

**FPU® SYSTEMS OPERATION MANUAL
(INCLUDING REPAIR PARTS & SPECIAL TOOL LIST)
Light Expeditionary Module (LEM)
BOH FPU Field Pack-up Units**

CHAPTER 5

UNIT MAINTENANCE INSTRUCTIONS

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UNIT MAINTENANCE INSTRUCTIONS

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) LIGHT EXPEDITIONARY MODULE (LEM) BOH FPU Field Pack-up Units

RIVET REPLACEMENT

INITIAL SETUP:

Materiel/Parts

Rivet Replacement Kit

Personnel Required

One

Tools

Rags, 1/2 hp. Electric Drill, Pop Rivet Tool, 3/16" drill bit and Needle Nose Pliers

References

None

Equipment Condition

Rivet Replacement

INSPECT AND REPAIR

Remove and Replace Rivets

CAUTION

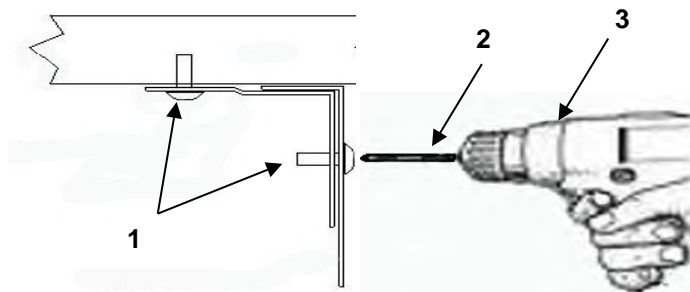
When removing a rivet (1), always ensure that the drill bit (2) will not contact or damage other parts behind the rivet (1).

1. For any rivet replacement, ensure there is nothing behind the area of the rivet (1) to be replaced that might be impacted by the drill bit (2).
2. For example, for a drawer handle replacement, remove the entire contents of the drawer.
3. Remove the drawer from the tray assembly.
4. Place the drawer on a stable work surface.
5. To remove a rivet, wipe the rivet surfaces clean, use a 1/2 hp. electric drill (3) with a 3/16" drill bit (2), and drill through the center core of the rivet (1).

WARNING

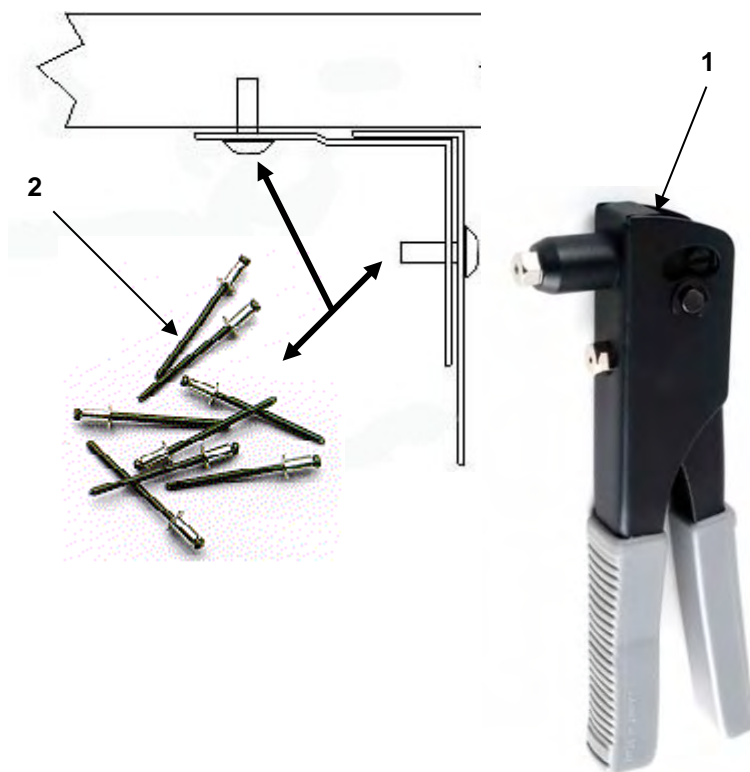


Use proper eye protection when operating a drill.



6. Remove the remainder of any rivet debris with needle nose pliers and wipe the hole clean with a rag.

7. Insure the holes are properly aligned.
8. Insert a new rivet (2), 1/8" or 3/16" DIA, through the holes of both items to be secured and into the pop rivet tool (1).
9. Use the pop rivet tool (1) to secure the rivet (2) and item in place.
10. Check for proper alignment and tight attachment of the item.



END OF WORK PACKAGE

UNIT MAINTENANCE INSTRUCTIONS

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) LIGHT EXPEDITIONARY MODULE (LEM) BOH FPU Field Pack-up Units

REPAIR CAGE

INITIAL SETUP:

Materiel/Parts

Slam Latch Kit, Hinge Kit, 3G bar Spacer Kit

Personnel Required

One

Tools

Phillips Screwdriver # 1 and #2, 7/16 Wrench, Rivet Tools

References

Chapter 2 WP 0008 00-2

Equipment Condition

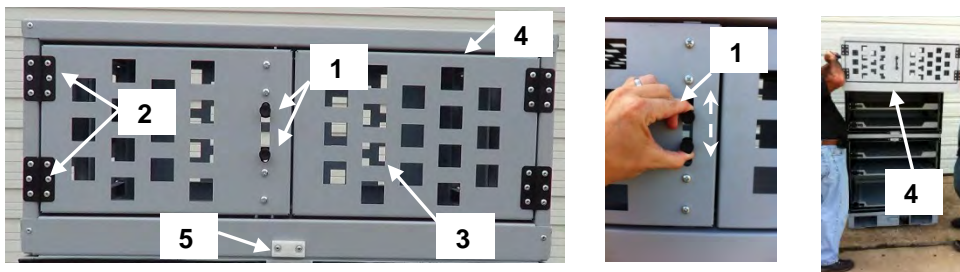
BOH LEM Tray Repair

INSPECT, REPAIR

WARNING



Slam latches (1) and hinges (2) that do not operate properly and may not secure the cage doors (3) must be replaced immediately. Failure to replace could cause damage to the equipment or injury to personnel.



Slam Latches

1. Remove the cage (4) from the LEM module, follow steps 1 and 2 and WARNING in chapter 2 page 0008 00-2. Place the cage on a flat, stable work surface.
2. Actuate both the slam latches (1); test the spring action to ensure they return and retain the doors (3). Replace if damaged or defective.
3. To remove and replace the slam latches (1), use the #2 Phillips screwdriver and 7/16" open end wrench; remove the mounting hardware and slam latches (1).
4. Lubricate slam latches (1); test the spring action to ensure they return and retain the doors (3).

Hinges and 3G Bar Spacer

1. To Remove and replace damaged or worn door hinges (2) and 3G Bar Spacer (5), review pages 0023 00-1 and 00-2.

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UNIT MAINTENANCE INSTRUCTIONS

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) LIGHT EXPEDITIONARY MODULE (LEM) BOH FPU Field Pack-up Units

LEM SLAM LATCHES, TRAYS AND SLIDES

INITIAL SETUP:

Materiel/Parts

Slam Latch Kit, Tray Slide Kit

Personnel Required

One

Tools

Phillips Screwdriver # 1 and #2, Rivet Tools

References

Chapter 2 WP 0008 00 & WP 0009 00

Equipment Condition

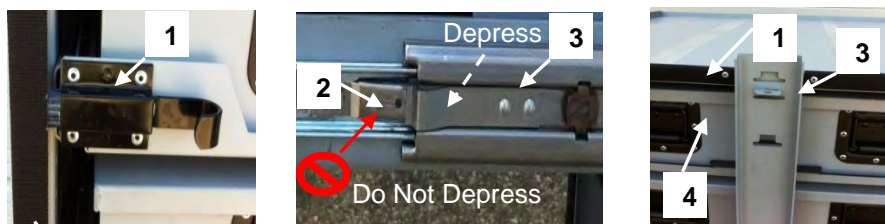
BOH LEM Tray Repair

INSPECT, REPAIR

WARNING



Slam latches (1) and slide detents (2) and release lever (3) that do not operate properly and may not secure the drawers (4) must be replaced immediately. Failure to replace could cause damage to the equipment or injury to personnel. Do not depress the detent (2) to release the tray; always use the release lever (3) to prevent a pinched finger.



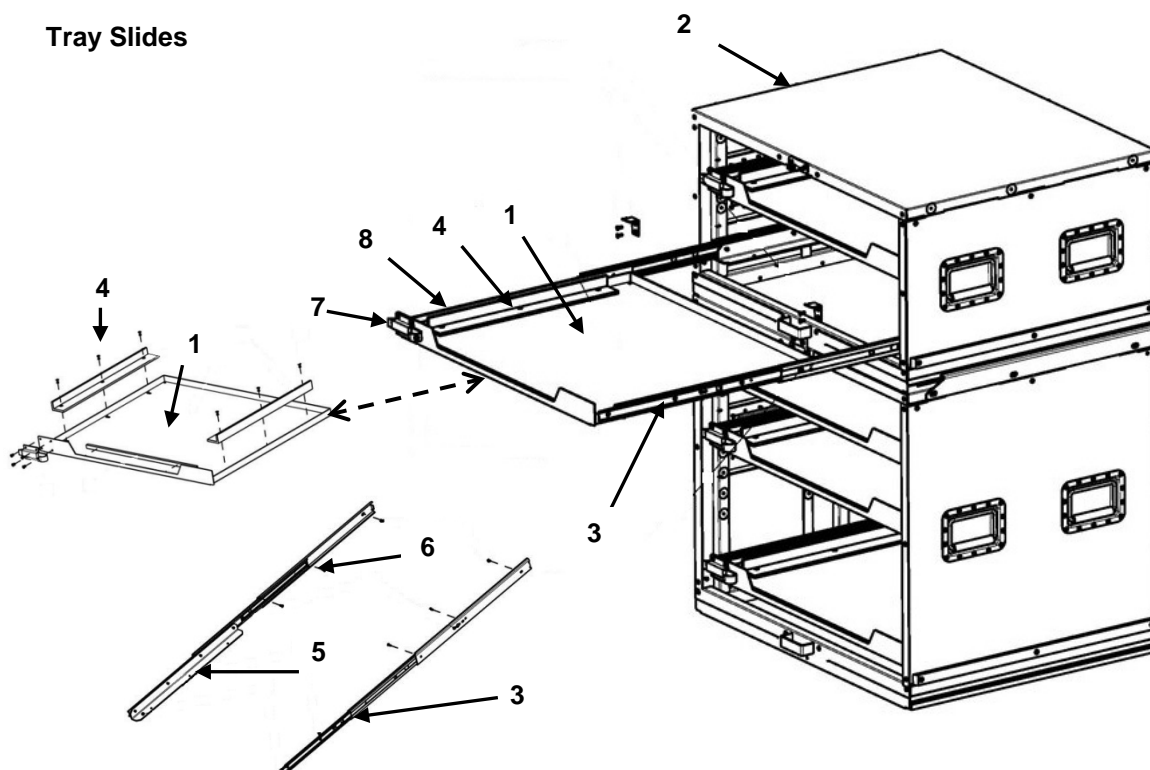
Slam Latches

1. Remove both 18" and 30" 3G bars (2).
2. Remove both dust covers (1).
3. Actuate all the slam latches (3) and slide detents (4); test the spring action to ensure they return and retain the drawers (5).
4. To replace damaged slam latch (3), remove the drawer (5), review rivet repair page 0023 00-1 and 00-2.

CAUTION

When drilling rivets, ensure the drill bit does not come in contact with internal parts of the hull or drawers (5).

5. Lubricate slam latches (3) and release levers (3); test the spring action to ensure they return and retain the drawers.

INSPECT, REPAIR**Tray Slides**

1. Extend the drawer tray (1) from the hull (2) to the full extension of the drawer slide (3).
2. Drill out the six (3/16x3/8 SB66) rivets (4), which hold the drawer tray to the slide angles (5). Set the tray (1) and two drawer spacer angles (8) aside.
3. While leaving each drawer slide (3) fully extended, use a Philips screwdriver to remove the three screws (6), which hold the outer slide member to the inside of the cabinet hull.
4. Using the correct side of the slide kit (RH or LH), use the supplied screws to reinstall each slide assembly into the same holes. Do not reuse the original screws.
5. Place the tray (1) onto the extended drawer slide ledge angles (5) which were just installed, and align the holes on the bottom of the tray (1) and the drawer spacer angles (8) to holes on the slide ledge angles (5).
6. Reattach the tray (1) and drawer spacer angles (8) using a rivet gun to secure six (3/16x3/8 SB66) rivets (4).
7. Return the tray to the closed position until the slam latch (7) is engaged.

WARNING

Slam latches (7) and slide (3) detents that do not operate properly and may not secure the drawer trays (1) must be replaced immediately. Failure to replace could cause damage to the equipment or injury to personnel.

END OF WORK PACKAGE

UNIT MAINTENANCE INSTRUCTIONS

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) LIGHT EXPEDITIONARY MODULE (LEM) BOH FPU Field Pack-up Units

LEM DRAWER ASSEMBLY

INITIAL SETUP:

Materiel/Parts

Drawer Seal Kit, Drawer Handle Kit, Divider Set

Personnel Required

One

Tools

Putty Knife, Wire Brush and Rags

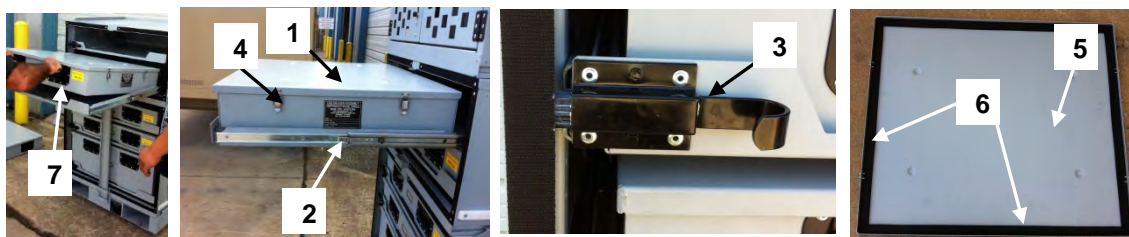
References

Chapter 4 0020 00-1

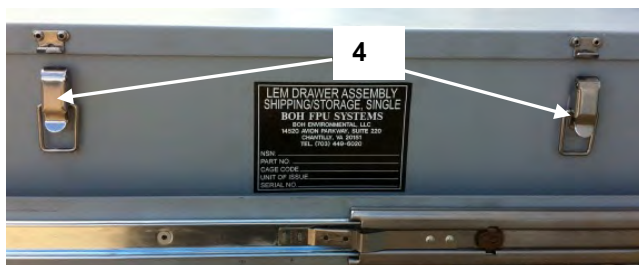
Equipment Condition

BOH LEM Drawer Repairs

INSPECT, REPAIR

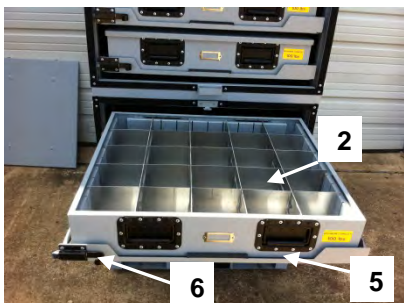


1. Release the slam latch (3) and pull the drawer (1) out until the detent (2) is engaged.
2. Release the lid latches (4) on each side and remove the lid (5).
3. Inspect the lid (5) for damage or distortion, replace as needed.
4. Inspect the lid seal (6) for damage or distortion.
5. Remove the seal (6) with the putty knife and replace the seal (6) if damaged.

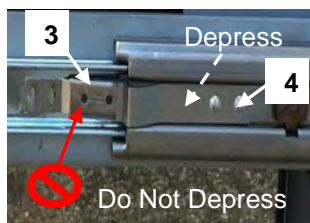


INSPECT, REPAIR

6. Inspect the front and rear handles (1), replace if damaged.
7. Remove the handle rivets; refer to rivet replacement, page 0023 00-1 and 00-2.
8. Replace the handle (1) from the handle kit.
9. Inspect and replace the drawer dividers (2) if damaged.



10. Release the detent (3) with the detent lever (4) and push the drawer (5) in until the slam latch (6) is engaged.

**WARNING**

Do not depress the detent (3) to release the tray; always use the release lever (4) to prevent a pinched finger. Assistance is required when lifting any LEM drawers (5). Failure to comply will cause injury and damage to equipment.

END OF WORK PACKAGE

UNIT MAINTENANCE INSTRUCTIONS

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) LIGHT EXPEDITIONARY MODULE (LEM) BOH FPU Field Pack-up Units

LEM 18" and 30" CABINETS/HULL ASSEMBLY

INITIAL SETUP:

Materiel/Parts

Bezel Replacement Kit and Slide Tape Kit

Personnel Required

Two

Tools

Phillips Screwdriver #2 and rags and Lubricant

References

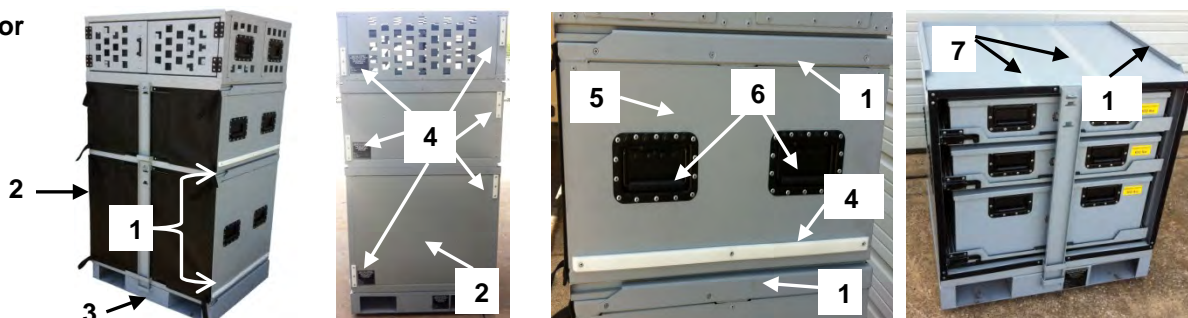
Chapter 2 WP 0008 00 & WP 0009 00

Equipment Condition

BOH LEM Hull Repair

INSPECT, REPAIR

Exterior



1. Inspect the bezels (1) on the 30" cabinet (2) and cabinet base (3) for damage.
2. If required, remove and replace the damaged bezel assembly (1) with the #2 Philips screw driver.
3. Inspect the bumper strips (4) on the sides and rear of the 30" cabinet (2) and 18" cabinet (5); review rivet repair page 0019 00-1 and 00-2.

CAUTION

When drilling rivets, ensure the drill bit does not come in contact with internal parts of the hull or drawers.

4. Inspect all handles (6) for smooth operation and damage, lubricate if needed.
5. Inspect for missing or damaged slide tapes (7) on the top of the 30" cabinet (2) and cabinet base (3); replace if needed. Apply adhesive Turbo Fuse series 130PR and reattach.

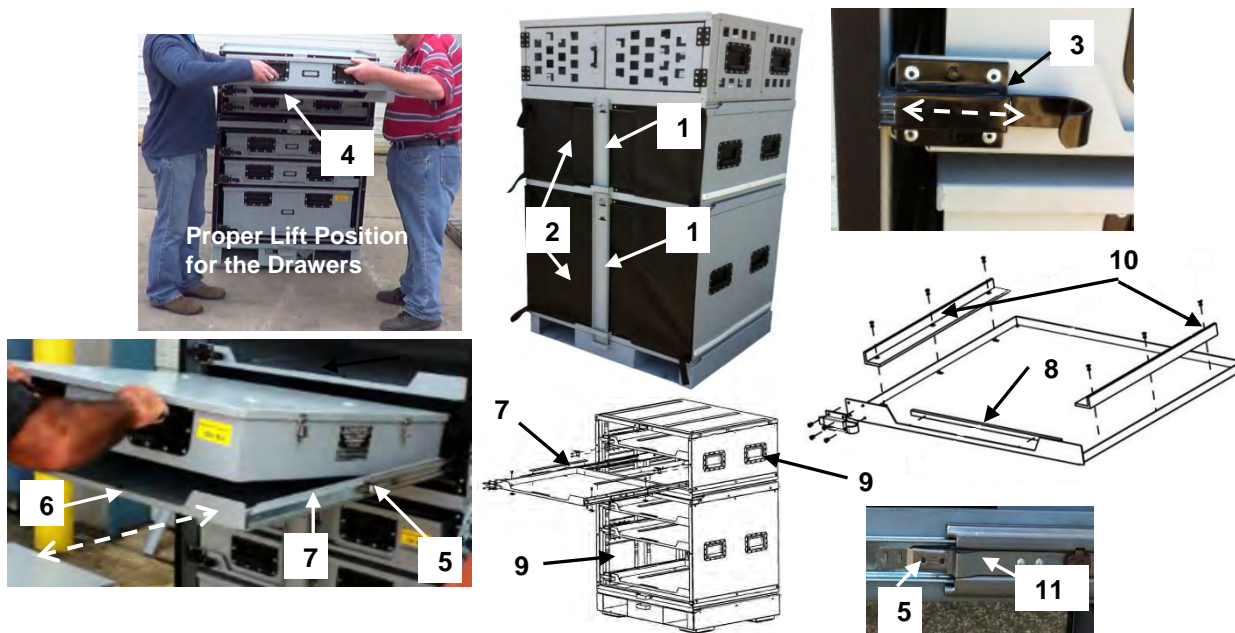
WARNING



Cabinet bezels (1) that do not operate properly may not secure and retain the 18" (5) and 30" cabinet (2) and cage. They must be replaced immediately. Failure to replace could cause damage to the equipment or injury to personnel.

BOH-PM-12-5
Chapter 5 Rev. 0.03

18" and 30" Hull Assemblies



1. Remove and inspect the 3G bars (1) and dust covers (2), replace if damaged.
2. Release the slam latch (3) and pull out the drawer (4) until the detent (5) is engaged.
3. With assistance, remove each drawer (4) and stack the drawers (4) out of the traffic area.
4. Inspect each drawer tray (6) for dirt or damage.
5. Check the tray slides (7) for smooth movement, lubricate as needed.
6. Inspect the drawer spacer angles (10) for dirt or damage; wipe clean with a damp rag.
7. Inspect the slide detents (5) and release lever (11); test the spring action to ensure they retain the drawers.
8. Inspect the tray front edge protector (8), replace if missing or damaged. Apply adhesive Turbo Fuse series 130PR and reattach.
9. Inspect the hull (9) for dents or damage. With assistance, remove the hull (9) and schedule repair of any damage to the hull (9) with maintenance.
10. With assistance, install and close each drawer (4), ensure each slam latch (3) is engaged.
11. Install the dust covers (2) and 3G bars (1).

WARNING



Assistance is required when lifting any LEM component. Failure to comply will cause injury and damage to equipment. Slam latches (3), 3G bars (1) and tray slide detents (5) and release levers (11) that do not operate properly may not secure the drawers and hulls. They must be replaced immediately. Do not depress the detent (2) to release it; always use the release lever (11) to prevent a pinched finger. Always follow DOD safe lifting procedures. Avoid lifting with your back, bend your knees slightly and lift in tandem with a partner's assistance. Failure of these items could cause damage to the equipment or injury to personnel.

END OF WORK PACKAGE

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Chapter 5 Rev. 0.03

UNIT MAINTENANCE INSTRUCTIONS

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) LIGHT EXPEDITIONARY MODULE (LEM) BOH FPU Field Pack-up Units

LEM CABINET BASE AND TWIST LOCK

INITIAL SETUP:

Materiel/Parts

Foot Pads kit, Twist Lock Assembly, Pin and Lanyard Kit

Personnel Required

Two

Tools

Rivet Repair Kit, 7/16" Open End Wrench, Wire Cutter

References

Chapter 2 WP 0009 00-1 and 00-2

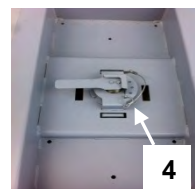
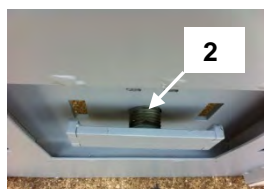
Equipment Condition

BOH LEM Cabinet Base Repairs

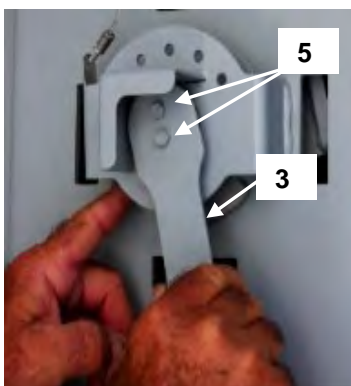
INSPECT, REPAIR

NOTE

During installation, removal or repair of the LEM cabinet base (1), ensure the twist lock threads (2) have sufficient lubrication applied.

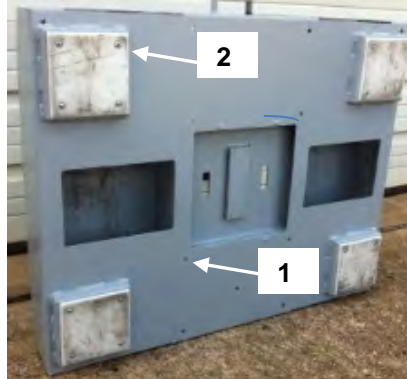


1. Inspect the handle securing pin and lanyard (4), replace if missing or damaged.
2. Inspect the cabinet base (1) for dents, weld cracks or damage, repair any cracked welds.
3. Inspect the twist lock handle (3) for damage.
4. Remove and replace a damaged handle (3) by removing the two hex head screws (5) with a 7/16" wrench.



Foot Pads

1. With an assistant, tip the cabinet base (1) on edge for inspection of the pads (2) only.
2. Place the cabinet base on a firm surface with the bottom up to safely replace the pads.
3. Remove the foot pad rivets; refer to rivet replacement, page 0023 00-1 and 00-2.
4. Replace the foot pads (2) and rivets from the kit.



NOTE

It is recommended that all four pads be replaced to maintain a level LEM.

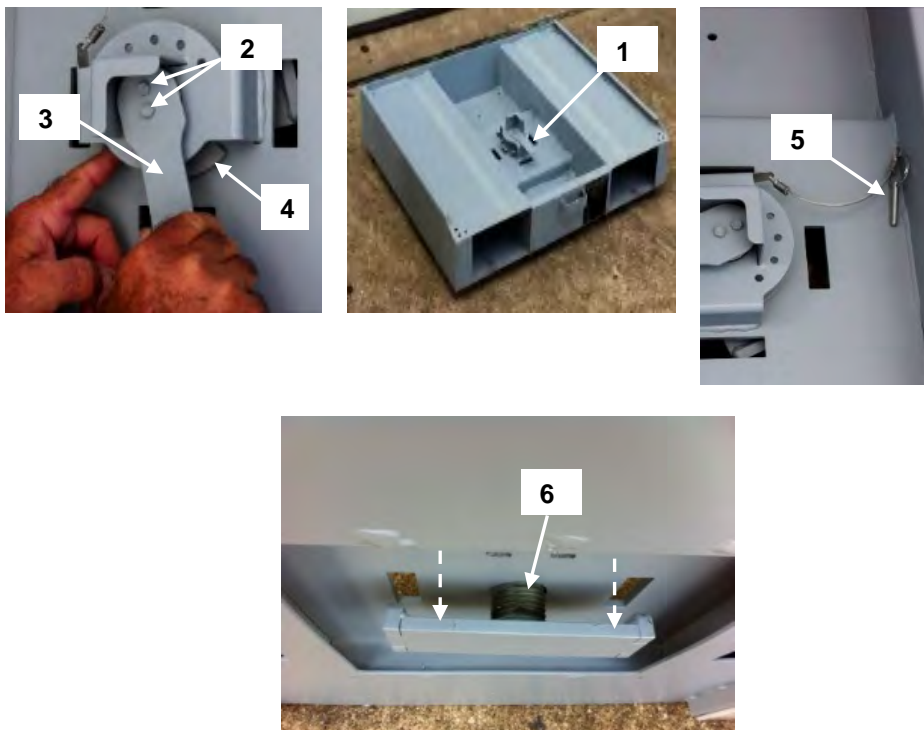
WARNING



Assistance is required when lifting the LEM cabinet base (1). Place the cabinet base on a firm surface with the bottom up to safely replace the pads. Always follow DOD safe lifting procedures. Avoid lifting with your back, bend your knees slightly and lift in tandem with a partner's assistance. Failure to comply will cause injury and damage to equipment.

Twist Lock Assembly

1. Inspect the twist lock assembly (1) for damage.
2. Remove the pin (5) to rotate the star nut (4).
3. To replace the twist lock assembly (1), remove the handle hex screws (2) with the 7/16" wrench.
4. Remove the handle (3) and twist lock assembly; rotate the star nut (4) counterclockwise until the bottom threads (6) are free.
5. Install a new twist lock assembly (1), from the kit.
6. Ensure there is lubrication on the twist lock threads (5); review chapter 2, WP 0009 00-1 and 00-2.



WARNING



Assistance is required when lifting the LEM cabinet base (1). Place the cabinet base on a firm, stable surface to replace the twist lock assembly. Failure to comply will cause injury and damage to equipment.

END OF WORK PACKAGE

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UNIT MAINTENANCE INSTRUCTIONS

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) LIGHT EXPEDITIONARY MODULE (LEM) BOH FPU Field Pack-up Units

LEM MOUNTING PLATES

INITIAL SETUP:

Material/Parts

None

Personnel Required

Two or more

Tools

None

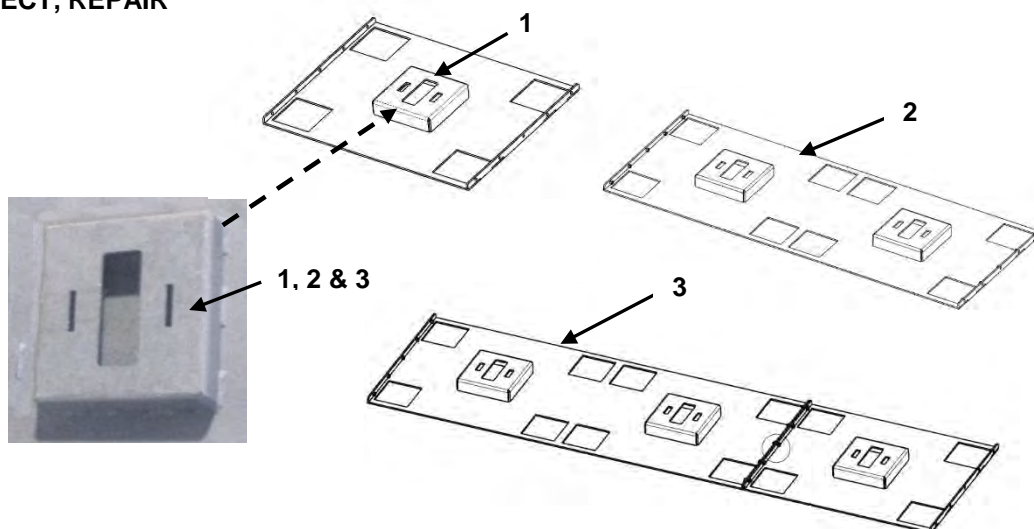
References

Chapter 2 WP 0007 00

Equipment Condition

BOH LEM Mounting Plate Repairs

INSPECT, REPAIR



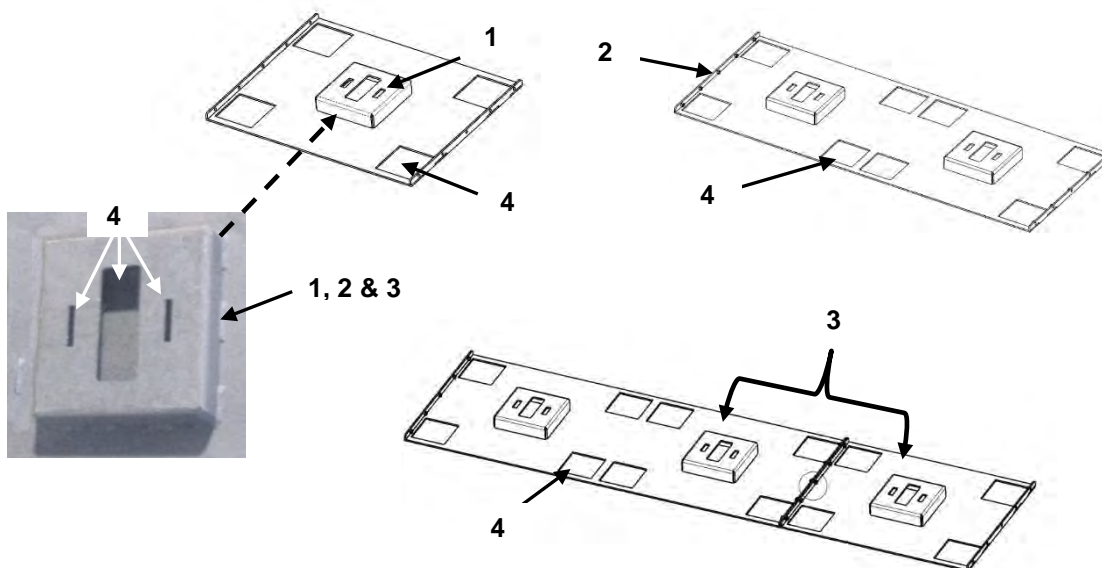
1. Inspect the receiver and flange welds for cracks on mounting bases (1, 2 & 3); only a certified welder should repair weld cracks.
2. Ensure the mounting plate (1, 2 & 3) is securely bolted or welded in position.

WARNING



Assistance from multiple personnel is required when lifting the LEM Mounting Plate (1, 2 & 3). Always follow DOD safe lifting procedures. Avoid lifting with your back, bend your knees slightly and lift in tandem with a partner's assistance. Failure to comply will cause injury and damage to equipment.

Mounting Plate Receiver



1. Inspect the mounting base plate and receiver for cracks on mounting plates (1, 2 & 3), report weld cracks to maintenance.
2. Inspect the cutout edges (4) for distortion, dents, burs, etc. ; only a certified welder should make these repairs.
3. Ensure the mounting plate (1, 2 & 3) is securely bolted or welded in position.

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. Eye protection should be worn when grinding, drilling or welding. Failure to comply will result in injury to personnel.

Repairs Requiring Welding

Welding repairs are only required when the FPU SYSTEM module is pierced, punctured, or cracked. Standard welding principles and materials apply to FPU SYSTEM repairs. Welding procedures will not be discussed in this tech manual. Refer to TC 9-237.

END OF WORK PACKAGE