FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

CHAPTER 4 OPERATOR MAINTENANCE INSTRUCTIONS

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

SERVICE UPON RECEIPT

INITIAL SETUP:

Materiel/PartsReferencesNoneNone

Personnel Required Equipment Condition

One Shower set-up

SERVICE UPON RECEIPT

Upon receipt of the BOH Containerized Shower, ensure all components are in proper working order. Note the following requirements.

Unpacking

The BOH Containerized Shower is shipped with all components and equipment packed inside. To unpack upon receipt, set up the BOH Containerized Shower as described in (WP 0004)

- 1. Six compartment doors with retaining chains, locks, tag holder and door spring restraint.
- 2. Six Overhead light fixtures.
- 3. Five Shower stalls with shower valves and shower head.
- 4. Five Vanity and sink with wall mirrors.
- 5. Main water shutoff valve stored next to the ground rod.
- 6. Nine Floor drains.
- 7. Six Wall outlets GFCI.
- 8. One Exterior outlet weather proof GFCI
- 9. One Exterior Electrical Box
- 10. GFCB Circuit Breakers.
- 11. One Hot water heater in utility room.
- 12. 4" grey water drain and 3/4" cold water inlet.
- 13. 4" Clean out line and cap.

END OF WORK PACKAGE

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

INTRODUCTION TO PREVENTATIVE MAINTENANCE CHECKS & SERVICES (PMCS)

INITIAL SETUP:

Materiel/PartsReferencesNoneWP 0004

Personnel Required Equipment Condition
Two Shower Set-ups

PREVENTATIVE MAINTENANCE CHECKS & SERVICES (PMCS)

Preventative Maintenance Checks and Services (PMCS) are performed to keep the BOH Shower containers in good operating condition. These checks aid in finding, correcting, or reporting problems. Operator personnel are to perform the PMCS tasks as shown in the PMCS table.

Perform PMCS procedures each day the BOH Containerized Shower is in operation, using the PMCS table in WP 0013 00. There are different intervals to perform PMCS procedures: before, during and after using the equipment, as well as weekly and monthly. Look at the table carefully to identify the required PMCS interval.

Perform all checks and services keeping in mind the following guidelines:

- Before you begin using the BOH CONTAINERIZED SHOWER, do Before Operation PMCS
- While the BOH CONTAINERIZED SHOWER is in use, do During Operation PMCS
- After using the BOH CONTAINERIZED SHOWER, do After Operation PMCS

If you find something wrong when performing PMCS, fix it using troubleshooting and/or maintenance procedures. Pay attention to WARNING and CAUTION statements. A **WARNING** means someone could be injured or killed. A **CAUTION** means equipment could be damaged.

If tools that are required to perform PMCS are not listed in the procedures, notify your supervisor.

Inspection

Look for signs of trouble. Use your senses to feel, smell, hear, or see problems that may exist. Inspect to see if items are in good condition. Are components correctly installed and secured? Is any damage to the frame or components visible? Correct any faults or notify Unit Maintenance.

Associated Components

There are some common items to check on the BOH Shower container and associated equipment. These include the following:

- Condition and proper connection of waste water drain hose.
- Condition of the container level.
- Condition and connection of the 1" water supply.
- Condition and connection of the ground device.
- Condition and connection of the electrical supply.

Service

Proper service of the BOH Containerized Shower and components is an integral part of maintenance. Regular cleaning prevents possible problems in the future, so make it a habit to clean the BOH Containerized Shower and components whenever necessary.

NOTE

The exterior of the container is Polyurethane Paint, clean with water only.



The electrical ground must be established first to prevent electrical shock to personnel. Ensure all circuit breakers and the power source is switched off before making electrical connections. Ensure the electrical proper 120 VAC cable connectors are installed by a certified electrician (Army MOS 21R).

CAUTION

The Containerized Shower must be placed on a level surface of a platform, pillars or ground surface to operate properly and prevent waste water backups.

CAUTION

Ensure sanitation of the Shower





Always establish a safe footing operational site. The interior floor should be kept dry and clean.

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

PMCS TABLES

INITIAL SETUP:

Materiel/PartsReferencesRags, WaterNone

Personnel Required Equipment Condition
Two SHOWER Set-ups

Table 1 Preventative Maintenance Checks and Services for the BOH CONTAINERIZED SHOWER PMCS B (Before), D (During), A (After), W (Weekly), M (Monthly)

	В	D	Α	w	M	Inspection Item and Procedure	Equipment Not Ready/Available If
1	*		*	*		Grey Water Drain Inspect drain connection WARNING Rubber gloves should be worn when handling or cleaning the grey water connections.	Grey water discharge clogged/ does not flow freely.
2	*		*			Electrical Cable Connections Inspect cable and cable end connections for damage. WARNING Damaged cable connections may cause improper connection and electrical shock.	Poor or improper electrical connections
3					*	Lubricate hinges, locks and latches, as required.	Hinges, locks or latches will not operate smoothly.
4	*		*	*	*	Shower head Check shower heads for flow and clogs.	Poor or weak water flow from shower head.

	В	D	Α	w	M	Inspection Item and Procedure	Equipment Not Ready/Available If
						Vanity Doors and Sink	Not sanitized, water leaks or
5	*	*	*	*		Check interior for dirt and debris. Clean with	has dirt or debris.
						Detergent, Water, and Rags as required.	
						Door Seal	Failure of the seal will allow
						Check door seals for cuts, cracks, distortion,	water and moisture, dirt and
6	*		*		*	proper alignment and attachment. Reattach with	sand to enter the container
						proper glue or replace if necessary. Check for	compartment and damage
						moisture on floor.	the floor; Wet slippery floor.
						Attachment Hardware	Loose or missing hardware
7	*		*		*	Check for missing or loose attachment hardware,	will impede the operation and
						door handles, drawer latches.	may cause injury or damage.
						Forklift Base Check for weld cracks, bends,	Failure to repair welds will
8	*		*		*	dents or frame distortion. Schedule weld shop	cause damage or injury.
0						repair if needed.	
9	*	*	*	*	*	Shower Floor Drains	Standing water or clogged
9						Check for clogs and debris	floor drain.
						Data Plates	Operation, Cautions and
10			*		*	Check plates for legibility, damage and/or	Warnings will not be legible.
10						missing. Clean with water and rag. Replace as	
						needed.	
	End of Table						

END OF WORK PACKAGE

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) **BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units**

CLEANING AND LUBRICATING

INITIAL SETUP: Materiel/Parts

Rags, Water, Detergent

Personnel Required

One

References None

Equipment Condition

Shower Set-up

CLEANING AND LUBRICATING

Cleaning and Lubricating of the BOH Containerized Showers is performed to keep the shower and its associated equipment in good operating condition. The cleaning and lubrication of the shower can be conducted along with the Preventative Maintenance Checks and Services (PMCS) procedures described in WP 0013 00. Specific areas described below need to be cleaned after an operational event or periodically if stored/staged outside of a fixed facility to keep the containers and accessories performing as designed. Cleaning also assists in maintaining the condition of the materiel stored within the system. Any damage discovered when cleaning and/or lubricating that cannot be corrected using the troubleshooting procedures described in WP 0013 00 should be reported for corrective maintenance.

CLEANING AND SANITATION SUPPLIES

WARNING



Never blend or mix cleaning supplies. Toxic vapors may develop causing injury or death. Follow proper storage and use instructions on the cleaning product labels.

Cleaning Table 1

SURFACE	OIL/GREASE	SALT/MUD/DIRT DEBRIS	RUST/CORROSION and SANITATION
Exterior Walls	Clean with rags.	Check all exterior surfaces for cracks, dents that effect the operation of the Shower. Check for accumulations of dirt, debris, ice, snow or salt. Clean as required.	Clean dirt with water, and/or ice and snow with a nonmetal brush

Cleaning Table 1 Continued

SURFACE	OIL/GREASE	SALT/MUD/DIRT DEBRIS	RUST/CORROSION and SANITATION			
Interior painted wall surfaces (All)	Nonabrasive Chlorine based Detergent, Water, Rags	Water, Rags	Dry Rag or Spot Paint			
Seals and Gaskets	Damp and Dry Rags	Damp and Dry Rags	N/A			
Vanity Door handles, latches	Detergent, Water, Rags	Soapy Water, Brush, Rags	Corrosion Removal Wire Brush, Dry Rags; Coat with Lube Oil or Spot Paint			
Door Hinges, latches and locks	Detergent, Water, Rags	Brush, Rag and lubricate as needed to ensure door opens freely	Corrosion Removal Compound and Wire Brush, Dry with Rags and Lubricate as needed			
Shower and utility room floor	Nonabrasive Chlorine based Detergent, Water, Mop	Damp Mop and Dry Rags	Sanitation Required			
Vanity sinks	Detergent, Water, Rags	Damp and Dry Rags	Sanitation Required			
Water heater	Detergent, Water, Rags	Damp and Dry Rags	Dry Rag or Spot Paint			
End Of Cleaning Table 1						

Table 2 Lubrication

USAGE	FLUID or LUBRICANT	CAPACITIES	EXPECTED TEMPERATURES	INTERVAL		
Door Hinges	General Purpose Lubricating Oil 10W	As Required	All Temperatures	Monthly or as required if under adverse conditions		
Door Locks	Molykote Multipurpose Synthetic Grease P/N 26040124	As Required	All Temperatures	Monthly or as required if under adverse conditions		
Door Seals	Molykote Multipurpose Synthetic Grease P/N 26040124	As Required	All Temperatures	Monthly or as required if under adverse conditions		
End of Lubrication Table 2						

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

INSPECTION OF INTERIOR AND EXTERIOR

INITIAL SETUP:

Materiel/Parts

None

Personnel Required

One

References

WP 0004 00-3

Equipment Condition

Operational Set-up

INSPECT SHOWER EXTERIOR

- 1. Inspect exterior surfaces for damage, cracks, holes, dents, etc.
- 2. Inspect the container for being level.
- 3. Inspect door operation.
- 4. Inspect waste water connection.
- 5. Inspect the fresh water connection and main shutoff valve.
- 6. Inspect clean out plug.

INSPECT SHOWER INTERIOR

- 1. Inspect door seals for cuts, cracks or damage.
- 2. Inspect fluorescent lighting.
- 3. Inspect floor for evidence of leaks.
- 4. Inspect floor drain for debris.
- 5. Inspect shower for leaks and water flow.
- 6. Inspect shower floor drain for debris.
- 7. Inspect vanity sinks for operation, water and drainage.
- 8. Inspect for shower cleanliness and sanitation.
- 9. Inspect hot water heater for leaks and proper operation.

END OF WORK PACKAGE

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

INSPECT ELECTRICAL SERVICE

INITIAL SETUP:

Materiel/PartsReferencesNoneWP 0004

Personnel Required Equipment Condition
One Operational

One **Tools**

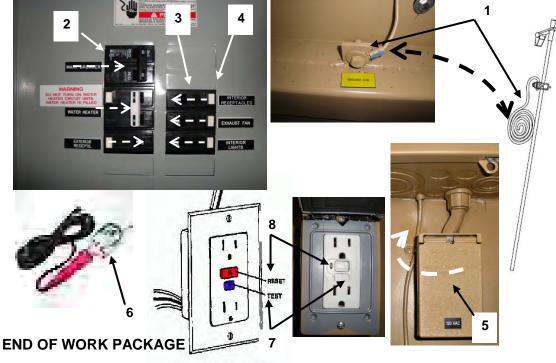
Flashlight, Automotive Trouble Light or Electric Circuit Test Light.

ELECTRICAL SERVICE

- 1. Inspect the ground lug and ground rod for connection (1).
- 2. Open circuit box door.
- 3. Switch on the main circuit (2).
- 4. Switch on the circuits, #1, #2, #3 and #4 (3).
- 5. Switch on the water heater (5).
- 6. Press GFCB test buttons (4). Each circuit should trip to off.
- 7. Switch all circuit breakers back to the on position to reset the circuit.
- 8. Open the lid on the external GFCI Outlet (5), plug in the trouble light (6), press the GFCI test button (7). The trouble light (6) should go out.
- 9. Depress the GFCI reset button (8); the trouble light (6) should come on.
- 10. Unplug the trouble light (6).

NOTE

If any of the above conditions fail, contact an electrician for maintenance.



BOH-PM-04-4 Chapter 4 Rev. 1.02 RECEPTACLE TYPE GFCI

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

INSPECT VENT FAN COVER

INITIAL SETUP: Materiel/Parts None

Personnel Required

One **Tools**

Rags, 1" paint brush

References Appendix B

Equipment Condition

Operational

INSPECT

NOTE

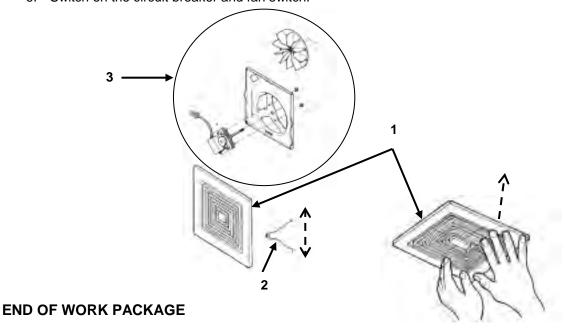
For detailed repair information, refer to Appendix B, BROAN Vent Fan Specification Sheet.

- 1. Turn off the vent fan switch off the circuit breaker
- 2. Pull down the vent grille (1).
- 3. Compress the mounting spring clips (2) to detach the grille.

NOTE

The grille (1) is nonmetallic and may be washed with soap and water when there is excessive dirt.

- 4. Inspect and clean the grille (1) and internal parts (3) with the rags and paint brush.
- 5. Attach the spring clips (2) and push the grille (1) back into place.
- 6. Switch on the circuit breaker and fan switch.



FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

INSPECT LIGHT FIXTURE

INITIAL SETUP:
Materiel/Parts
New Fluorescent Tube
Personnel Required

One Tools

Rags, Flashlight

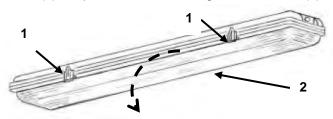
References Appendix B

Equipment Condition

Operational

LIGHT FIXTURE

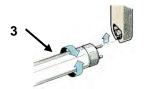
- 1. Switch off the lighting and switch off the circuit breaker.
- 2. Release the latches (1) to open the fluorescent light fixture cover (2).



- 3. Wipe the cover (2) clean with a damp rag.
- 4. Wipe off the fluorescent tube (3) with a dry rag.
- 5. Replace faulty tubes and cover, switch on the circuit breaker and lighting switch.

NOTE

With power on, check for defective fluorescent tube (3) by twisting it in place and ensure contact.



WARNING



Fluorescent tubes may contain hazardous material.

END OF WORK PACKAGE

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

INSPECT HOT WATER HEATER

INITIAL SETUP:

Materiel/Parts
None

Personnel Required

One **Tools**

Rags, Flashlight

References Appendix A

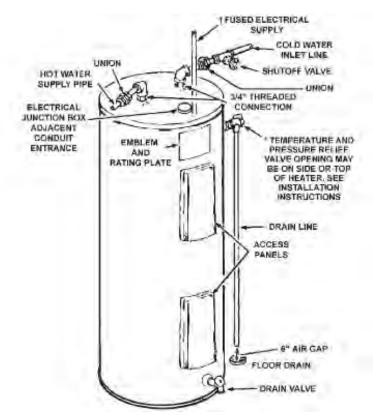
Equipment Condition

Operational

HOT WATER HEATER

Review Appendix A for water heater manufacturer's maintenance and repair data. Only a certified electrician (Army MOS 21R) should attempt repair or replacement.

1. Inspect for leaks; ensure the water supply is open.







Water Shutoff Valve

END OF WORK PACKAGE

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

INSPECT DOORS

INITIAL SETUP: Materiel/Parts

None

Personnel Required

One

Tools

Damp Rags, Spray lubricant, Door Keys

References

None

Equipment Condition

Operational

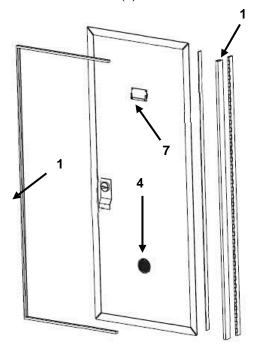
INSPECT DOORS

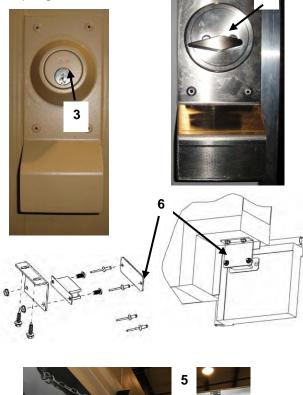
- 1. Inspect and clean the door seals (1).
- 2. Report damage to maintenance for replacement.
- 3. Wipe with damp rags.

4. Inspect interior magnetic door latch (2) and key lock (3); lubricate as needed.

5. Inspect Door intake vent (4); clean debris with damp rags.

- 6. Inspect for missing door chain (5).
- 7. Inspect exterior door retention latch (6).
- 8. Check Label holder (7).







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INSPECT SINK and FAUCET

INITIAL SETUP:

Materiel/Parts

None

Personnel Required

One

Tools

Damp Rags, Flashlight, Slip Joint Pliers, Adjustable wrench

References
Appendix D and E
Equipment Condition
Operational

INSPECT SINK AND FAUCET

- 1. Inspect sink (1) for cleanliness.
- 2. Open water supply valves under the sink (2).
- 3. Inspect sink water supply connections (2) for leaks. Tighten as needed.
- 4. Check trap joints (3) for leaks. Tighten as needed.
- 5. Check faucet (4) for leaks.
- 6. Check sink drain strainer (5) for debris.
- 7. Test faucet water flow.







END OF WORK PACKAGE

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

INSPECT FLOOR DRAIN and CLEAN OUT PLUG

INITIAL SETUP: Materiel/Parts

None

Personnel Required

One

Tools

Damp Rags, Flashlight, Slip Joint Pliers, Adjustable wrench

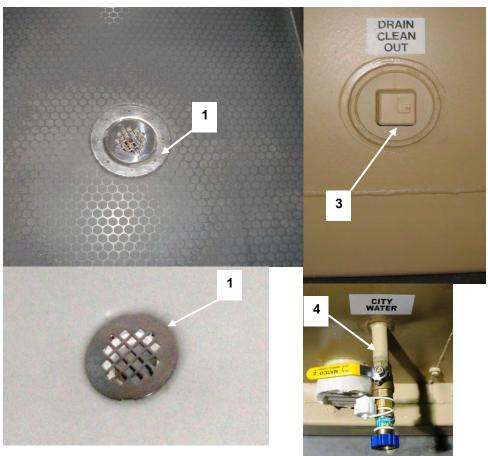
References None

Equipment Condition

Operational

INSPECT FLOOR DRAIN AND CLEAN OUT PLUG

- 1. Inspect interior floor and shower floor drains (1) for debris.
- 2. Inspect for missing or loose exterior clean out plug (3).
- 3. Inspect for missing main water shutoff valve assembly (4).



END OF WORK PACKAGE