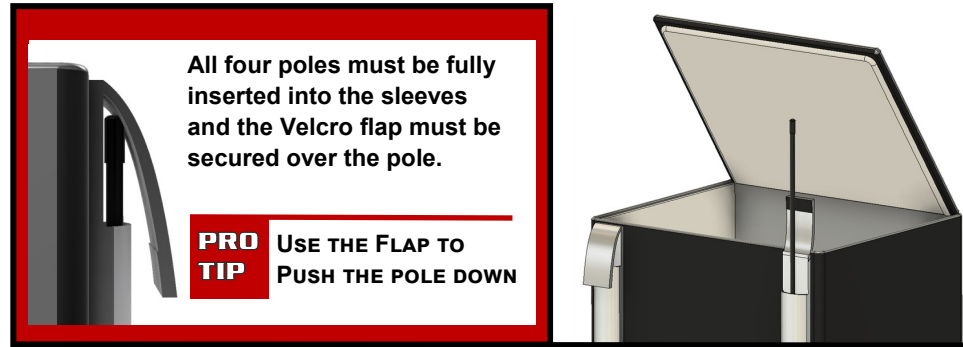
Parts List



Setup and Use

Step 1: Insert All Four Poles into Guide Sleeves

Lay the unit on a flat surface. There are four poles which slide into sleeve straps on the front and back of the unit. For ease of removal, the white end of the pole should be inserted first.



Step 2: Insert Plastic Floor



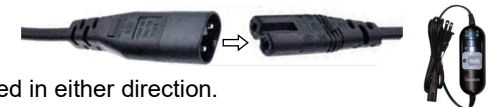
The Ranger comes with a hard plastic floor that must be placed at the bottom of the unit before loading.

The floor protects the heating elements against heavy suitcase wheels or other objects and ensures even heating across the floor.

MAKE SURE THE FLOOR PANEL DOES NOT PINCH ANY WALL SECTIONS UNDER THE FLOOR

Step 3: Connect Timer

Connect the ThermalStrike timer unit to the Ranger. The connector may be placed in either direction.



Loading and Treating Items

Suitcases, Backpacks, and Purses: The Ranger will treat most carry-on and mid-sized suitcases up to 29" inches. Remove any items listed below. Baggage may be left closed with contents during treatment.



Bedding and Pillows: The Ranger can be loaded just like a laundry hamper. The Ranger can treat feather comforters, memory foam pillows, blankets and other bedding.

Garbage Bags and Storage Bins: When dealing with an infestation, bagged items can be placed directly inside the Ranger without issue. We also recommend storage bins for treating small items.

Books and Papers: These items may be stacked inside the Ranger without concern. Note that dense items (such as reams of papers, large books, or files) can take longer to treat. Some spacing between books can reduce the treatment time.

Clothing and Fabrics: Heat is safe for wool, silks, synthetics, cotton, leather, and more.

Miscellaneous: The junk drawer and clock radio are going to be fine and so is the CD collection. If you have specific questions, please contact us. When loading various items, heavy items should be placed near the bottom to improve stability.

ThermalStrike has been doing heat treatment since 2009. Most items can be treated for hours without any concerns, but a few items should be avoided or treated with care. See thermalstrike.com for more details.



Never Heat Treat
Medicine, Chocolate,
Waxy Items Like Cosmetics,
Crayons, and Deodorants

Monitor Treatment Time
Orthopedic Shoes,
Computers and Electronics,
Expensive Wines

Questions? See Setup Videos at ThermalStrike.com

Timer Control

The Ranger is equipped with a timer to automatically shut-off at the end of a heating cycle. The timer can be set for 2, 4, or 8 hours. The timer can be restarted by sliding the switch to the off position and reselecting a timer setting.

Recommended Timer Settings

8 Hour	Worry-Free / Maximum Effectiveness Allows the heat to penetrate across all items and provide worry-free operation. <i>If you've been exposed to bedbugs, a full 8 hour cycle should be used to eliminate uncertainty.</i>
4 Hour	Carry-On Suitcases & Medium Sized items A typical hard-sided carry-on takes a little over 3 hours while a full-sized checked luggage can take just over 4 hours. As such, we recommend using the thermometer to ensure the system reaches lethal temperatures of at least 120 degrees.
2 Hour	Empty Suitcases and Smaller Items Used to treat suitcases after the contents have been removed. Also used for heat sensitive items such as computers (see thermalstrike.com for more information).



The blue light indicates that the heat process is active. Once the selected heat cycle has been completed, the blue light will turn off.



The green light indicates that the controller is plugged into a working socket.

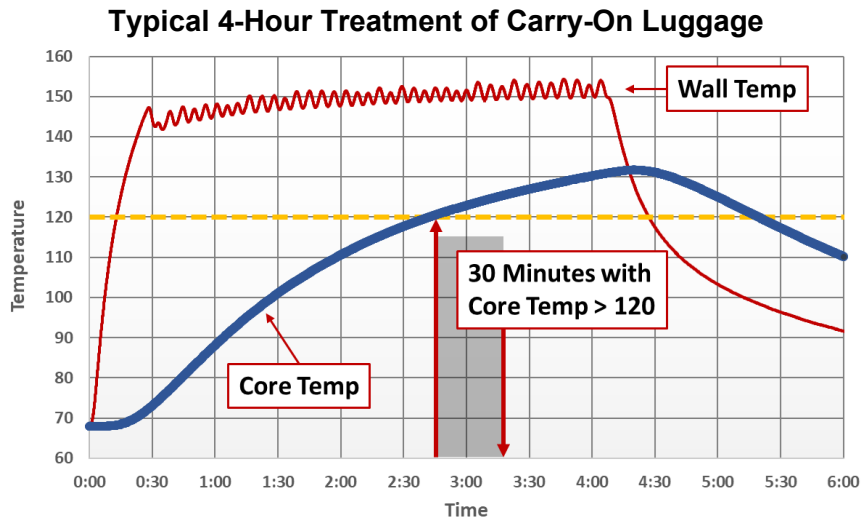
Monitoring Temperatures

Most customers set the timer for 8 hours and they can be certain that the Ranger will completely treat suitcases, clothing, and personal travel items without having to use the thermometer.

For users who want to either run shorter treatment times or treat an unusually dense load such as dozens of books, we provide a thermometer to monitor the temperature inside the system during treatment.

The body of the thermometer should be placed outside the unit while the silver probe passes through the zipper and is placed in the center of the items being treated to record the "core temp".

The Ranger has a timer that will automatically shut off the heating system, so the Max temperature reached during treatment is important. Between treatments, press "Reset" on the thermometer to clear the Max temperature.

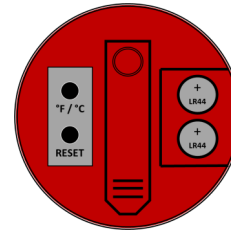


TREATMENT IS COMPLETED EITHER: 30 MINUTES ABOVE 120°F OR IMMEDIATELY AT TEMPERATURES ABOVE 125°F.

ThermalStrike Digital Thermometer

A wired thermometer ships with the Ranger (color may vary). The body of the thermometer should be clipped to the unit while the silver probe is placed in the center of the items being treated.

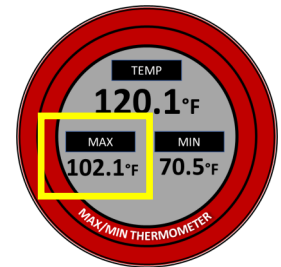
A protective film may be on the face of the thermometer. This may be removed and discarded.



Batteries are inserted button-side down so that the "+" and writing are visible.

Two buttons on the back of the thermometer allow the user to select either Fahrenheit or Celsius and reset the "Min/Max" temperatures.

Because the Ranger has a timer that automatically shuts off the heating system and begins to cool down, the Max temperature reached during treatment is the most important number. Press reset on the thermometer between treatments.



Quick Troubleshooting – Blank Screen

If the thermometer does not immediately display the temperature or flickers, the batteries may not be making connection. Check that the battery door is flush with the body of the thermometer. Remove the batteries and lift up the tab under the battery with a pencil tip. If this does not correct the issue, contact us for replacement.

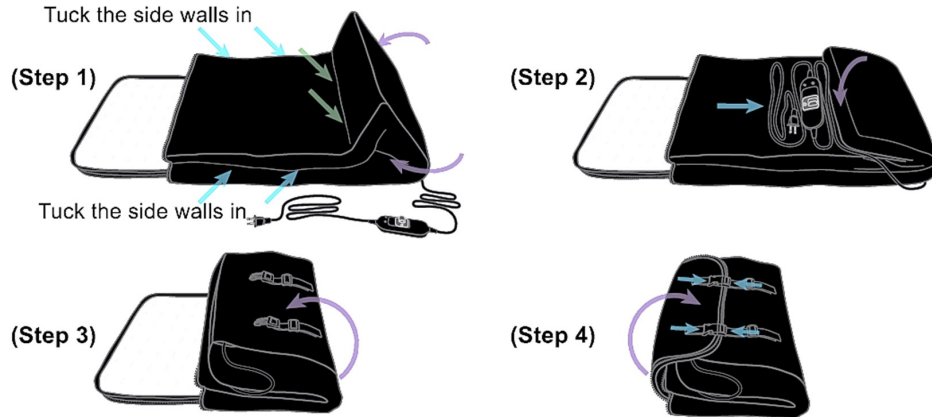
TEMP
HHH

If the screen reads "HHH", this indicates that the temperature has reached over 150°F and treatment is complete. This is within the operating range of the Ranger.

Care and Storage

The Ranger is collapsible for easy storage and is designed to fold like a paper bag. The inside PVC layers can be wiped out with most mild household detergents.

Folding: Remove poles and plastic floor. Lay the unit flat on its back as shown. Tuck the side walls into the center of the unit. Begin folding (not rolling) the unit from bottom of the bag. Bring the lid over the top and clip the storage straps in place.



PRO TIP THE RANGER WAS DESIGNED TO FIT INTO A CARRY-ON SUITCASE FOR STORAGE BETWEEN TRIPS!

Pests Other Than Bedbugs

Heat has been used for extermination of pests for years and the Ranger is designed to maintain temperatures which are effective against a multitude of pests and pathogens. The guidelines provided here are adequate for treatment of a number of pests including carpet beetles, moths, mites, and lice.

Operating Environment (Temperature & Electric)

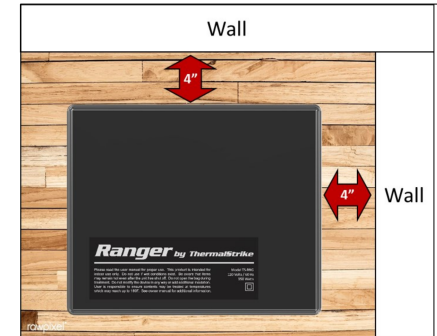
Temperatures: ThermalStrike Ranger is a double insulated electrical product intended for indoor use. The system may, however, be used in garages with temperatures above 50°F.

The outside surface temperature of the Ranger is roughly 80°F and will not significantly affect room temperature or set off any fire sprinkler systems.

The Ranger uses seven thermostats for safety and temperature control. For proper operation, make sure there is at least 4" of clearance around the outside of the unit with nothing leaning against the Ranger.

The Ranger is safe for use on carpet, hardwood, linoleum, or other flooring surfaces. If placed on a cement slab below 60°F, a towel or cardboard should be placed below the unit to help reduce power consumption..

Electrical: The Ranger is CE certified and available in 120V and 220V versions. Maximum power draw is 370 Watts and then reduces power consumption once temperatures are reached. The 120V version may be used outside the U.S. with a 500 Watt step-down transformer.



Contact Info for Questions or Comments

Additional details for operation are available at ThermalStrike.com. If you need help or have comments, you can talk directly to our Colorado based engineering group. We try to make improvements all the time and love to talk to customers. We answer questions as quickly as we can. So drop us a line, call, or even text.

PRO TIP CUSTOMER SERVICE HANDLED DIRECTLY BY THE INVENTOR OF THERMALSTRIKE

Michael Lindsey
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ADDITIONAL PRODUCT SAFETY INSTRUCTIONS

TO REDUCE RISKS OF BURNS, ELECTRIC SHOCK, FIRE, AND PERSONAL INJURY, THIS PRODUCT MUST BE USED IN ACCORDANCE WITH THE FOLLOWING INSTRUCTIONS:

1. Read all instructions / save these instructions.
2. Carefully examine inner lining before each use. Discard the system if inner lining shows any sign of deterioration.
3. DO NOT permit children to use this device. Do not leave the device unattended when children are present.
4. DO NOT immerse or use the product if visibly wet conditions exist.
5. DO NOT modify device or add insulation around unit.
6. Maintain a minimum clearance of 4 inches around the unit while operating.
7. This product is intended for indoor use only.
8. Never pull this device by the cord. Do not use the cord as a handle.
9. This appliance has a polarized plug (one blade is wider than the other). Do not attempt to modify this plug or disable this safety feature in any way.
10. Be aware that the items may remain hot even after the unit has been shut off.



ThermalStrike has been doing heat treatment since 2009. Most items can be treated for hours without any concerns, but a few items should be avoided or treated with care. In our experience there are just three things to avoid. See thermalstrike.com for more details.



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Waxy Items Like Cosmetics,
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Monitor Treatment Time
Orthopedic Shoes,
Computers and Electronics,
Expensive Wines

Please visit ThermalStrike.com for More Information

THERMALSTRIKE 12-MONTH LIMITED PRODUCT WARRANTY

Limited Warranty: ThermalStrike, LLC warrants that, under normal use, this product will be free from defects in material and workmanship for twelve (12) months from the date of purchase. The limited warranty does not cover damage resulting from accident, misuse, water damage, or modification. The foregoing limited warranty is the sole warranty provided in connection with this product and is in lieu of all other warranties expressed or implied. No oral or written information or advice given by ThermalStrike, LLC (or ANY of their respective suppliers, dealers, distributors, agents, or employees) shall create a warranty or in any way increase the scope of this limited warranty.

The user is responsible to ensure that items placed into the unit are acceptable for heat treatment. In no event shall ThermalStrike, LLC accept any liability for any damages to you or any other person that exceed the price paid for this product, regardless of any form of the claim.

For Questions or Service: support@ThermalStrike.com

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