Cleaning, Inspection, and Refurbishment Procedure for Returned Comfort Bath Warmers

1. PURPOSE

Establish a procedure for cleaning, inspection, refurbishment, and documentation of Comfort Bath warmers returned from field use.

2. SCOPE

2.1 This procedure is applicable to warmers which meet re-distribution requirements.

2.2 This procedure is not applicable to the new warmers received from the contract manufacturer.

2.3 This procedure is not applicable to discontinued warmer models and international warmer product codes (see Appendix A for list of warmers not in scope).

3. REFERENCES AND ATTACHMENTS

3.1 Internal references

3.1.1 Appendix A – Warmers Not in Scope

3.1.2 Appendix B – Inspection Procedure

3.1.3 Appendix C – Functional Testing Procedure

3.1.4 Appendix D –Repair Procedure

3.1.5 Appendix E – Cleaning Procedure

3.1.6 Appendix F – Packaging Procedure

3.2 External references

3.2.1 WI-337 ServiceMax Lighting (SLMS)

4. EQUIPMENT AND MATERIALS

4.1 Forest Pine Disinfectant

4.2 Citrol Multi-Purpose Degreaser

4.3 70% Isopropyl Alcohol

4.4 Glass Cleaner

4.5 Household Cleaning Sponge

4.6 Paper Towels

4.7 Nitrile Gloves

4.8 Eye Protection

4.9 Packing Tape

4.10 Permanent Marker

4.11 Calibrated IR Thermometer with range up to 150 °F

4.12 Calibrated Timer

5. RESPONSIBILITIES

5.1 Qualified ProCare personnel are responsible for inspection, functional testing, refurbishment, cleaning, and packaging of warmers following this procedure.

6. PROCESS FLOW

6.1 All warmer units will be unboxed, verified (per section 7.1) and Inspected (per section 7.2).

6.2 If any non-replaceable parts (as per Appendix B, section 6) are found to be damaged or missing, the unit cannot be repaired; discontinue inspection and refer to Section 8.

6.3 If no parts or only replaceable parts are found to be damaged or missing, the unit will proceed with functional testing (per section 7.3).

6.4 All passing units of functional testing will then go through repair (if applicable, per section 7.4), cleaning (per section 7.5), and packaging (per section 7.6). And documented (per section 9).

6.5 All functions described in this step will be performed by ProCare SMK Depot (or qualified contractor).

Note: WI-337 (External references)- The document can be accessed through SLMS.

7. WORK INSTRUCTIONS

7.1 INTAKE

7.1.1 Once a unit is received by the SMK depot the unit serial number should be verified and removed from any packaging.

7.1.2 After verifying the serial number, the unit must be systematically transferred to the proper account used by the depot.

7.2 INSPECTION

7.2.1 See Appendix B for the inspection procedure.

7.3 FUNCTIONAL TESTING PROCEDURE

7.3.1 See Appendix C for functional testing procedure.

7.4 REPAIR PROCEDURE

7.4.1 See Appendix D for repair procedure.

7.5 CLEANING PROCEDURE

7.5.1 See Appendix E for cleaning procedure.

7.6 PACKAGING FOR PASSING UNITS

7.6.1 See Appendix F for packaging procedure.

8. FAILING UNITS

8.1 Warmers which do not meet inspectional or functional requirements should not be placed in over shippers.

8.2 Failing warmers are to be placed on a separate skid from those that passed inspection and documented per section 9.

8.3 Label each unit with a brief description of defect. (Plain white paper with permanent marker is acceptable).

9. Documentation and Traceability

9.1.1 Work orders are used to document service activity on all units returned to the SMK Depot.

9.1.2 Create an upgrade work order for each unit. (Per Section 11.4 in WI-337 ServiceMax Lightning) utilizing a dummy serial number.

9.1.3 Capture all parts used and the unit serial number in service notes.

9.1.4 Temperature findings will be recorded in the QIP as a pass or failure.

9.1.5 Once the unit has been documented properly and ready to ship, the asset number should be systematically updated with a U suffix within SAP and transferred to the SMC.

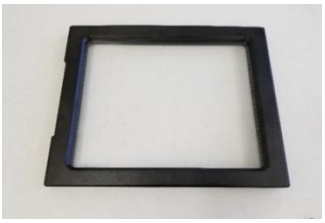
Appendix A – Warmers Not in Scope

Product Code	Description
7937-X	Comfort Bath Warmer, 12 CT GEN III AC, 230 V, EU
7937-DE	Warmer, 12 CT, 230 VAC, German Print
7937-ANZ	COMFORT BATH WARMER, 12 CT, GEN III AC, 230V, AUSTRALIA
7937-FR	COMFORT BATH WARMER, 12 CT, GEN III AC, 230V, FRANCE

Appendix B – Inspection Procedure

1. Inspect the following replaceable parts for damage or if they are missing:

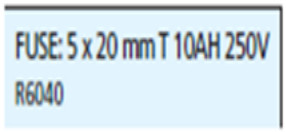
7937 Door (R99598)



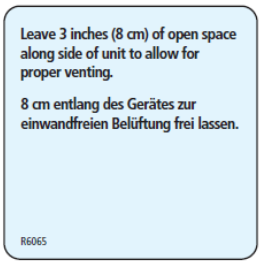
Rubber Feet (R99599)

Fuses (R99600)

Fuse Label (R6040)



Venting Label (R6065)



Power Cord (99602)

Top Cover for 7939

Top Cover for 7937

Fuse Holder (R99601)

7939 Door (R99612)

2.	Located on rear of warmer, ensure the serial number label, UL label, and fuse labels are present, legible, and free of defects.

3.	Located on left side of warmer, ensure the venting label is present, legible, and free of defects.

4.	Missing or illegible serial number or UL label represents failure and must be handled as per Section 8.
5.	Missing or illegible Fuse, or Venting labels are to be replaced, and the warmer will pass if no other critical failures are noted.
6.	The following parts **cannot** be repaired/replaced if damaged:

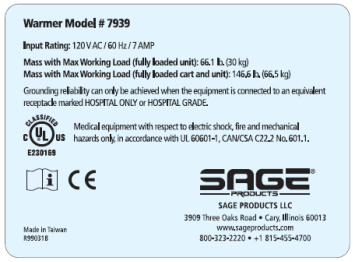
Frame

Control Panel	**Shelves**

UL LABEL

UL Label (7937 – R99035B)

UL Label (7939 – R99031B)



7.	Document all inspection results as stated within section 9
8.	If repair is not feasible or inspection criteria are not met, the remainder of the warmer inspection process will be discontinued, and the warmer will be handled per section 8

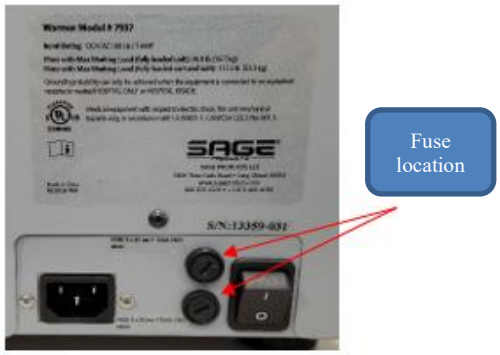
Appendix C – Functional Testing Procedure

Wear appropriate PPE before handling warmers

1.	Power

a. Verify Power cord is a 60” ± 12” and hospital grade (green dot).

b. Plug warmer into applicable power source. Verify there is power to unit. If the unit does not power up, replace both fuses located at the back of unit (see below for location). Remove fuse by lightly pushing in on fuse cover with flathead screwdriver and rotating counterclockwise (as indicated by the arrow on the fuse cover). Insert a new fuse into fuse holder and carefully reinsert fuse holder into opening on back of warmer unit. Lightly push in on fuse cover with flathead screwdriver and rotate clockwise to tighten and secure.



c. Failure of unit to power up indicates unit is not functional.

2. Self-Diagnostics

a. Turn power switch to the ON position.

b. System goes through self-diagnostic tests. Each LED shelf light (ORANGE - Not Ready, GREEN - Ready/Take First, RED - Dispose) should flash once and then become extinguished. A failure would be if any light remains illuminated.

c. The system displays Sage logo (below left), then the temperature setting of 125 °F (below right).

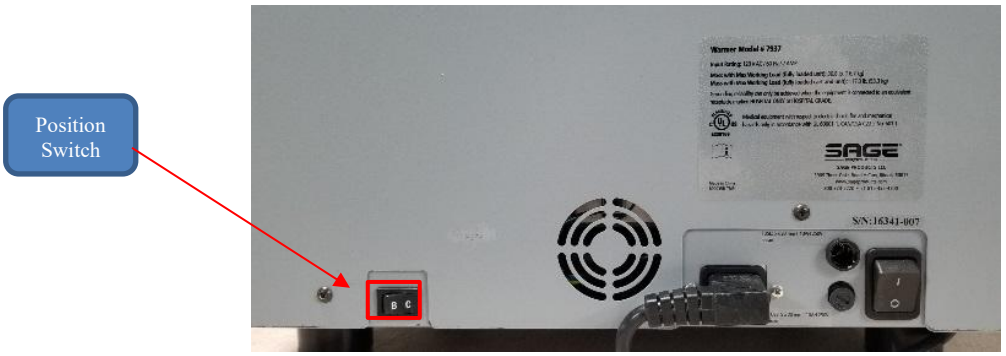
3. Unit of Measurement Adjustment (°C or °F)

a. From the default temperature display screen, press the °C key located below the display to change the unit of measure to Celsius. If Celsius is displayed, press the °F key located below the display to change back to Fahrenheit.

b. Failure of the unit of measure adjustment indicates the unit is not functional.

4. Temperature Adjustment

a. There are 2 different status display settings which can be changed with a switch located on the back of the warmer.



i. Switch position B (Take First) – After 84 hours, the green light begins to flash, indicating which packages should be used first. This feature helps packages to be used in the order they were stocked (FIFO – first-in, first-out). **Step (4.a.i) is not necessary for repair**.

ii. Switch position C (Dispose) – After 48 hours, the green light begins to flash, indicating which packages should be used first. This feature helps packages to be used in the order they were stocked. After 84 hours, a red light indicates that the package in this slot should be discarded. **Step (4.a.ii) is not necessary for repair.**

b. Perform temperature adjustment steps below for both Position **B** and Position **C**

c. Press MENU key below display from the default temperature display screen.

d. Using UP/DOWN arrow keys located to the right of the display, highlight SET TEMPERATURE and press SELECT key below the display.

e. When prompted, enter the following key sequence: UP ARROW, DOWN ARROW, UP ARROW.

f. Using UP/DOWN arrow keys, select desired temperature for contents of warmer.

g. After desired temperature (between 100 °F and 125 °F) is selected, press SAVE/EXIT key located below the display. If you wish to discard changes, press CANCEL key located below the display.

h. Warmer will then display temperature set point on main screen.

5. Status Indicators and Sensitivity

a. Perform status indicator steps below for both Position **B** and Position **C**.

b. Cover the LED sensor on the shelf with a representative Sage product. Repeat for each shelf sensor. Warmer should recognize this by turning to “Not Ready” within 2 seconds after covering sensor.

c. Uncover the LED sensors by removing the representative Sage product. The NOT READY light shall extinguish after a few seconds once the product is removed

d. Failure of status indicators indicates unit is not functional.

6. Heating

a. Adjust the target temperature setting of warmer to 125 °F (as instructed in Step 4). Verify unit begins to heat and reaches 125 °F (-17 °F / +5 °F), between 108 °F and 130 °F, within 1 hour. A timer will be used to time the 1 hour.

b. A calibrated IR Thermometer will be used to measure each of the 12 (7937) or 28 (7939) warming slots to verify temperature between 108 °F and 130 °F.

Note: Door must be open for this step – Accurate results will not be obtained if pointing the IR light beam through closed glass door.

c. Verify no burning smell is observed coming from unit. A burning smell or observed smoke will result in a functional failure.

d. Failure of units to reach temperature between 108 °F and 130 °F within 1 hour indicates unit is not functional.

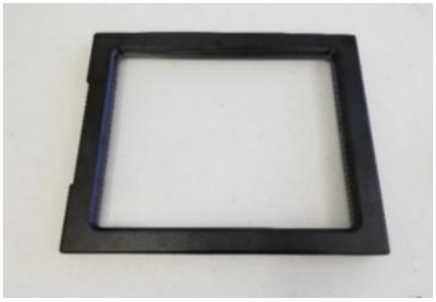
7. Any units determined to be non-functioning will be handled per section 8

Appendix D – Repair Procedure

Wear appropriate PPE before handling warmers

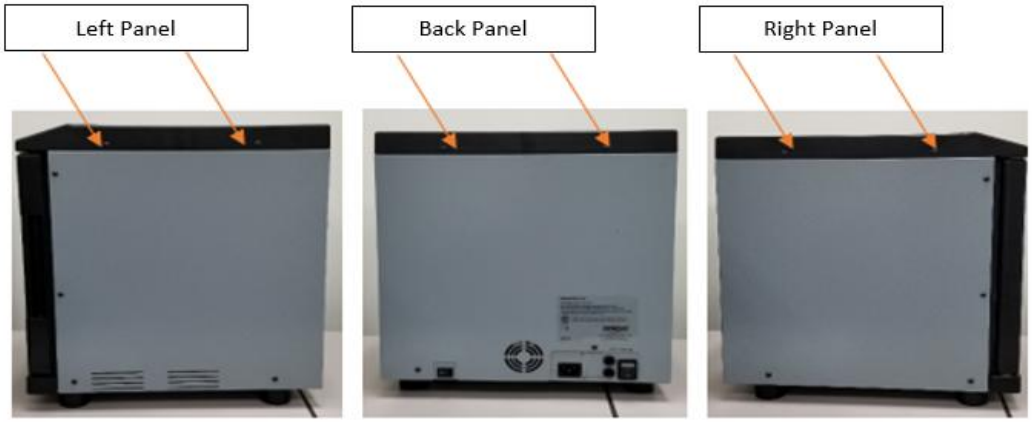
1. Parts can be “new” from original manufacturer or can be recovered from Warmers which did not pass functional requirements and were not eligible for repair or return to stock.
2. Electrical components (power source, heating elements, thermocouples, LED, microprocessors, etc.) are not eligible for repair/replacement.
3. If warmer could not be repaired, document final evaluation as “Fail” and proceed to section 8.

1. **Door—Replace if damaged**



Warmer 7937

Warmer 7939

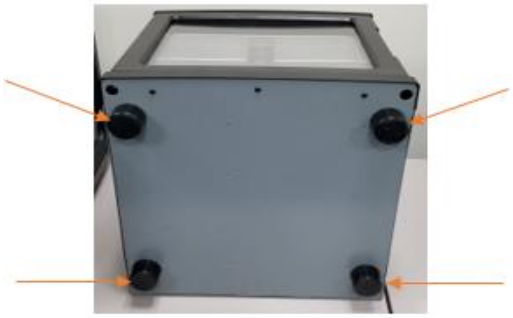
Step	Instruction
A	Remove (6) M4 screws with allen wrench. Screws are located on left, back, and right panels, as illustrated below. 

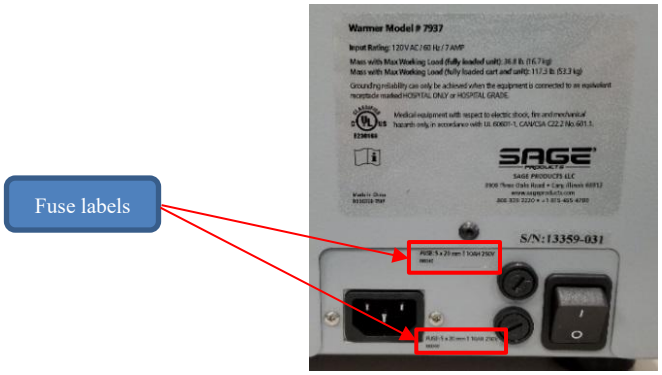
Step	Instruction
B	Remove the bezel by carefully lifting from top of warmer.  **Warmer 7937**  **Warmer 7939**
C	Remove the top and bottom hinges of the door using allen wrench.

	 **Warmer 7937**	 **Warmer 7939**
D	**In Warmer 7937-** Carefully slide door away from unit. There will be (2) M5 washers between the hinge and door, which can be re-used when replacing the new door. 	**In Warmer 7939-** Carefully lift (slightly tilting) door and remove door away from bottom hinge post.  There will be an M5 washer between the top hinge and door which can be re-used. 
Step	**Instruction**	

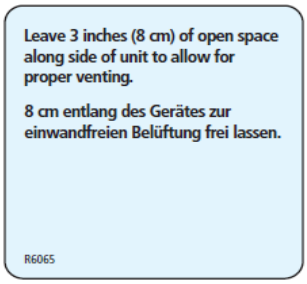
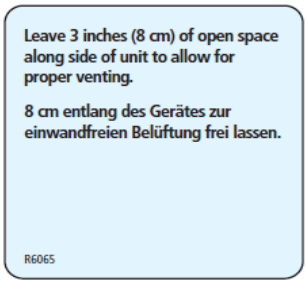
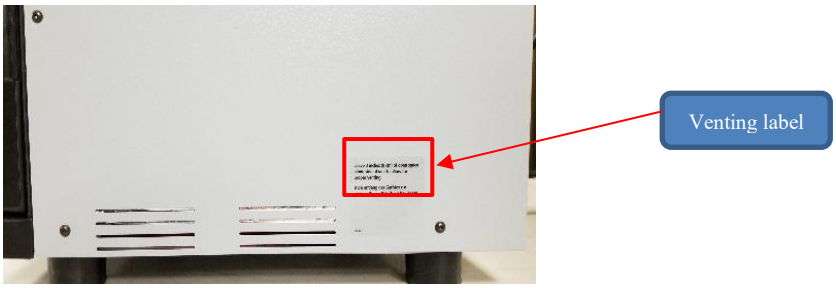
E	**In Warmer 7937-** Carefully place new door between hinge openings ensuring washers are aligned between the door and hinge. Insert/tighten both hinges using allen wrench. 	**In Warmer 7939-** Carefully place new door onto unit by lining up the bottom hinge post with door.  Make sure the washers are aligned between the door and top hinge. Tighten hinges using Allen wrench. 
F	**In Warmer 7937-** Replace bezel on top of unit and tighten (6) M4 screws on warmer panel with Allen wrench.	**In Warmer 7939-** Replace bezel on top of unit and tighten (6) M4 screws on warmer panel with Allen wrench.
G	**Retest unit per section 7.3.**	

2	**Rubber Feet – Replace if damaged or missing** 
Step	**Instruction**
A	Put the warmer gently on its back to avoid any scratch or damage to access rubber feet.

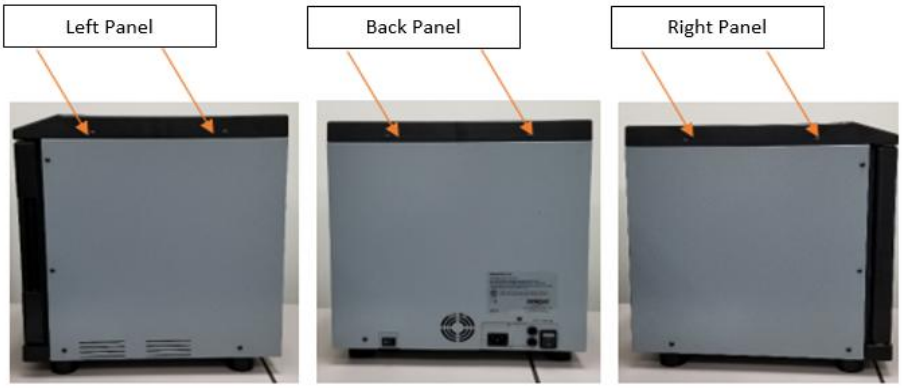
	  **Warmer 7937** **Warmer 7939**
B	Remove damaged rubber feet by turning counter-clockwise by hand.
C	Replace new rubber feet and tighten them by turning clockwise by hand. After all rubber feet are secure, carefully place warmer back on its feet.

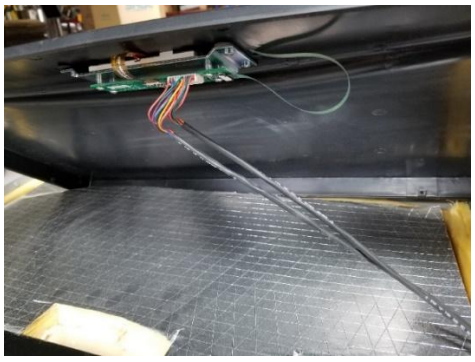
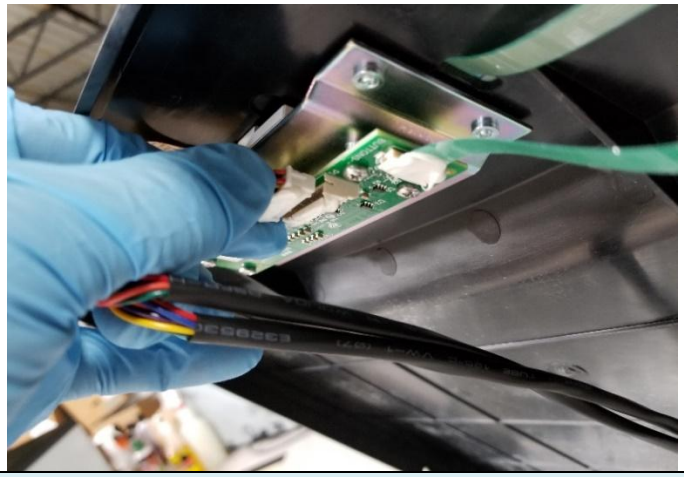
3.	**Fuse Label— Replace if missing, damaged, or illegible**   **Warmer 7937** **Warmer 7939**
Step	**Instruction**
A	2) Fuse labels (R6040) are located on the back panel (bottom righthand side) of warmer unit.
	Warmer 7937 

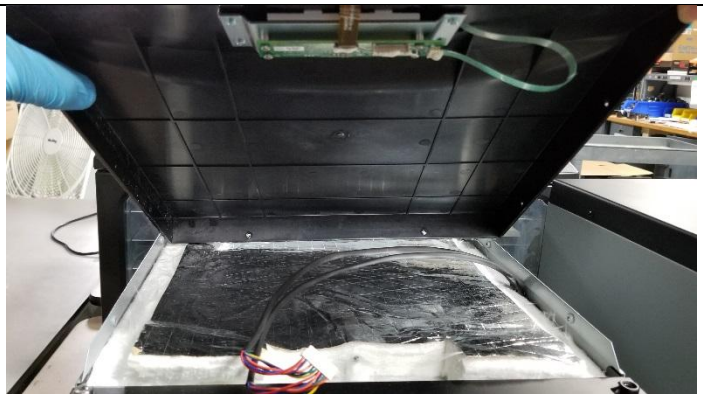
	Warmer 7939 
B	Missing, damaged, or illegible fuse labels will be replaced.

4.	**Venting Label— Replace if missing, damaged, or illegible**  **Warmer 7937**  **Warmer 7939**
Step	**Instruction**
A	Venting label (R6065) is located next to warmer vents on the left panel of warmer unit. 
B	Missing, damaged, or illegible Venting labels will be replaced.
5.	**Power Cord— Replace if missing or damaged**

	
A	Missing, damaged, or illegible Power Cord will be replaced.

	<u>Top Cover for 7937 – Replace if Damage</u>
6.	 **Warmer 7937**  **Warmer 7939**
Step	**Instruction**
A	Remove (6) M4 screws with allen wrench. Screws are located on left, back, and right panels, as illustrated below. 
Step	**Instruction**
B	Remove bezel by carefully lifting from top of warmer.

	 **Warmer 7937**  **Warmer 7939**
C	Top cover is connected to warmer unit via pin connector  **Warmer 7937**  **Warmer 7939**
D	Disconnect connector by slowly and carefully pulling female pin connector away from male pin connector. 
Step	**Instruction**
E	Remove the damaged top cover and replace it with new top cover.

	
F	Carefully re-connect the top cover by carefully inserting female pin connector into male pin connector. 
G	Replace bezel on top of unit and tighten (6) M4 screws on warmer panel with Allen wrench.
H	**Retest unit per section 7.3**

Appendix E – Cleaning Procedure

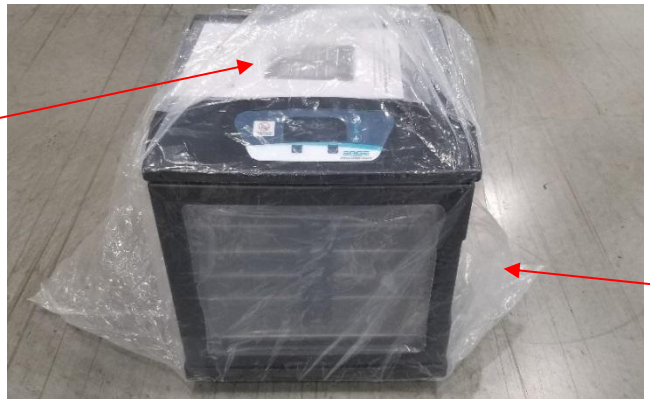
<u>Wear appropriate PPE before handling warmers</u>

1.	**It is assumed that every warmer returned from the field is contaminated**.
2.	Prepare cleaning solution by adding 1 cup of Forest Pine Disinfectant to each gallon of hot water in a bucket and stir until thoroughly mixed.
3.	Place warmer on a stable work surface and ensure no electrical power is applied to the unit. Two people may be required to lift large warmer.
4.	Wipe down the interior with a cloth moistened with cleaning solution.

5.	Inspect status indicator columns for visually unacceptable conditions of dirt or contamination. Clean exterior surfaces of all columns. 
6.	Clean surfaces of all shelves, top and bottom. Remove any contaminants and clean the standoffs. Verify there are no residual labels attached to the shelves. 
7.	Clean inside surfaces of warmer. **NOTE: Do not apply heavy pressure to the rear interior surface. Excess pressure may damage the LEDs and cause status indicators to malfunction.**
8.	Clean inside and outside surfaces of door(s). A glass cleaner may be needed to remove streaking from doors
9.	Close door (s).
10.	Clean all exterior surfaces of warmer. Any hospital specific markings, labels, residue, or placards must be removed completely from warmer surfaces. Citrol multi-purpose degreaser and 70% Isopropyl Alcohol may be needed to remove any label residue.
11.	After cleaning is complete, allow warmer to air dry for a minimum of 30 minutes with the door(s) open. Make sure warmer is completely dry before packaging.

Appendix F – Packaging Procedure

Step	Instruction
1	After the cleaning is complete, warmer is ready to be packaged.
2	Using twist ties, wrap the power cord.

Step	Instruction
	
3	Place power cord into shelf slot. **Warmer 7937**  **Warmer 7939** 
4	**In Warmer 7937-** Place the Instruction manual (R99034J) on top of unit. Wrap polybag (R4723) over unit and fold the end close. 

Step	Instruction
	In Warmer 7939- Place instruction manual (R99038H) on top of unit. Wrap polybag (R4724) over unit and fold the end closed. 
5	**In 7937 Warmer:** Place bottom foam (R99201) inside over shipper (R1939). 
	In 7939 Warmer: Align left and right foam panels (R99198) and back foam panel (R99199) around warmer (as illustrated below) and place warmer into cardboard shipping tray. 

Step	Instruction
6	**In 7937 Warmer:** Place wrapped unit into box, ensuring alignment to bottom foam. 
	In 7939 Warmer: Slide top box (R99196) over warmer and secure with warmer lock nuts (R99195). 
7	**In 7937 Warmer-** Align top foam (R99200) over unit, close box, and secure using packing tape. 
8	Obtain carton labels (2) for all passing units. Place carton labels that contain the “U” suffix on (2) two of the four sides in upper right-hand corner. All carton labels must have part number, serial number. As shown in the example below.

Step	Instruction
	 
9	Place warmer on appropriate skid.