Ultra High Density PEACOC^{TM} Fiber Patch Panel& FleT

Platform with **E**nhanced **A**ccessibility for **C**ompact **O**ptical **C**onnectors

Flexible **T**rays to Integrate Optical Components such as NGPON2, xWDM, Splitter, etc.

Operation& Maintenance Manual

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"Bring Light to Life"

MAN-PK-004

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Purpose

This document describes the maintenance and operation procedures associated with the Go!Foton PEACOC™ Patch Panel& FleT. The purpose of the document is to ensure the safe and accurate management of the optical connections on the PEACOC™ shelf. Operations that are included in this manual describe the procedures that should be followed when cleaning or replacing connectors.

Safety Information

Throughout this document important safety admonishments are used to alert the operator of possible hazards to persons or equipment. This safety information is conveyed through the use of Dangers, Warnings, and Cautions – it is important that they be followed at all times. The various warnings are defined below and are highlighted throughout this document with use of the triangular alert icon (see below). The warnings shown below are listed in order of decreasing severity of personal injury or potential for damage to equipment.

⚠**Danger:** Danger is used to indicate a possible hazard which *will* cause severe personal injury, death, or substantial property damage if the hazard is ignored.

⚠ **Warning:** Warning is used to indicate a possible hazard which *can* cause severe personal injury, death, or substantial property damage if the hazard is ignored.

⚠ **Caution:** Caution is used to indicate a possible hazard which *will* or *may* cause minor personal injury, or property damage if the hazard is ignored.

General Safety Precautions

⚠**Danger:** *Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the ends of any optical fiber or connector. Do not look directly into the optical adapters when a connector is removed during cleaning or when they are being replaced. The use of an optical power meter should be used to verify active fibers. A protective cap or cover <u>MUST</u> be immediately placed over any live adapter or optical fiber connector to avoid the potential of dangerous amounts of radiation exposure. This practice will also help to prevent dirt particles from entering the optical pathway which may affect transmission performance.*

⚠**Caution:** *When working with the PEACOC™ fiber distribution shelf at a height that is above easy reach, the use of an A-frame type of step ladder should be used to provide a safe and secure footing at the necessary working height.*

1. General Principles for PEACOC^{TM} Operation

The Go!Foton PEACOC^{TM}Patch Panel&Fletis an ultra-high density fiber chassis used to safely and accurately manage small form factor optical fiber connectors in a high density configuration. The PEACOC^{TM}shelf is suitable for use in a central office, data center, CATV headend, CEV, customer premise, or other indoor environment and it does not require any special engineering, installation, or handling procedures.

The PEACOC^{TM}shelf is a 1RU high patch panel which is shipped with 144 pre-installed LC optical adapters.   To further reduce installation time for the customer, the PEACOC^{TM}shelf may be optionally ordered with 144 LC jumpers or pigtails pre-installed on the backplane of the patch panel. The PEACOC^{TM} optical fiber shelf is compatible with standard 19-inch frames or relay racks, and it will integrate with existing vertical and horizontal cable management trays.   It is designed to be used with 1.2mm simplex LC jumper cables which occupy only ½ the space of a typical 1.6mm jumper and only 1/3 the space of a conventional 2.0mm jumper.The result is substantial savings in both weight and space in both horizontal and vertical cable trays.

Combined with the incredibly high port density, the PEACOC^{TM} Fiber Patch Panel& FleT is an excellent choice whenever aggressive subscribe growth is anticipated or for existing environments which are limited in available space for continued growth.

1.1 Key Parts

The following key parts of the PEACOC^{TM}Patch Panel & FleT shelf are referenced throughout this document. Please refer back to the images below as needed to ensure the proper procedures are strictly followed.

⚠**Warning:***Failure to follow the procedures in this operations manual can result in damage to optical fiber cable or the optical connectors which may further result in a loss ofservice for active subscribers.*
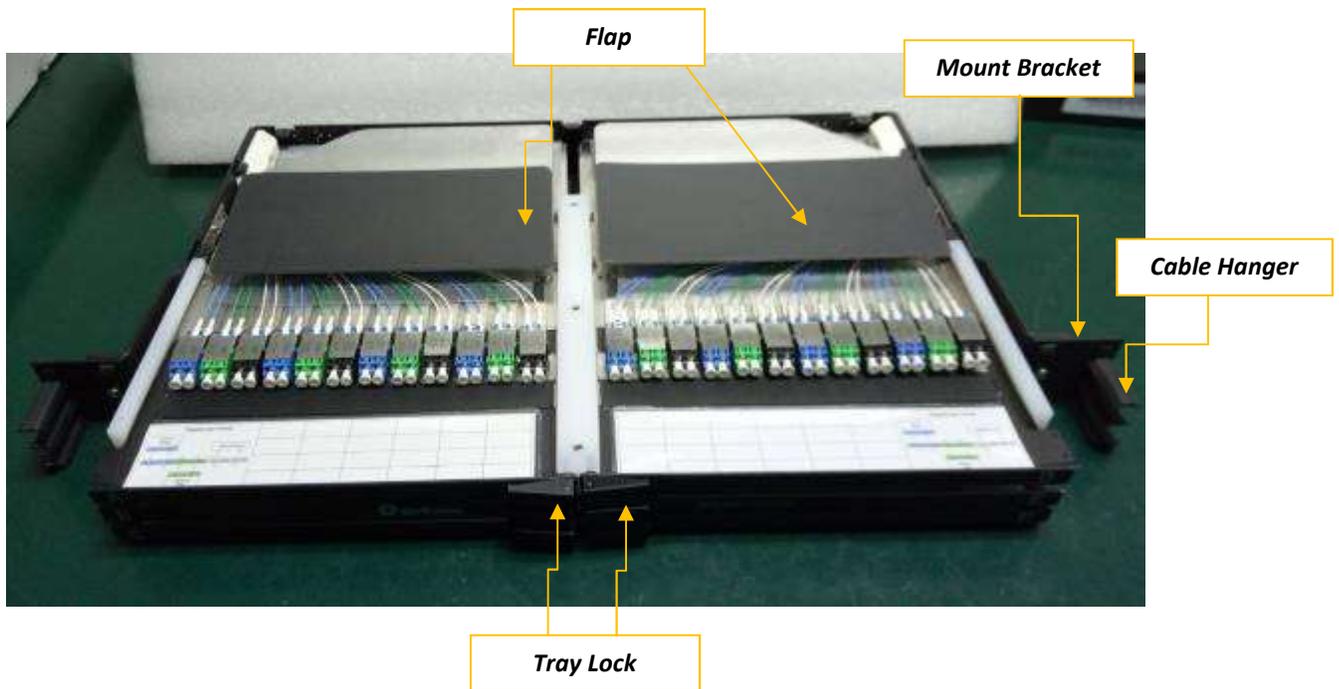
Parts of PEACOC®

Please read and follow this manual as your operating guide.   To ensure the integrity of the signal and safety of active fibers, please stop immediately and check the associated conditions if you encounter any strong resistance during operation of any of the moving parts.

2. Operation procedure for PEACOC^{TM}

Identify the Port

3.1 Identify the Tray No.

3.2 identify Port No.

Access the Connectors

4.1 Unlock the Tray

4.2 Open the Tray

4.3 Release the Cables

4.4 Remove the Cables

Routine Operations

5.1 Isolate a Port Form Adjacent Connectors

5.2 Clean Front Plane Connectors

5.3 Clean Rear Plane Connectors

5.4 Replace a Jumper

5.4.1 Replace Front Plane Connectors

5.4.2 Replace Rear Plane Connectors

Organize & Secure the Tray

6.1 Organize Front Cables

6.2 Organize Rear Cables

6.3 Close and Secure the Tray

3. How to Identify theTray and Port

3.1 Identify the tray

Viewing from the front of PEACOC^{TM}, trays are labeled A, B, and C from top to bottom for the left half. Trays on the right half are labeled D, E, and F from top to bottom (see image below).

3.2 Identify the Port Number

Each tray have 12 LC/UPC duplex adapters for both left and right side trays, and labeled as AI1….AI4 and AO1….AO4 (Blue Adapters), BI1….BI4 and BO1….BO4 (Green Adapters), and AT1….AT4 and BT1….BT4 (Blue Adapters) sequentially from left to right.

Diagram per Circuit

4. How to Access the Connectors

4.1 Unlock the tray

Closed Tray Lock

Open Tray Lock

a. Identify the correct tray as indicated in Section 3.1.
b. Unlock the tray by pulling the Tray Lock out 90**°.**

>> **NOTICE!** >>>

△**Caution:** *Do not force open tray when the Tray Lock is in the locked position.*

△ **Caution:** *Do not exceed 90°when opening the Tray Lock.*

4.2 Open the Tray

a. Hold the open Tray Lock and pull straight approximately 2 to 3 inches. The Tray Lock should now be clear of the PEACOC™ chassis.

b. Hold the tray with thumb and forefinger as shown above. Pull straight out on the tray until it is fully extended.

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⚠ **Caution:** *Do not curl fingers into the tray or pulling out the tray at one side without using the tray lock.*

4.3 Release the cables (If applicable only)

a. Pull on the bottom of the Cable Clip to open it.

b. Lift up the Flap to expose the rear section of the jumper cables. (see reference photo)

4.4 Remove the Cables (If applicable only)

a. Unwrap the sleeve from cable bundle (see reference photo)

△ **Caution:** When operating, be careful that no cables are accidentally kinked or caught by any parts of the tray.

NOTICE!

b. Identify and separate the front cables from the rear cables. The rear cables may then be removed from cable clip and rotated around the Bend Limiter. (See reference photo)

c. Push the Cable Guide away from cable bundle and allow all of the front cables to fall freely beside the Cable Guide. (See Reference photo)

5. Routine operations

5.1 Isolate a port from adjacent connectors

a. Identify the tray and port using the procedure in Section 3.1 and 3.2.

b. Isolate the port to be worked on by gently moving away all of the connectors to the left and right side of the desired connector. (See reference photo)
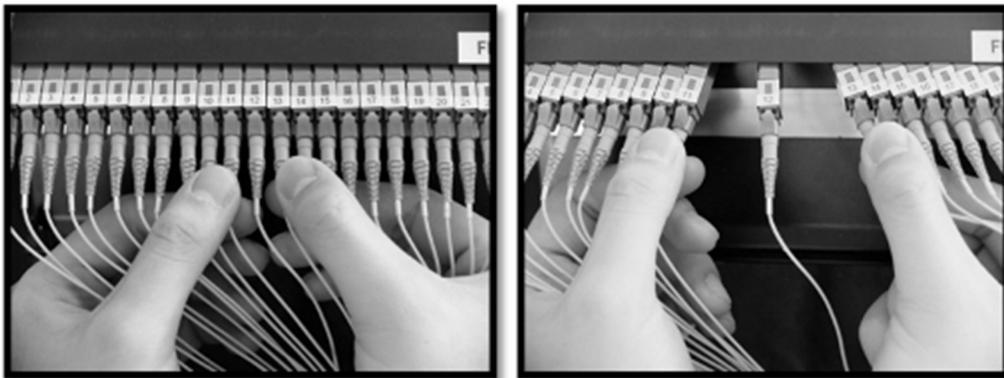
5.2 Clean front plane connector (If applicable only)

a. While gently depressing the connector latching tab, pull on the connector housing to un-mate the connector plug from the adapter. (See reference photo)
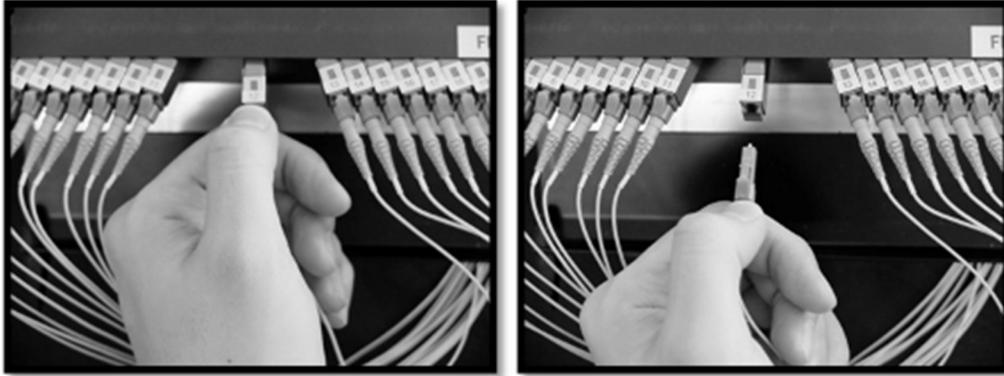
⚠**Warning:** *Do not pull directly on the jumper cord or the connector boot to avoid damage to the fiber which may require splicing or replacing the jumper.*

⚠**Danger:** *Follow all safety procedures related to laser radiation. An optical power meter should be used to verify the presence of radiation and protective caps and covers should be used at all times. Never look directly in the connector or the adapter or serious injury may result.*
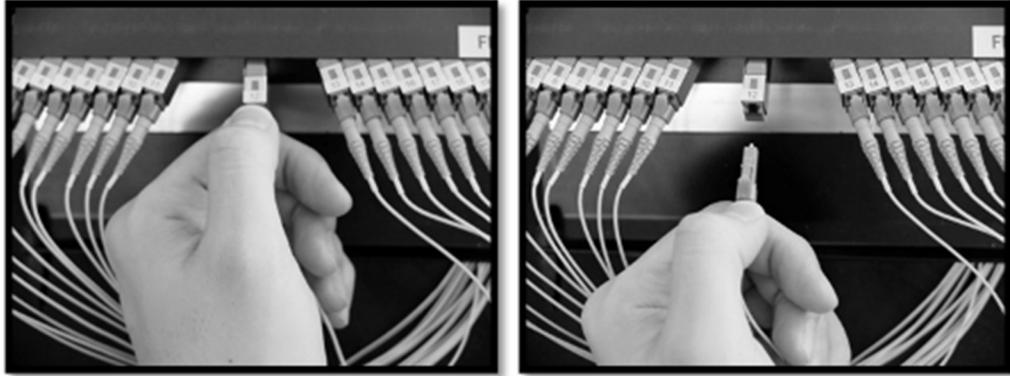
b. Perform connector end face and/or adapter cleaning using your approved company procedures.

c. To reinsert the connector into the adapter, simply push horizontally on the connector housing until it is fully seated in the adapter. An audible click will be heard when it is properly inserted. (See reference photo)
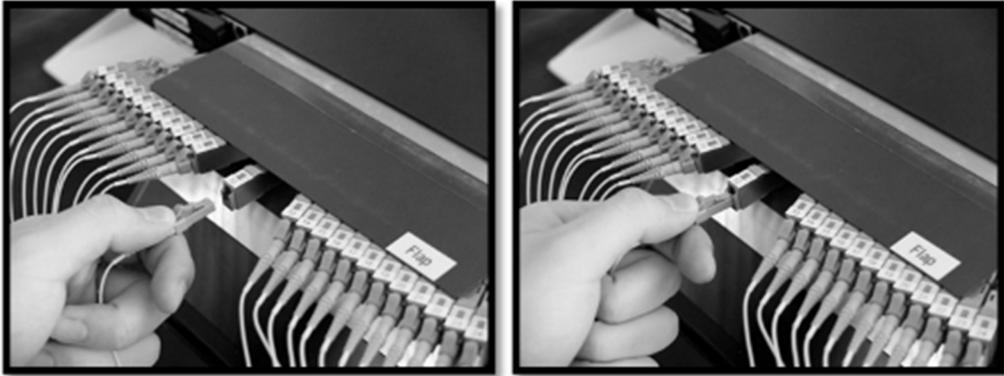

5.3 Clean rear plane connector

a. Lift the flap which covers the rear plane of the connector shelf; using one hand to support the bottom of the adapter, gently depress the connector latching tab to unlock and remove the connector from the adaptor. (See reference photo)

⚠️**Warning:** *Do not pull directly on the jumper cord or the connector boot to avoid damage to the fiber may occur which may require splicing or replacing the jumper.*

⚠️**Danger:** *Follow all safety procedures related to laser radiation. An optical power meter should be used to verify the presence of radiation and protective caps and covers should be used at all times. Never look directly in the connector or the adapter or serious injury may result.*

b. Perform connector end face and/or adapter cleaning using your approved company procedures.

c. To inset the connector for the new jumper cable into the adapter (i) insert the boot end of the connector first by angling it under the other cables, (ii) align the connector with the adapter, (iii) push horizontally in the connector housing until it is fully seated in the adapter, (iv) an audible click will be heard when it is properly seated. (See reference photo)

⚠ **Warning:** *Do not insert the connector plug into the adapter at an angle.*

⚠ **Warning:** *Do not allow the connector end face to come into contact with any foreign objects. If this happens, re-cleaning may be required. (See reference Photo)*

5.4 Replace a Jumper

5.4.1 Replace a Front Plane Jumper (if Applicable only)

To replace a front jumper, just removed the cable sleeves from the Cable Hanger then totally removed the cable/s from the Cable Sleeve/s.

a. While gently depressing the connector latching tab, pull on the connector housing to un-mate the connector plug from the adapter. (See reference photo)

b. Install a protective cap on the connector plug and a dust cover on the adapter.

c. Carefully separate the jumper from the remaining bundle of cables. Trace it all the way back to the interface with the storage tray or trough on the side of the rack (if used). Follow your company procedures for removing cable from the remainder of the cable management system. (See reference photo)
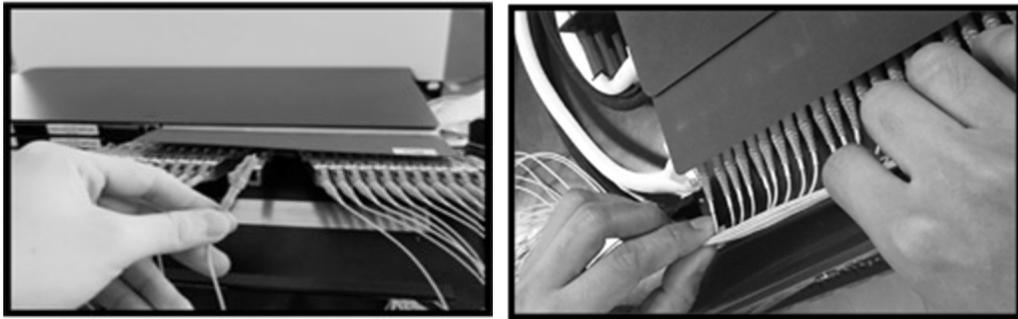
d. Repeat for any additional connectors that need to be replaced.

e. When finished, skip to Section 6 to organize and secure the cables, if applicable only.

6.0 Organize and secure the tray

Once all of the jumper cables are properly connected on both front and back plane of the tray, the cables must be properly organized and secured in the tray before the tray may be closed.

6.1 Organize Front Cables (if applicable)

a. Realign the 24 front connectors after the insertion of cables by gently pushing in from both the left and right side.

b. Gather all of the loose jumpers with your hands in line with the connectors. Gradually shift the collection point for the bundle towards the Black Cable Sleeve and insert to the **Cable Insert Part/Tool for Split Sleeve**. (See reference photo)
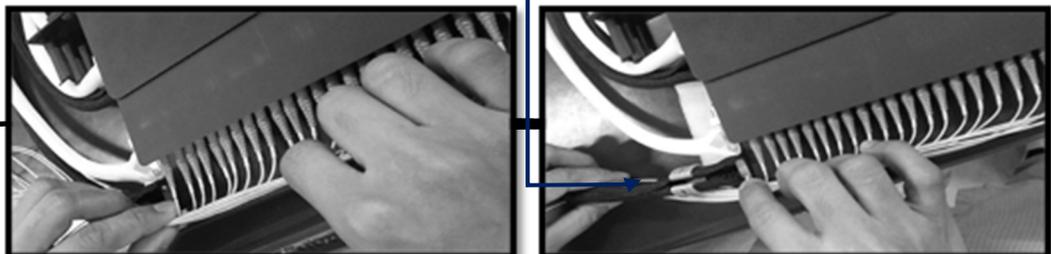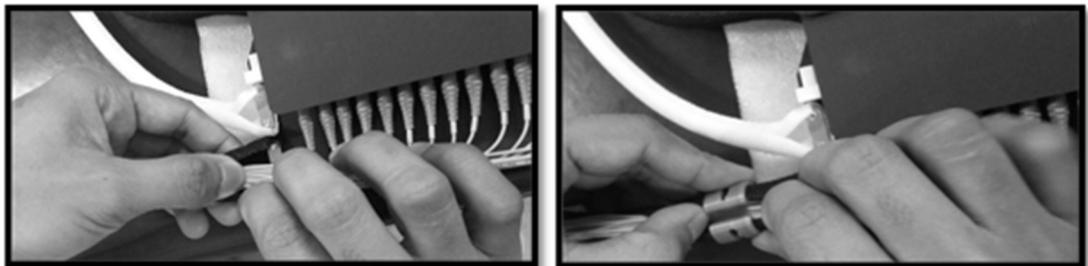
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>> **NOTICE!** >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

⚠ **Warning:** Do not pinch or create any sharp bends in any of the cables as you shift the collection point. (See reference photo)
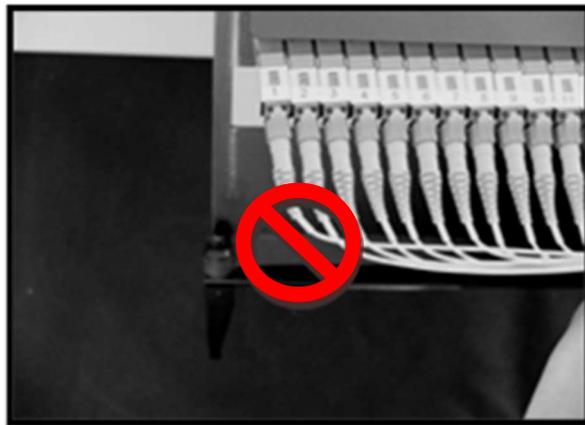
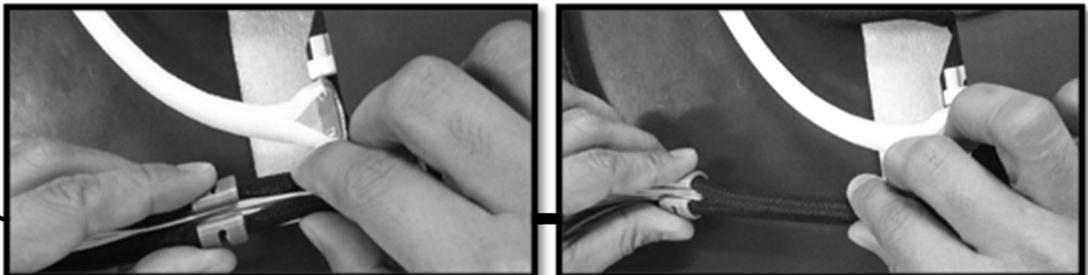>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>> **NOTICE!** >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

c. Guide the cable bundle towards the Cable Insert Part/Tool for Split Sleeve. Be sure not to pinch any of the cables when doing so. Insert the cable.


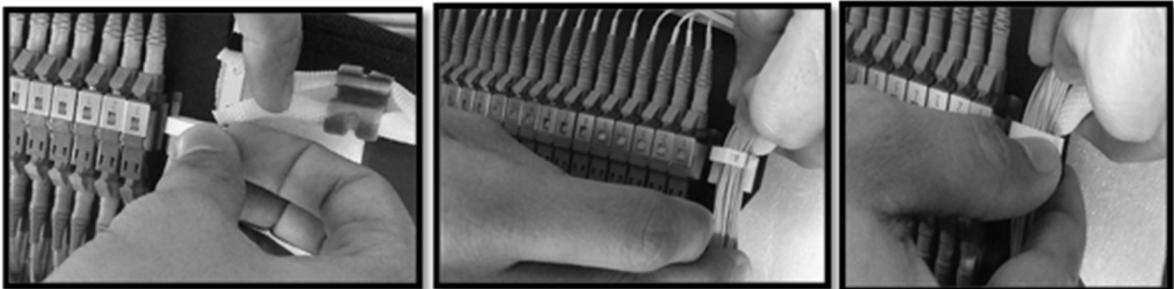d. Pull the Cable Insert Part/Tool for Split Sleeve to easily complete the cable insertion.

6.2 Organize Rear Cables

a. Realign the 24 rear connectors after inserting rear connectors by gently pushing in from both the left and right side.

b. Gather all of the loose jumpers with your hands in line with the connectors. Gradually shift the collection point for the bundle towards the **Bend limiter.** (See referene photo).
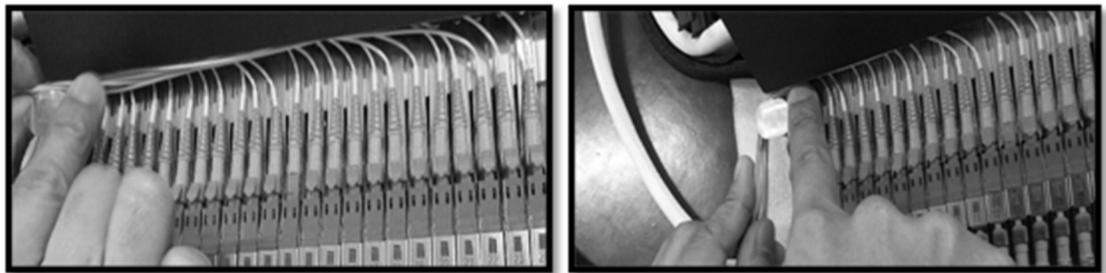
c. Open the Cable Clip. Gather all of the loose jumpers with your hands in line with the connectors. Gradually shift the collection point for the bundle and insert it to the Cable Clip, then lock. (See reference photo)

d. Gather all of the loose jumpers with your hands in line with the connectors. Gradually shift the collection point for the bundle towards the White Cable Sleeve and insert it to the **Cable Insert Part/Tool for Split Sleeve.**

e. Pull the Cable Insert Part/Tool for Split Sleeve to easily complete the cable insertion.

6.3 Close and Secure the Tray

a. From the center, lift the tray up and hold in a horizontal position.

b. While lifting the tray in a horizontal position approximately 2 to 3 inches from the Tray Lock gently push (with a little bit downward force) it back into the PEACOC™ chassis. Be sure the Tray Lock is in the OPEN position as shown below and that it aligns with the hole in the chassis.

c. Push the tray into the chassis until it is fully-seated.

d. Press down the Tray Lock handle to the closed position.