

**FPU® SYSTEMS OPERATION MANUAL  
(INCLUDING REPAIR PARTS & SPECIAL TOOL LIST)  
MODELS FPU-8-4/BOH-CARGO-12-3 & FPU-20-3  
BOH FPU Field Pack-up Units**

**Appendix A**

**PARTS STORAGE AIDS REMOVE/INSTALL PROCEDURES**

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**REMOVE/INSTALL PROCEDURES**  
**Parts Storage Aids**  
**(BOH CARGO-12 Containers)**

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Parts Storage Aids

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**Parts List:**

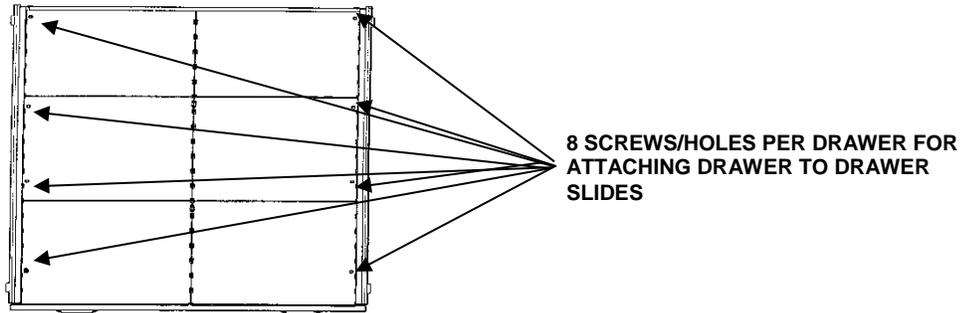
DESCRIPTION	QUANTITY		DESCRIPTION	QUANTITY
UPRIGHTS	4		LOCK WASHER 1/2"	64
FLOOR PLATES	8		CARRIAGE BOLT 1/4" X 3/4"	96
TOP COLLARS	16		FLAT WASHER 1/4"	96
DRAWER 48" X 12"	8		WHIZ NUT 1/4"	96
DRAWER 48" X 2"	2		UNISTRUT NUT	48
DRAWER 30" X 2"	1		BOLT 3/8" X 3-1/2"	16
DRAWER 30" X 8"	1		FLAT WASHER 3/8"	32
SLIDES (LEFT AND RIGHT)	12		NYLOCK NUT 3/8"	16
BOLT 1/2" X 1"	48		NET "J"	2
BOLT 1/2" X 1-1/2"	16		NET "K"	2
FLAT WASHER 1/2"	16		FOOTMAN STRAPS	60

**Required Tools:**

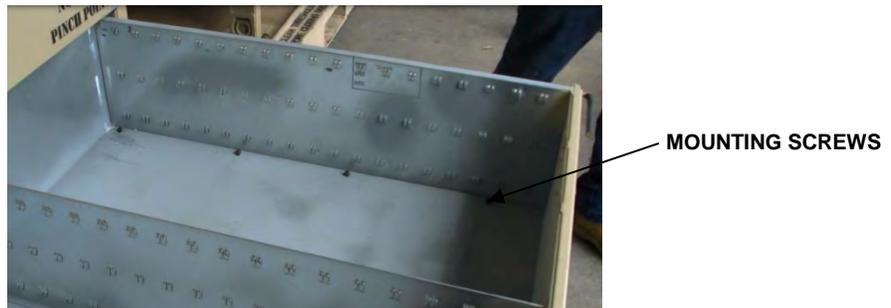
- 3/8" socket with ratchet
- 7/16" socket with ratchet and extension
- 2 X 4 soft wooden block
- 3/4" socket with ratchet
- 9/16" socket
- 9/16" box wrench
- 1/4" socket with ratchet and extension

## REMOVAL PROCEDURES

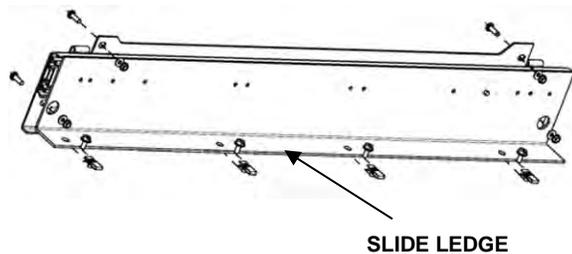
### Drawers



1. Fully extend drawer to the open position. (If drawer will not stay in the open position, this task will require two people. One to hold the drawer in the extended position and the other to perform drawer removal task).
2. Remove all stored material from drawer.
3. Remove eight ¼" (3/8-inch head) mounting screws located in the bottom of the drawer at either side with 3/8-inch socket and ratchet.



4. Lift drawer from slide ledge.



5. Repeat steps 1 through 4 for the remaining drawers.

## Slide Ledge

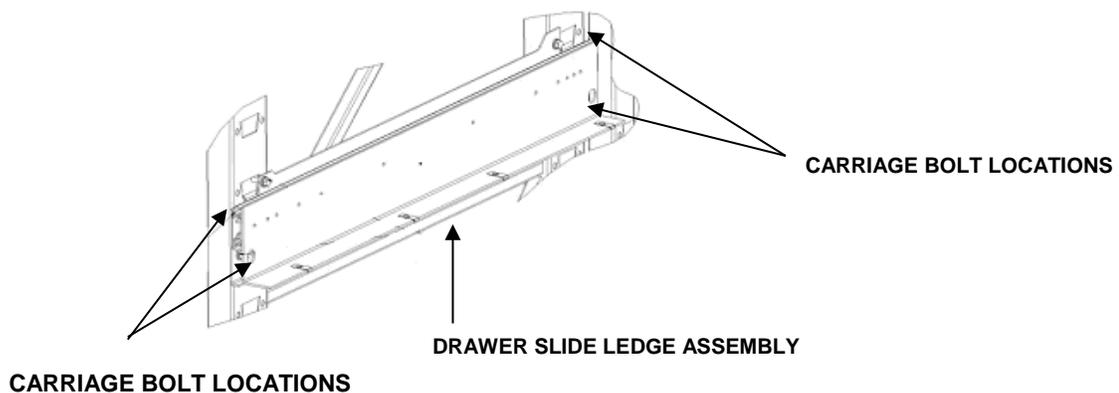
### **WARNING**

After removing drawers and prior to removing slide ledges, tape the front edge of the slide ledge to prevent the ledge from sliding out during removal. Failure to do so may result in injury to personnel.

### **WARNING**

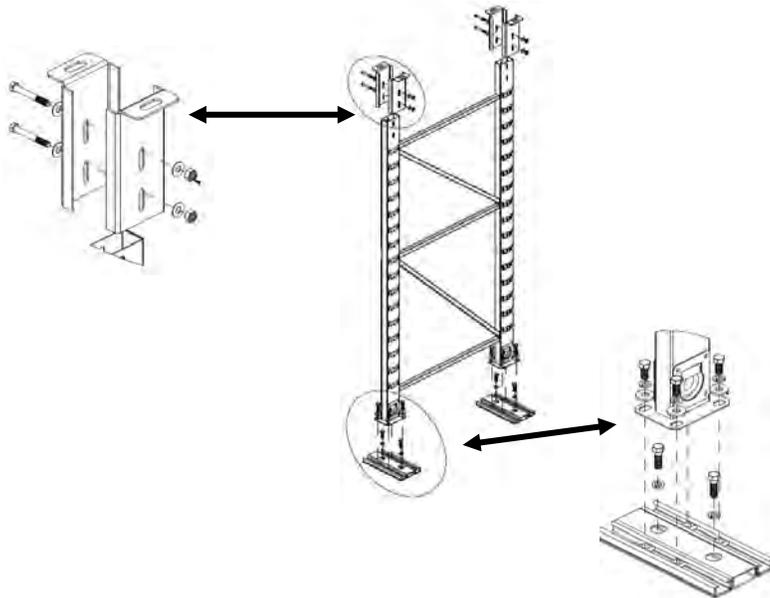
Personnel may decide to leave the ledges connected to the vertical rack frame upon re-installation into the new container. However, personnel shall proceed at their own risk as the additional weight associated with this configuration may result in a more cumbersome re-installation.

6. Loosen, but do not remove, the four front and rear ¼" nuts on the carriage bolts using a 7/16-inch socket with ratchet and extension.

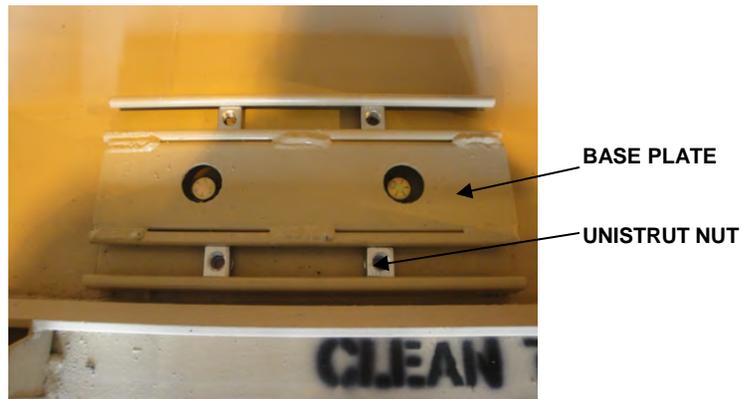


7. Slide ledges are retained on the vertical rack frame by four bayonet tabs protruding into the windows of the vertical rack frame. This requires the ledge to be loosened from the vertical rack frame. While one person securely holds the slide ledge, the second person applies an upward force by tapping the underside of the ledge at the attached point with a 2 X 4 soft wooden block or similar material.
8. Remove the slide ledge from the vertical rack frame.
9. Repeat steps 6 through 8 for the remaining slide ledges.

## Vertical Rack Frame



10. With someone holding the vertical rack frame, remove the 1/2-inch hex head bolts and washers from the top (2) and bottom (4) mounting plates using a 3/4-inch socket with ratchet.
11. Loosen, but do not remove, the bolts on the upper sleeves. Slide the upper sleeves down and remove vertical rack frame.
12. Remove the bottom base frame bolts and washers (2) from the base and remove base with unistrut channel nuts inside base channels.



13. Remove unistrut channel nuts from mounting channels in ceiling.



14. Repeat steps 10 through 13 for the remaining vertical rack frames.

**END OF PARTS STORAGE AIDS REMOVAL PROCEDURES**

## **INSTALLATION PROCEDURES**

### **CAUTION**

If a bolt is lost or damaged beyond use, obtain a replacement. Do not install with less than the proper number of bolts or equipment damage may occur.

### **Vertical Rack Frame (part 1)**

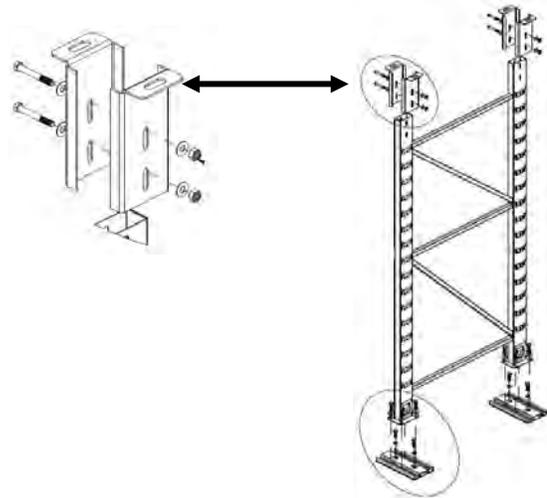
1. Place 8 mounting base plates in the 8 designated pairs of holes in the floor and secure each plate with (2) ½-inch lock washer and (2) 1 ½-inch hex bolts. Apply Locktite 262 to bolt threads and tighten bolts using a ¾-inch socket with ratchet.



2. Install (4) unistrut nuts to each base plate and (2) unistrut nuts to each ceiling mount in the provided slots at approximately the locations described in steps 6 through 9 below.



3. Install (4) vertical rack frames to base plates with (8) ½-inch lock washers, (8) ½-inch flat washers and (8) 1-inch bolts. Apply Locktite 262 to bolt threads and hand tighten only.
4. Attach (2) upper sleeve assemblies to each upper vertical rack. Secure sleeves to rack with (4) 3 ½-inch bolts, (8) 3/8-inch flat washers and (4) 3/8-inch nuts. Apply Locktite 262 to bolt threads and hand tighten only.



- Secure upper sleeve to ceiling mount using (4) 1-inch bolts, (4) ½-inch lock washers, and (4) ½-inch flat washers. Apply Loctite 262 to bolt threads and hand tighten only.



- Install vertical rack frames from right to left beginning with the **first** vertical rack at the far right. Measure **8 1/8-inch** from the inside of the container frame to the outside of first vertical rack frame. Once the correct measurement is verified at all four points on the vertical rack frame, tighten the bolts on the top and bottom mounting plates using a ¾-inch socket and ratchet.



**NOTE**

Tighten the bolts on the upper sleeves using a 9/16-inch socket and 9/16-inch box wrench before tightening the bolts on the ceiling mount.

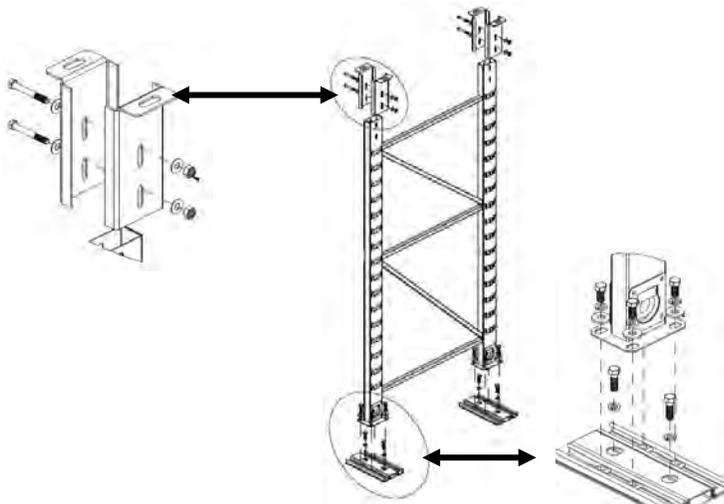
7. Install the **second** vertical rack following steps 3 through 5 above. Measure **48-inch** from the inside of the first rack to the inside of the second rack. Once the correct measurement is verified at all four points on the vertical rack frame, tighten the bolts on the top and bottom mounting plates using a  $\frac{3}{4}$ -inch socket and ratchet.



8. Install the **third** vertical rack following steps 3 through 5 above. Measure **30-inch** from the inside of the second rack to the inside of the third rack. Once the correct measurement is verified at all four points on the vertical rack frame, tighten the bolts on the top and bottom mounting plates using a  $\frac{3}{4}$ -inch socket and ratchet.



9. Install the **fourth** vertical rack following steps 3 through 5 above. Measure **48-inch** from the inside of the third rack to the inside of the fourth rack. Once the correct measurement is verified at all four points on the vertical rack frame, tighten the bolts on the top and bottom mounting plates using a  $\frac{3}{4}$ -inch socket and ratchet.



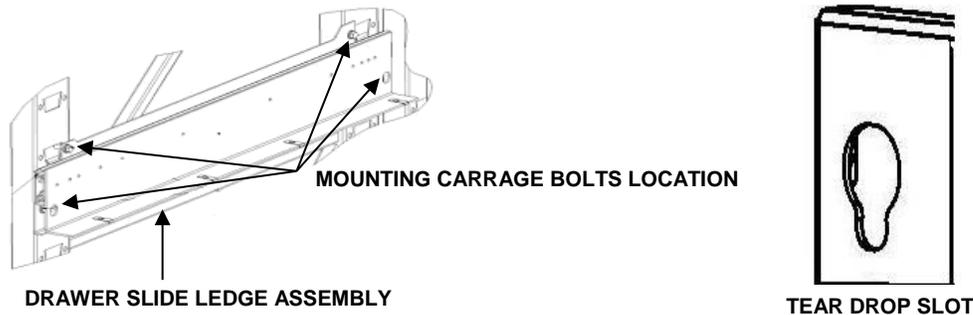
## Slide Ledges

10. Install (4) ¼-inch carriage bolts with ¼-inch flat washers and ¼-inch nut to the front (2) and back (2) of each slide ledge. These bolts should be loose when installed
11. Place the drawer slide ledges in their desired positions by inserting the bayonet tabs into the vertical rack frame windows while aligning the four carriage bolts into their appropriate slots. Begin by installing bottom left and right ledges in bottom tab of vertical rack.

### NOTE

Ensure the drawer slide ledges are at the same height in the vertical rack frame and ensure bayonet tabs have engaged the vertical rack frame windows before tapping into place.

12. Slots are tear drop to retain the head of the ¼-inch carriage bolts. Tap down on the ledge with a 2 X 4 soft wooden block or similar material. Ensure the carriage bolts drop completely down in the slots.



13. Apply Loctite 262 to the four ¼-inch nuts on the carriage bolts for each slide ledge.
14. Tighten drawer slide ledges to rack frame by tightening the four ¼-inch carriage bolt nuts using a 7/16-inch socket with ratchet and extension.
15. Repeat steps 10 through 14 for remaining slide ledges.

## Vertical Rack frame (part 2)

16. Ensure all bolts on the rack upper attachment and vertical rack frame base are tight using a ¾-inch socket with ratchet.

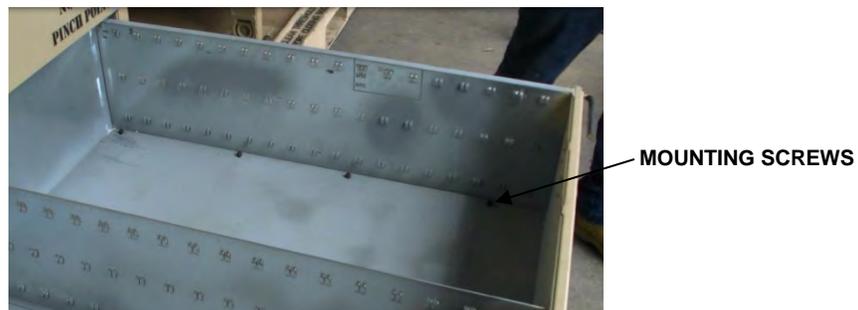
## Drawers

17. For each drawer position, pull both drawer slide ledges out.



18. Position drawer on the slide ledge being careful to align mounting holes.

19. Install eight ¼-inch (3/8-inch head) mounting screws (4 per side) and slightly hand-tighten.



20. After hand tightening, push drawer completely closed and pull back to the full open position to allow drawer to seat into its proper location on the drawer slide ledge.

21. Being careful not to over tighten, secure the eight mounting screws.

22. Close drawer and repeat steps 17 through 21 for remaining drawers.

23. Install all drawer dividers and nets.

## **END OF PARTS STORAGE AID INSTALLATION PROCEDURES**