

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

**CHAPTER 4
OPERATOR MAINTENANCE INSTRUCTIONS**

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OPERATOR MAINTENANCE INSTRUCTIONS

FPU[®] SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED LATRINES BOH FPU Field Pack-up Units

SERVICE UPON RECEIPT

INITIAL SETUP:

Materiel/Parts

None

Personnel Required

One

Tools

12" Adjustable and 3/" open End Wrench, Slip-Joint Pliers, Flashlight and Electricians tools

References

None

Equipment Condition

Latrine set-up

SERVICE UPON RECEIPT

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

Unpacking

The BOH CONTAINERIZED LATRINE containers are shipped with all components and equipment packed inside. To unpack upon receipt, set up the BOH Containerized Latrine as described in Chapter 2 (WP 0005 00).

1. Six compartment doors with retaining chains, locks, tag holder and door spring restraint.
2. Toilets, Urinals.
3. Toilet lid in wall storage pocket.
4. Overhead light fixture.
5. Vanity and sink with wall mirror.
6. Floor drain.
7. Wall mounted toilet paper holder, soap and towel dispenser.
8. Wall outlet GFCI.
9. Exterior outlet weather proof GFCI.
10. Electrical Box.
11. GFCB Circuit Breakers.
12. 4" black water drain and ¾" cold water inlet.
13. One Ground Lug with ground rod stored inside a compartment.
14. One City Water Check valve with shutoff valve stored with the ground rod.
15. Clean out line and cap.

END OF WORK PACKAGE

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OPERATOR MAINTENANCE INSTRUCTIONS

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

INTRODUCTION TO PREVENTATIVE MAINTENANCE CHECKS & SERVICES (PMCS)

INITIAL SETUP:

Materiel/Parts

None

Personnel Required

Two

References

WP 0004

Equipment Condition

Latrine set-up

INTRODUCTION TO PREVENTATIVE MAINTENANCE CHECKS & SERVICES (PMCS)

Preventative Maintenance Checks and Services (PMCS) are performed to keep the FPU System 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 LATRINE 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 LATRINE , do **Before Operation PMCS**
- While the BOH CONTAINERIZED LATRINE is in use, do **During Operation PMCS**
- After using the BOH CONTAINERIZED LATRINE , 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 FPU SYSTEM 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" Cold water supply.
- Condition and connection of the ground device.
- Condition and connection of the electrical supply.

Service

Proper service of the BOH CONTAINERIZED LATRINE 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 LATRINE and components whenever necessary.

NOTE

The exterior of the container is CARC painted. Clean with water only.

WARNING



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 Latrine 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 latrine with preoperational, regular scheduled and post operation cleaning.

WARNING



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

OPERATOR MAINTENANCE INSTRUCTIONS

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

PMCS TABLE

INITIAL SETUP:
Materiel/Parts

Rags, Water

Personnel Required

Two

References

None

Equipment Condition

LATRINE Set-ups

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

	B	D	A	W	M	Inspection Item and Procedure	Equipment Not Ready/Available If
1	*		*	*		Waste Water Drain Inspect drain connection WARNING Rubber gloves should be worn when handling or cleaning the black water connections	Waste water drain connection becomes clogged.
2	*		*			Electrical Cable Connections Inspect cable and cable end connections for damage. WARNING Damaged cable connections may cause improper connection and electrical shock. Notify electrical maintenance.	Electrical connections become loose or corroded.
3					*	Lubricate hinges, locks and latches, as required.	Hinges, locks and latches will not operate smoothly.
4	*	*	*	*		Toilet Flush Valves Inspect toilet tank water level	Toilets fail to flush properly.

CAUTION

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

	B	D	A	W	M	Inspection Item and Procedure	Equipment Not Ready/Available If
5	*	*	*	*	*	Vanity Doors and Sink Check interior for dirt and debris. Clean with detergent, water, and rags as required.	Not sanitized.
6	*		*		*	Door Seal Check door seals for cuts, cracks, distortion, proper alignment and attachment. Reattach with proper glue or replace if necessary. Check for moisture on floor.	Failure of the seal allows water and moisture to enter the container compartment and damage the floor; floor is wet and slippery.
7	*		*		*	Attachment Hardware Check for missing or loose attachment hardware, door handles, drawer latches.	Loose or missing hardware will impede the operation and may cause injury or damage.
8	*		*		*	Forklift Pockets Check for weld cracks, bends, dents or frame distortion. Schedule weld shop repair if needed.	Failure to repair welds will cause damage or injury.
9	*		*	*		Urinal Flush Valves Inspect for proper operation	Urinal flush valves will not operate properly.
10			*		*	Data Plates Check plates and labels for legibility, damage and/or missing. Clean with water and rag. Replace as needed.	Operation, cautions and warnings are not legible.

END OF WORK PACKAGE

OPERATOR MAINTENANCE INSTRUCTIONS

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

CLEANING AND LUBRICATING

INITIAL SETUP:

Materiel/Parts

Rags, Water, Detergent

Personnel Required

One

References

None

Equipment Condition

Latrine Set-up

CLEANING AND LUBRICATING

Cleaning and Lubricating of the BOH CONTAINERIZED LATRINE is performed to keep the latrine and its associated equipment in good operating condition. The cleaning and lubrication of the latrine 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 modules 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 Chapter 3 WP 0010 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.

CAUTION

Ensure sanitation of the latrine with preoperational, regular scheduled and post operation cleaning.

WARNING



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

Table 1 Cleaning and Lubricating

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 Latrine. Check for accumulations of dirt, debris, ice, snow, or salt. Clean as required.	Clean dirt with water or Ice and snow with a nonmetal brush.
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 Rags and Lubricate as needed.
Latrine Floor	Detergent, Water, Mop	Damp Mop and Dry Rags	Sanitation Required
Toilet and Seat and Lid	Detergent, Water, Rags	Damp and Dry Rags	Sanitation Required
Urinals	Detergent, Water, Rags	Damp and wet Rags	Sanitation Required
Vanity sink	Detergent, Water, Rags	Damp and Dry Rags	Sanitation Required
END OF TABLE			

END OF WORK PACKAGE

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INSPECTION INTERIOR AND EXTERIOR

INITIAL SETUP:**Materiel/Parts**

None

Personnel Required

One

References

WP 0004 00-3

Equipment ConditionOperational Set-up

INSPECT LATRINE EXTERIOR

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

INSPECT LATRINE 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 toilets for operation, flushing and refill.
6. Inspect urinals for operation and proper flushing.
7. Inspect vanity sinks for operation, water and drainage.
8. Inspect for latrine cleanliness and sanitation.

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OPERATOR MAINTENANCE INSTRUCTIONS

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

INSPECTION ELECTRICAL SERVICE

INITIAL SETUP:

Materiel/Parts

None

Personnel Required

One

Tools

Flashlight, Automotive Trouble Light or Electric Circuit Test Light.

References

WP 0004

Equipment Condition

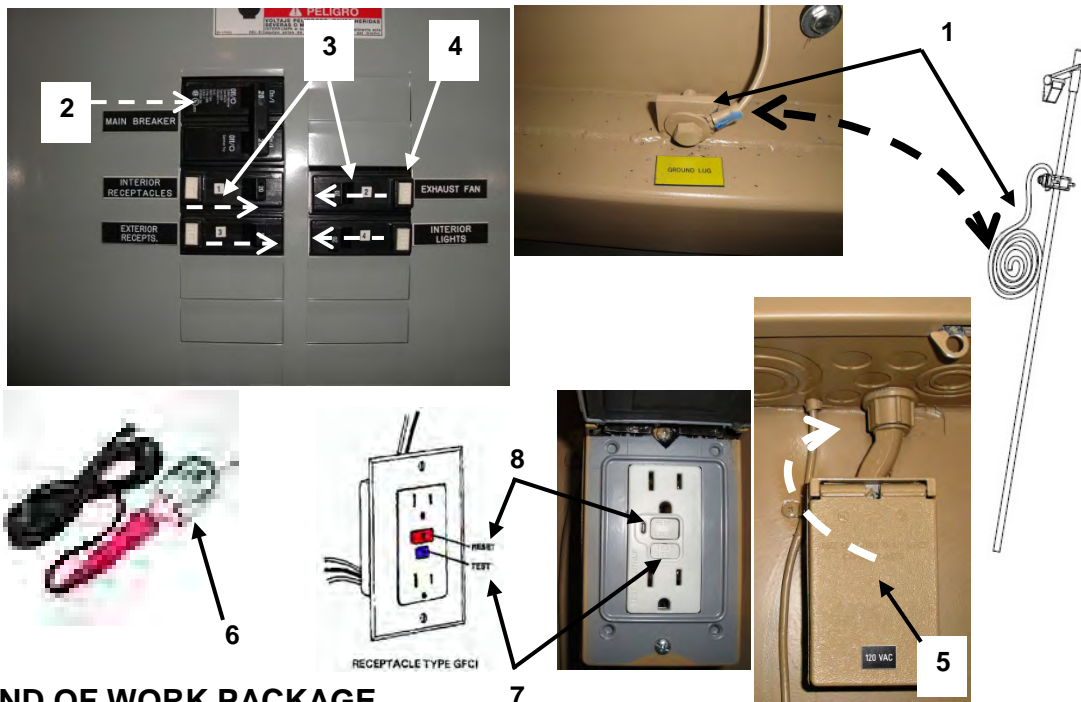
Operational

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. Press GFCB test buttons (4). Each circuit should trip to off.
6. Switch all circuit breakers back to the on position to reset the circuit.
7. 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.
8. Depress the GFCI reset button (8); the trouble light (6) should come on.
9. Unplug the trouble light (6).

NOTE

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



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INSPECTION VENT FAN COVER

INITIAL SETUP:

Materiel/Parts

None

Personnel Required

One

Tools

Rags, 1" paint brush

References

Appendix B

Equipment Condition

Operational

VENT FAN

NOTE

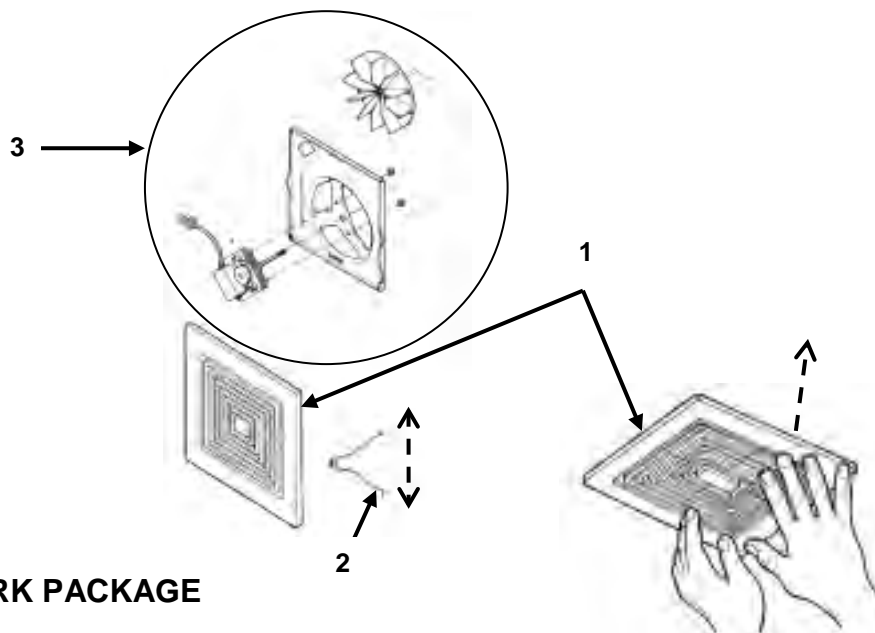
For detailed repair information, refer to Appendix B, BROAN Vent Fan Specification Sheet.

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.



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OPERATOR MAINTENANCE INSTRUCTIONS

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

INSPECTION LIGHT FIXTURE

INITIAL SETUP:

Materiel/Parts

New Fluorescent Tube

Personnel Required

One

Tools

Rags, Flashlight

References

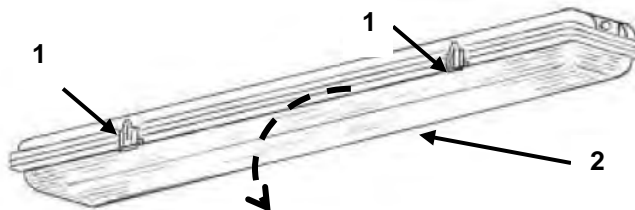
Appendix B

Equipment Condition

Operational

LIGHT FIXTURE

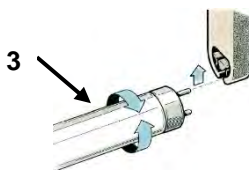
1. Switch off the lighting and switch off the circuit breaker.
2. Release the latches (1) to open the fluorescent light fixture cover (2).



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.

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OPERATOR MAINTENANCE INSTRUCTIONS

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INSPECTION TOILET AND URINAL

INITIAL SETUP:

Materiel/Parts

Toilet repair parts

Personnel Required

One

Tools

Rags, Cleaning Supplies, Flashlight, Plunger, Slip Joint Pliers.

References

WP 00017 00-2

Equipment Condition

Operational

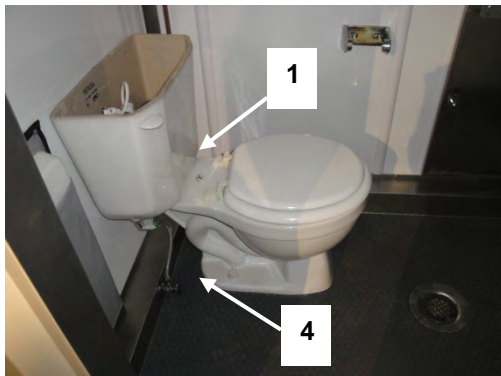
TOILET and URINAL

1. With a flashlight, inspect the toilet base and urinal trap for leaks at the floor level.
2. Inspect the tank gasket and bowl for leakage (1).
3. Remove tank top from wall pocket (2).
4. Check the tank water level.
5. Place cover on toilet (2).
6. Check the flush urinal valve (3) for leakage.
7. Open the water supply valve (4) and test the toilet valve and urinal valve. See WP 0017 00-2
8. Clean and sanitize.

WARNING

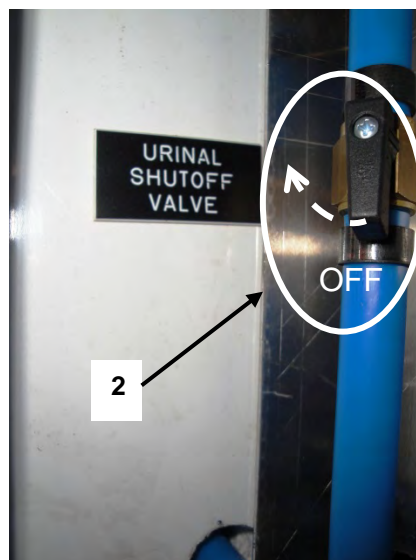
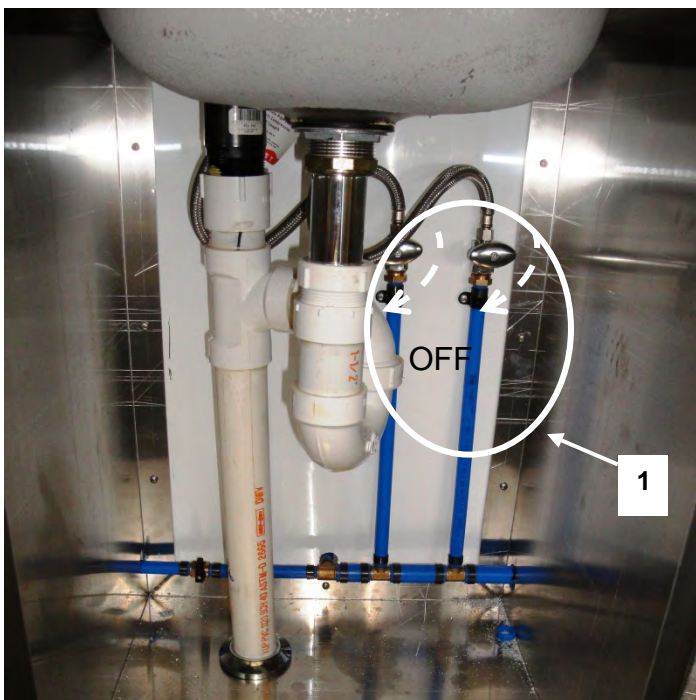


Never blend or mix cleaning supplies. Toxic vapors may develop causing injury or death.
Follow proper storage and use instructions on all cleaning product labels.



Shut Off Valves

1. Left and right sink shut off valve (1)
2. Urinal shut off valve (2)
3. Toilet shut off valve (3)



END OF WORK PACKAGE**OPERATOR MAINTENANCE INSTRUCTIONS**

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INSPECTION DOORS**INITIAL SETUP:****Materiel/Parts**

None

Personnel Required

One

Tools

Damp Rags, Spray lubricant and Door Keys

References

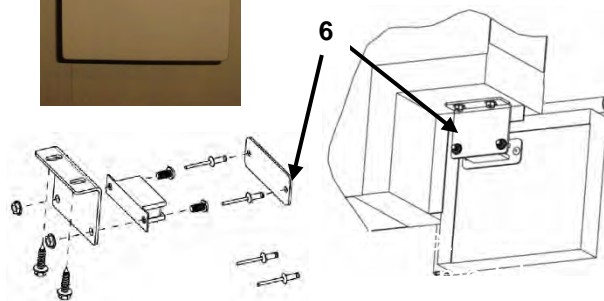
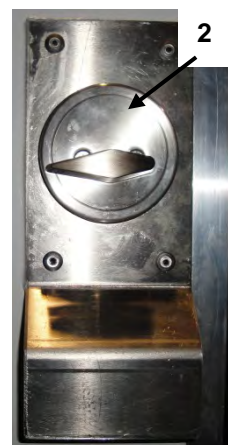
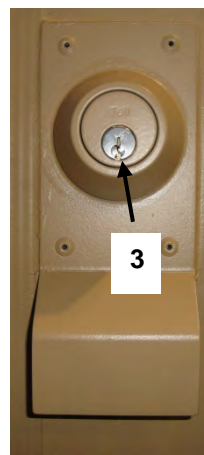
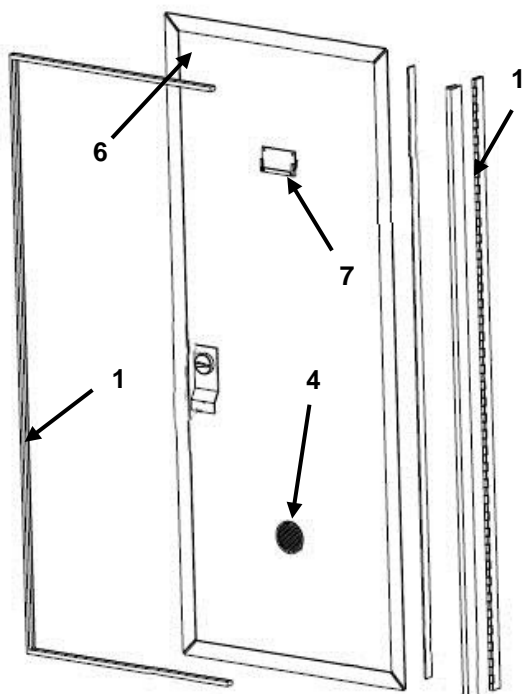
None

Equipment Condition

Operational

INSPECT DOORS

1. Inspect and clean the door seals (1); wipe with a damp rag.
2. Inspect interior door latch (2) and key lock (3) for proper operation.
3. Inspect door intake vent (4), clean debris with damp rags.
4. Inspect for missing door chain (5).
5. Inspect interior magnetic door retention latch (6).
6. Check label holder (7).
7. Report damage to maintenance for replacement.

**END OF WORK PACKAGE**

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BOH CONTAINERIZED LATRINES
BOH FPU Field Pack-up Units****INSPECTION SINK and FAUCET****INITIAL SETUP:****Materiel/Parts**

None

Personnel Required

One

Tools

Damp Rags, Flashlight, Slip Joint Pliers and Adjustable Wrench

References

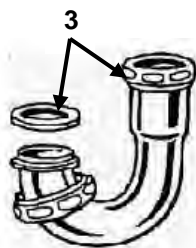
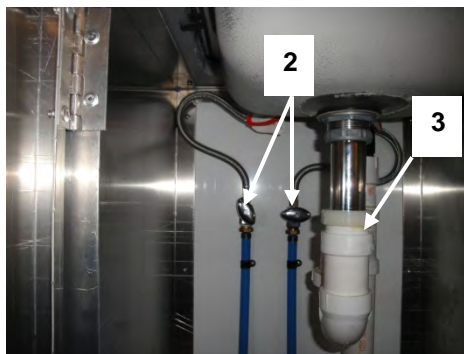
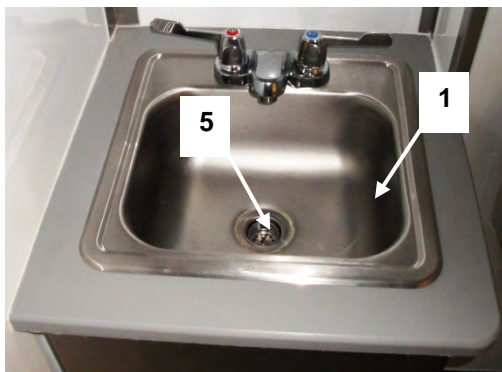
Appendix D and E

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**BOH-PM-01-04
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OPERATOR MAINTENANCE INSTRUCTIONS

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INSPECTION FLOOR DRAINS, CLEAN OUT PLUG and CITY WATER SHUTOFF VALVE

INITIAL SETUP:

Materiel/Parts

None

Personnel Required

One

Tools

Damp Rags, Flashlight, Slip Joint Pliers and Adjustable Wrench

References

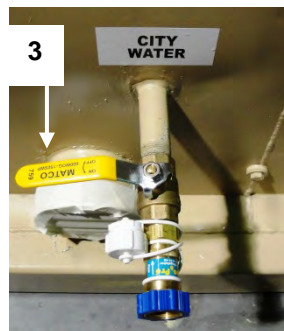
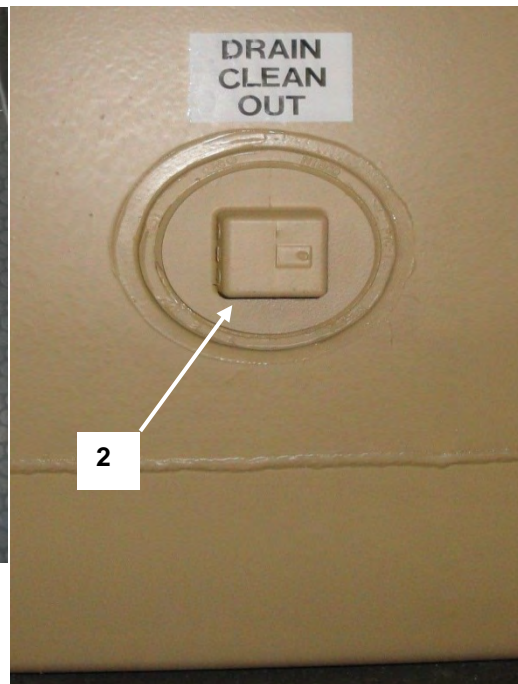
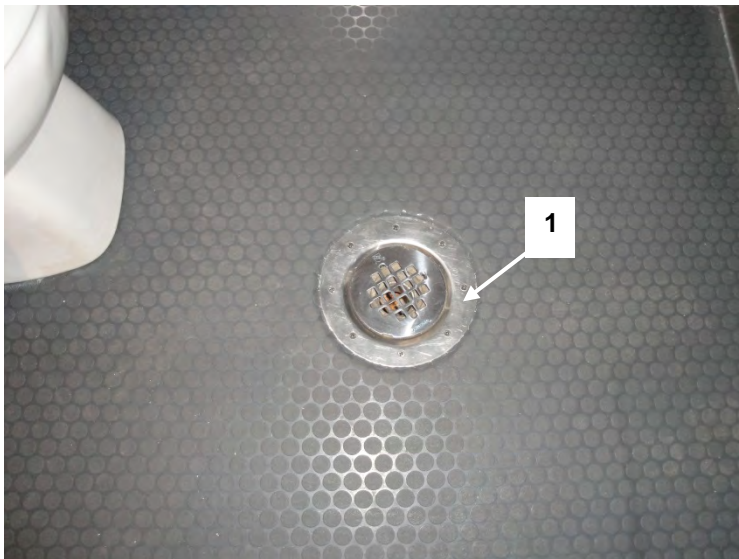
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Equipment Condition

Operational

INSPECT FLOOR DRAIN AND CLEAN OUT PLUG

1. Inspect all interior floor drains (1) for debris.
2. Inspect for missing or loose exterior clean out plug (2).
3. Inspect City Water Shutoff Valve with Check Valve (3).



END OF WORK PACKAGE

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