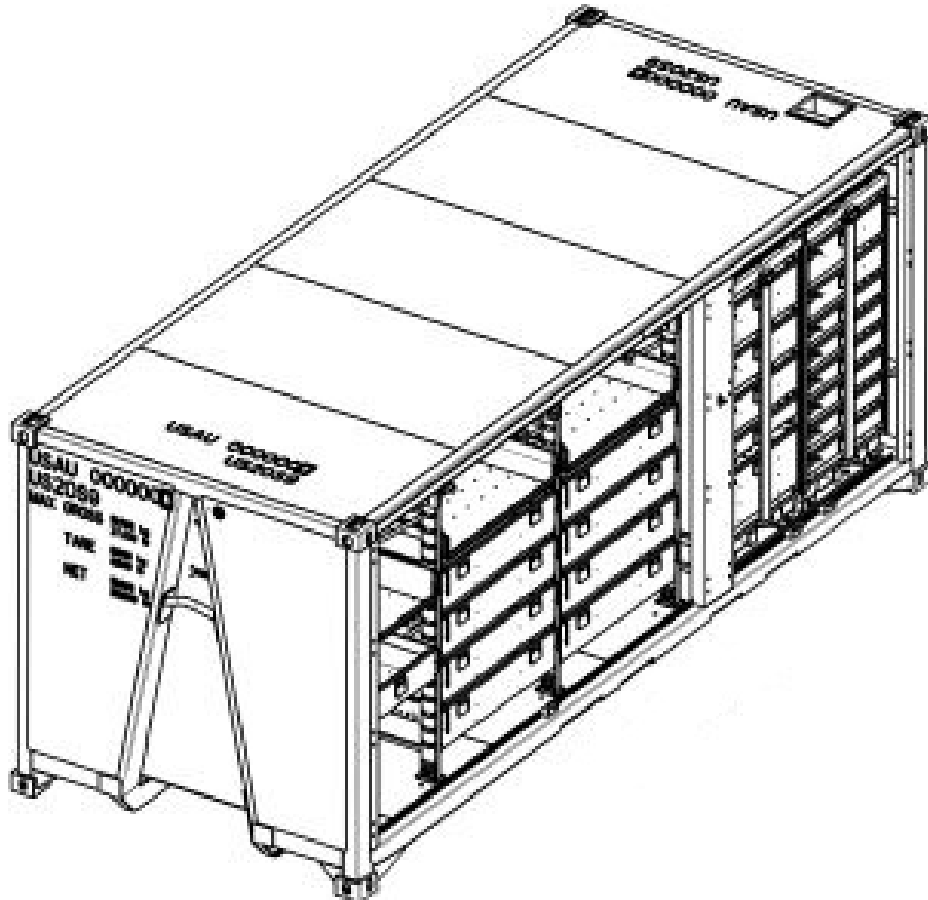


---

**FPU® SYSTEMS OPERATION MANUAL  
(INCLUDING REPAIR PARTS)  
EXPEDITIONARY CONTAINERIZED AUTHORIZED STOCKAGE LIST (ECASL)  
BOH FPU Field Pack-up Units**

**European Patent Number EP 1224127**



ECASL #4 (of 5) configuration shown (example)  
(Doors removed for clarity)

**BOH FPU® SYSTEMS  
BOH ENVIRONMENTAL LLC**  
14520 Avion Parkway, Suite 220  
Chantilly, Va. 20151  
POC Doug Cresap (985) 674-0725  
<http://www.bohfpusystems.com>

This page was intentionally left blank

## WARNING SUMMARY

This warning summary contains general safety warnings and hazardous materials warnings that must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death to persons using equipment.



### WARNING

Do not allow the FPU-20-3 container to swing if using an overhead lift. Always ensure an appropriate sling is used in the lift. Always use properly sized forklift, crane, or lifting device. Failure to comply could cause injury or damage to the equipment.



### WARNING

Use extreme caution when loading or unloading the FPU-20-3 to or from a transport vehicle. Keep hands, fingers, and feet clear of the container and components during this operation. Forklift support is required. Make sure all container inserts are properly seated and locked secure. Failure to comply could cause serious injury. Failure to follow proper insert connection procedures may result in damage to the equipment.



Standard forklift principles apply when working with or on the FPU-20-3 container. Ground guides and the Material Handling Equipment (MHE) operators must insure that personnel are clear of the containers during this operation. When working with ground guides during the loading or unloading, never move the container while the ground guide is unseen. Serious injury could occur if the ground guide is pinned between the FPU-20-3 container and other objects. Forklift operators must maintain visual contact with their ground guides at all times.



Always follow standard forklift procedures. A tilt hazard exists when forklift operators try to lift a FPU-20-3 container from the wrong side. When using a forklift, Always lift a container via the forklift pockets that are provided. This places the heavier part of the load back into the tines versus out on the tips. A tilt situation exists when the heaviest part of the load is out on the tips of the tines, on uneven ground, with forks fully extended, and while traveling. Operators should always keep loads low and close to the forklift carriage. Operators should never travel when the load is in the fork's extended position.

### WARNING



Fall hazards exist when climbing onto or working from the top of the FPU-20-3 container. Always maintain three points of contact to the ladder and 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 personnel lose concentration and step 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.

The ECASL systems may be used to store various forms of oils, lubricants, and other potentially slippery substances. Keeping the inside floor of the FPU-20-3 container clean is important, nevertheless, always move with caution inside of the FPU. Failure to maintain cleanliness and caution could cause a slip and injury.

## WARNING SUMMARY

This warning summary contains general safety warnings and hazardous materials warnings that must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death to persons using equipment.

### WARNING



The module drawers and pallets can be heavy and awkward to handle by a single person. This is especially true of the larger components. The adjustment of these items is a two-person operation. While a forklift is not essential MHE support to hold the pallets in position while the hardware is installed and secured, it simplifies the effort. Do not try to adjust the pallets or drawers without assistance or MHE support. Ensure that all modules are properly locked down before any movement or transport of the containers.

### WARNING



Forklift operator should always use module forklift pockets when moving FPU modules to prevent tipping. Ground guides must insure no personnel go underneath modules during movement operations. Failure to comply could cause injury, death or damage to the equipment.

### WARNING



Use extreme caution when loading or unloading FPU modules from and into FPU containers. Forklift operator should maintain visual contact with ground guides at all times. Ground guides should never come between the module and container during loading process. If visual contact with ground guide is lost, immediately suspend all operations, turn off forklift and set emergency brake. Failure to comply could cause serious injury, death or damage to the equipment.

### WARNING



Always follow standard forklift procedures. A tilt hazard exists when forklift operators try to lift an FPU module, without inserting forklift tines into module forklift pockets. Operators should always keep loads low and close to the forklift carriage. Operators should never travel when the load is in the fork's extended position. Ensure hands, feet and limbs are clear of the container and components during any forklift or lifting operation. Failure to comply could cause injury or damage to the equipment.

### WARNING



The modules, containers and their contents are heavy and could cause injury or death if they fall onto or strike personnel. A tilt hazard exists when the module is not properly locked down to the adapter. As a rule, always work on one pallet or drawer at a time. Never have more than one drawer extended in the full open position at a time, especially if loaded. Ensure that all drawers, modules and components are properly locked latched and secured in place prior to any movement of the container or modules.

## WARNING SUMMARY

This warning summary contains general safety warnings and hazardous materials warnings that must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death to persons using equipment.

### WARNING



Always inspect the working areas, insure that the front, rear and sides of the modules are free of oils, lubricants, and other potentially slippery substances. The module drawers may be used to store various forms of lubricants, and other potentially slippery substances. Keeping the drawers and the work area around the module clean, to prevent spillage and slippery surfaces. Personnel should never stand on a drawer or pallet.

## Container Overhead Power Line Warning

### 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, moving the FPU container and modules or when accessing FPU container roof.



### 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.



### WARNING

Protective gloves should be worn when handling metal parts in below freezing temperatures. Failure to wear gloves may result in skin freezing to the metal upon contact and cause tearing of the flesh when attempting to pull away from the metal.

### WARNING



The FPU is NOT designed to be operated in contaminated NBC Environments. The FPU is designed to operate outside an established NBC safety perimeter.

Do not operate the FPU in contaminated NBC environments. If possible, cease operation of the FPU prior to an NBC event and do the following:

1. Close and secure all doors. External surfaces of the FPU Container are CARC painted and can be decontaminated; however, whenever possible avoid contamination of the internal areas of the FPU Container System.
2. Decontaminate the exterior surfaces of the FPU in accordance with FM 3-5. Only Qualified NBC NCO's should check for residual contamination before opening the container.
3. Remain in MOPP 4 posture when opening the doors and have the NBC NCO check for contamination on interior surfaces.
4. If thorough decontamination is required, refer to NBC NCO and FM 3-5 for procedures.

## GENERAL WARNINGS



HEAVY PARTS - heavy object on human figure shows that heavy parts present a danger to life or limb.



HEAVY PARTS - heavy object pinning human figure against wall shows that heavy, moving parts present a danger to life or limb.



HEAVY PARTS - hand with heavy object on top shows that heavy parts can crush and harm.



HEAVY PARTS - foot with heavy object on top shows that heavy parts can crush and harm.



SLICK FLOOR - wavy line on floor with legs prone shows that slick floor presents a danger for slipping or falling.



HEAVY OBJECT - human figure stooping over heavy object shows physical injury potential from improper lifting technique.



ELECTRICAL - electrical wire to arm with electricity symbol running through human body shows that shock hazard is present.



ELECTRICAL - electrical wire to hand with electricity symbol running through hand shows that shock hazard is present.



CRYOGENIC - hand in block of ice shows that the material is extremely cold and can injure human skin or tissue.



FIRE - flame shows that a material may ignite and cause burns.

**FPU® SYSTEMS OPERATION MANUAL  
(INCLUDING REPAIR PARTS)  
EXPEDITIONARY CONTAINERIZED AUTHORIZED STOCKAGE LIST (ECASL)  
BOH FPU Field Pack-up Units**

**REPORTING ERRORS & IMPROVEMENTS**

---

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. Please let us know if you find any mistakes or if you know of a way to improve the procedures. You may send in your recommended changes by E-mail directly to: [dcresap@bohfpusystems.com](mailto:dcresap@bohfpusystems.com). A reply will be furnished directly to you.

**TABLE OF CONTENTS**

|   | <u>WP Sequence No.</u> |
|---|------------------------|
| WARNING SUMMARY .....   | a                      |
| HOW TO USE THIS MANUAL .....  | iii                    |
| CHAPTER 1 – INTRODUCTORY INFORMATION WITH THEORY OF OPERATION                     |                        |
| General Information .....   | 0001 00                |
| Theory of Operation .....   | 0002 00                |
| Equipment Characteristics, Components and Accessories .....                       | 0003 00                |
| Equipment Data Labels, Identifications, Markings, and Airlift Certification ..... | 0004 00                |
| =====   |                        |
| CHAPTER 2 – OPERATOR INSTRUCTIONS   |                        |
| Preparation for Movement .....  | 0005 00                |
| Operation of FPU Containers .....   | 0006 00                |
| Operation of Bulk Storage Aids .....  | 0007 00                |
| Operation of Parts Storage Aids .....   | 0008 00                |
| Operation of Bulk Storage Module .....  | 0009 00                |
| Operation of FPU Standard Storage Modules .....                                   | 0010 00                |
| Operation under Unusual Conditions .....  | 0011 00                |
| =====   |                        |
| CHAPTER 3 - TROUBLESHOOTING PROCEDURES  |                        |
| Introduction .....  | 0012 00                |
| Troubleshooting Indexes .....   | 0013 00                |
| Troubleshooting Procedures .....  | 0014 00                |
| =====   |                        |
| CHAPTER 4 – OPERATOR MAINTENANCE INSTRUCTIONS                                     |                        |
| Introduction to Preventative Maintenance Checks and Services (PMCS) .....         | 0015 00                |
| PMCS Table .....  | 0016 00                |
| Cleaning and Lubricating .....  | 0017 00                |
| FPU-20-3 Doors .....  | 0018 00                |
| FPU-20-3 Folding Steps .....  | 0019 00                |
| Parts/Bulk Storage Aid Vertical Rack Frame .....                                  | 0020 00                |
| Bulk Storage Aid Pallet .....   | 0021 00                |
| Bulk Storage Aid Pallet Ledge .....   | 0022 00                |
| Standard Storage Modules .....  | 0023 00                |
| Bulk Storage Module .....   | 0024 00                |

---

---

---

## CHAPTER 5 – UNIT MAINTENANCE INSTRUCTIONS

|   |         |
|---|---------|
| FPU-20-3 Door Assemblies .....                            | 0025 00 |
| FPU-20-3 Door Seals.....                                  | 0026 00 |
| FPU-20-3 Folding Steps.....                               | 0027 00 |
| Parts/Bulk Storage Aid Vertical Rack Frame .....          | 0028 00 |
| Parts Storage Aid Drawer Assembly .....                   | 0029 00 |
| Parts Storage Aid Drawer Slide.....                       | 0030 00 |
| Bulk Storage Aid Pallet .....                             | 0031 00 |
| Bulk Storage Aid Pallet Ledge.....                        | 0032 00 |
| Removable Cradle (8 ft. compartment of the FPU-20-3)..... | 0033 00 |
| Removable Cradle Lock Device .....                        | 0034 00 |
| FPU-20-3 Rear Roller Assembly .....                       | 0035 00 |
| Bulk Storage Module.....                                  | 0036 00 |
| Bulk Storage Module Shelf Reposition .....                | 0037 00 |
| Bulk Storage Module Bearing Replacement.....              | 0038 00 |
| Bulk Storage Module 8" Bin Kit .....                      | 0039 00 |
| Standard Storage Modules .....                            | 0040 00 |

---

---

## CHAPTER 6 – PARTS SUPPORTING INFORMATION

|   |         |
|---|---------|
| Introduction to Maintenance Allocation Chart (MAC)..... | 0041 00 |
| Maintenance Allocation Chart (MAC) .....                | 0042 00 |
| Introduction to Repair Parts List .....                 | 0043 00 |
| Repair Parts List (ECASL Configurations #1 - #5).....   | 0044 00 |
| Repair Parts List (FPU-20-3).....                       | 0045 00 |
| Repair Parts List (Standard Modules) .....              | 0046 00 |
| Repair Parts List (Bulk Storage Module) .....           | 0047 00 |
| 00 ECASL SYSTEMS  |         |
| 01 ECASL CONFIGURATIONS                                 |         |
| 0101 ECASL #1   |         |
| 0102 ECASL #2   |         |
| 0103 ECASL #3   |         |
| 0104 ECASL #4   |         |
| 0105 ECASL #5   |         |
| 02 FPU-20-3 CONTAINER                                   |         |
| 0201 Door Assembly                                      |         |
| 0202 Folding Steps                                      |         |
| 0203 Rear Roller Assembly                               |         |
| 0204 Vertical Rack Frame                                |         |
| 0205 Parts Storage Aids                                 |         |
| 020501 Drawer Assembly                                  |         |
| 0206 Bulk Storage Aids                                  |         |
| 020601 Pallets  |         |
| 020602 Pallet Ledges                                    |         |
| 0207 Removable Cradle                                   |         |
| 0208 Tie-Down Rings                                     |         |
| 0209 Wall Vent Kit                                      |         |
| 0210 Floor Riv-Nuts                                     |         |
| 03 STANDARD MODULES                                     |         |
| 0301 Module #26   |         |
| 0302 Module #23   |         |
| 0303 Module #22   |         |
| 0304 Module #21   |         |
| 0305 Module Drawers and Bearing Slide                   |         |
| 04 BULK MODULE  |         |
| 0401 Bulk Module #3                                     |         |
| 040101 FPU Bulk Chassis                                 |         |
| 040102 Bulk Tray 1000 lb.                               |         |
| 040103 8" Bulk Bin Adapter Kit                          |         |
| 040104 Latch and Bearing Assemblies                     |         |

---

---



|                        |         |
|------------------------|---------|
| NSN Index .....        | 0048 00 |
| Part Number Index..... | 0049 00 |

---

## REAR MATTER

BOH Product Warranty

## HOW TO USE THIS MANUAL

This manual contains general information, operating instructions, Preventative Maintenance Checks and Services (PM CS), and maintenance/repair instructions for the ECASL Systems.

Front matter consists of front cover, warning summary, title block, table of contents, "how to use this manual" pages, and provides information on the ECASL Systems and their associated equipment. Chapter 1 provides equipment description and data as well as the theory of operation. Chapter 2 provides instructions for operating under usual and unusual conditions. Chapter 3 contains troubleshooting procedures authorized at the Operator and Unit level. Chapter 4 contains Preventive Maintenance Checks and Services (PMCS) and Operator Maintenance Instructions. Chapter 5 contains Unit Maintenance Instructions. Chapter 6 contains the Maintenance Allocation Chart (MAC); it also includes the Repair Parts List that identifies parts unique to the operation and maintenance of the ECASL Systems.

### Manual Organization and Page Numbering

This manual is divided into six major chapters that detail the topics mentioned above. Within each chapter are work packages covering a wide range of topics. Each work package is numbered sequentially at page 1, and has its own page numbering scheme that is independent of the page numbering used by other work packages. Each page of a work package has a page number of the form "XXXX YY-ZZ", where "XXXX YY" is the work package number (e.g. 0010 00 is work package 10) and "ZZ" represents the number of the page within that work package. Blank pages will be labeled "This page was intentionally left blank".

### Finding Information

The Table of Contents permits the reader to quickly find information in the manual. The reader should start here first when looking for a specific topic. The Table of Contents lists the topics contained within each chapter and the work package sequence number where it can be found.

### Types of notations

**Warnings** - Warnings are posted immediately prior to text covering any area that would present a situation that may result in injury or death. Compliance is mandatory.

**Cautions** - Cautions will be found on the same page and preceding the text covering any area that would present a situation that may result in damage to equipment.

**Notes** - Notes will precede text covering an area with the intent to alter normal procedures for unique situations or equipment, or point out areas of special concern.

This page was intentionally left blank

**FPU® SYSTEMS OPERATION MANUAL  
(INCLUDING REPAIR PARTS)  
EXPEDITIONARY CONTAINERIZED AUTHORIZED STOCKAGE LIST (ECASL)  
BOH FPU Field Pack-up Units**

**CHAPTER 1  
INTRODUCTORY INFORMATION  
WITH  
THEORY OF OPERATION**

This page was intentionally left blank

---

## INTRODUCTORY INFORMATION WITH THEORY OF OPERATION

### FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS) EXPEDITIONARY CONTAINERIZED AUTHORIZED STOCKAGE LIST (ECASL) BOH FPU Field Pack-up Units

#### GENERAL INFORMATION

---

#### SCOPE

##### Equipment Covered

This technical manual contains instructions for the operation, preventative maintenance, Unit and Direct Support corrective maintenance for the Expeditionary Containerized Authorized Stockage List (ECASL) Systems and their associated equipment.

##### Type of Manual

This is an Operator, Unit and Direct Support, Operation and Maintenance Manual, including Repair Parts List.

##### Equipment Name and Model Number

ECASL #1 configuration, which consists of:

- FPU-20-3
- ½ Bulk Storage Aid
- Tie-down Rings (set of 8)
- Bulk Storage Module #3 (Quantity 2)
- Removable Cradle (Quantity 2)

ECASL #2 configuration, which consists of:

- FPU-20-3
- ½ Bulk Storage Aid (Quantity 2)
- ½ Bulk Storage Aid (Rear) (Quantity 2)

ECASL #3 configuration, which consists of:

- FPU-20-3
- ½ Parts Storage Aid
- Tie-down Rings (set of 8)
- Module #21
- Module #22
- Module #23
- Module #26
- Removable Cradle (Quantity 2)

ECASL #4 configuration, which consists of:

- FPU-20-3
- ½ Bulk Storage Aid
- ½ Parts Storage Aid
- Module #21
- Module #22 (Quantity 2)
- Module #23
- Removable Cradle (Quantity 2)

ECASL #5 configuration, which consists of:

- FPU-20-3
- ½ Bulk Storage Aid
- ½ Parts Storage Aid
- Module #21
- Module #22
- Module #23
- Module #26
- Removable Cradle (Quantity 2)

### **Purpose of Equipment**

The ECASL configurations each consist of an FPU-20-3 container with various inserts selected to accommodate particular applications:

- ECASL #1: palletized bulk, floor-loaded bulk, and battery/POL bulk material
- ECASL #2: palletized bulk
- ECASL #3: small, medium, medium/large parts and bulk floor-loaded material
- ECASL #4: small, medium, medium/large parts material
- ECASL #5: small, medium, medium/large parts material and palletized bulk

These systems have the ability to operate in fixed facilities or field environments in either its uploaded or downloaded configuration.

**REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)**

If your FPU needs improvement, let us know. Send us a description of the recommended change to [dcresap@bohfpusystems.com](mailto:dcresap@bohfpusystems.com). You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. We will send you a reply.

**CORROSION PREVENTION AND CONTROL (CPC)**

It is our understanding that Corrosion Prevention and Control (CPC) is a continuing concern for the military. While corrosion is typically associated with rusting of metals, it can also include deterioration of other material, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem.

All units must adhere to their specific corrosion maintenance plan. At a minimum, equipment should be inspected for corrosion on a quarterly basis (monthly if equipment is operated/stored in a high salt air environment). If corrosion is discovered, consult your unit/installation corrosion control manager to schedule repair. It is important that any corrosion problem with the FPU be reported so that the problem can be corrected and improvements can be made to prevent the problem in the future.

**PREPARATION FOR STORAGE OR SHIPMENT**

All preventative maintenance checks and services should be performed on the FPU and its components prior to any storage or shipment. Review chapter 4 WP 0015 00 and 0016 00.

This page was intentionally left blank



## INTRODUCTORY INFORMATION WITH THEORY OF OPERATION

### FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS) EXPEDITIONARY CONTAINERIZED AUTHORIZED STOCKAGE LIST (ECASL) BOH FPU Field Pack-up Units

#### THEORY OF OPERATION

#### SYSTEM DESCRIPTION

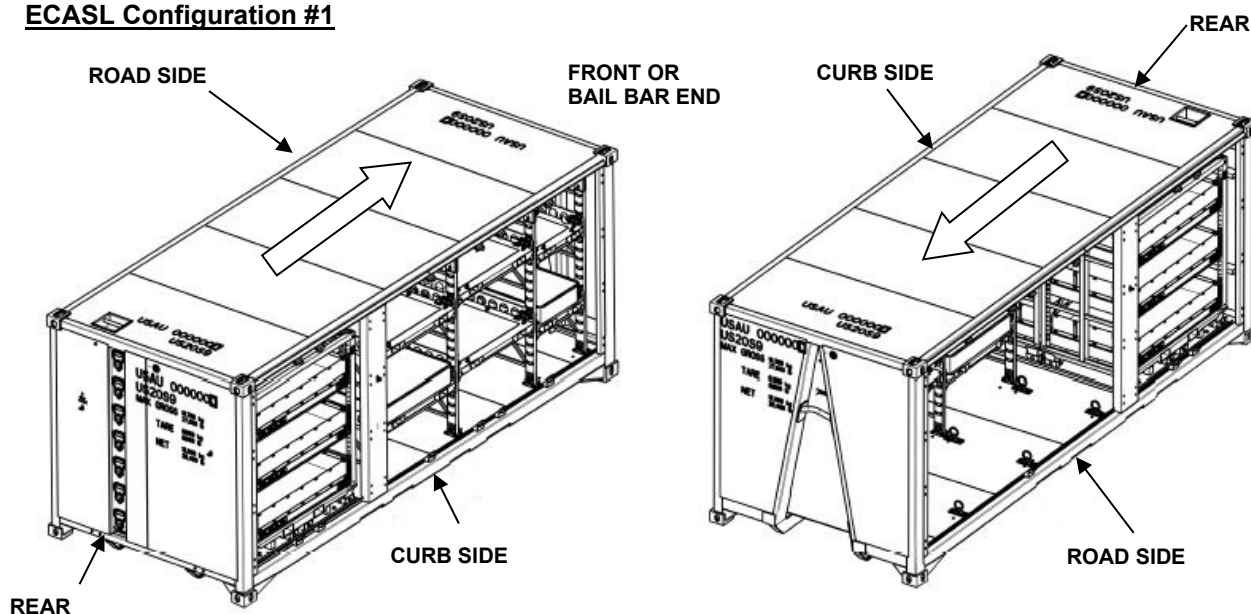
The Expeditionary Containerized Authorized Stockage List (ECASL) is a durable storage and transport system capable of rapidly mobilizing material. Each of the five configurations is specially configured to accommodate various size materials. The FPU-20-3 containers (20'L x 8'W x 8'H) are side-load containers with bi-fold doors and have a maximum gross weight of 37,000 lbs. It can be transported by standard material handling equipment but have been specifically designed for direct load on to the Heavy Expanded Mobility Tactical Truck with a load handling system (HEMTT-LHS), Palletized Loading System (PLS) and PLS trailer without the use of a PLS Flatrack. The FPU-20-3 is also ISO Certified and CSC Safety Approved and can be stacked nine high onboard commercial or MSC container ships. The ECASL systems come in two color variations: Forest Green and Desert Sand.

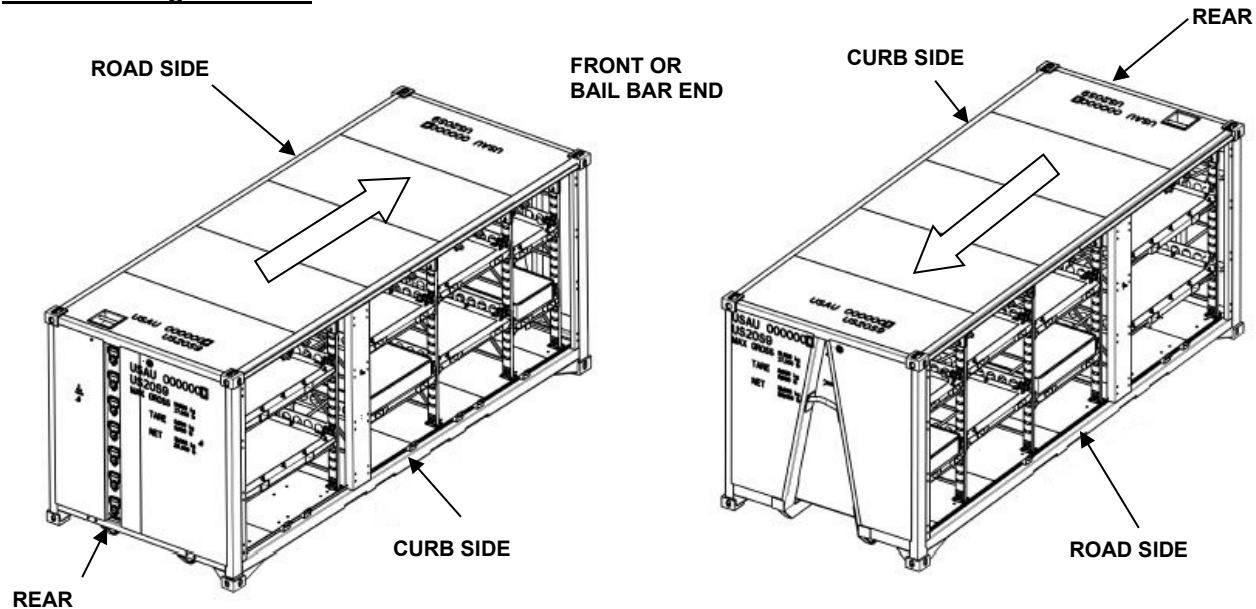
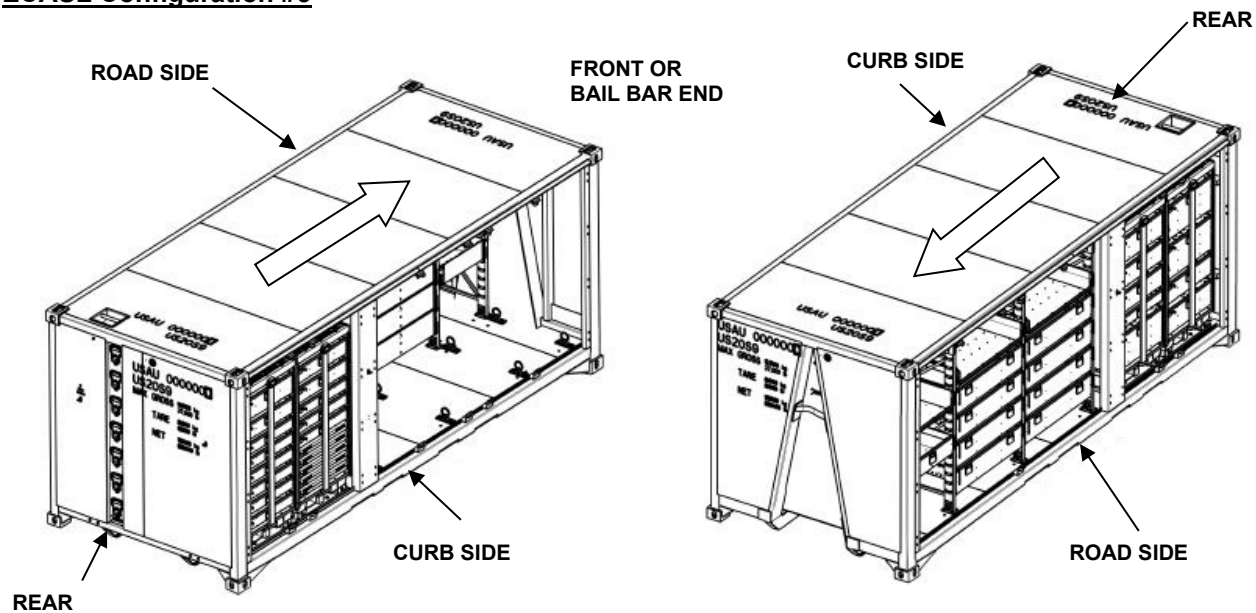
This ECASL manual will cover the FPU-20-3 along with its specially configured storage aids including the ½ bulk storage aid, ½ bulk storage aid (rear), ½ parts storage aid, tie-down rings, bulk storage modules, standard cabinet modules and removable cradles.

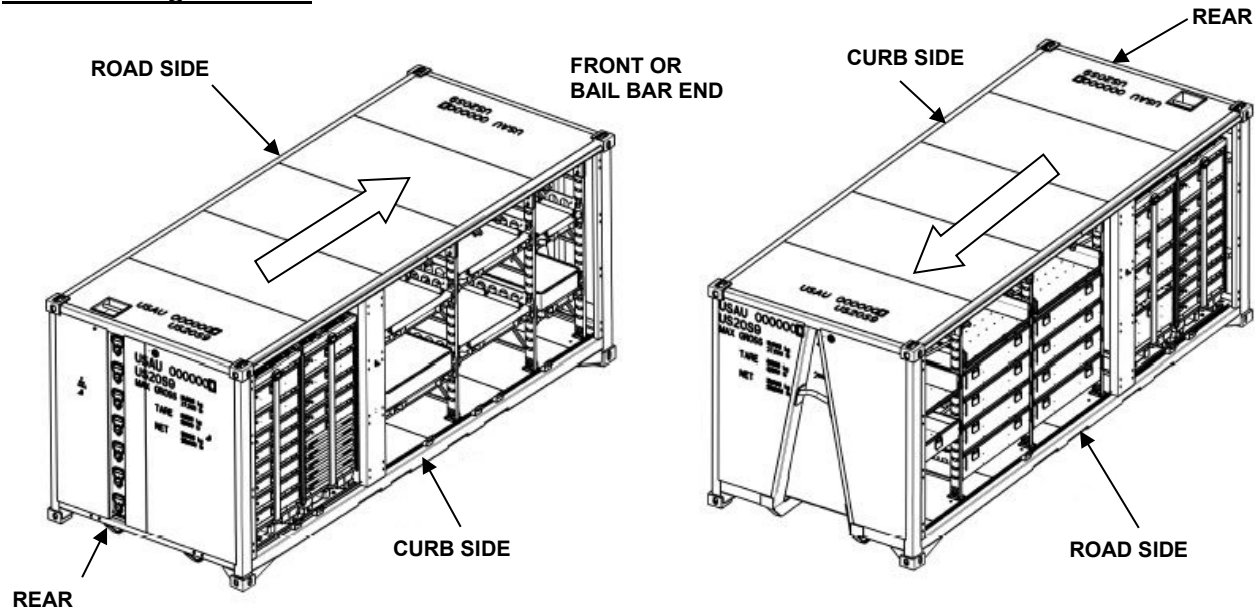
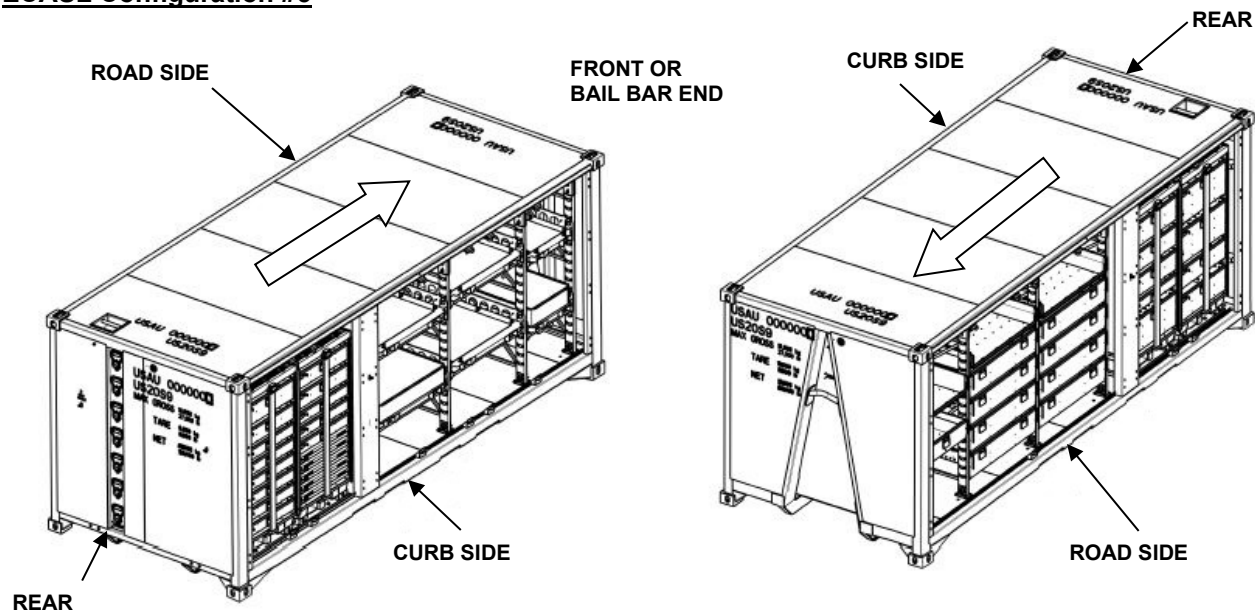
#### CONTAINER ORIENTATION

When facing the side of the container with the bail bar to your right, this represents the curb side of the containers. The opposite side is the road side.

#### ECASL Configuration #1



**ECASL Configuration #2****ECASL Configuration #3**

**ECASL Configuration #4****ECASL Configuration #5****END OF WORK PACKAGE**

This page was intentionally left blank

---

## INTRODUCTORY INFORMATION WITH THEORY OF OPERATION

### FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS) EXPEDITIONARY CONTAINERIZED AUTHORIZED STOCKAGE LIST (ECASL) BOH FPU Field Pack-up Units

#### EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES

---

#### ECASL STORAGE AID DESCRIPTIONS

The ECASL Systems are modular and specially configured with a variety of the following internal storage aids:

- Bulk Module #3 with 75% extension bins for large material, having a maximum payload weight of 1000 lb.
- ½ Bulk Storage Aid with pallets for palletized material.
- ½ Bulk Storage Aid (Rear) with 67" pallets for palletized material.
- ½ Parts Storage Aid for medium and medium/large material
- Tie down rings for oversize bulk material.
- Module #21 for small size material
- Module #22 for small size material
- Module #23 for medium size material
- Module #26 for medium size material

#### LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

##### FPU-20-3 Container

The FPU-20-3 consists of two barn style doors and two bi-fold doors (on each side), retractable roof access steps, door restraint straps, forklift pockets and a convection type ventilation system.

##### Bulk Storage Module

The BOH FPU Bulk Module is designed for the storage of large heavy material, and the Bulk Module #3 is designed specifically for the storage of batteries and hazardous material such as package POL. These modules are extremely rugged and were designed for the dynamics realized during mobile application. The Battery Shelf is rated at 1,000 lbs. and consists of an 8-inch lip around the perimeter and an acid resistant secondary containment liner. They are retractable to allow access to material stored at the rear of the shelf and can lock in the closed and open position. Each of the three shelves consists of a cargo net to secure material during transport.

##### Bulk Storage Aids

The BOH ½ Bulk Storage Aids are designed for the storage of bulk and/or palletized material. These racks and pallets are extremely rugged and were designed for the dynamics realized during mobile application.

Bulk Storage Aids for the front section of the FPU-20-3 consists of four vertical uprights that are mounted to the floor and ceiling of the containers, three 48-inch wide standard pallets, one 30-inch standard pallet, one 48-inch hazmat pallet with secondary containment and one 30-inch hazmat pallet with secondary

containment. Each standard pallet comes with four 2-inch ratchet straps and the hazmat pallets come with cargo nets. Individual pallets are adjustable every 4-inches. Tie-down rings are located at the bottom of the vertical uprights to secure floor-loaded material. Each floor load position comes with a cargo net. Pallets are secured into position by a rear cam lock that engages when the pallet is inserted into the pallet ledge. The front of the pallet is secured using two jackscrews located on the front of the pallet ledges.

Bulk Storage Aids for the rear section of the FPU-20-3 consists of two vertical uprights that are mounted to the floor and ceiling of the containers and two 67-inch pallets. Each standard pallet comes with four 2-inch ratchet straps. Individual pallets are adjustable every 4 inches. Tie-down rings are located at the bottom of the vertical uprights to secure floor-loaded material. Each floor load position comes with a cargo net. Pallets are secured into position by a rear cam lock that engages when the pallet is inserted into the pallet ledge. The front of the pallet is secured using two jackscrews located on the front of the pallet ledges.

### **Parts Storage Aids**

The BOH Parts Storage Aids are designed for the storage of medium and medium/large size material. These trays and drawers are extremely rugged and were designed for the dynamics realized during mobile application. BOH Parts Storage Aids for the FPU-20-3 consists of four vertical uprights that are mounted to the floor and ceiling of the containers, eight 48-inch wide by 12-inch deep drawers, two 48-inch wide by 2-inch deep drawer, one 30-inch wide by 8-inch deep drawer and one 30-inch wide by 2-inch deep drawer. 8-inch drawers are provided with dividers that are adjustable every 2-inches front to back and are variable side to side depending on the drawer size. 2-inch drawers come with a cargo net to secure material during transport. Drawers have a maximum capacity of 150 lbs. Drawers consists of locks that secure the drawer in the closed and open position and 100 percent extension drawer slides.

### **Standard Cabinet Modules**

All FPU Modules are designed to stand alone or to be loaded and secured within FPU-20-3 containers.

Module # 21, #22, #23 and #26 measure 74"(H) x 34"(W) x 42"(D) and are capable of holding a cross section of drawers from 4" to 16" in depth. These drawers have a design-rated capacity 200 lbs. All drawers are full extension (40-inches) and allow full access to stowed material. Drawers are adjustable in 3-inch increments. Small to intermediate parts storage/shipping modules are available with 4-inch, 6-inch, 8-inch, 10inch, 12-inch, and 16-inch deep drawers. Compartments are adjustable in 2" increments from front to back and vary side to side depending on the drawer size. Maximum drawer compartments in standard shipping/storage modules range from 186 (module #26) to 920 (module #21).

### **Removable Cradle**

The Removable Cradle consists of eight female receptacles, two twist locks and mounting hardware. This removable cradle accommodates two standard or specialized storage modules or one Bulk Storage Module unit.

## BOH FPU CARGO CONTAINER ACCESSORIES

### Rear Rollers

The rear rollers are detachable dual seven inch rollers mounted at the rear of the FPU-20-3 container using two 3/4-inch pins. Once connected to the FPU-20-3, it allows the system to be loaded/unloaded on the HEMTT-LHS, PLS trucks or PLS trailer using the bail bar and integrated loading rails. The rear rollers are stored in the FPU-20-3 when not in use. For storage, removal, and installing the rear rollers, refer to chapter 2 WP 0005 00.

### EQUIPMENT DATA

#### FPU-20-3

|              |                |
|--------------|----------------|
| Length:      | 20-foot (6.1m) |
| Width:       | 8-foot (2.44m) |
| Height:      | 8-foot (2.44m) |
| Tare Weight: | 8,660 lbs      |

#### ECASL #1 Configuration

|                    |                          |
|--------------------|--------------------------|
| Total Tare Weight: | 12,967 lbs (approximate) |
| Max Gross Weight:  | 37,000 lbs               |

#### ECASL #2 Configuration

|                    |                          |
|--------------------|--------------------------|
| Total Tare Weight: | 12,182 lbs (approximate) |
| Max Gross Weight:  | 37,000 lbs               |

#### ECASL #3 Configuration

|                    |                          |
|--------------------|--------------------------|
| Total Tare Weight: | 15,928 lbs (approximate) |
| Max Gross Weight:  | 37,000 lbs               |

#### ECASL #4 Configuration

|                    |                          |
|--------------------|--------------------------|
| Total Tare Weight: | 17,269 lbs (approximate) |
| Max Gross Weight:  | 37,000 lbs               |

#### ECASL #5 Configuration

|                    |                          |
|--------------------|--------------------------|
| Total Tare Weight: | 17,123 lbs (approximate) |
| Max Gross Weight:  | 37,000 lbs               |

## END OF WORK PACKAGE

This page was intentionally left blank



## INTRODUCTORY INFORMATION WITH THEORY OF OPERATION

### FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS) EXPEDITIONARY CONTAINERIZED AUTHORIZED STOCKAGE LIST (ECASL) BOH FPU Field Pack-up Units

#### EQUIPMENT DATA LABELS, IDENTIFICATIONS, MARKINGS AND AIRLIFT CERTIFICATION

#### Internal Air Transport Certification for 20-ft containers

FPU-20-2 containers are approved for air transport aboard C-130, C-17 and C-5 USAF aircraft as “20-foot ISO Containers certified by the Convention for Safe Containers (CSC)”. See Internal Air Transport Certification issued by ATTLA dated 29 June 2016 (file number 2008.09.15 Rev 6).

#### BOH FPU CONTAINER and CSC Data Plates

The BOH ISO data plates are affixed to the right-hand doors of each container, below the door handles. This plate identifies information required for transport aboard ship. The ABS data plate is located adjacent to the ISO data plate. This plate identifies special requirements information for use during transport aboard a ship.

| FPU® SHIPPING / STORAGE CONTAINER SYSTEM  |   |
|---|---|
| MANUFACTURER  | PATENT HOLDER / PRIME CONTRACTOR  |
| ADVANCED CONTAINMENT SYSTEMS INC.<br>8720 LAMBRIGHT<br>HOUSTON, TX. 77075<br>TEL. (713) 987-0336<br>FAX. (713) 987-0355 | BOH FPU SYSTEMS<br>BOH ENVIRONMENTAL, LLC<br>143 TERRA BELLA BLVD<br>COVINGTON, LA 70433<br>TEL. (888) 674-0725 |
| NSN   |   |
| MODEL NO.   |   |
| MANUF. P/N  |   |
| PATENT NO.  | BOHFPUSSYSTEMS.COM/PATENTS  |
| SERIAL NO.  |   |
| DATE MANUF.   |   |
| CONTRACT NO.  |   |
| DO NO.  |   |
| MAXIMUM GROSS WEIGHT  |   |
| GROUND  | KG LB   |
| AIR   | KG LB   |

(Sample) FPU Manufacturers Data Plate

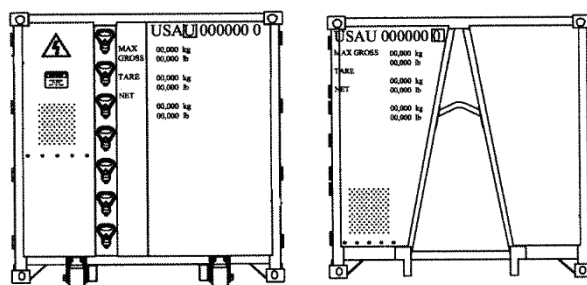
| APPROVED FOR TRANSPORT<br>UNDER CUSTOMS SEAL  |   |  |
|---|---|--|
| USA/AB-104/07-01  |   |  |
| TYPE<br>FPU-20-3  | MPQ. No. OF CONTAINER<br>AC002003-                          |  |
| MANUFACTURER<br>ADVANCED CONTAINMENT SYSTEMS INC.<br>8720 LAMBRIGHT<br>HOUSTON, TX. 77075<br>TEL. (713) 987-0336<br>FAX. (713) 987-0355 | APPROVED BY<br>AMERICAN BUREAU OF SHIPPING<br>AIR 104/07-01 | PATENT HOLDER<br>PRIME CONTRACTOR<br>BOH FPU SYSTEMS<br>BOH ENVIRONMENTAL, LLC<br>143 TERRA BELLA BLVD<br>COVINGTON, LA 70433<br>TEL. (888) 674-0725 |
| CSC SAFETY APPROVAL   |   |  |
| USA/AB-104/07-01  |   |  |
| DATE MANUFACTURED   |   |  |
| IDENTIFICATION No.  |   |  |
| MAXIMUM OPERATING GROSS MASS  |   |  |
| ALLOWABLE STACKING LOAD FOR 1.0g  |   |  |
| TRANSVERSE RACKING TEST FORCE   |   |  |
| 16,783 kg   | 37,000 lb   | INSPECTION<br>SHALL BE<br>BEFORE   |
| 102,000 kg  | 225,280 lb  |  |
| 151,000 newtons   |   |  |
|   |   |  |

(Sample) SPECIAL REQUIREMENTS  
PLATE CSC APPROVAL PLATE

The FPU-20-3 is approved for transport as an ISO container. This certification does not supersede military policies by MTMC in the shipment of serialized containers of matched sets.

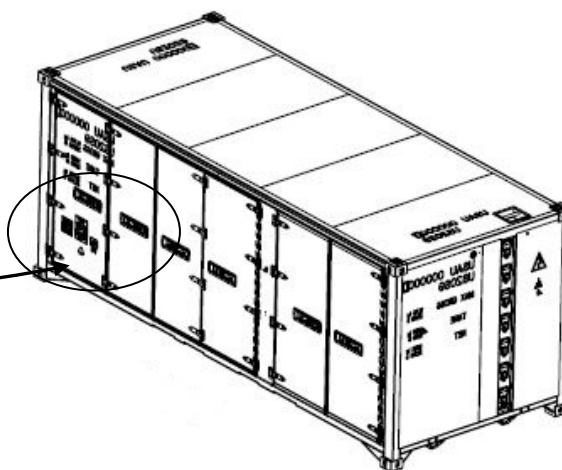
## Special Requirements CSC Approval and FPU Manufacturers Data Plates

FPU data plates identify the manufacturer's part number, serialization, contract and delivery order number and National Stock Number (NSN). They are located visibly at the exterior rear end of each container. Each container has a FPU data plate unique to itself.



## Location of Special Requirements CSC Approval and FPU Manufacturers Data Plates

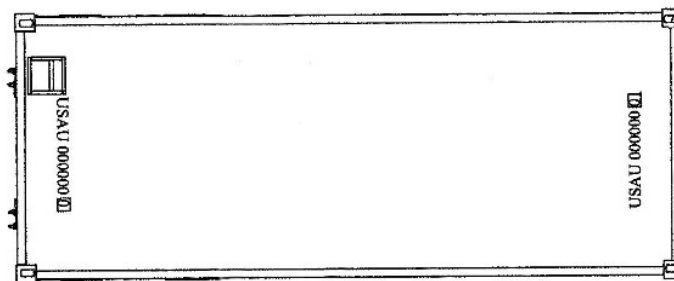
|   |  |   |
|---|--|---|
| <b>APPROVED FOR TRANSPORT</b><br>UNDER CUSTOMS SEAL<br>USAS-154/07-01<br>TYPE<br>FPL-003  |  | SERIAL NO. OF CONTAINER<br>(REQUIRED)   |
| MANUFACTURER<br>ADVANCED<br>CONTAINMENT<br>SYSTEMS INC.<br>8720 LAMARBLVD<br>HOUSTON, TX<br>77064<br>TEL: (713) 874-0000<br>FAX: (713) 874-0000                                     | APPROVED BY<br>ADVANCED<br>CONTAINMENT<br>SYSTEMS INC.<br>8720 LAMARBLVD<br>HOUSTON, TX<br>77064<br>TEL: (713) 874-0000<br>FAX: (713) 874-0000 | PRIME CONTRACTOR<br>BOH FPU SYSTEMS<br>801 ENVIRONMENTAL, LLC<br>140 TERN AVE<br>CORRECTION, LA 70035<br>TEL: (818) 474-0728<br>FAX: (818) 474-0728 |
| <b>CSC SAFETY APPROVAL</b><br>USAS-154/07-01<br>DATE OF INSPECTION<br>IDENTIFICATION NO.<br>MAXIMUM GROSS WEIGHT<br>ALLOWABLE GROSS WEIGHT FOR 1.5g<br>TRANSPORT FACTORS THAT FORCE |  |   |



## SIGNAGE ON THE ROOF

BOH FPU containers have a series of markings that provide information and identification for shipping containers when transported aboard ships.

TOP VIEW OF SIGNAGE FPU 20-3



**END OF WORK PACKAGE**

This page was intentionally left blank