
**FPU® SYSTEMS OPERATION MANUAL
(INCLUDING REPAIR PARTS & SPECIAL TOOL LIST)
STANDARD AND SPECIALIZED FPU MODULES
BOH FPU Field Pack-up Units**

STANDARD MODULES



FLAMMABLE/CORROSIVE
MODULE



HELO MODULE



WEAPONS MODULE



FPU BULK MODULE



BOH MODULE ADAPTER
(TRICON I/II)



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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



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 and TRICON 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 and their contents are heavy and could cause injury if they fall onto or strike personnel. A tilt hazard exists when the drawer is either not latched or frames have not been secured to the base plate. As a rule, always work on one drawer at a time. Never have more than one drawer extended in the full open position at a time, especially if loaded. Personnel should never stand on a drawer.

WARNING



Use extreme caution when lifting TRICON Adapters into a container. Never attempt to lift adapters while they have material on them. Two personnel are required to lift empty adapters into and out of the container. Make sure all latches are properly seated and locked secure. Failure to comply could cause serious injury. Failure to follow proper connection procedures may result in damage to the equipment and/or stored material.

WARNING



Always ensure the container floor and pallet adapters are free of debris, lubricants, oil, grease, and foreign objects. Failure to comply could cause injury, damage to the equipment and/or stored material.

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 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



Always inspect the working areas, insure that the front, rear and sides 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.

WARNING



The FPU module accessories can be heavy and awkward to handle by a single person. This is especially true of the larger components. Never attempt to lift large components module drawers while they have material on them. Seek assistance to lift large module drawers.

WARNING



The Flammable/Corrosive Module is designed to store and transport flammable materials. Never store incompatible hazardous materials in the same flammable/corrosive module. Failure to comply could cause injury, death or damage to the equipment. Consult DOD 4145.19-R-1 Storage and Handling Material Hazardous Commodities, prior to storage or transportation of materials



The Flammable/Corrosive Module and other modules may contain batteries and other gas emitting materials that require venting or special precautions. Consult DOD 4145.19-R-1 Storage and Handling Material Hazardous Commodities, prior to storage or transportation of materials.



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.

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 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 and CARGO Containers are CARC painted and can be decontaminated; however, whenever possible avoid contamination of the internal areas of the FPU Cargo 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.

GENERAL WARNINGS



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 - flammable shows that a material may ignite and cause burns.



VAPOR - human figure in a cloud shows that material vapors present a danger to life or health.



CHEMICAL - drops of liquid on hand shows that the material will cause burns or irritation to human skin or tissue.



EYE PROTECTION - person with goggles shows that the material will injure the eyes.



EXPLOSIVE GASSES PRECAUTIONS- Gasses from batteries and other material may be stored in the containers or modules. Special precautions should be taken.



HOT METAL SURFACES- Metal surfaces may become hot in extreme heat areas, prolonged contact may cause burning or blistering of the skin.

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BOH FPU Field Pack-up Units**

REPORTING ERRORS & 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. A reply will be furnished directly to you.

Approved for public release; distribution is unlimited.

TABLE OF CONTENTS

	<u>WP Sequence No.</u>
WARNING SUMMARY	a
HOW TO USE THIS MANUAL	iv
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	
Operation of FPU Standard Storage Modules	0005 00
Operation of FPU Specialized SHORT HELO Module	0006 00
Operation of FPU Specialized Weapons Module.....	0007 00
Operation of FPU Specialized Flammable/Corrosive Module	0008 00
Operation of FPU Specialized FPU BULK Module	0009 00
Operation of TRICON Container Adapter	0010 00
Operation under unusual conditions	0011 00
CHAPTER 3 - TROUBLESHOOTING PROCEDURES	
Introduction	0012 00
Troubleshooting Indexes.....	0013 00
Troubleshooting Procedures Table 1	0014 00
CHAPTER 4 – OPERATOR MAINTENANCE INSTRUCTIONS	
Introduction to Preventative Maintenance Checks and Services (PMCS).....	0015 00
PMCS Table	0016 00
Cleaning and Lubricating Tables	0017 00

CHAPTER 4 – OPERATOR MAINTENANCE INSTRUCTIONS

FPU Standard and Short HELO Storage Modules	0018 00
FPU Specialized Weapons Module	0019 00
FPU Specialized Flammable/Corrosive Module.....	0020 00
FPU Specialized FPU BULK Module	0021 00
TRICON Adapter	0022 00

CHAPTER 5 –UNIT MAINTENANCE INSTRUCTIONS

FPU Standard Storage Modules and Short HELO Module	0023 00
FPU Specialized Weapons Module	0024 00
FPU Specialized Flammable/Corrosive Module.....	0025 00
FPU Specialized FPU BULK Storage/Shipping Module.....	0026 00
FPU Specialized FPU BULK Module Shelf Reposition	0027 00
FPU Specialized FPU BULK Module Bearing replacement	0028 00
FPU Specialized FPU BULK Module Install 8" Bin Kit	0029 00
TRICON Container Adapter	0030 00

CHAPTER 6 –PARTS SUPPORTING INFORMATION

Introduction to Maintenance Allocation Chart (MAC)	0031 00
Maintenance Allocation Chart (MAC).....	0032 00
Introduction to Repair Parts	0033 00
Standard Module Repair Parts.....	0034 00
Short HELO Module Repair Parts.....	0035 00
Weapons Vault Module Repair Parts.....	0036 00
Flammable/Corrosive Module Repair Parts	0037 00
FPU BULK Module	0038 00
TRICON Container Adapter	0039 00

Group Table

- 00 FPU MODULE SYSTEM
- 01 Standard Modules Class 1 through 6
 - 0101 CLASS 1 Cabinets
 - 0102 CLASS 2 Cabinets
 - 0103 CLASS 3 Cabinets
 - 0104 CLASS 4 Cabinets
 - 0105 CLASS 5 Cabinets
 - 0106 CLASS 6 Cabinets
 - 0107 Drawers and Bearing Slides
 - 0108 Standard/Specialized Module Casters
- 02 Specialized Modules
 - 0201 Short HELO Module
 - 020101 Cage
 - 020102 Cabinet Drawers
 - 020103 Drawer Bearing Slides
 - 020104 Drawer Divider Sets
 - 0202 Weapons Vault Module
 - 020201 Drawer Bearing Slides
 - 020202 Door Assembly
 - 020203 Door Seals

Group Table Continued

020204	Drawer Rifle M16A2	
020205	Drawer Rifle M4/M16	
020206	Drawer Bulk	
020207	Drawer Pistol 9mm	
0203	Flammable/Corrosive Locker Module	
020301	Door Assemblies	
020302	Door Seals	
020303	Drawer Assemblies	
020304	Standard/Specialized Module Casters	
0204	FPU BULK Module #1 through #4	
020401	FPU BULK Shipping/Storage Module Chassis	
020402	Tray 1000 lb.	
020403	Tray Adapter Kit	
020404	Latch and Bearing Assemblies	
03	TRICON Container Adapter	
0301	TRICON Container Adapter Hardware	
0302	TRICON Module Kits #1 through #6	

NSN Index.....0040 00

Part Number Index0041 00

Standard/Specialized Module Casters Accessory

The casters are available for the standard and specialized modules. See chapter 2 pages WP 0005 00-18, 00-19 and WP 0008 00-9 and 00-10.

NOTE

The standard and specialized module casters are not designed to support the FPU Bulk Modules.

REAR MATTER

BOH Product Warranty
Metric Conversion Chart

HOW TO USE THIS MANUAL

This manual contains general information, operating instructions, Preventative Maintenance Checks and Services (PMCS), and maintenance/repair instructions for the FPU Standard and Specialized Modules available for the BOH Container system.

Front matter consists of front cover, warning summary, title block, table of contents, "how to use this manual" pages, and provides information on the FPU and its associated equipment. Chapter 1 provides equipment description and data as well as the theory of operation for both Container and Modules. 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 Preventative 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 that identifies parts unique to the operation and maintenance of the Modules.

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.

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BOH FPU Field Pack-up Units**

CHAPTER 1

**INTRODUCTORY INFORMATION
WITH
THEORY OF OPERATION**

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INTRODUCTORY INFORMATION WITH THEORY OF OPERATION
**FPU® SYSTEMS OPERATION MANUAL
 (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST)
 STANDARD AND SPECIALIZED FPU MODULES
 BOH FPU Field Pack-up Units**
GENERAL INFORMATION

SCOPE
Equipment Covered

This technical manual contains instructions for the operation, preventative maintenance, and recommended Unit/Direct Support corrective maintenance for the Boh FPU Module Systems and the associated equipment.

Type of Manual

This is an Operator, Unit and Direct Support, Operation and Maintenance Manual.

Equipment Name, Part Number and NSN
BOH Standard FPU Module Table

STANDARD SHIPPING/STORAGE MODULES	PART NUMBER	NSN
CLASS 1. PARTS MODULES	15700008	8145-01-523-4000
	15700009	8145-01-523-4003
	15700026	8145-01-501-0900
CLASS 2. PARTS MODULES	15700005	8145-01-523-4005
	15700007	8145-01-501-0865
	15700023	8145-01-523-4011
	15700024	8145-01-501-0892
	15700025	8145-01-501-0896
CLASS 3. PARTS MODULES	15700003	8145-01-523-4014
	15700014	8145-01-501-0869
	15700016	8145-01-523-4028
	15700019	8145-01-523-4022
CLASS 4. PARTS MODULES	15700018	8145-01-523-4025

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STANDARD SHIPPING/STORAGE MODULES	PART NUMBER	NSN
CLASS 5. PARTS MODULES	15700011	8145-01-522-0667
	15700013	8145-01-501-0866
	15700020	8145-01-523-4039
	15700022	8145-01-523-4040
CLASS 6. PARTS MODULES	15700017	8145-01-502-2491
	15700021	8145-01-502-2494
End of BOH Standard FPU Module Table		

SPECIALIZED SHIPPING/STORAGE MODULES Table

SPECIALIZED SHIPPING/STORAGE MODULES	PART NUMBER	NSN
HULL WEAPONS MODULE	15500003	8145-01-502-2593
M16A2 SHIPPING/STORAGE DRAWER	15500103	8145-01-502-2605
M16A2/M4 Drawer	15500104	8145-01-586-8128
9MM SHIPPING/STORAGE DRAWER	15500102	8145-01-502-2611
8-INCH SHIPPING/STORAGE DRAWER	15520860	8145-01-528-2853
FLAMMABLE/CORROSIVE MODULE	15500101	8145-01-473-1288
SHORT/HELO MODULE, STORAGE/SHIPPING	15700201	8145-01-502-0591
FPU BULK MODULES	15410201	8145-01-588-3689
	15410202	8145-01-588-3690
	15410203	8145-01-588-3691
	15410204	8145-01-588-3692
END OF SPECIALIZED SHIPPING/STORAGE MODULES Table		

SPECIALIZED SHIPPING/STORAGE MODULES Parts and Accessories Table		
ACCESSORIES FOR MODULES	PART NUMBER	NSN
4-INCH DIVIDER OPTION W/ LONGITUDINAL	15524001	8145-01-523-4068
4-INCH DIVIDER OPTION	15524002	8145-01-523-4592
6-INCH DIVIDER OPTION	15524003	8145-01-523-4591
6-INCH DIVIDER OPTION W/LONGITUDINAL	15524004	8145-01-523-4149
8-INCH DIVIDER OPTION	15524005	8145-01-523-4145
10-INCH DIVIDER OPTION	15524006	8145-01-523-4142
12-INCH DIVIDER OPTION	15524007	8145-01-523-4140
16-INCH DIVIDER OPTION	15524008	8145-01-523-4138
MODULE SLIP COVER	15522004	8145-01-523-4076
MODULE TRANSFER PLATE	15530118	8145-01-523-4073
SECURITY LOCKING BAR	15500021	8145-01-502-2630
PARTS STORAGE AIDS FOR BOH-CARGO-12-3	15310023	8145-01-524-0249
BULK STORAGE AIDS FOR BOH-CARGO-12-3	15310022	8145-01-524-0244
BULK TIE-DOWN RINGS	16509501	8145-01-513-6262
TRICON Container Adapter	15530128	8145-01-606-0505
Standard/Specialized Module Caster Set	15510000	8145-01-473-3024
End of SPECIALIZED SHIPPING/STORAGE MODULES Parts and Accessories Table		

FPU Types and Configurations

Description and Certifications

The FPU consists of modular containers with bin, pallet, security basket, and bulk storage configurations tailored to meet individual Supply/Maintenance/ Logistical Support needs. The system has the ability to operate in fixed facilities or field environments in either its uploaded or downloaded configuration. Containers are air-deployable and linkable into variable length sections. The FPU provides containerized Class I, II, III(P), IV, VII, VIII and IX storage with full strategic/tactical intermodal transportability for supply support activities. The FPU Modules come in two color variations: Forest Green and Desert Sand.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your FPU needs improvements in design and/or performance, let us know. Send us a description of the recommended change to dcresap@bohfpusystems.com.

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 (PMCS) in chapter 4 WP 0016 00, should be performed on the FPU and its components prior to any storage or shipment.

RECEIVING THE FPU INVENTORY

Unpacking and Inventory of FPU Components upon Initial Receipt

With the FPU containers downloaded, check the equipment against the packing list. Report any discrepancy to your supervisor.

END OF WORK PACKAGE

INTRODUCTORY INFORMATION WITH THEORY OF OPERATION**FPU SYSTEMS OPERATION MANUAL
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STANDARD AND SPECIALIZED FPU MODULES
BOH FPU Field Pack-up Units****THEORY OF OPERATION**

BOH FPU Modules

All BOH FPU Modules are designed to stand alone or to be loaded and secured within the FPU-8/12 or FPU-20 series containers.

BOH Environmental currently offers six classes (variations) of standard shipping/storage modules for the shipping/storage of small, intermediate and bulk parts. Modules 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 from 200 to 400 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 125 to 920. All modules are designed to be interchangeable; therefore they may be inserted into any of FPU-8 or FPU-20 series containers.

NOTE

The FPU Module system does not apply to the BOH-6 BULK CARGO container. For more information about our complete line of products, see our web site at www.bohfpusystems.com.

STANDARD MODULES

FPU Standard Storage Modules (6 Classes)

SPECIALIZED MODULES

FPU SHORT HELO Module

Weapons Vault Module with M16A2, M4, 9MM and 8-inch drawers

Flammable/Corrosive Module

FPU Bulk Module (4 configurations)

MODULE ACCESSORY

TRICON FLOOR ADAPTER

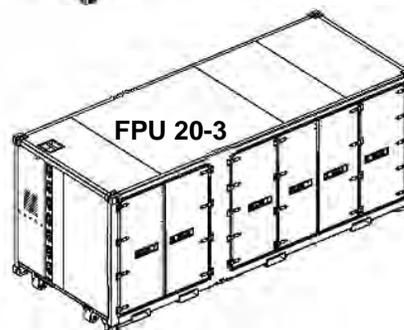
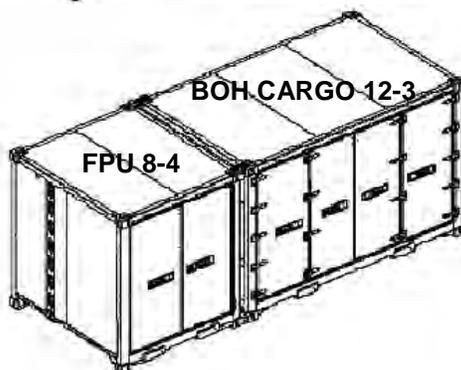
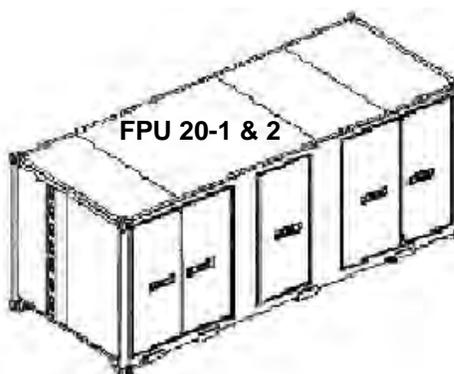
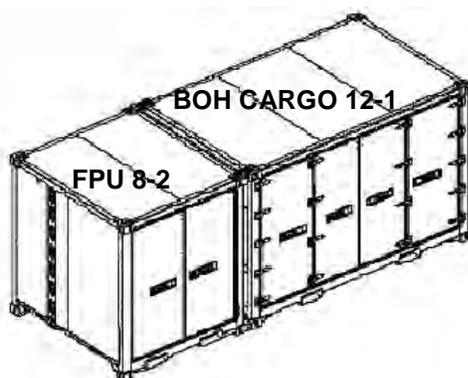
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INTRODUCTORY INFORMATION WITH THEORY OF OPERATION**FPU® SYSTEMS OPERATION MANUAL
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STANDARD AND SPECIALIZED FPU MODULES
BOH FPU Field Pack-up Units****EQUIPMENT CHARACTERISTICS, COMPONENTS AND ACCESSORIES**

BOH FPU CONTAINER CAPABILITIES AND FEATURES

Boh FPU Cargo Container Systems are a durable standardized storage and transport system capable of rapidly mobilizing material. These systems can be configured to store and transport small, medium, large, palletized and bulk material. The FPU-8-2/BOH-CARGO-12-1 (Combination), FPU-8-4/BOH-CARGO-12-3 (Combination), FPU-20-1 & FPU-20-2 and FPU-20-3 containers are side-load containers. These container systems are ISO Certified and CSC Safety Approved and can be stacked nine high onboard commercial or MSC container ships. FPU-8-2/BOH-CARGO-12-1 (Combination) has a maximum capacity of 36,000 lbs, the FPU-8-4/BOH-CARGO-12-3 has a maximum capacity of 37,000 lbs., the FPU-20-2 has a maximum capacity of 33,000 lbs., the FPU-20-1 has a maximum gross weight of 52,900 lbs. and the FPU-20-3 maximum gross weight is 37,000 lbs. The BOH FPU containers come in two color variations: Forest Green and Desert Sand. For more information about our BOH FPU containers, see our web site at www.bohfpusystems.com.



BOH FPU STORAGE MODULES

Standard Storage Modules

Boh Standard Storage Modules come in 19 configurations and are designed to accommodate small and medium material. Module drawers come in 4-inch with retention lid to secure small loose parts in individual compartments, 6-inch, 8-inch, 10-inch, 12-inch and 16-inch. The drawers have internal drawer dividers that are adjustable every 2-inches front to back and vary side to side depending on drawer size. The bulk drawers have nets that secure the loose material. These modules are extremely rugged and were designed for the dynamics realized during mobile application. Drawers have a maximum capacity of 200 lbs to 400 lbs depending on the drawer size. Modules are secured to the FPU container with a twist lock located inside the container and female receptacle located on the bottom of the module. Using a forklift and the forklift pockets located at the bottom of the module, they can be easily removed by pulling the locking arm outward to release the module from the twist lock. Modules consist of a removable locking bar to secure drawers during transport, individual drawer locks, a front vinyl dust cover to resist water and dust from penetrating the drawers when operating outside the FPU container. Boh Standard Storage Modules are approved for airlift with or without the FPU container. For more information about our standard storage modules, see our web site at www.bohfpusystems.com.

Specialized Storage Modules

Flammable / Corrosive Module: The Boh Flammable / Corrosive module is constructed to meet NFPA 30 and 29 CFR for the storage of hazardous material. These modules are extremely rugged and were designed for the dynamics realized during mobile application. They consist of dual wall construction with all steel exterior and spark resistant aluminum interior. Continuous welded drawers and floor area provide containment in the event of leaks. Drawer slides are designed using Ultra High Molecular Weight (UHMW) material to eliminate metal-to-metal contact and prevent sparks during transport. Door completely seals when in the closed position to protect stored material from the environment during transport. This module consists of a pressure relief valve to normalize internal pressure prior to opening. For more information about our Flammable / Corrosive modules, see our web site at www.bohfpusystems.com.

Weapons Vault Module: The Boh Weapons Vault module is constructed with a dual wall, all-steel exterior / interior and accommodates 5 weapons drawers or security drawers. There are currently four different weapons drawers. The M16A2 is designed to store M16 weapons. Each drawer can store up to 8 rifles or 40 weapons in a single module. The M16A2/M4 drawer is designed to store M16A2, M16A4 and M4 weapons. Each drawer can store up to 7 weapons per drawer or 35 weapons in a single module. The M4 drawer is adjustable to accommodate M16A2/A4, M4 short barrel or M4 long barrel. M16A2/A4 and M4 weapons can be stored in the drawers and module with the laser sight installed when attached at the top of the weapon. The 9MM drawer is designed to store 9MM weapons. Each drawer can store up to 56 weapons or 280 weapons in a single module. The 8-inch security drawer is designed to provide storage for sensitive or pilferable items that require additional security. These modules are extremely rugged and were designed for the dynamics realized during mobile application. For more information about our Weapons Vault modules, see our web site at www.bohfpusystems.com.

Short/HELO Module: The Short/HELO module consists of 4", 6" and 8" deep drawers for the shipment/storage of small and intermediate size material. The drawer compartments are adjustable in 2-inch increments from front to back and vary side to side depending on drawer size. Four-inch drawers are equipped with the older bi-fold lid or a new solid, slid in lid. The maximum drawer capacity is 200 lbs. The Short/HELO module is designed with a new style of removable top cage; the older cage is no longer provided. The cage has a fold down bi-fold door and adjustable shelves. All modules are designed to be inserted into any of the FPU-8 and FPU-20 series containers. For more information about the Short HELO module, see our web site at www.bohfpusystems.com.

The BOH FPU Bulk Storage Module: is designed for the storage of material. These modules are extremely rugged and were designed for the dynamics realized during mobile application. Shelf load capacities are 1,000 lbs. Shelves are retractable to allow access to material stored at the rear of the shelf. Shelves lock in the closed and open position. Each shelf consists of a cargo net to secure material during transport. For more information about the BOH Bulk Module, see our web site at www.bohfpusystems.com.

TRICON Container Adapter

The FPU TRICON Adapter is designed to modify TRICON Containers to allow the installation of FPU Modules. The installation of the FPU TRICON Adapter requires no drilling or welding through use of existing TRICON cargo tie-down rings/fixtures. For more information about the TRICON Adapter, see our web site at www.bohfpusystems.com.

NOTE

For more information about our complete line of products, see our web site at www.bohfpusystems.com.

END OF WORK PACKAGE

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INTRODUCTORY INFORMATION WITH THEORY OF OPERATION
**FPU® SYSTEMS OPERATION MANUAL
 (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST)
 STANDARD AND SPECIALIZED FPU MODULES
 BOH FPU Field Pack-up Units**
EQUIPMENT DATA LABELS, IDENTIFICATIONS, MARKINGS AND AIRLIFT CERTIFICATIONS

AIRLIFT CERTIFICATIONS
FPU-8 Container

Certified by U.S. Air Force for transport on C-130, C-5 and C-17 aircraft (18 July 2001)


DEPARTMENT OF THE AIR FORCE

 HEADQUARTERS AERO NAUTICAL SYSTEMS CENTER (AFMC)
 WRIGHT-PATTERSON AIR FORCE BASE, OHIO

 MEMORANDUM FOR Defense Industrial Supply Center
 Attn: Maureen Leiter
 700 Robbins Ave Bldg 3 Section A
 Philadelphia PA 19111

18 July 2001

 FROM: ASC/ENFC (ATTLA)
 2530 Loop Road West
 Wright Patterson AFB, OH 45433-7101

SUBJECT: Air Transport Certification of BOH Environmental Field Pack-up Units (FPU-8 Series)

1. The subject Field Pack-up Units, FPU-8-1 and FPU-8-2, are steel containers measuring 84" L x 96" W x 92" H. The container has recessed pocket doors along its length and has ISO corner fittings on all eight corners. Up to four specialized storage/shipping modules may be mounted inside each FPU.
2. The above subject FPU-8-1 and FPU-8-2 are herewith approved for air transport aboard USAF C-130, C-141, C-5, and C-17 aircraft with the following provisions.
 - a. Maximum container weight shall not exceed 18,000 lbs. The specialized modules should not exceed 2,000 lbs each. Payload within the container may be in the modules or attached to the tiedown rings on the container floor.
 - b. The container shall be carried on a standard 463L HCU-6/E cargo pallet. Shoring at least 3/4" thick shall be placed between the container bottom and the pallet upper surface to distribute the load on the pallet and avoid point loading contact by the corner fittings or any projecting edge members. Shoring area requirements will vary with container weight and type of transport aircraft. For the maximum weight container, the shoring area shall equal the area of the container bottom.
 - c. The container shall be restrained to 3 G fwd, 2 G up, and 1.5 G aft & lateral using chains through the corner fittings. If the container weight exceeds 13,000 lbs, the container will require additional restraint directly to the aircraft floor after it is loaded onto the aircraft. The shipper shall certify that the cargo within the container is capable of withstanding these forces in addition to a potential 4.5 G download. The shipper shall also certify that the cargo within the container can withstand a potential in-flight rapid decompression of up to 8.3 psi within 1/2 second without endangering the aircraft or personnel in the cargo compartment. The container doors may be open during flight.
 - d. Any hazardous materials must be prepared and certified for airlift in accordance with AFJMAN 24-204/TM 38-250. This memo is not to be considered an approval for shipping hazardous materials, which must be granted separately. The servicing aerial port can assist in this regard.
3. A copy of this certification should accompany the containers when processed for air shipment.
4. The point of contact (refer to file 2001.06.11) is the undersigned at DSN 785-2330 or 937-255-2330. Additional POCs are Mark Kuntavanish at 5-6039, or Caroline Buckley at 5-9647.

JAMES E. LEGER
 Aerial Delivery Group

 cc:
 HQ AMC/DIV
 USA MTMC/TEA

0004 00-1

FPU Flammable/Corrosive (HAZMAT) Module

Certified for air transport aboard C-130, C-5 and C-17 aircraft INSIDE of FPU 8 Series Container (11 October 2001)



DEPARTMENT OF THE AIR FORCE

HEADQUARTERS AERONAUTICAL SYSTEMS CENTER (AFMC)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

11 Oct 2001

MEMORANDUM FOR Defense Industrial Supply Center
Attn Maureen Leiter
700 Robbins Ave Bldg 3 Section A
Philadelphia PA 19111

FROM: ASC/ENFC (ATTLA)
2530 Loop Road West
Wright Patterson AFB, OH 45433-7101

SUBJECT: Air Transport Certification of BOH Environmental Flam Locker/Module for Field Pack-up Unit

1. References:
 - a. BOH Memo with Attachments, 10 Sep 2001, Request for approval of Hazmat Module FM1A
 - b. ASC/ENFC Memo, 12 July 2001, Airlift Certification of BOH FPU-8 Series containers.
2. The BOH Environmental LLC Flammable / Corrosive "Hazmat" Module Model FM1A (NSN 8145-01-473-1288) as contained in reference 1.a above is 74" high, 34 3/8" wide, and 42" deep. This item is herewith approved for air transport aboard USAF C-130, C-141, C-5, and C-17 aircraft with the following provisions.
 - a. Loaded weight shall not exceed 2000 lbs per module. Prior to loading, modules should be inspected to assure that internal structure and locking mechanisms are structurally sound and that restraining bars are inserted to secure the drawers. Individual modules shall only be transported inside the FPU containers and must be secured via the locking system therein.
 - b. Up to four modules may be mounted in each FPU-8 container. Air transport of the loaded FPU container shall comply with reference 1.b above.
 - c. Preparation and packaging of hazardous materials within the modules shall comply with AFJMAN 24-204/TM 38-250/NAVSUP PUB 505. Secondary static grounds should be used where required. This memo is not to be considered an approval for shipping hazardous materials, which must be granted separately. The servicing aerial port can assist in this regard.
3. A copy of this certification should accompany the modules when processed for air shipment.
4. The point of contact (refer to file 2001.09.17) is the undersigned at DSN 785-2330 or 937-255-2330. Additional POCs are Mark Kuntavanish at 6039, or Caroline Buckley at 9647.


JAMES E. LEGER
Aerial Delivery Group

cc:
HQ AMC/DOV
USA MTMC/TEA

0004 00-2

FPU Flammable/Corrosive (HAZMAT) Module

Certified for air transport aboard C-130, C-5 and C-17 aircraft OUTSIDE of FPU 8 Series Container (6 August 2002)



DEPARTMENT OF THE AIR FORCE

HEADQUARTERS AERONAUTICAL SYSTEMS CENTER (AFMC)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

FOR: Defense Industrial Supply Center
Attn: Maureen Leiter
700 Robbins Ave Bldg 3 Section A
Philadelphia PA 19111

6 Aug 02

FROM: ASC/ENFC (ATTLA)
2530 Loop Road West
Wright Patterson AFB, OH 45433-7101

SUBJECT: Air Transport Certification of BOH Environmental, LLC Flammable/Corrosive Module
NSN 8145-01-473-1288 shipped without Field Pack-up Unit outer container

1. References:
 - a. ASC/ENFC Memo, 18 Jul 2001, Airlift Certification of BOH FPU-8 Series Containers
 - b. ASC/ENFC Memo, 11 Oct 01, Air Transport Certification of BOH Environmental Flam Locker/Module for Field Pack-up Unit
2. The BOH Environmental, LLC Flammable/Corrosive Module without the Field Pack-Up Unit Outer Container, NSN 8145-01-473-1288, measures 74" high, 34 3/8" wide, and 42" deep. This item, as configured, is approved for air transport aboard USAF C-130, C-141, C-5, and C-17 aircraft with the following provisions.
 - a. Loaded weight shall not exceed 2000 pounds per module. Prior to loading, modules should be inspected to assure that internal structure and locking mechanisms are structurally sound and that restraining bars are inserted to secure the drawers.
 - b. The LLC Flammable/Corrosive Module shall be placed on a 463L pallet. A maximum of 4 modules shall be placed on one 463L pallet. Load spreading shoring shall be used, as needed, for proper roller-load weight distribution and to prevent exceeding the 250-psi pallet limit.
 - c. The LLC Flammable/Corrosive Module and any stowed items shall be restrained following standard procedures to meet the minimum restraint requirements of 3.0G fwd, 2.0G vertically, and 1.5G aft and laterally in addition to a potential 4.5G download force. A strap brace shall be used to secure the module and its contents on a 463L pallet.
 - d. The shipper shall certify that the cargo within the container can withstand a potential in-flight rapid decompression of up to 8.3 psi with 1/2 second without endangering the aircraft or personnel in the cargo compartment.
 - e. Preparation and packaging of hazardous materials within the modules shall comply with AFMAN 24-2041. Secondary static grounds should be used where required. This memo is not considered an approval for shipping hazardous materials, which must be granted separately. The servicing aerial port can assist you in this regard.
3. A copy of this certification shall accompany the item during air shipment.
4. The air transportability engineer for this project is the undersigned at DSN 785-9647 or (937) 255-9647. The email address is caroline.buckey@wpafb.af.mil. Please refer to project file 2001.09.17.

Caroline J. Buckey

cc:
LCDR Wm. Johnson MSC, USN
Plans and Operations,
Naval Environmental Health Center
AMC/DOV

CAROLINE J. BUCKEY
Aerial Delivery Group
Crew Systems Branch

0004 00-3

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 CARGO 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 ship.

FPU™ SHIPPING / STORAGE CONTAINER SYSTEM	
MANUFACTURER	PATENT HOLDER / PRIME CONTRACTOR
ADVANCED CONTAINMENT SYSTEMS INC. 8720 LAMBRIGHT HOUSTON, TX, 77075 TEL. (713) 987-0336 FAX. (713) 987-0356	BOH FPU SYSTEMS BOH ENVIRONMENTAL, LLC 143 TERRA BELLA BLVD COVINGTON, LA 70433 TEL. (885) 674-0725
NSN	8145-01-854-0930 8150-01-598-3223
MODEL NO.	ECASL CONFIG 1 FPU 20-3
MANUF. P/N	75000001-002 15002003-002
PATENT NO.	BOHFPUYSTEMS.COM/PATENTS
SERIAL NO.	
DATE MANUF.	
CONTRACT NO.	
DO NO.	
MAXIMUM GROSS WEIGHT	
GROUND	16,783 KG 37,000 LB
AIR	16,783 KG 37,000 LB

(Sample) FPU Manufacturers Data Plate

APPROVED FOR TRANSPORT UNDER CUSTOMS SEAL		
USA/AB-104/07-01		
TYPE	MFG. No. OF CONTAINER	
FPU-20-3	AC002003-	
MANUFACTURER	APPROVED BY	PATENT HOLDER / PRIME CONTRACTOR
ADVANCED CONTAINMENT SYSTEMS INC. 8720 LAMBRIGHT HOUSTON, TX, 77075 TEL. (713) 987-0336 FAX. (713) 987-0356	AMERICAN BUREAU OF SHIPPING ABR 1041 07-01	BOH FPU SYSTEMS BOH ENVIRONMENTAL, LLC 143 TERRA BELLA BLVD COVINGTON, LA 70433 TEL. (885) 674-0725
CSC SAFETY APPROVAL		
USA/AB-104/07-01		
DATE MANUFACTURED		INSPECTION SHALL BE BEFORE
IDENTIFICATION No.		
MAXIMUM OPERATING GROSS MASS	16,783 kg 37,000 lb	
ALLOWABLE STACKING LOAD FOR LIFT	112,000 lb 48,280 kg	
TRANSVERSE RACKING TEST FORCE	151,000 newtons	

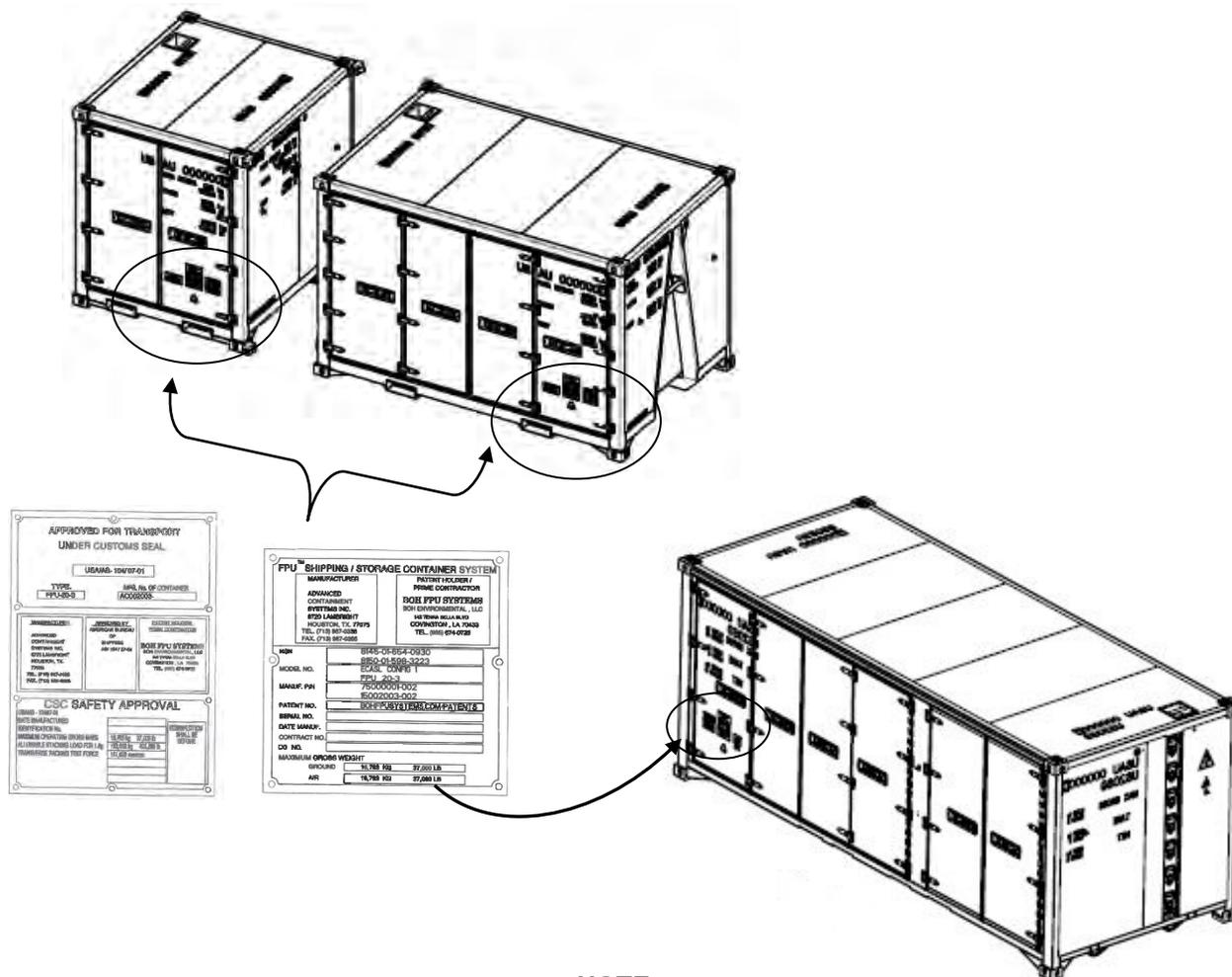
(Sample) SPECIAL REQUIREMENTS
PLATE CSC APPROVAL PLATE

The BOH FPU-8-2/BOH-CARGO-12-1, BOH FPU-8-4/BOH-CARGO-12-3, FPU-20-1, FPU-20-3 & FPU-20-2 container systems are approved for transport as 20-foot ISO (Type 1C) containers. Also the BOH FPU-8-2 and the BOH-CARGO-12-1 are approved independently when they are disconnected from each other. The BOH FPU-8-2/BOH-CARGO-12-1 containers must be connected to transport by commercial and MSC container ships. For their approval to be valid, the following requirements must be met:

1. Certified/tagged FPUs must be matched only. See the CSC Approval Plate on a certified FPU USA/174-AB/03-01 series container.
2. Individual FPUs must have a current CSC certification (shown on the CSC Approval Plate).

These certifications do not supersede military policies by MTMC in the shipment of serialized containers of matched sets.

Location of Special Requirements CSC Approval and FPU Manufacturers Data Plates for FPU CARGO Containers



NOTE

For the locations of the module data tag, see each Module Work Package in Chapter 2.

END OF WORK PACKAGE

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