

**FPU® SYSTEMS OPERATION MANUAL
(INCLUDING REPAIR PARTS)
EXPEDITIONARY BULK STORAGE SYSTEM (EBSS)**

**CHAPTER 2
OPERATOR INSTRUCTIONS**

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OPERATOR INSTRUCTIONS
**FPU® SYSTEMS OPERATION MANUAL
(INCLUDING REPAIR PARTS)
EXPEDITIONARY BULK STORAGE SYSTEM (EBSS)**
PREPARATION FOR MOVEMENT

INITIAL SETUP:

EBSS Packed out

Maintenance Level

Operator/Crew

Personnel Required

Two (plus one supervisor)

PREPARATION FOR MOVEMENT

WARNING

The EBSS Container was designed and tested to interface, load directly on to and lock on to the HEMTT-LHS or PLS. Use of any other vehicle that is not designed with the same function and features as the HEMTT-LHS or PLS may cause damage to the EBSS container, injury or death.

This work package provides step-by-step instructions for the download, set-up and moving of the EBSS containers.

WARNING


If a container is dropped during transit movement of any kind, extreme care should be taken when opening the doors to preclude material from falling on and injuring personnel.

Site Requirements

WARNING


Container must be operated on level ground. To maintain control, consider the ground surface conditions for adequate traction, such as mud, snow, ice, sand.

If the container is transported on the HEMTT-LHS truck or PLS trailer, the selected site must have a minimum of 50 ft. x 30 ft. of flat level, open space to provide setup space for the container. Care should be taken to ensure that no overhead obstructions interfere with the offload of the container from the HEMTT.

CAUTION

Flood plain conditions should be considered since the containers have vent holes for the ventilation system that are not designed to withstand flooding. If in doubt, consult the operations supervisor or commander.

PREPARING EBSS FOR USE

The EBSS is designed for a ground-based operation. Never attempt to access the containers when the containers are on any transporting equipment or not downloaded and established in an operational site. Once downloaded from the HEMTT truck or trailer, the EBSS is ready for immediate use in most circumstances.

OPERATION OF ROOF ACCESS SYSTEM

The Roof Access System consists of seven retractable steps on the end of the EBSS with an additional handle on the roof for three-point control while climbing.

WARNING



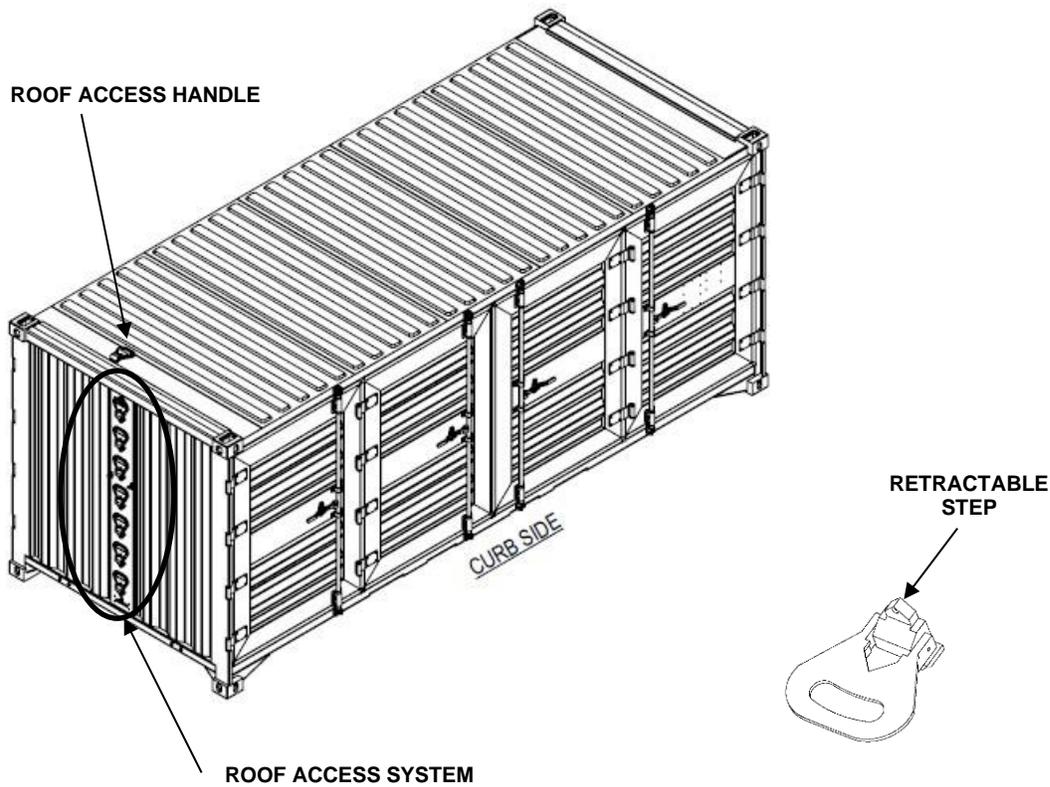
Fall hazards exist when climbing onto, returning from or working from the top of the container. Always maintain three points of contact to the ladder and EBSS container when climbing onto the container. Never move, step, or walk backwards when working on top of the system. All movement should be in the forward direction. A fall can occur if the worker loses concentration and steps backwards off of the edge. Stand erect only if necessary and only away from the edge. Working from a kneeling position helps reduce the threat of a fall.

EBSS containers are marked with the following ISO marking. Its meaning is provided below:

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, unloading or accessing the roof of the containers.

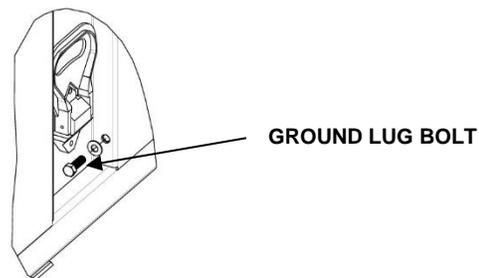


WARNING



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, unloading or accessing the roof of the containers.

When the container is in position, establish a ground connection located at the folding steps. See MIL-HDBK-419A



INSTALLING/REMOVING REAR ROLLER ASSEMBLY

Detachable dual 7-inch rollers are mounted only on the rear end (folding steps) of the EBSS container. The roller assemblies are attached to the underside of the lower end rail with two 3/4-inch attaching pins and secured by four lynch-pins. When attached to the EBSS, the rear rollers enable the container to be loaded on the HEMTT-LHS, PLS and PLS trailer. When detached and stored within the EBSS, they permit the container to be stacked or transported via standard ISO container transportation methods and devices.

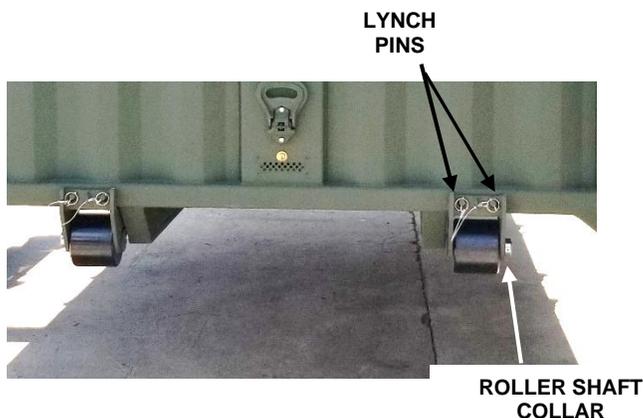
WARNING



The rear rollers are to be used only during the action of loading/unloading on the HEMTT-LHS, PLS and PLS trailer. Any other use, such as rolling the container between different locations especially with turns involved, may result in damage to the rollers or may present a dangerous situation that could result in serious injury or even death. The rollers must also be removed once unloaded on the ground as they may become damaged in this position over an extended period of time.

ROLLER INSTALLATION/REMOVAL

After all container connection actions have been successfully completed, the roller assemblies can be installed. This installation will require two people.



REAR ROLLERS ATTACHED ON LADDER END



REAR ROLLERS (SIDE VIEW) TUCKED INWARD BENEATH CONTAINER

Installation

1. Using the HEMTT, lift the EBSS container approximately 12 inches off the ground at the EBSS roller end to allow access to the rear frame assembly of the container. Leave roller attached for transport and unloading.

WARNING

Do not allow the system to swing if using overhead lift. Always ensure an appropriate sling is used in the lift. Always use properly sized forklift, crane-lifting device. Always use appropriate blocking/bracing in conjunction with proper MHE when working under the container. Failure to comply with these safety measures could cause damage to equipment, serious injury or death.

2. It is preferred the rollers be oriented so the roller wheel is tucked inward beneath the container (see 0005 00-4).

NOTE

While it may be possible that either roller orientation (wheels tucked beneath vs. extending out from the container end) will allow the roller brackets to be secured to the underside of the container frame and due to some slight variations in container handling equipment found in the field, it is preferred the rollers be oriented with wheels tucked in.

3. Position roller assembly so that the roller shaft collar faces the nearest side of the container as shown on page 0005 00-4.
4. Person number one fits the roller saddle to the underside of the container frame and aligns the two pinning holes.
5. Second person inserts the two roller attaching pins through the aligned holes to attach roller assembly to container frame.
6. Secure the two roller attaching pins in place using the four lynchpins attached to the exterior side of the roller assembly.
7. Repeat process for the other roller.

Removal

1. While loaded on the HEMTT, remove the 4 lynchpins from the exterior side of the roller assemblies.
2. Remove the two pins holding the roller assembly to the container frame.
3. Remove roller assembly from container frame.
4. Lower the EBSS to the ground with the HEMTT.

WARNING

Ensure all container connectors are properly seated and locked. Additionally, ensure all internal material is secured through the use of drawer locking mechanisms, cargo strap/netting, pallet lock rods, module locking devices. Failure to comply could cause serious injury or death.

MOVING THE FPU USING MHE (FORKLIFT)

The EBSS has two sets of forklift pockets located on their outer and inner loading rails. 1 set of inside forklift pockets are used to move it when empty and one set of outside forklift pockets are used to move it when loaded. The top portion of the forklift pockets are still visible from the outer rail and can be used to help the forklift operator guide the forklift tines through the inner loading rail forklift pockets as shown above.



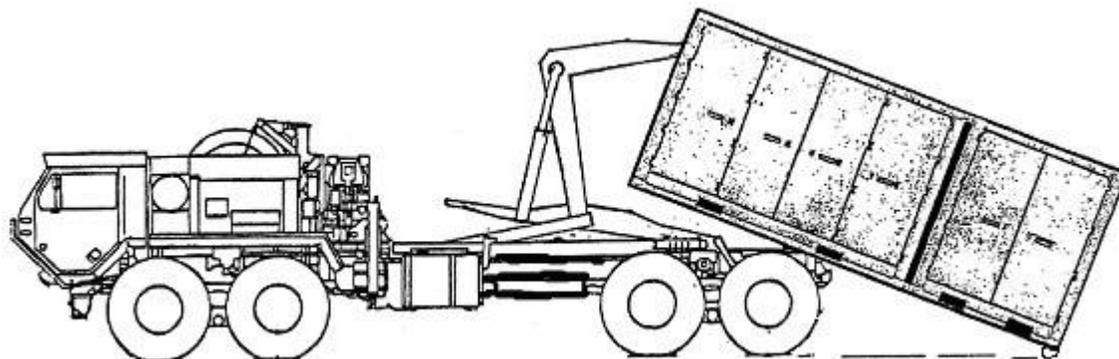
FORKLIFT POCKETS



NOTE

The forklift pockets on the EBSS are centered for greater load balance of the container.

LOADING THE FPU USING A HEMTT



Loading and unloading via the HEMTT-LHS and PLS must be accomplished as indicated in HEMTT-LHS and PLS technical manuals. Loading and unloading onto and off of a M1076 Palletized Load-handling System Trailer (PLST) must be accomplished as indicated in the PLS trailer technical manual (TM9-2320-364-10) (see exception noted below).

NOTE

Orient the roller assembly with the roller wheel tucked inward beneath the container (see page 0005 00-4 and #2 NOTE on page 0005 00-5). In this orientation, the roller wheel will not be required to rest against the trailer back stop and slight adjustments of the container position may be required to align the container din locks within the respective trailer lock window.

CAUTION

Do not exceed 26,000 lbs. Maximum Gross Weight (MGW) for loading EBSS containers aboard HEMTT-LHS or 37,000 lbs aboard a PLS transport.

SECURING EBSS TO THE PLS TRAILER

CAUTION

When transporting the EBSS on cross-country terrain which produce excessive vibration and shock. When conditions produce 6-inch washboard effect, damage may result to the EBSS container and material stored within if excessive speed is allowed. Operators should adjust driving speed to local conditions. If a 6-inch washboard condition is encountered, operators should reduce speed to as low as 3 mile per hour to avoid damage to the EBSS and its contents.

Refer to the PLS trailer TM to determine when the PLS is to be used. After loading the EBSS on to the trailer, slight adjustments of the container position may be required to align the pinning holes with mating holes in trailer frame. See page 0005 00-4 for rear roller installation/removal instructions and #2 NOTE.

END OF WORK PACKAGE

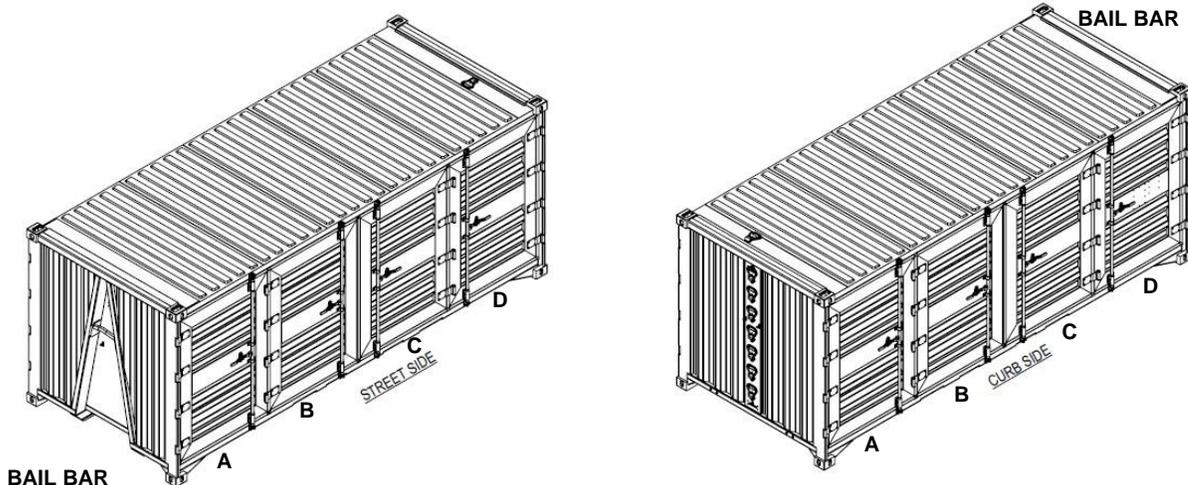
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OPERATOR INSTRUCTIONS

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS) EXPEDITIONARY BULK STORAGE SYSTEM (EBSS)

OPERATION OF EBSS CONTAINERS

OPERATION OF EBSS DOORS



Opening the Doors

NOTE

Center doors on the EBSS should be opened simultaneously. Open the left and right center doors B and C simultaneously, then open both left and right doors A and D.

WARNING



Use care when opening door while containers are on an incline, to maintain control consider the ground surface conditions for adequate traction, such as mud, snow, ice, sand and seek assistance from fellow soldiers to prevent strain or injury.

EBSS Container Doors

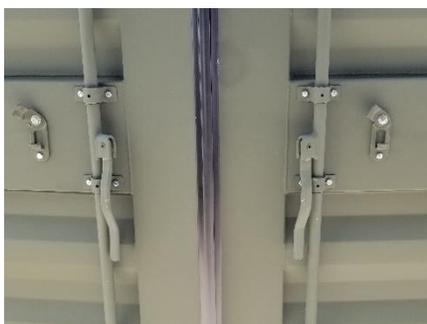
1. First, rotate the padlock upper hasp counter-clockwise on both center doors until it is resting against the tab on opposite side.



2. Using the left hand for the left-sided door and right hand for the right-sided door, lift up both handles (doors B and C) simultaneously until it clears the bottom padlock hasp and pull toward you rotating the cam pipe until the cam pipe completely disengages the cam keepers (top and bottom) on both doors. This may require a full 180-degree rotation.



3. While still holding both door handles, pull the handles until the door seals disengage the container and left and right door seals are separated from each other.
4. Then rotate the door handles downward to their resting position.



5. Next, proceed to either the right or left outer door (A or D) and repeat step 1.
6. With one hand pressing the adjacent center door against the container frame (should be near parallel with the door attempting to open) for clearance, lift up the handle with the other hand until it clears the bottom padlock hasp. Pull the handle toward you rotating the cam pipe until the cam completely disengages the cam keepers (top and bottom) on the door. This may require a full 180-degree rotation.

WARNING

While disengaging the container doors, be sure to hold the adjacent center door against the container frame while opening the outer doors. Failure to do so may cause the doors to swing outward somewhat and potentially cause injury.

CAUTION

Because containers are constructed with tubular steel and are subject to flexing when containers are sitting on an un-level surface, doors may be difficult to open. In this event, you may require the assistance of other personnel to open the doors.

7. Then rotate the door handle downward to a resting position.
8. Fold the center door against the outer door.

WARNING

Use caution when overlapping the two doors and be sure not to place fingers between the doors as this could create a potential pinch point. Failure to do so may result in injury to personnel.

9. Rotate the folded doors about 180 degrees around the container end wall until the door strap can be engaged. See page 0006 00-4 for door strap instructions.

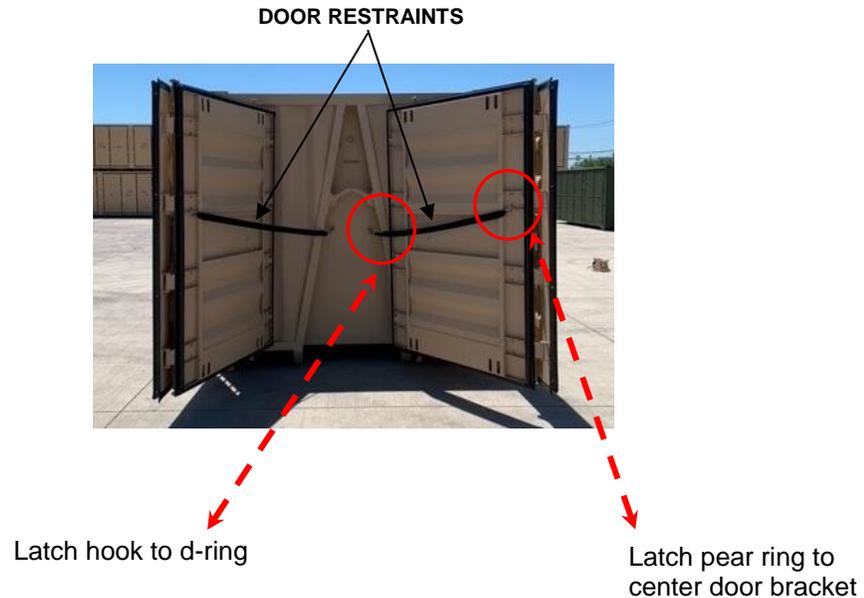
WARNING

To prevent injury to personnel, after opening each door, install door restraints to prevent accidental closing due to wind conditions or when the container is resting on an un-level surface. Assistance may be required for this operation.

10. Perform the same steps 5 through 9 for the other set of bifold doors on the same container side.

Door Restraint straps

The EBSS container doors are retained by fabric straps with shackles to d-rings on the ends and interior of the doors. Secure the doors using door restraint straps.



Closing the Doors

FPU door seals consist of a double lip design in which the inner lip forms a tight seal against a fixed surface around the door opening while the outer seal overlaps the door facing to provide a double sealing protection against the environment. Overlapping doors require one door (left side) to have double seal lips while the adjacent door (right side) has a single seal lip (no outer seal lip). During the closing process, as the overlapping doors begin to mate, be sure that the door with no outer seal lip (right side) is ahead of the double seal lip door (left side).

WARNING



To prevent injury to personnel, caution should be exercised when releasing more than one door at a time from door restraints during the closing procedure. All straps should be clipped to their door bracket links before closing the door.

**NOTE**

Do not remove the pear-shaped links from the door brackets.

CAUTION

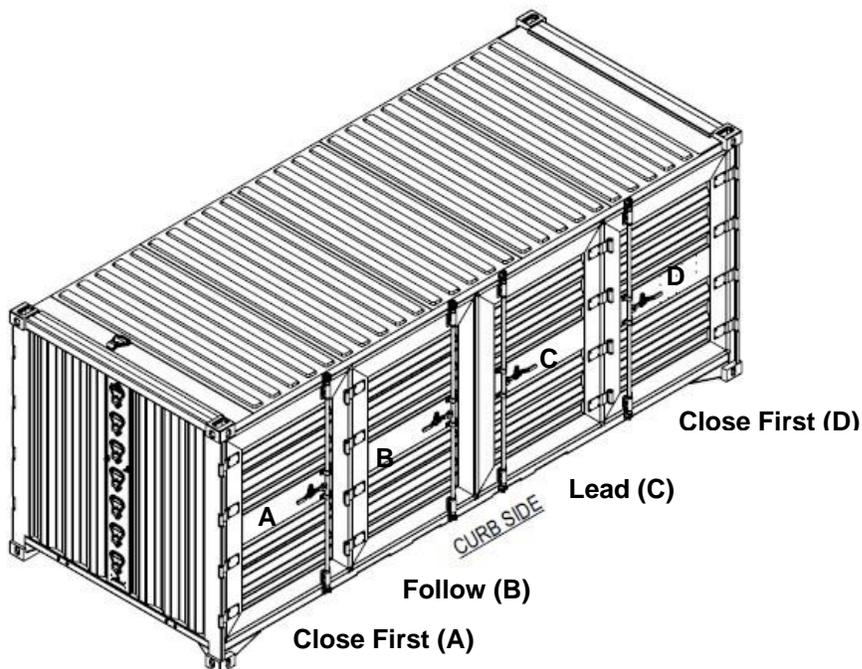
Prior to beginning the door closing procedure, ensure that the container threshold is completely free of debris (dirt, sand, gravel, etc.). This will provide for proper sealing of the doors and prevent leaks.

NOTE

If the top or bottom of the door does not seat inside the doorframe, the doors have not made proper contact with the door cam keeper.

Closing the FPU-20-3 Doors

Assistance may be required for this operation.

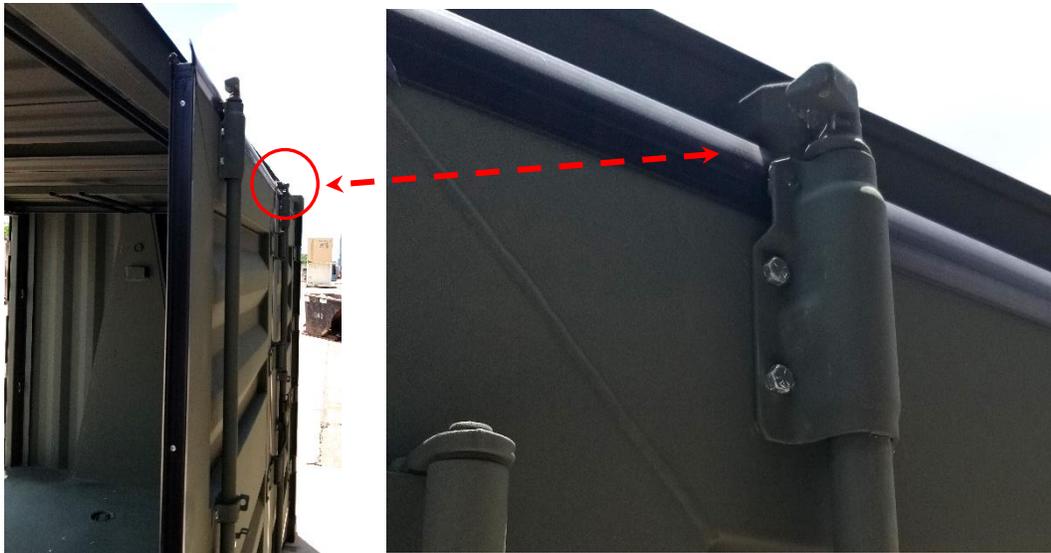


1. Disconnect the door strap from first set of bi-fold doors.

WARNING

Use caution when unstrapping each set of bi-fold doors, especially in windy conditions or when the container is resting on an un-level surface. Assistance may be required for this operation.

2. Rotate both doors so they both lay flat against the container side. This will allow the outer door top cam to begin engagement with the cam keeper. Ensure the lower cam has begun engagement with its cam keeper too.

**NOTE**

Failure to lay both bi-fold doors against the container side will not allow the outer door cam to come in contact with the cam keeper to begin engagement.

3. Close and secure the outer door. See Door Opening procedure for door handle operation.
4. Repeat steps 1-3 for the other set of bi-fold doors on the same container side so both outer doors A and D are secured.
5. Next, close doors B and C simultaneously aligning the single seal lip of the right door C to be slightly ahead of the double seal lip left door B.

CAUTION

When closing the EBSS center doors, always allow the right hand door to lead slightly to mate the door seal edges and prevent damage to the seals.



6. Push firmly against both center doors until the door cams begin engagement on both the top and bottom door cam keepers. Secure the center doors.
7. Rotate each of the padlock hasps clockwise until the padlock holes align.



END OF WORK PACKAGE

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OPERATOR INSTRUCTIONS

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS) EXPEDITIONARY BULK STORAGE SYSTEM (EBSS)

OPERATION UNDER UNUSUAL CONDITIONS

INITIAL SETUP:

EBSS Downloaded and Operating

Maintenance Level

Operator/Crew

Personnel Required

Two (plus one supervisor)

OPERATION UNDER UNUSUAL CONDITIONS

This work package provides instructions for the operation of the EBSS 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 EBSS.
2. Secure all accessories and container during extremely harsh rain.

Operation in Extreme Heat

WARNING



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

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 EBSS is not watertight. It should never be submerged in any depth of water or material damage may result. When mounted on a trailer or HEMTT truck, hard-bottom water crossings no deeper than approximately two feet can be forded. When in doubt, refer to Unit Standard Operating Procedures.

Interim Nuclear, Biological, and Chemical (NBC) Decontamination Procedures**WARNING**

The EBSS is NOT designed to be operated in contaminated NBC Environments. Do not operate the EBSS in contaminated NBC environments. If possible, cease operation of the EBSS prior to an NBC event and close all doors.

END OF WORK PACKAGE