



**SERVICE CENTER CHECK LIST
FOR HEAT REMEDIATION**

Customer: _____
Account Number: _____
Service Address: _____
City: _____
State: _____ Zip: _____ Map Code: _____

Service Location: _____
Room Number: _____
Contact: _____
Phone: _____
Phone 2: _____

The following outlines the steps that must be taken to prepare the bed bug affected room for a heat treatment service. Check off each box and initial on the line provided once each step is performed.

Prior to Service Date review and confirm the following items from the customer checklist

Property owner/representative/occupant to meet with Massey Services. This meeting is required to:

Verify the specific unit(s) that will be treated

Unit Number(s): _____

Verify power requirements if utilizing building circuits:

- Oven/Stove 3-prong 4-prong Gas Hardwired
- Dryer 3-prong 4-prong Gas

NOTE: If Oven/Stove and Dryer are gas or hardwired, there are 2 options for us to get power.

- Electrician connects a 50-amp outlet for us to get power
- Generator rental for power

- Hotel/Motel A/C unit – Plug description volts/amps _____
- 6 individual 110/120 v – 15/20 amp circuits

Verify the surrounding unit(s) that will be inspected/treated

- Unit Number(s): _____

Verify where data collection device is to be staged (separate area away from the heat).

Verify thermocouple probes will be inserted into headboard wall (drywall only 2 probes)

If using exterior power generation determine the best location for the generator and path of the power cords to the treatment area.

At Time of Heat Treatment

Meet with Property Owner/Representative or Hotel/Facility Senior Management, engineering, housekeeping, and security department heads:

- To confirm the specific room(s) that will be treated.
- To confirm the availability of power to operate the heat generating equipment from the building or determine the best location for the power generators and path of the power cords.
- Identify where breaker box(s) are.
- To discuss use of the data collection device and placement of thermocouples. The data collection device should be kept in hallway or adjoining room to allow monitoring of heat application without exposing technician or data collection device to heat.



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- Confirm the date and time that air conditioning units were turned off.
 - Air conditioners should be turned off for a minimum of 12 hours prior to the application of heat.
 - In-room heaters may be turned on to raise the ambient temperature prior to the service. Room temperatures should not exceed 85°F prior to the heat remediation service.
- Confirm that Fire Suppression Systems have been serviced and sprinkler heads will remain secure at temperatures exceeding 150°F.**

Day of Service: Prior to Heat Treatment

- Ensure the Customer Checklist has been completed and signed by the Owner/Representative or Management Representative.
Review with the Massey Service Team
- Establish the central heat treatment command center where all treatment monitoring activities will occur.
2 team members are required for setting up and breaking down a heat service.

Prior to Heat Application

- Thoroughly brush and vacuum the crevices around the mattresses, bed frames, baseboards and other areas described in the service protocol.
- Apply dust form materials (Cimexa) under and behind all baseboards (pull carpet back if needed), door frames, electrical outlets, and within the hollow voids of all bed framework.
- If required, make application of non-residual materials (Sterifab) to mattress and other human contact surfaces.

Preparing Room for Heat Treatment

- Arrange furniture in the room to allow even airflow around all surfaces
 1. Disassemble bed(s) in the room. Use stacking crates to complete the following tasks.
 - Elevate box springs to allow air flow on all sides
 - Place bed frames on top of box springs
 - Place mattresses above bed frame and box springs
 2. Remove headboards and place to allow air flow across wall surface
 - Pull carpet and padding away from all walls and place headboards on top to hold down. If the baseboard is a strip of carpet, it must be removed and laid flat on carpet pad.
 3. Move all remaining furniture away from walls (2 to 3 feet) to create a flow path for heated air.
 - Arrange furniture to allow adequate space between all pieces for heated air to flow.
 - Nightstands, chairs, and tables may be stacked.



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- All drawers should be removed from nightstands or bureaus and stacked to allow air flow.
 - **DO NOT** put laminated furniture in front of air flow from heaters.
- If necessary, place required insulating devices to prevent heat loss.
- Bath vents
 - HVAC vents
 - Loose sliding doors
 - Adjoining room access
- Wireless Monitoring Device
- Connect wireless receiver to lap top computer and power supply.
 - Turn laptop computer on.
 - Activate wireless monitoring software. (NETMESH or AGI)
 - Activate all probes and sensors by pressing the button on each device.
 - Verify devices have connected to the laptop. If device does not connect, push the button, and hold for 1 second. If it still does not connect, you may need to change the battery (need CR17345 -Duracell Lithium – one per sensor).
 - Place probes and sensors in room(s)
 - Record temperature on Heat Remediation Data Chart
- Placement of Thermocouple Monitoring Devices
1. Place probes:
 - Insert 2 probes into wall voids behind each headboard.
 - Probe 1 placed 12 inches from floor on left side headboard wall
 - Probe 2 placed 36 inches from floor on right side headboard wall
 - Suspend 1 probes 60-inches above the floor to measure ambient air flowing within the room. (Use ceiling fan if available)
 - Insert 2 probes into holes drilled into the core of the wood of two different pieces of furniture. (Make sure these drill holes are out of sights, inside the dresser, under a chair)
 2. Place air sensors:
 - 1 sensor on mattress
 - 1 sensor on box spring
 - 1 sensor on nightstand
 - 1 sensor on dresser
 - 1 sensor in closet
 - 1 sensor on other furniture
 - Indicate placement of probes and sensors on the Heat Remediation Graph
- Identify areas where Surface Temperatures will be taken every hour until we reach target temperature then 2 hours thereafter during the treatment. Monitoring points are to be marked with numbered stickers and placed in the following areas:
- 2 points on wall left of headboard wall.
 - 4 points on headboard wall (two high – two low).



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- 2 points on wall right of headboard wall.
- 4 points on wall opposite headboard wall (two high – two low).
- 1 point on a surface of each piece of furniture.
- 1 point at the surface of the location of each thermocouple.
- 1 point directly in area where luggage is stored
- 1 point on interior of entry door to room
- 1 point in bathroom opposite doorway
- Indicate the placement of the data points on the Heat Remediation Graph

Placement of heating units

- **Direct airflow toward the headboard wall.**
- Run power cables from heater to power source.
- Do not connect power cables to heater until ready to begin heating of area.
- Ensure heating coil and fan switches are off.

Heater Start Up with power from building

- Ensure heater coil and fan switches are in the off position.
- Connect power cable(s) to the power outlet and heater.
- Turn fan switch to the on position.
- Once fan motor reaches full speed, turn heater switch on.
- Monitor air flow to assure travel path matches planned path.
- Leave room and seal exit door threshold.

NOTE: Typically, you can only plug 1 110/120v plug into 1 circuit. Plugging 2 110/120v plugs into 1 circuit will cause the breaker to blow. So, plug 1 plug into each room. If you run out of outlets, check the breaker box to see what rooms have multiple circuits. You may also have to move plugs to other outlets to in order find other circuits.

Plug the 240V plug into the Dryer or Oven/Stove outlets. If the Oven/Stove outlet is 50amps, you can plug our breaker box into the outlet and then plug 2 of the 240v plug into the box.

Conducting the Heat Treatment

Physical Inspection and Monitoring of Temperatures

- Inspect and monitor temperatures every hour.
- Record temperature from laptop for probes and sensors every hour.
- Record temperatures using infrared gun for all surface data points every hour until all probe and sensor temperatures reach 120°F.
- Once temperatures of 120°F are reached record surface data points every 2 hours.
- Target air temperature is 140 -145°F.
- The target temperature for void and surfaces is 120°F + and held for four hours.
- If you have a heavy infestation, it is suggested that you extend your holding time to ensure a successful treatment.
- Surface temperatures should not change more than 25°F per hour.



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- Walls, ceiling, floor, and furniture surfaces should be inspected during the service for evidence of stress or damage.
 - Adjust heater placement, room contents or place insulating barriers to redirect heat to cool spots and prevent spots from overheating.
- Sustained surface temperatures exceeding 150°F increases the risk of damage. If surface temperatures should exceed 145°F take the following steps:
- Adjust position of heater to redirect heat application.
 - Adjust placement of room contents into/away from air flow.
- Inspect/treat surrounding unit(s)
- Unit Number(s) _____
- Continue to monitor heat process remotely and through visual inspection until all thermocouples, primarily wall void probes, have recorded temperatures of 120°F for more than four hours.
- Wall Void Temperatures will rise significantly slower than air temperatures.
 - Take notes of activities and observations.
 - Record time that all thermocouple probes have reached 120 °F. Hold a minimum of 120 °F for four hours.
- Take final readings for Heat Remediation Data Chart and confirm lethal temperatures have been attained in all critical locations.

Shutting Down the Heat Treatment

- Heater Shut Down with power from building
- Turn off heater coils switch off
 - Allow fan to run during the breakdown process.
 - Disconnect power cable(s) to outlet and heater DO NOT unplug fan motor until room is totally broke down.
- Breakdown the room
- Remove all probes and sensors and place in carrying case
 - Remove stacking crates from bed pile and return to trailer.
 - Rearrange bed and furniture to proper position.
 - Remove all power cables and extension cords and return to trailer
 - Remove and store all insulating devices.
 - The treatment area should be closed to allow furniture and surfaces to cool gradually. **DO NOT** start air conditioning in treated room until day after inspection.
 - Place mattress into mattress encasements (if purchased with the service).
- Wireless Collection Device
- Save Data
 - Turn laptop off



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- Place laptop and receiver in carrying case along with probes/sensors and return to trailer

Meet with management team to review treatment activity, effectiveness, etc. Discuss notes on the Service Report and make suggestions to improve preparations for future applications as required.

Follow Up Services

Day After Follow Up Inspection/Treatment

- Inspect the entire room for bed bug activity.
- Vacuum any bed bugs found.
- Apply Aprehend in a two-inch band around the areas with bed bug activity. These areas can include but are not limited to box spring, end tables, headboards, nightstands, picture frames, chairs and other areas with bed bug activity. Do not apply to furniture, upholstery or mattresses where prolonged contact with humans will occur.
 - On the boxspring apply Aprehend to interior voids and cracks/crevices and outer surface areas of the box springs. Focus on seams, folds and structural elements that could be bed bug harborage sites.
- After treatment has dried, the room can be released to be used.

One Week Follow Up Inspection/Treatment

- Inspect entire room
- Vacuum any found bed bugs
- Apply Aprehend as needed to areas of activity found that were not previously treated.

All inspection/services are to be documented on a Customer Service Report and reviewed with the customer.

Using a Generator

Generator/Heater Start Up

- One technician is stationed at the generator and another at the heater. Communication should be through cell phone or radio.
- Connect power cable(s) to generator and heater.
- Turn all generator breakers to off position.
- Ensure heater coil and fan switches are in the off position on the heater.
- Turn all breakers on the power distribution/spider boxes on.
- Start Generator
- Allow generator to warm up
- Turn the MAIN circuit breaker on generator to on position.
- Heating unit should energize and engage the fan motor.
- Turn fan switch on, once fan is running turn the heater switch on.
- Monitor air flow to assure travel path matches planned path.
- Leave room and seal exit door threshold.



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Generator/Heater Shut Down

One technician is stationed at the generator and another at the heater. Communication should be through cell phone or radio.

- 1) Turn heater coils off
- 2) Allow fan to continue to run to cool down the heater.
- 3) Turn off 240-volt 50-amp breaker on the spider box
- 4) Turn off the 110/120v braker on the spider box. DO NOT turn off breaker for fan motor until heater unit has cooled. Once heater has cooled, continue to the next step.
- 5) Allow the generator motor to idle for 10 minutes to cool down.
- 6) Turn generator off
- 7) Disconnect power cable(s) to generator and heater.
- 8) Remove all power cables and store with generator.

Massey Team Member: _____ Service Date: _____