

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

**CHAPTER 2
OPERATOR INSTRUCTIONS**

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OPERATOR INSTRUCTIONS**FPU® SYSTEMS OPERATION MANUAL
(INCLUDING REPAIR PARTS & SPECIAL TOOL LIST)
BOH CONTAINERIZED 5 PERSON SHOWER
BOH FPU Field Pack-up Units****PREPARATION FOR MOVEMENT****INITIAL SETUP:**

Unloading

Maintenance Level

Operator/Crew

Personnel Required

Two (plus one supervisor)

Site Requirements**WARNING**

The Shower must be operated on a level site or platform. To maintain control, consider the ground surface conditions for adequate traction, such as mud, snow, ice, sand.

CAUTION

Flood plain conditions should be considered for containerized showers. If in doubt, consult the operations supervisor or commander.

POSITIONING FROM THE TRANSPORT VEHICLE TO THE SITE**WARNING**

Ground guides and the MHE operators must maintain direct line of sight and Ensure that personnel are clear of the containers during this operation.

CAUTION

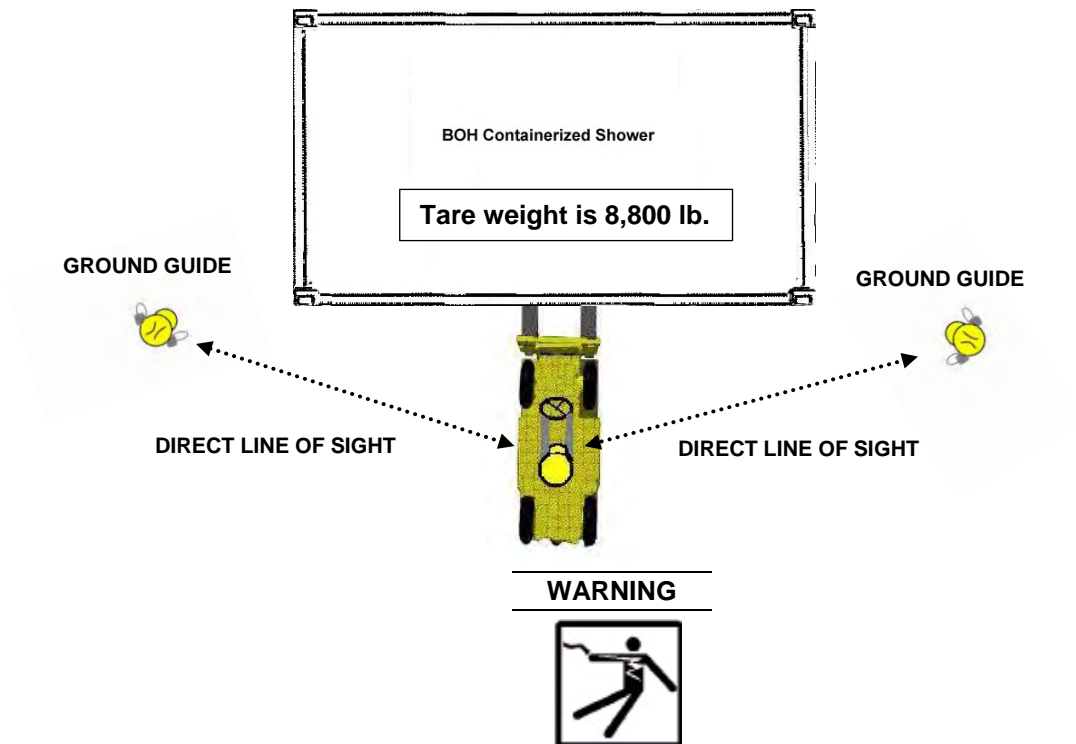
The Containerized Shower must be placed on a level surface of a platform, pillars or ground surface to operate properly and prevent waste water backups.

NOTE

The ground rod and strap and the city water shutoff valve is stored in the utility room (1).

**NOTE**

The following ground guide safety instructions apply: two ground guides directing, always in the line of sight of the MHE operator.



Overhead power lines and obstructions can cause serious injury or damage to property. Forklift operators, truck drivers and ground guides should always clear overhead when loading and unloading the BOH Containerized Shower.

PREPARATION FOR SHIPMENT

1. Turn off the hot water switch located in the hot water compartment behind the hot water heater.
2. Place the hot water heater breaker in the off position.
3. Turn on all sinks and shower valves to evacuate all grey water from sewage discharge line (approximately three minutes).

NOTE

Leave sink faucets and shower valves in there open position until step 2 is completed.

4. Turn off city water supply at the source.
5. Disconnect city water line from local water source, remove and store the check valve and water shutoff valve.

NOTE

Do not cap the inlet until the system is completely drained

6. With hose connected to the hot water heater and hose fed outside the unit, open the hot water drain valve to remove stored water.
7. Disconnect sewage discharge line from local sewage system.
8. Turn off all sink faucets, close all sink water valves, close all shower valves and close hot water inlet valve.
9. Place cap on the city water inlet.
10. Turn off incoming electrical power from its power source.
11. Open load center door and set all breakers to their off position.
12. Remove load center cover and test for any incoming electrical power.
13. Disconnect local power lines from breakers and bus bars.
14. Re-install load center cover and close load center door.
15. Disconnect grounding bar and remove from the ground.
16. Place ground bar with strap in its storage location (located inside hot water heater compartment) being careful to Ensure it is securely fastened.

NOTE

It is recommended that all doors be opened to allow the inside of the unit to completely dry before the next step, to prevent mildew and mold during shipment.

17. Close and securely lock all doors.

WARNING

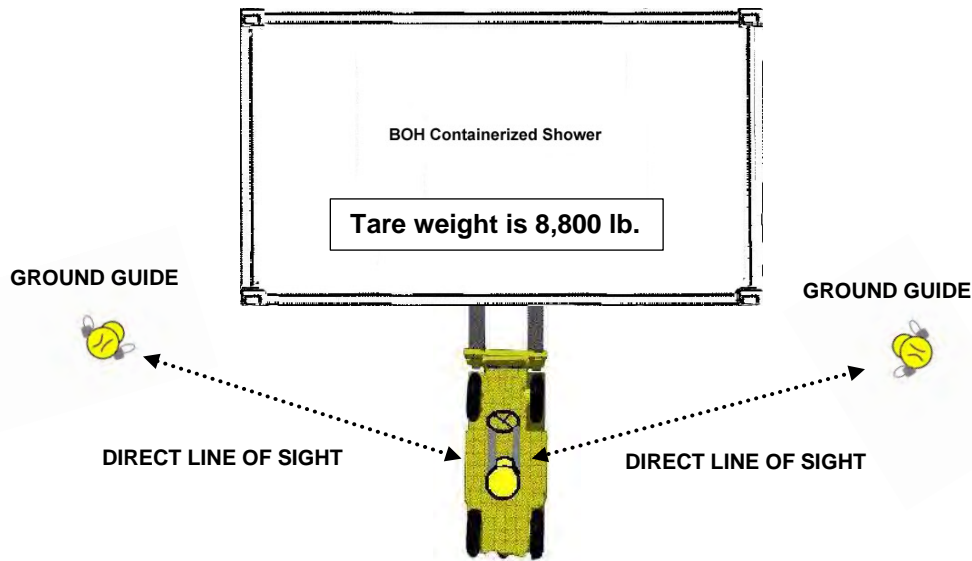


Overhead power lines and obstructions can cause serious injury or damage to property. Forklift operators, truck drivers and ground guides should always clear overhead when loading and unloading the BOH Containerized Shower

Loading for shipment

NOTE

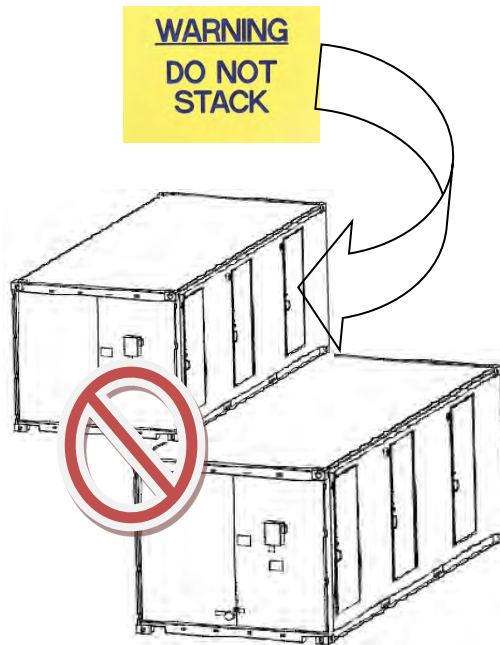
The following ground guide safety instructions apply: Two ground guides directing, always in the line of sight of the HME operator.



WARNING



The containerized shower is not ISO-certified or CSC Safety-Approved. When transporting or storing, never stack the containerized shower units. The container structure is not designed to support additional containers. Failure to comply could damage to the container and equipment or death or injury.



END OF WORK PACKAGE

OPERATOR INSTRUCTIONS

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

Operation of the Containerized Shower

INITIAL SETUP:

Initial set-up

Maintenance Level

Operator/Crew

Reference

None

Personnel Required

One (plus one supervisor)

Shower Operation



WARNING



The electrical ground must be established first to prevent electrical shock to personnel.

WARNING



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

Setup Procedures

1. Set shower unit on a level surface. Unit must be level for plumbing discharge to operate properly.
2. Ensure all shower water valves are in the full off position.

NOTE

The sink shutoff valves are located under the sink in the vanity cabinet.
The hot water supply valve is located above the hot water heater.

3. Connect sewage discharge line to local sewage system.
4. Remove grounding rod from its storage location and install to grounding lug located below the unit load center. Rod should be inserted fully into the ground.
5. Install main water supply shutoff and check valve.
6. Connect city water line to local water source.
7. Ensure all breakers located in the unit's load center are in their off position.

WARNING



Ensure all circuit breakers and the power source is switched off before making electrical connections. Ensure the proper electrical 120 VAC cable connectors are installed by a certified electrician (Army MOS 21R).

8. Open load center door and remove breaker cover to provide access to main breaker.
9. Connect electrical power from local power source (ensure electrical lines from the power source is in its off position).

CAUTION

This system is a 120/240 volt, 1 phase, 60 HZ system. Ensure 120 volt only is connected to line one and 120 volt only to line two (see label attached to the load center for connection instructions). Connection of incorrect voltage may cause damage to the unit's electrical system.

10. Turn power on from local power source.
11. Once electrical power is connected, it is recommended that the unit be tested for proper voltage.
12. Reinstall breaker cover.
13. Turn on main breaker.
14. Turn on Interior lighting, interior and exterior receptacles and exhaust fan breakers.

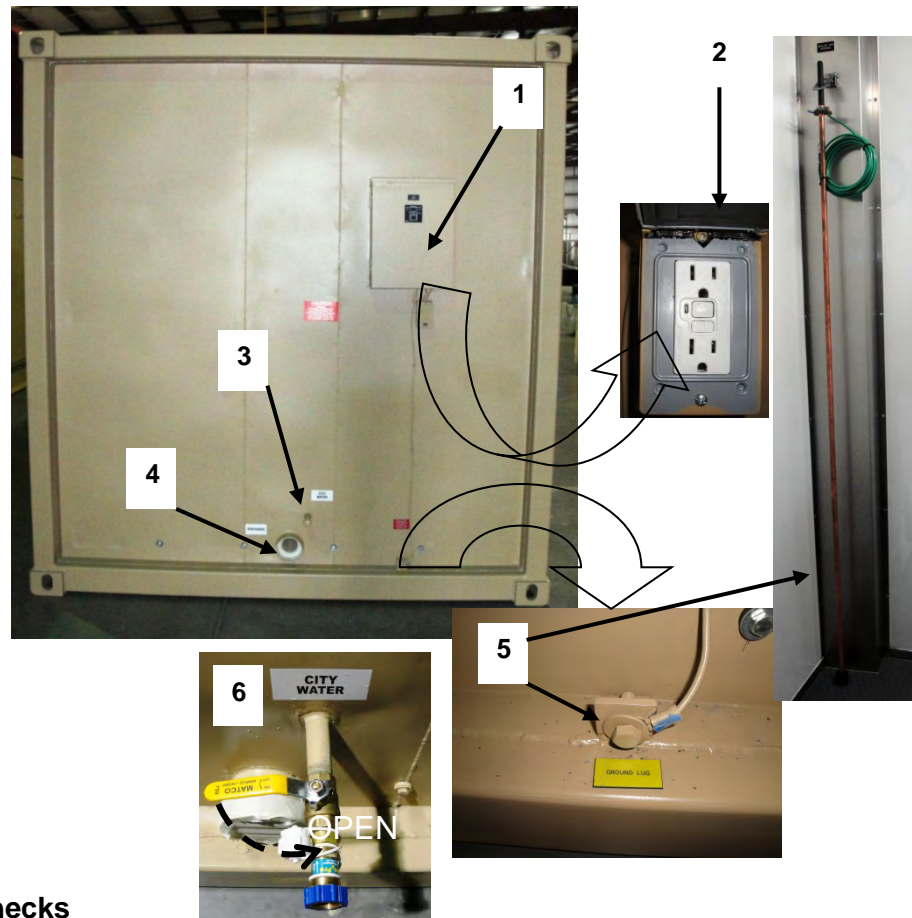
CAUTION

Do not turn on the water heater circuit breaker until step 22 is completed; damage to the water heater element will occur.

15. Turn on all water valves located under the sink vanity.
16. Turn on all cold water sink faucet and shower valves.
17. Allow water to run until all air has been purged from the cold water lines.
18. Shut off cold water sink faucet and shower valves.
19. Turn on water heater supply valve (valve should be positioned in line with the inlet plumbing line).
20. Turn on all hot water sink faucets and shower valves.

21. Allow water to run until all air has been purged from the hot water heater (this will take several minutes for the hot water tank to fill and water to begin to flow from the sink faucets and shower heads).
22. Turn off the hot water faucets and shower valves.
23. Remove any excess air from the hot water heater by lifting the temperature pressure (T&P) valve. The air and water will flow to the hot water heater catch pan.
24. Turn on the hot water heater circuit breaker only after step 23 is completed.
25. Turn on the hot water power switch to activate the hot water heater. (See appendix A for hot water heater specifications).

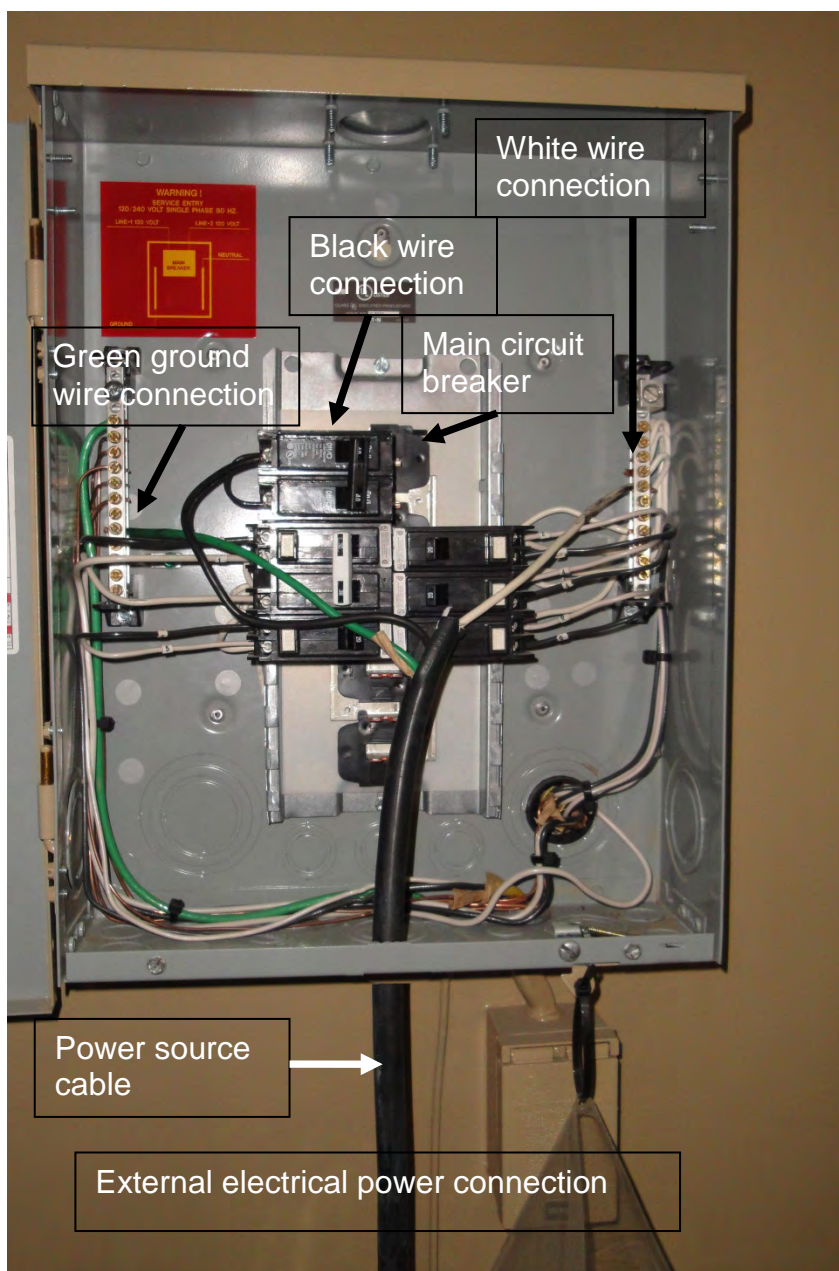
Exterior Water and Electrical hook-ups



Pre-Operation checks

1. Ensure electrical ground has been established and is complete with ground lug and the ground rod (5) that is stored in the utility room.
2. Ensure the electrical supply is still connected and operational (1).
3. Ensure the external GFCI outlet and GFCB breakers are reset (1 and 2).
4. Check fresh water connection (3); open the city water shutoff valve (6).
5. Check grey water connection (4) for leaks.
6. Check interior lighting, vent fans for operation.
7. Ensure hot water heater is primed and full and faucets and showers operate.
8. Ensure sanitation of the shower.

Electrical hook-ups

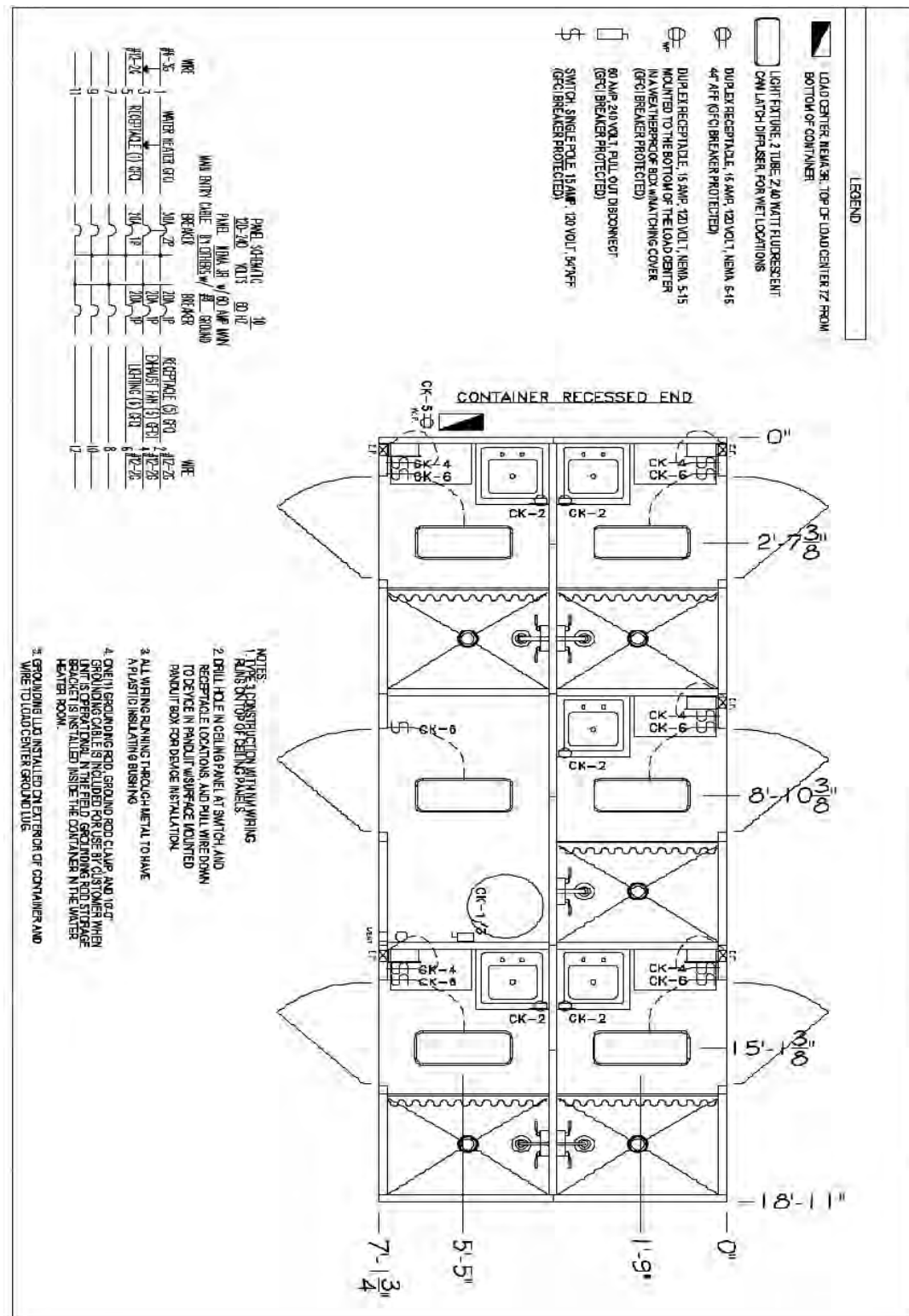


WARNING



Ensure all circuit breakers and the power source is switched off before making electrical connections. Ensure the proper electrical 120 VAC cable connectors are installed by a certified electrician (Army MOS 21R).

Containerized Shower Electrical Layout



Exterior Circuit Breakers Panel

The Main Circuit Breaker is a 40 amp Duplex (1).

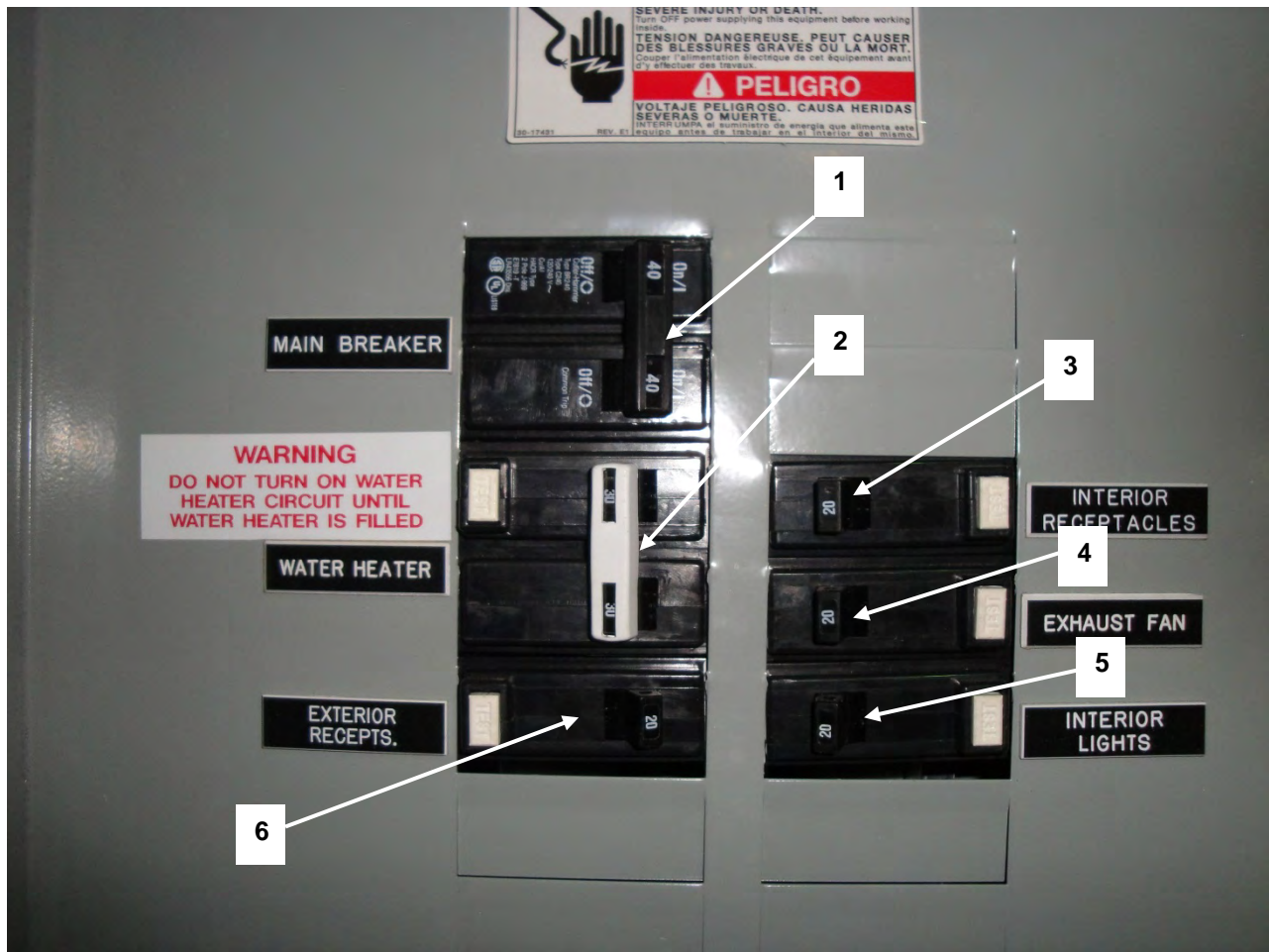
The Water Heater breaker is a 30 amp Duplex GFCB (2) with a reset button.

The interior receptacles breaker is a 20 GFCB (3) with reset button.

The exhaust fan breaker is a 20 GFCB (4) with reset button.

The interior lights breaker is a 20 GFCB (5) with reset button.

The exterior receptacle breaker is a 20 GFCB (6) with reset button.



CAUTION

Do not turn on the water heater circuit breaker (2) until the hot water heater is completely full and vented.

External Water Connections

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. Grey Water is discharged by gravity.



Containerized Shower Electrical Components Locations

WARNING



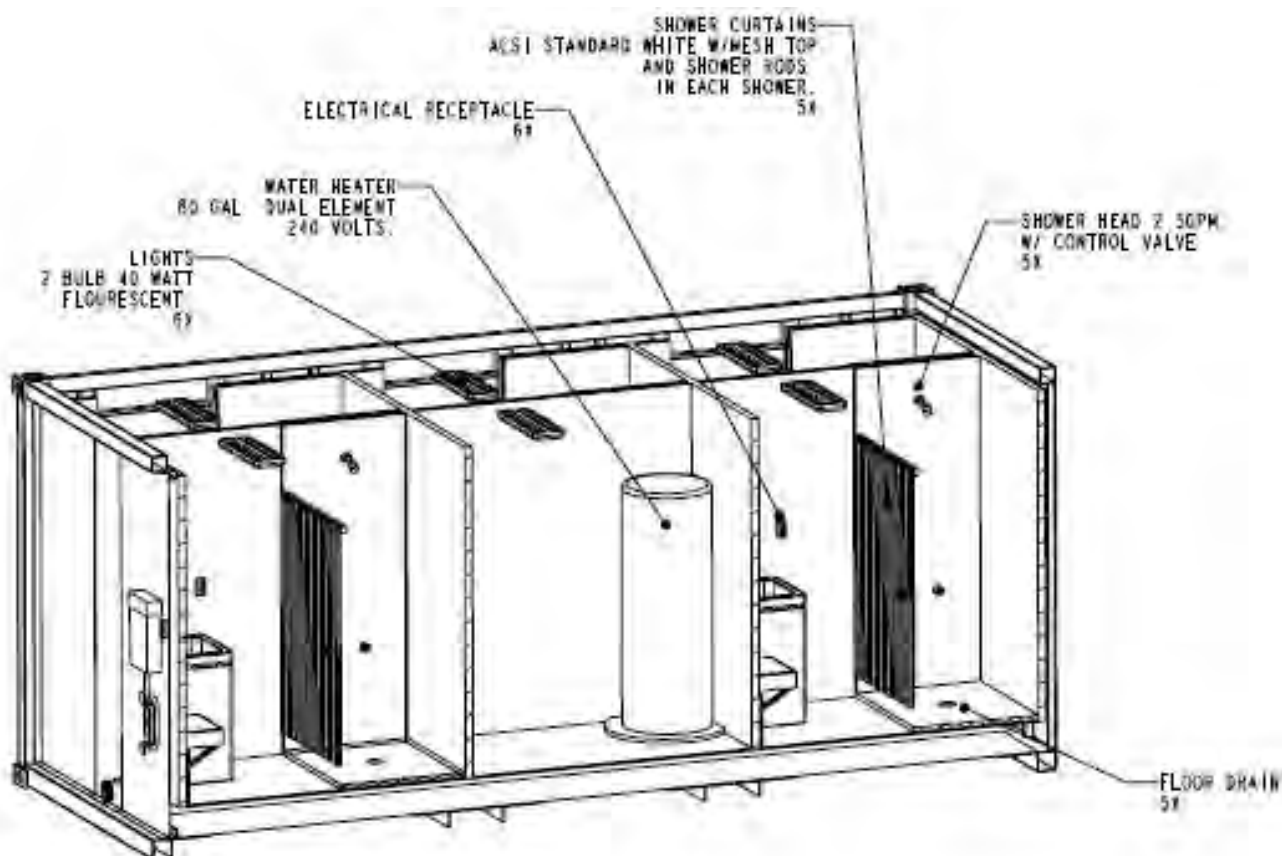
Review Appendix A for water heater manufacturer's maintenance and repair data.

Only a certified electrician (Army MOS 21R) should attempt repair or replacement.

WARNING



Fluorescent tubes may contain hazardous material.
For proper disposal of Fluorescent tubes, refer to
DOD 4160.21-M page 10.1-12.



Cutaway view of Interior

Hot Water Heater

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CAUTION

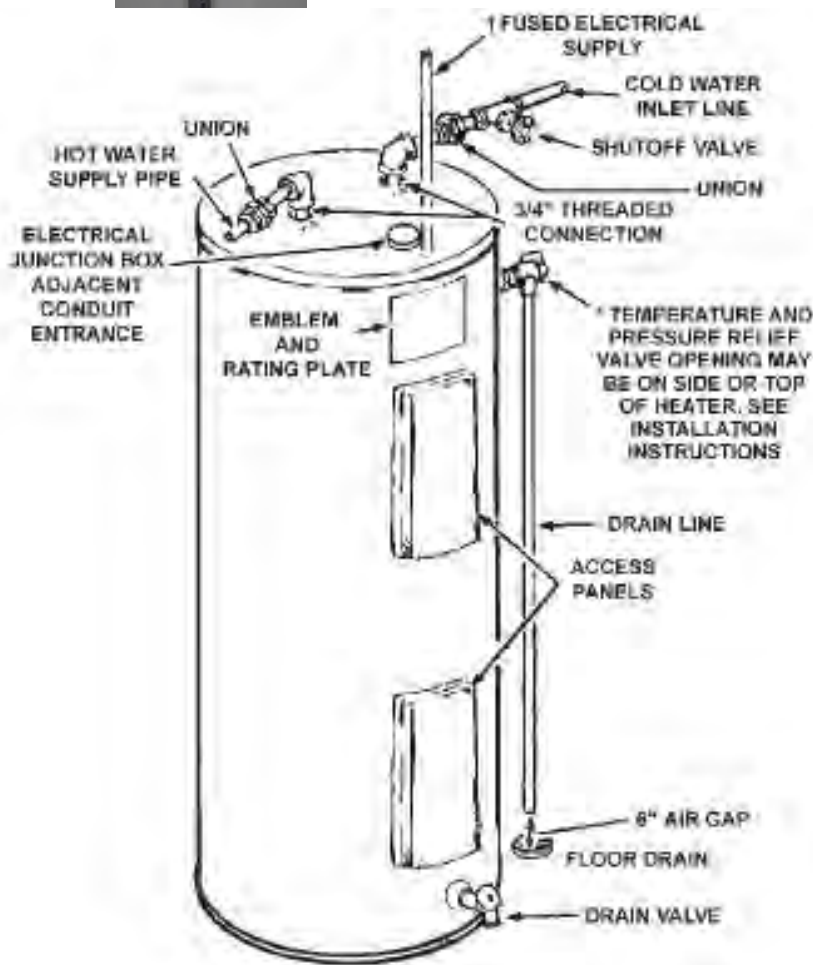
Review Appendix A for water heater manufacturer's maintenance and repair data.

Only a certified electrician (Army MOS 21R) should attempt repair or replacement.

CAUTION

Ensure the cold water inlet valve is open during operation.

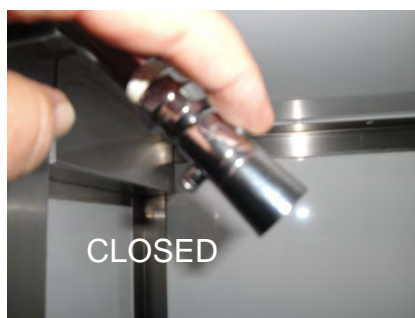
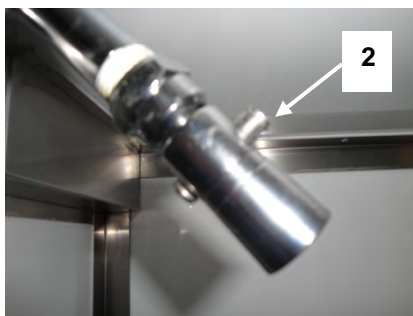
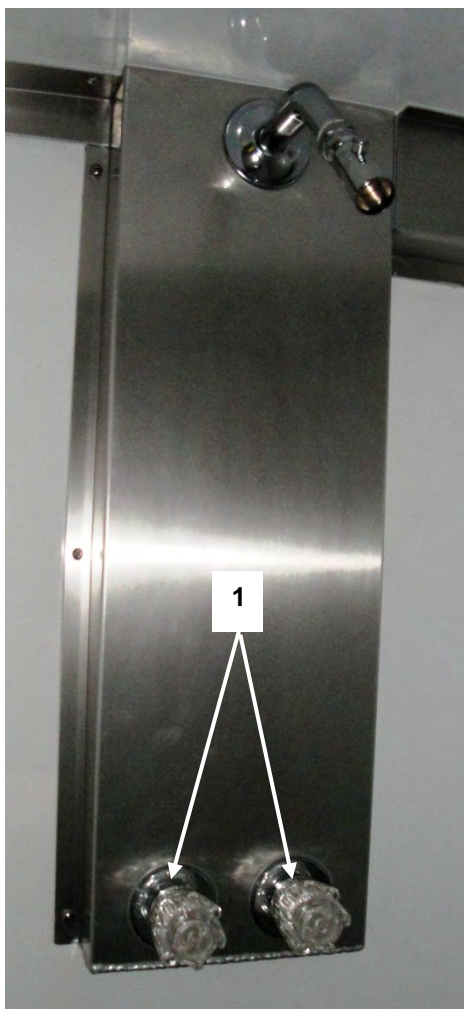
Failure to fill the water heater with power on will cause damage to the water heater.

Water Heater Power Switch**Water Shutoff Valve****T&P Valve****Water Conservation**

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Water conservation can be achieved by use of the shower head shutoff valve (2).

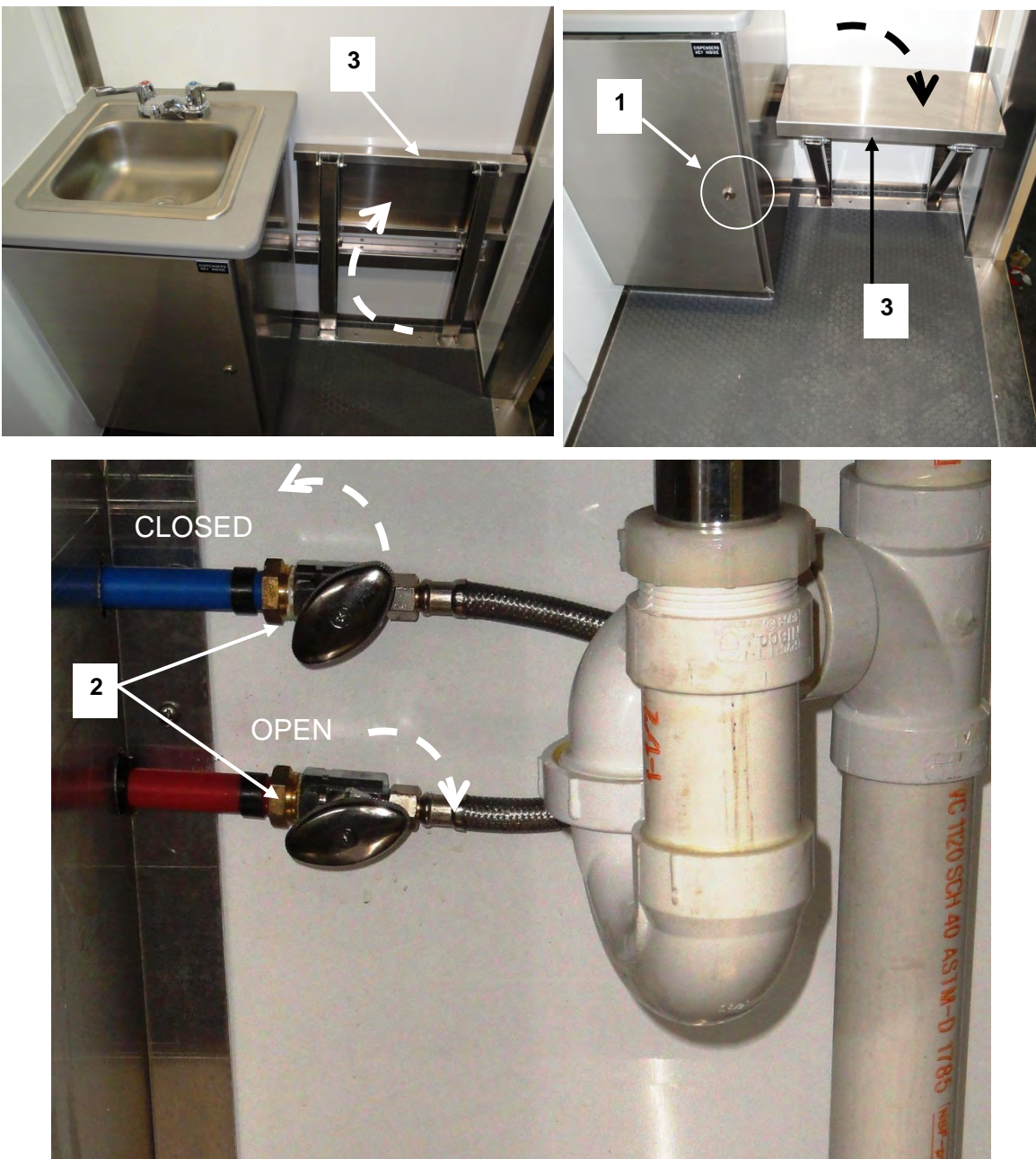
1. Regulate the flow and temperature with the shower valves (1).
2. Wet down and close the shower head valve (2).
3. Soap up and open the shower head valve (2) to rinse off.
4. Turn off the shower valves (1) for the next use.



Vanity and Sink

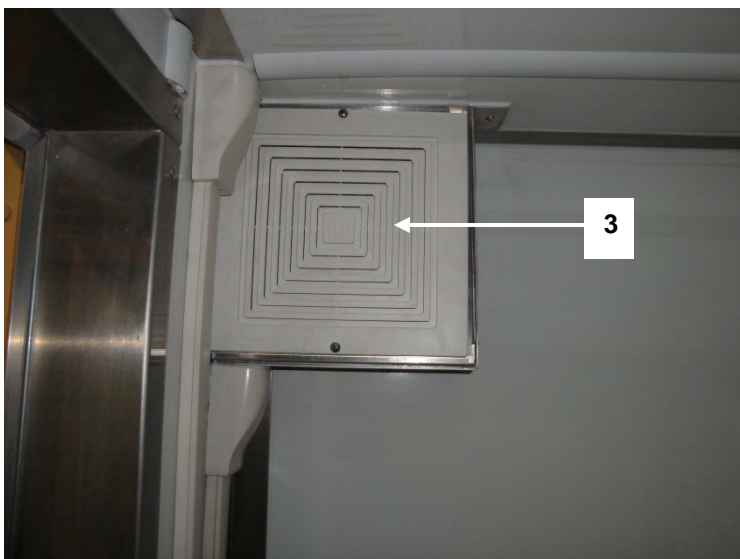
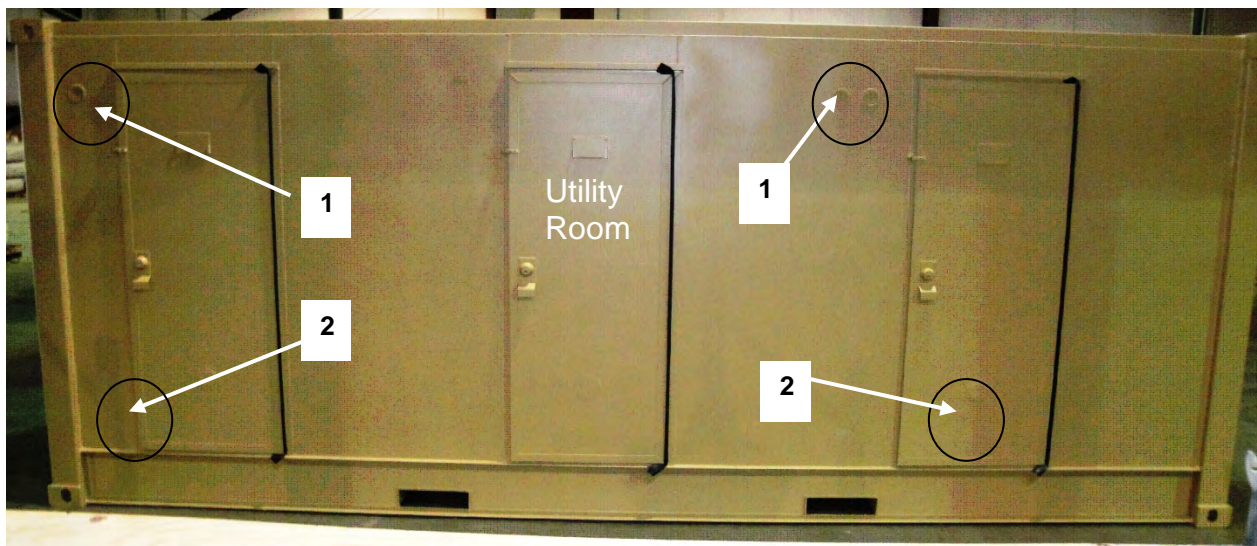
The vanity has a door with a key lock (1) to store cleaning items and houses the red hot and blue cold water shutoff valves (2).

Next to the vanity is a fold down bench (3).



Air Ventilation System

- Air Exhaust Vents (1)
- Fresh Air Intake (2)
- Interior Fan (3)
- Interior Exhaust Fan switch (4)



END OF WORK PACKAGE

OPERATOR INSTRUCTIONS

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OPERATION UNDER UNUSUAL CONDITIONS

This work package provides instructions for the operation of the FPU modules under unusual conditions. These include adverse weather, nuclear, biological and chemical attack.

Operation in Rain and/or Mud

1. Provide an adequate drainage ditch to prevent standing water around the FPU modules.
2. Secure all accessories and container during extremely harsh rain.

Operation in Extreme Heat

WARNING



Protective gloves should be worn when handling metal parts in high temperatures. Failure to wear gloves may result in burning or blistering of the skin upon contact.

Operation in Snow, Ice, or Extreme Cold

WARNING



In extreme cold, do not touch metal parts with bare hands. Severe skin damage may result.



Fording

The Containerized Latrines are not watertight. They should never be submerged in any depth of water as material damage may result. When mounted on a trailer or truck, hard-bottom water crossings should be no deeper than approximately two feet. When in doubt, refer to Unit Standard Operating Procedures.

END OF WORK PACKAGE

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