

---

**FPU® SYSTEMS OPERATION MANUAL  
BOH PORTABLE DRAWER MODULE (PDM)  
FOR 4 MODELS OF PDM MODULES  
BOH FPU Field Pack/up Units  
(INCLUDING REPAIR PARTS & SPECIAL TOOL LIST)**

---



**BOH PORTABLE DRAWER MODULE (PDM)  
BOH FPU® Systems  
BOH ENVIRONMENTAL LLC  
14520 Avion Parkway, Suite 220  
Chantilly, VA 20151  
POC Jim Stokes (703) 449-6020  
<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 system to swing if using an overhead lift. Always ensure an appropriate sling and lifting points are used in the lifting a Module. Always use properly sized forklift, crane, or lifting device. Failure to comply could cause injury or damage to the equipment.



### WARNING

Use caution when moving BOH PDM Portable Drawer Module units into a transport vehicle or system. Make sure all PDM Portable Drawer Module connectors latches and straps are properly seated and locked, secure with ratchet straps before movement of the PDM Portable Drawer Module. Failure to comply could cause serious injury. Failure to follow proper connection procedures may result in damage to the equipment.



Standard forklift principles apply when working on the PDM Portable Drawer Module. When working with ground guides during the loading or unloading of a module, never move the PDM Portable Drawer Module into the FPU container while the ground guide is between the fork, PDM Portable Drawer Module, and the FPU container. Serious injury could occur if the ground guide is pinned between the forklift and the FPU container. Forklift operators must maintain visual contact with their ground guides at all time.



Always follow standard forklift procedures. A tilt hazard exists when forklift operators try to lift a partially loaded container from the wrong side. Always lift with the forklift tines in the fork pockets provided in the base. A tilt situation exists when the heaviest part of the load is out on the tips of the tines, on uneven ground 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



The PDM Portable Drawer Module and PDM 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 with the ratchet straps. 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 stacking drawer units into a combination system. Never attempt to lift drawers while they are in their frames. Always separate the drawers from the frames when stacking the system. Two personnel are required lifting empty drawers into and out of the frames. Four personnel are required when lifting drawers that contain stored material into and out of the drawer frames. 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 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

When using a crane to lift the PDM insure the proper sling and sling point are used. Do not allow the system to swing if using an overhead lift. Always use properly sized forklift, crane, or lifting device. Failure to comply could cause injury, death or damage to the equipment death or injury.

### WARNING



The module drawers, shelves and their contents are heavy and could cause injury if they fall onto or strike personnel. A tilt hazard exists when the module drawer is extended, but not locked down by the ratchet straps. 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 with material. Personnel should never stand on a drawer.

### 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 clean and the work area around the module is important to prevent spillage and slippery surfaces.

### WARNING



The module drawers and shelves can be heavy and awkward to handle by a single person. This is especially true of the larger components. The movement of these items is a two-person operation for empty drawers and four personnel for drawers with stored material. Assistance is required from one or more personnel to separate and remove drawers from the frame of each assembly. DO NOT remove or lift drawers with their frame, injury to personnel will occur. A forklift and MHE support is required to load and unload the PDM Portable Drawer Module into and out of the BOH FPU Cargo system and other transport vehicles.

### 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.

## 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.



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

THIS PAGE WAS INTENTIONALLY LEFT BLANK

**BOH PDM PORTABLE DRAWER MODULE OPERATION MANUAL  
(INCLUDING REPAIR PARTS & SPECIAL TOOL LIST)  
FOR 9 MODELS OF PDM PORTABLE DRAWER MODULE MODULES**

**DISTRBUTION STATEMENT**

---

DISTRIBUTION STATEMENT A - Approved for public release; distribution is unlimited.

PDM PORTABLE DRAWER MODULE SYSTEMS OPERATION MANUAL is updated as follows:

1. File this sheet in front of the manual for reference.
2. This change is a result of ...
3. New or updated text is indicated by a vertical bar in the outer margin of the page.
4. Added illustrations are indicated by a vertical bar adjacent to the figure number. Changed illustrations are indicated by a miniature pointing hand adjacent to the updated area and a vertical bar adjacent to the figure number.
5. Remove old pages and insert new pages as indicated below.

Remove Pages

Insert Pages

6. Replace the following work packages with their revised version.

Work Package Number

7. Add the following new work packages.

Work Package Number

Revised WP 0007 00 and 0008 00

**INSERT LATEST CHANGED PAGES / WORK PACKAGES. DESTROY SUPERSEDED DATA.**

**LIST OF EFFECTIVE PAGES / WORK PACKAGES**

**NOTE**

The portion of text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by miniature pointing hands. Changes to wiring diagrams are indicated by shaded areas.

Dates of issue for original and changed pages / work packages are:

Initial Manual	Date Dec 10, 2010
Revision 1	Date Jan 11, 2011
Revision 2	Date Mar 16, 2011

**TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 131 AND TOTAL NUMBER OF WORK PACKAGES IS 29 CONSISTING OF THE FOLLOWING:**

Page / WP * No.	Revision No. 2	Page / WP No.	Page / WP No.	Page / WP No.	*Change No.2
Cover .....	1				New Cover
a-c.....	0				
d-e .....	0				
A .....	0				
B .....	0				
i-iii .....	0				
WP 0001 00 - 0029 00 .....	3	WP 0001 00-1	WP 0027 00-2	WP 0028 00-1	WP 0007 and WP 0008
Authentication Page.....	0				

\*Zero in this column indicates an original page or work package.

Revision 1, added newly assigned NSNs to Chapter 1 Page 0001 00-1  
Chapter 6 Pages 0027 00-2 through 00-10 and NSN Table Page 0028 00-1  
Revision 2 New Cover, Chapter 1 Container Data Tag Locations, Chapter 2 revised WP 0007 and 0008

# BOH PDM PORTABLE DRAWER MODULE OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) FOR 4 MODELS OF PDM PORTABLE DRAWER MODULE MODULES

## 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: [jestokes@bohenviromental.com](mailto:jestokes@bohenviromental.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
LIST OF EFFECTIVE PAGES .....	A,B
HOW TO USE THIS MANUAL .....	iii
<b>CHAPTER 1 – INTRODUCTORY INFORMATION WITH THEORY OF OPERATION</b>	
General Information .....	0001 00
Equipment Characteristics, Components and Features .....	0002 00
Equipment Data Labels, Identifications, Markings, and Airlift Certification .....	0003 00
<hr style="border-top: 1px dashed black;"/>	
<b>CHAPTER 2 – OPERATOR INSTRUCTIONS</b>	
Preparation for Movement .....	0004 00
Stacking Procedure .....	0005 00
Transporting PDM Modules .....	0006 00
Operation of PDM Drawers.....	0007 00
Module Operation under Unusual Conditions .....	0008 00
<hr style="border-top: 1px dashed black;"/>	
<b>CHAPTER 3 - TROUBLESHOOTING PROCEDURES</b>	
Introduction.....	0009 00
Troubleshooting Indexes .....	0010 00
Troubleshooting Procedures.....	0011 00
<hr style="border-top: 1px dashed black;"/>	
<b>CHAPTER 4 – OPERATOR MAINTENANCE INSTRUCTIONS</b>	
Service upon Receipt .....	0012 00
Introduction to Preventative Maintenance Checks and Services (PMCS) .....	0013 00
PMCS Table .....	0014 00
Cleaning and Lubricating .....	0015 00
Inspection of Ratchet Straps.....	0016 00
Inspection of Latches and Handles .....	0017 00
Inspection of Drawers, Cylinders, Seals and Dividers.....	0018 00
<hr style="border-top: 1px dashed black;"/>	

CHAPTER 5 – UNIT MAINTENANCE INSTRUCTIONS

Rivet Replacement .....	0019 00
Drawer Assembly .....	0020 00
Drawer Lid Seals and Cylinder .....	0021 00
PDM Tray and Case Assembly.....	0022 00
PDM Tray and Case Assembly Guide Pads .....	0023 00

---

---

CHAPTER 6 – SUPPORTING INFORMATION

Introduction to Maintenance Allocation Chart (MAC) .....	0024 00
Maintenance Allocation Chart (MAC).....	0025 00
Introduction to Repair Parts & Special Tools List .....	0026 00
PDM Portable Drawer Module Repair Parts List.....	0027 00

Group Numbers

- 00 PDM MODULE SYSTEM
- 01 PDM Portable Drawer Module Configurations
  - 0101 PDM Module #01 Thru # 04
  - 0102 Module Assemblies
  - 0103 Drawers assemblies
  - 0104 PDM Tray
  - 0105 PDM Case assemblies
  - 0106 Drawer Guide assembly

NSN Index .....	0028 00
Part Number Index .....	0029 00

---

---

## REAR MATTER

BOH product Warranty  
Metric Conversion Chart

## HOW TO USE THIS MANUAL

This manual contains general information, operating instructions, Preventive Maintenance Checks and Services (PMCS), and maintenance/repair instructions for the PDM Portable Drawer Module Units and Glide Out units.

Front matter consists of front cover, warning summary, title block, table of contents, "how to use this manual" pages, and provides information on the PDM Portable Drawer Module Units and Glide Out units 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 maintenance repair instructions. Chapter 6 contains the Maintenance Allocation Chart (MAC); it also includes the Repair Parts & Special Tools List (RPSTL) that identifies parts or tools unique to the operation and maintenance of the .

### Manual Organization and Page Numbering

This manual is divided into seven 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 "XXX YY-ZZ", where "XXX 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. A page number such as a "Blank" means that the page of that work package has been 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