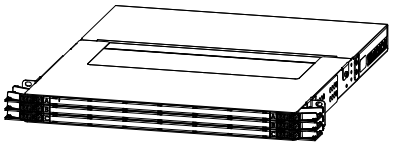
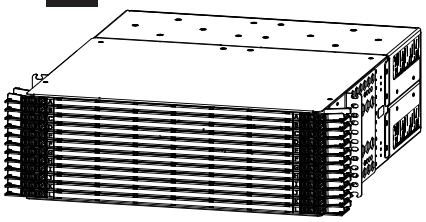
DCX RACKMOUNT INSTALLATION GUIDE

ES: Visite nuestra pagina web www.belden.com para obtener el guía de instalación en español.
FR: Veuillez visiter notre site web au www.belden.com pour obtenir le guide d'installation en français.

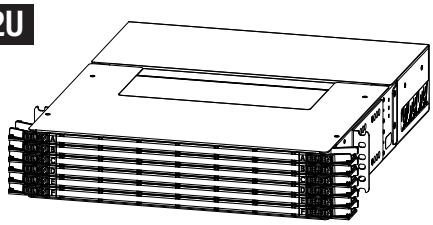
1U

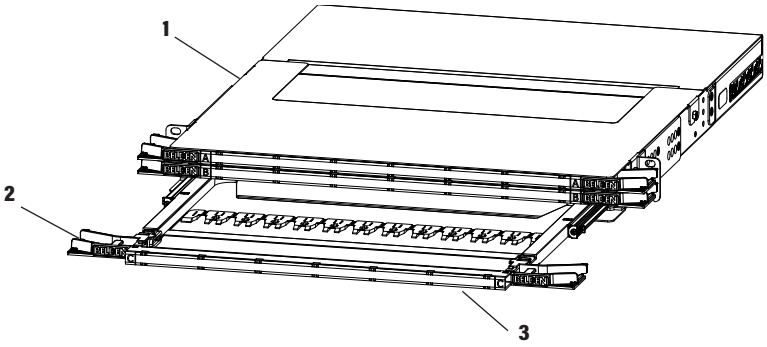


4U



2U

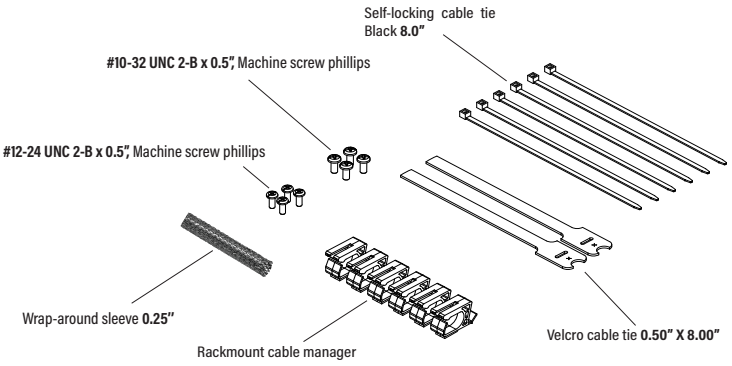




DCX RACKMOUNT 1U AS SHOWN

Carton contents quantity			
Carton contents:	**DCX 1U**	**DCX 2U**	**DCX 4U**
1. Housing assembly	1	1	1
2. Rackmount tray assembly	3	6	12
3. Housing tray label holder	3	6	12

Hardware kit quantity			
Hardware kit:	**DCX 1U**	**DCX 2U**	**DCX 4U**
Rackmount cable manager	6	12	24
Self-locking cable tie Black **8.0"**	6	12	24
Velcro cable tie **0.50" X 8.00"**	2	4	8
#10-32 UNC 2-B x 0.5", Machine screw phillips	4	4	4
#12-24 UNC 2-B x 0.5", Machine screw phillips	4	4	4
Wrap-around sleeve **0.25"**	AS REQUIRED		



Cable distribution bracket kit quantity (sold separately)	
Hardware kit:	**QTY**
#8-32 x 3/16", Pan head screw phillips	1
Bracket support	1
Bracket	1

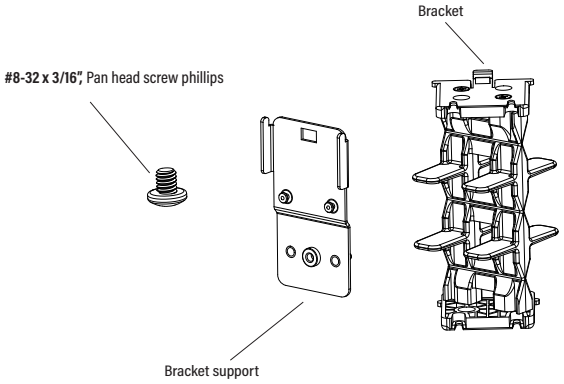


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1. Introduction

This manual shows and provides complete instructions for:

- *How to install and manipulate the DCX RackMount 1U/2U/4U with its components.*
- *How to load and manipulate cables through the DCX RackMount 1U/2U/4U.*

1.1 General information/iconography meaning

= Information/notes or installation tips applicable when using the Cassettes, Frames or any other product in the DCX line family.

= Includes related warnings to prevent damage to equipment and (or) personal injury.

= Action/manipulation which permits opening/move, disassemble or install a part related to the DCX products.

= Continuation of the installation procedures shown.

1.2 Safety precautions

= Wearing safety glasses can prevent possible injuries (or accidents) related to handling chemicals, cables, or working with sharp pieces of glass fibers.

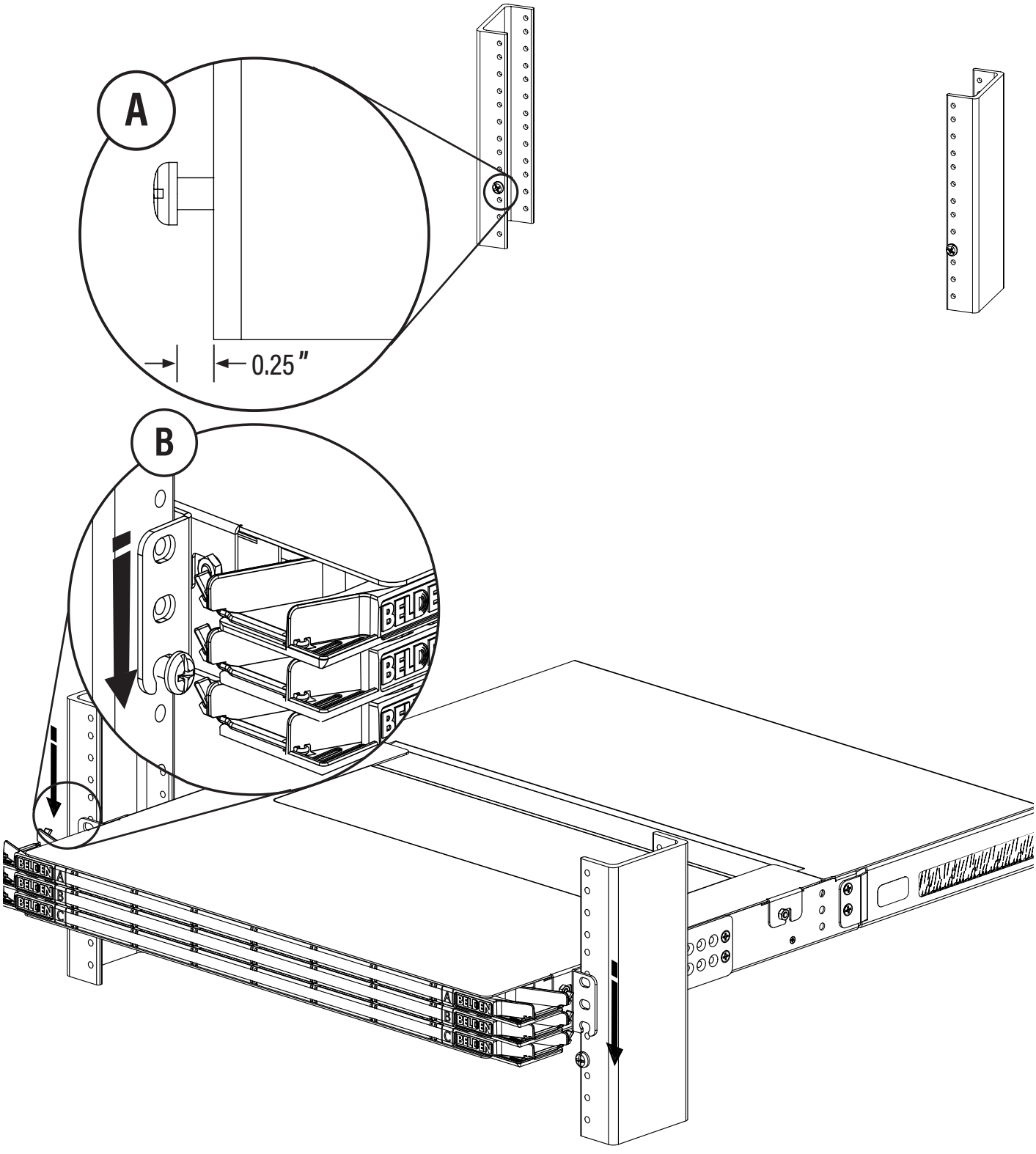
= Avoid contact between broken glass fiber. These glass fiber fragments are sharp and can penetrate the skin easily. The use of safety gloves is highly recommended.

= Maintain a clean work area by sweeping all the fiber scraps and disposing of them appropriately.

2. Mounting the DCX housing

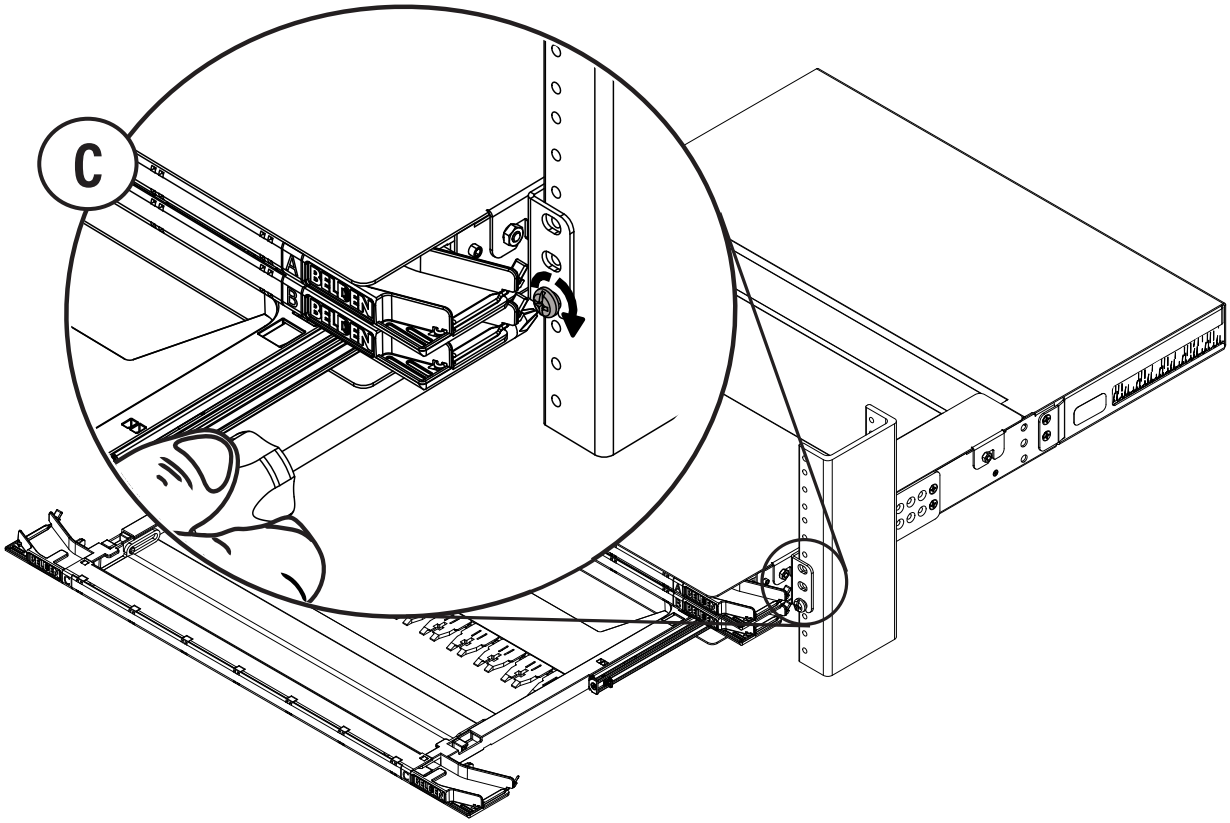
A Insert the bottom screws into the rack or cabinet as shown (use #12-24 or #10-32 machine screws provided in the hardware kit). Leave ¼ ″ of the screw exposed.

B Install the housing into the rack and position the bottom slots of the mounting bracket onto the installed screws. These screws will carry the weight of the housing during the installation.

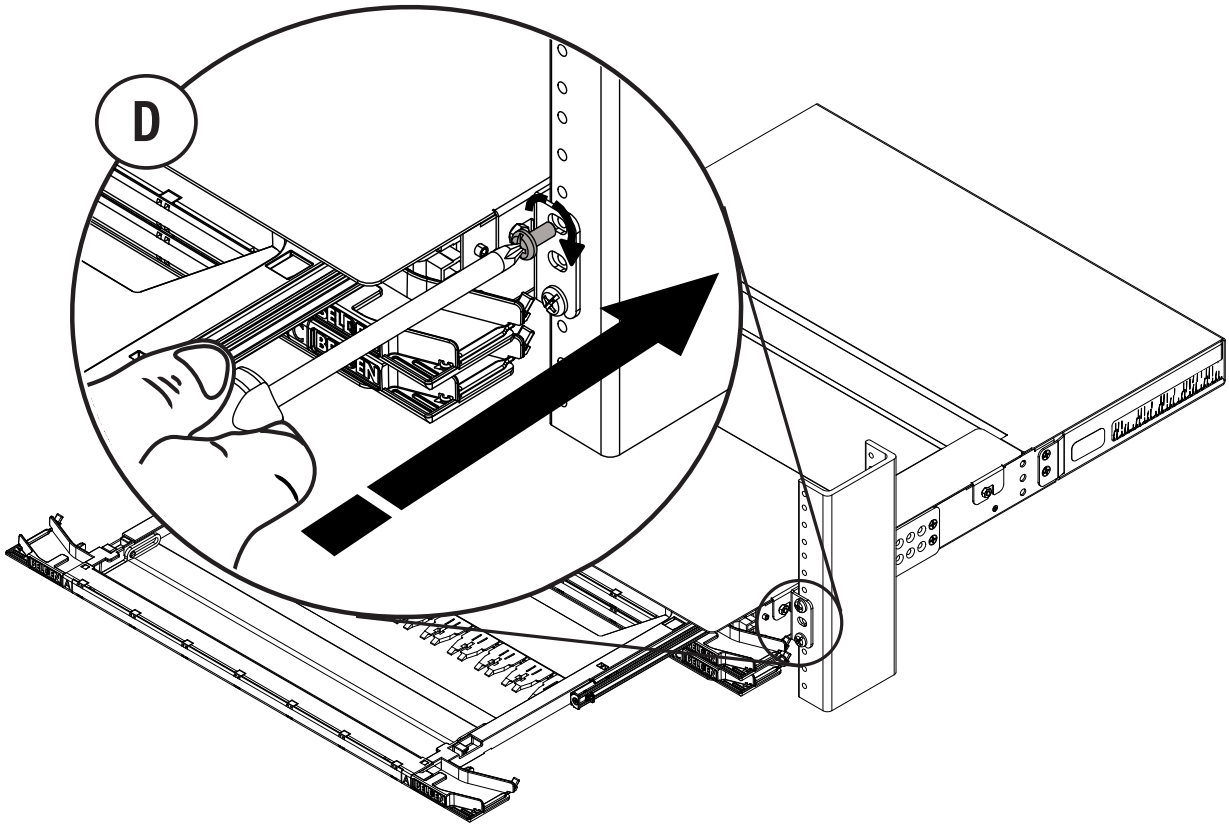


ⓘ = *Refer to step section* **3.1** *to open bottom tray and top tray*

C Open the bottom tray as needed, and tighten the installed screws firmly.



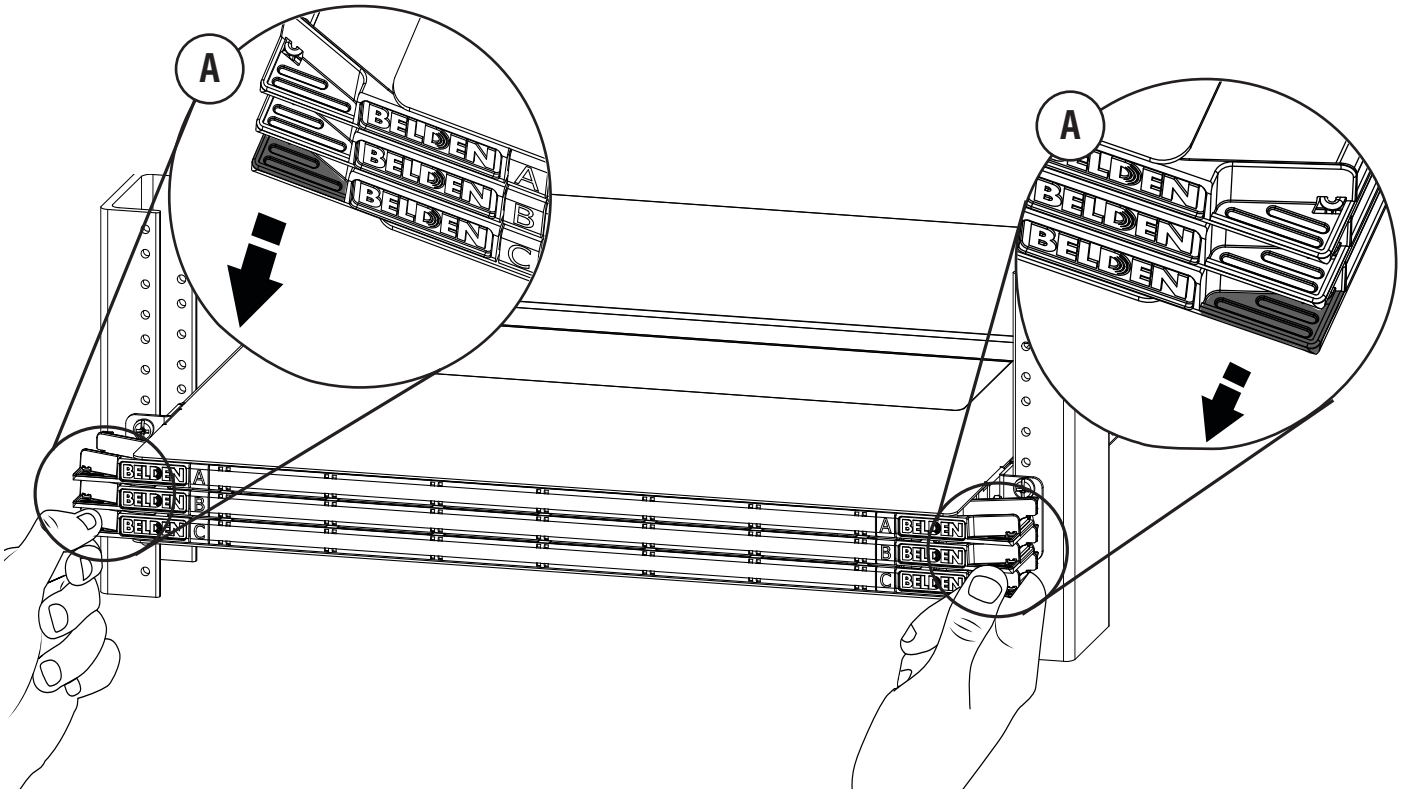
D Open the top tray as needed, and insert and tighten the top screws.



3. General handling

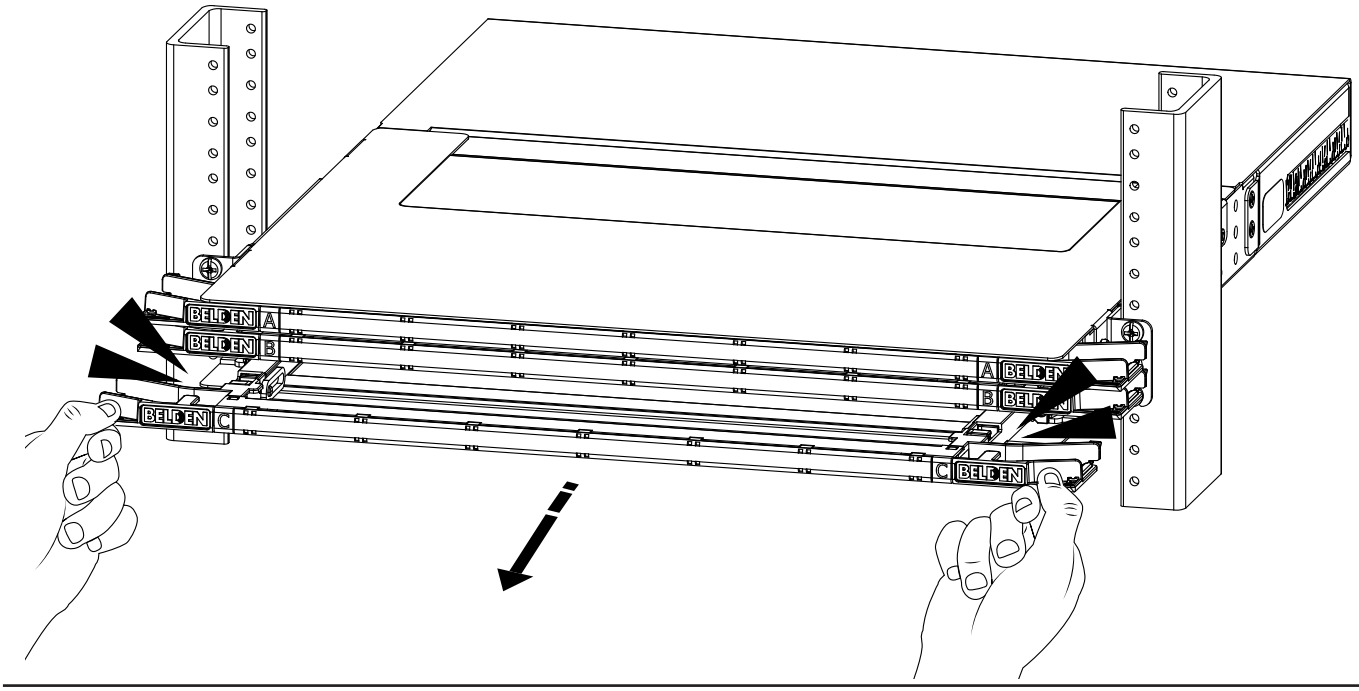
3.1 Opening the tray

A Hold the sides of the tray with both hands.



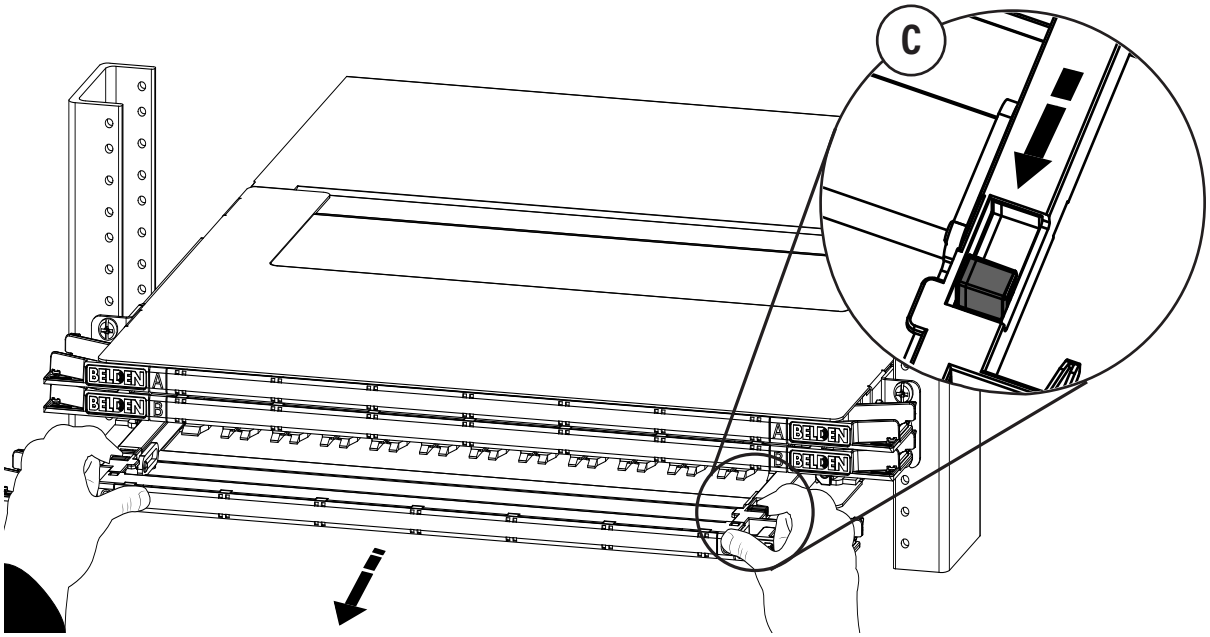
B Pull the tray from both sides into the patching position.

ⓘ = *Tray will lock itself once in patching position*

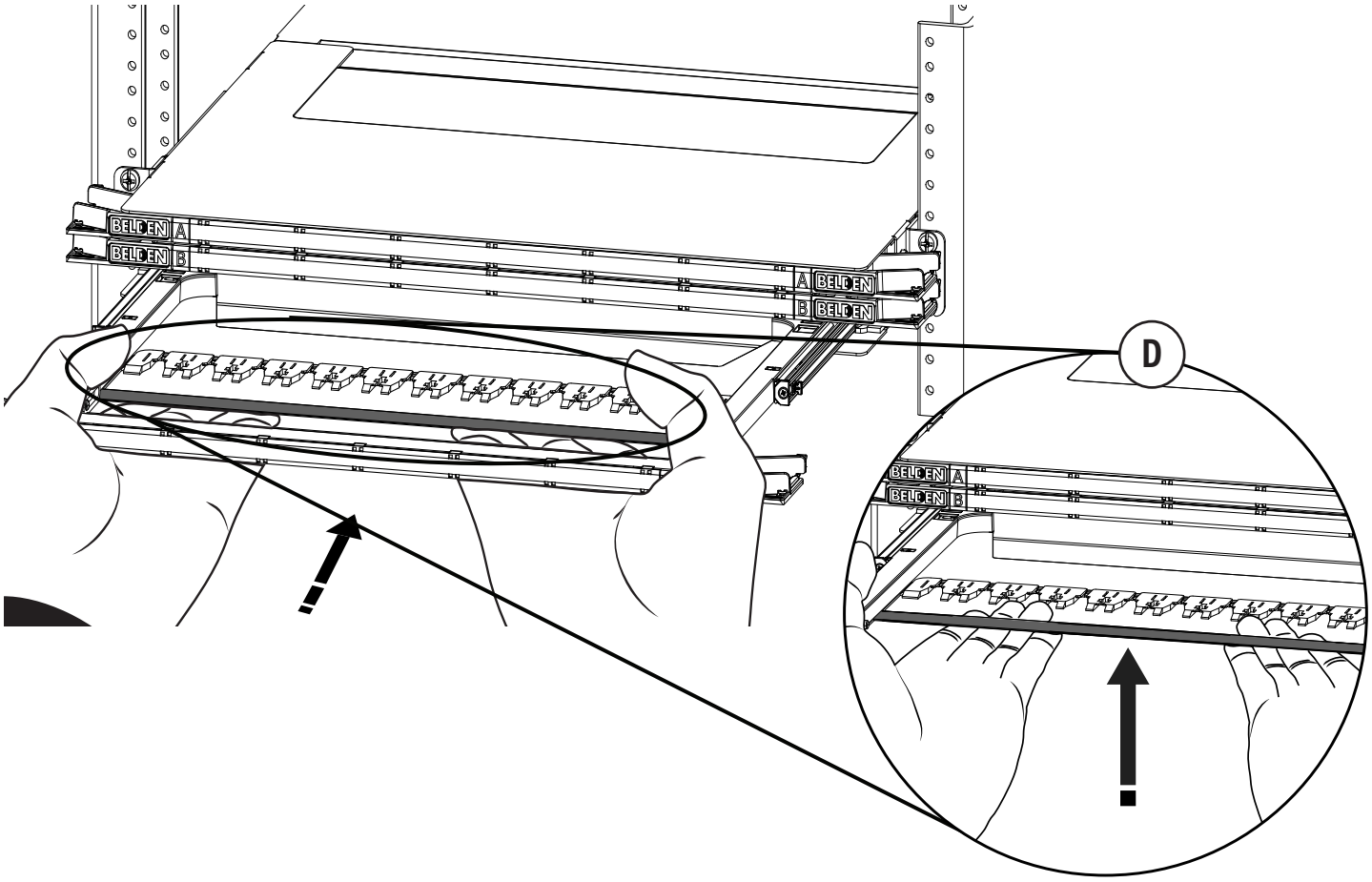


C To open the tray completely, squeeze both front latches and pull both sides of the tray.

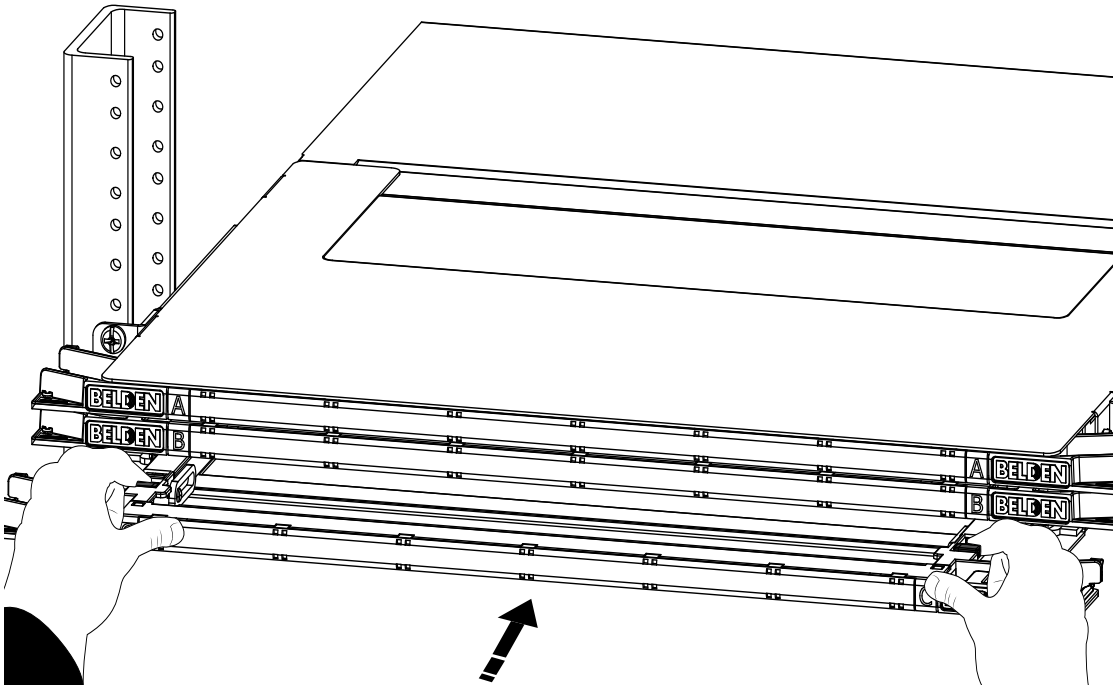
ⓘ = *Stop pulling the tray once it encounters resistance*



D To close the tray, apply slight pressure upwards onto the front of the tray (highlighted in gray) using your fingers and push the tray into the panel until patching position is reached.



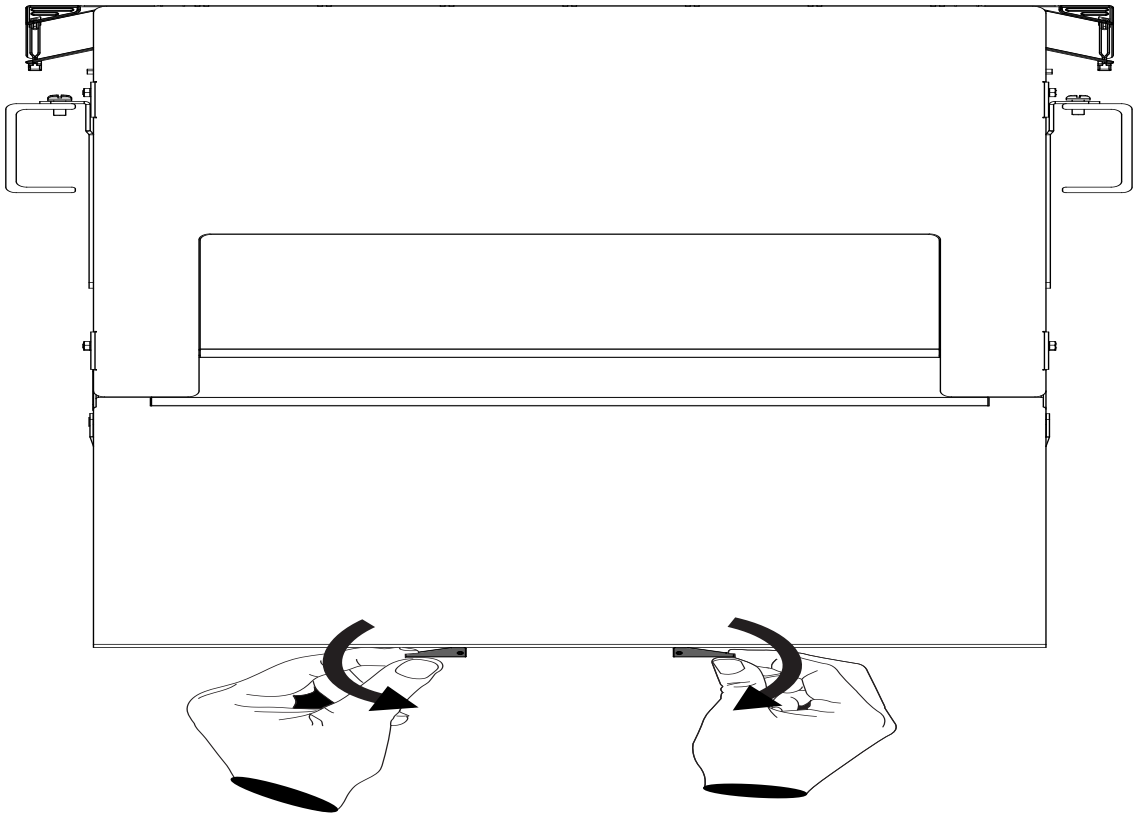
E Pull latch on both sides and push back into closed position.



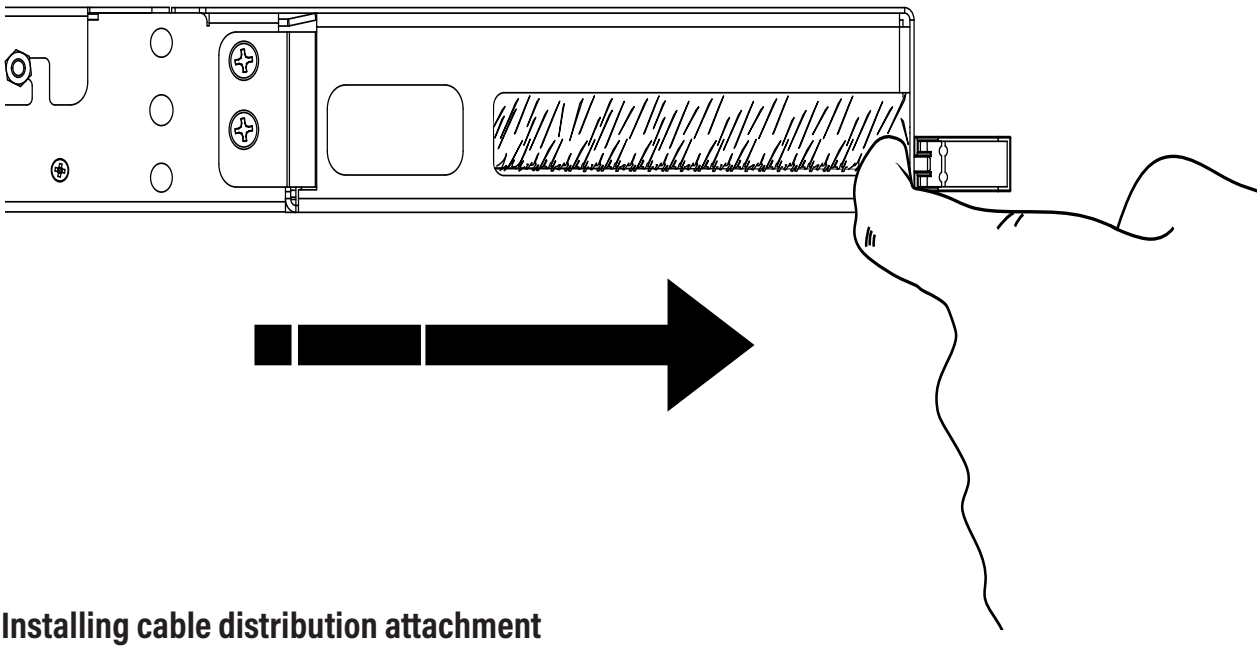
3.2 Opening the rear door

A Hold the swell latch with your hand and rotate it 90° inward.

ⓘ= *For 2U/4U, hold the expansion latch by hand and rotate it upward 90°*



B Pull the cover out from the gap on both sides.

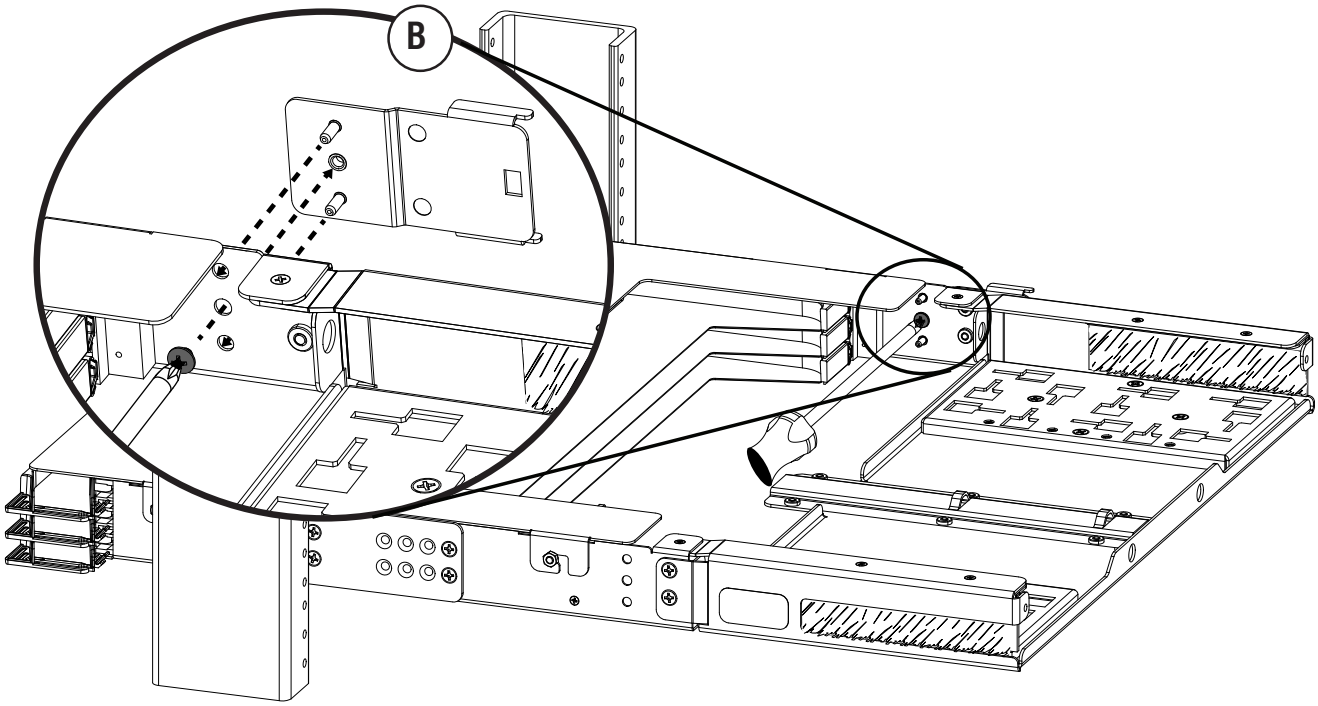


3.3 Installing cable distribution attachment

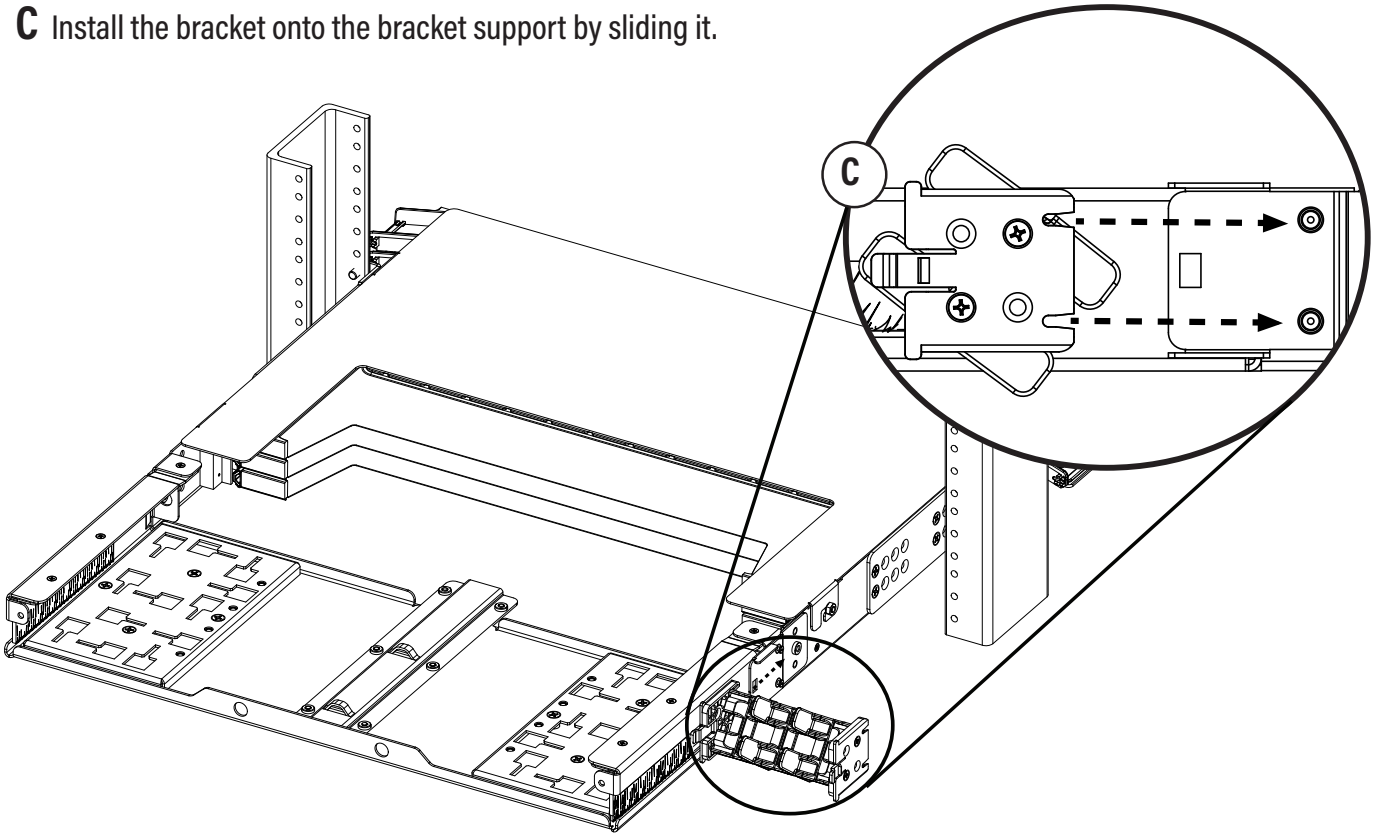
A Remove rear door

ⓘ = *Refer to step section* **3.2** *for the complete process*

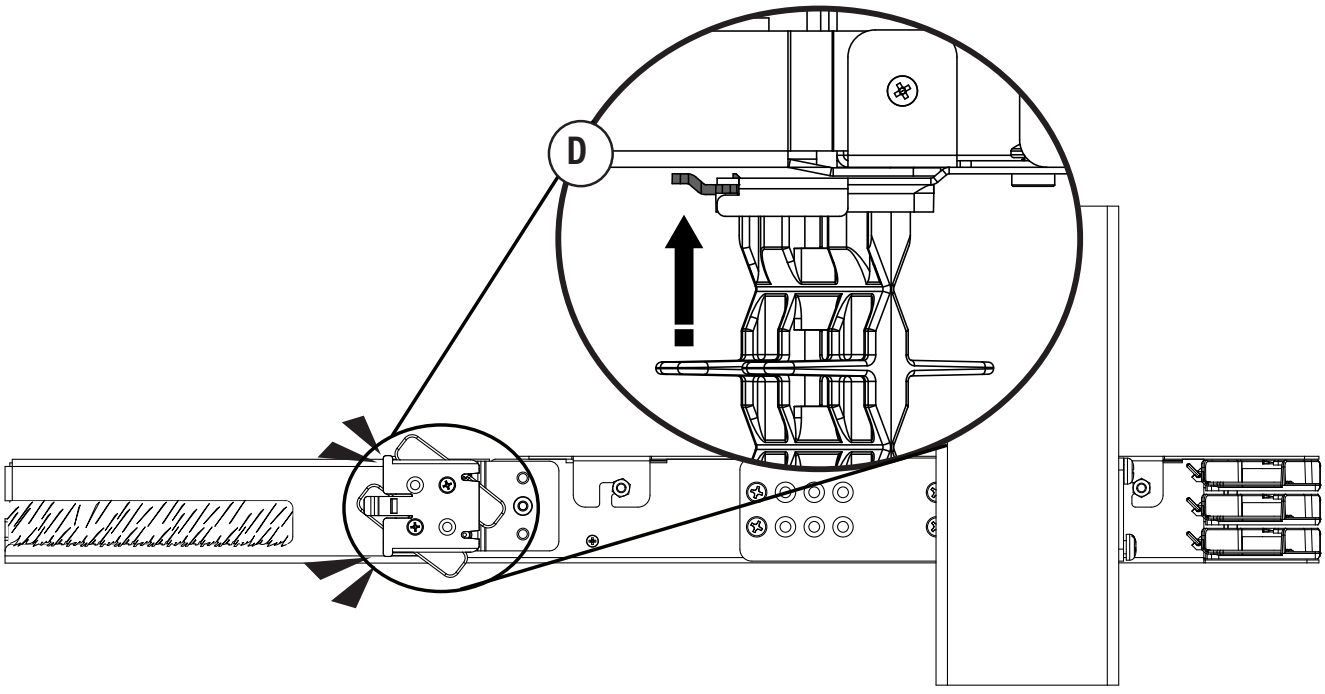
B Mount the bracket support onto the panel using the #8-32 screw.



C Install the bracket onto the bracket support by sliding it.

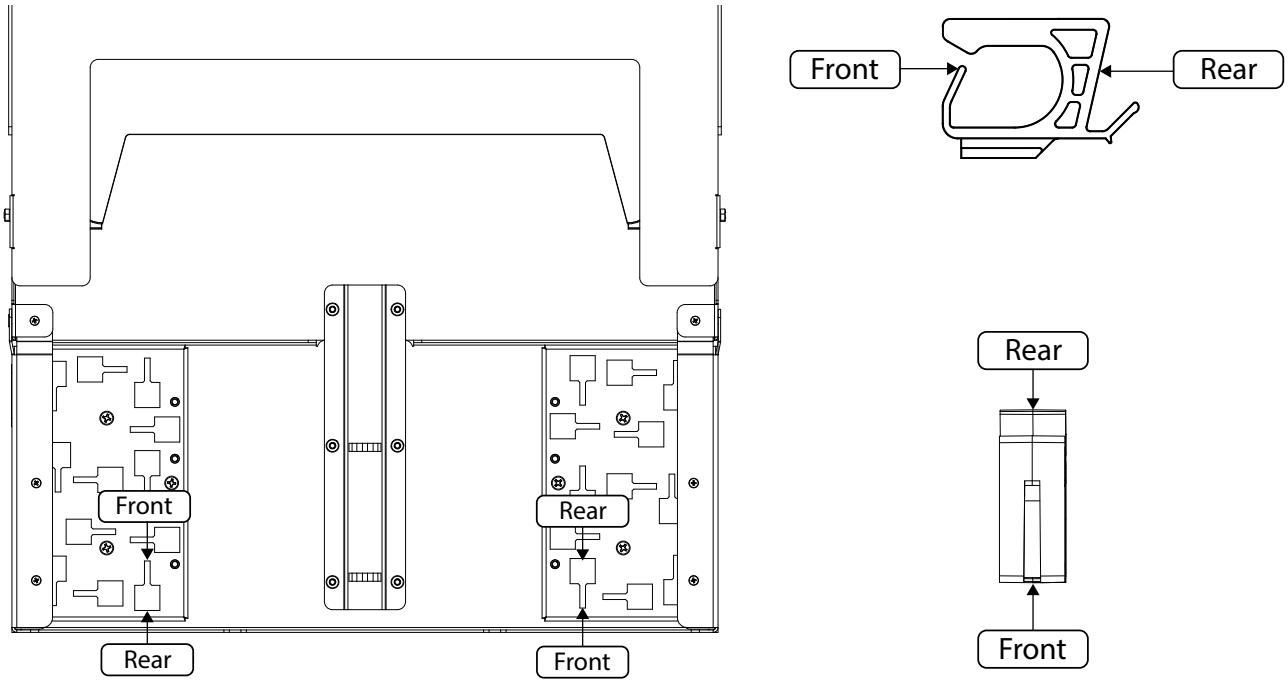


D Press the latch to secure it to the bracket support.

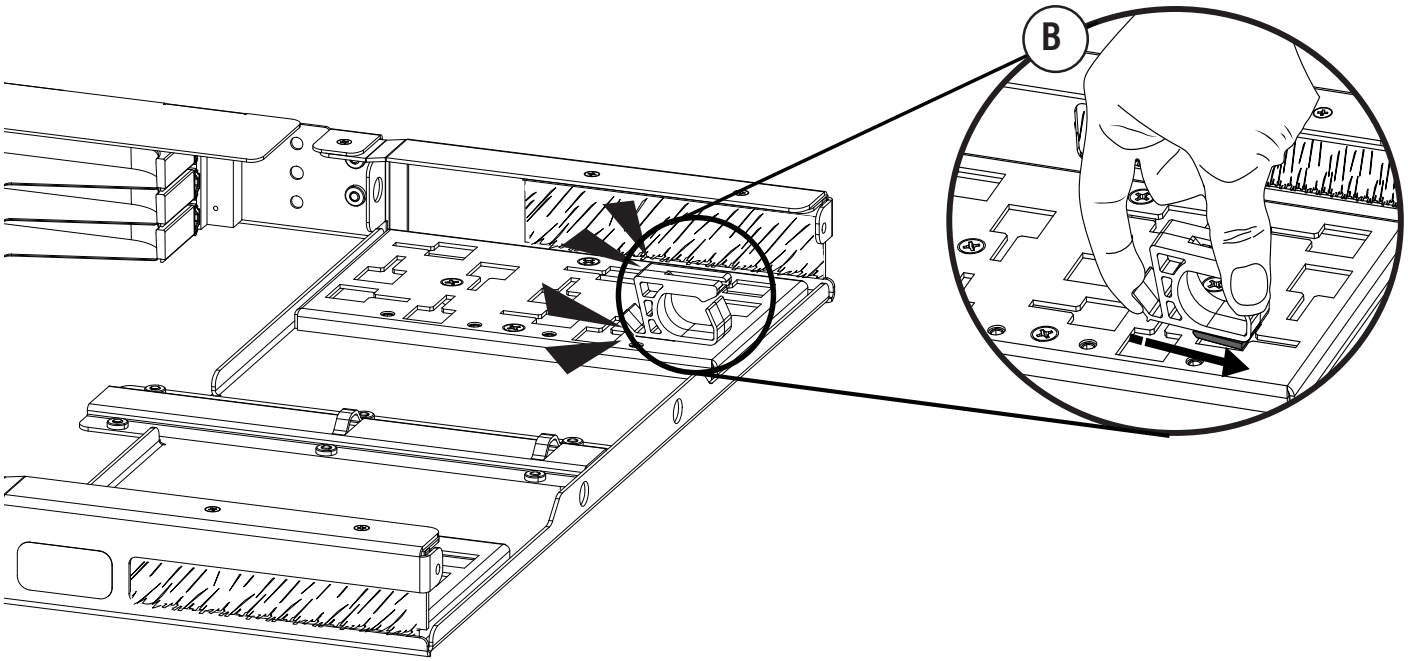


3.4 Installing cable manager

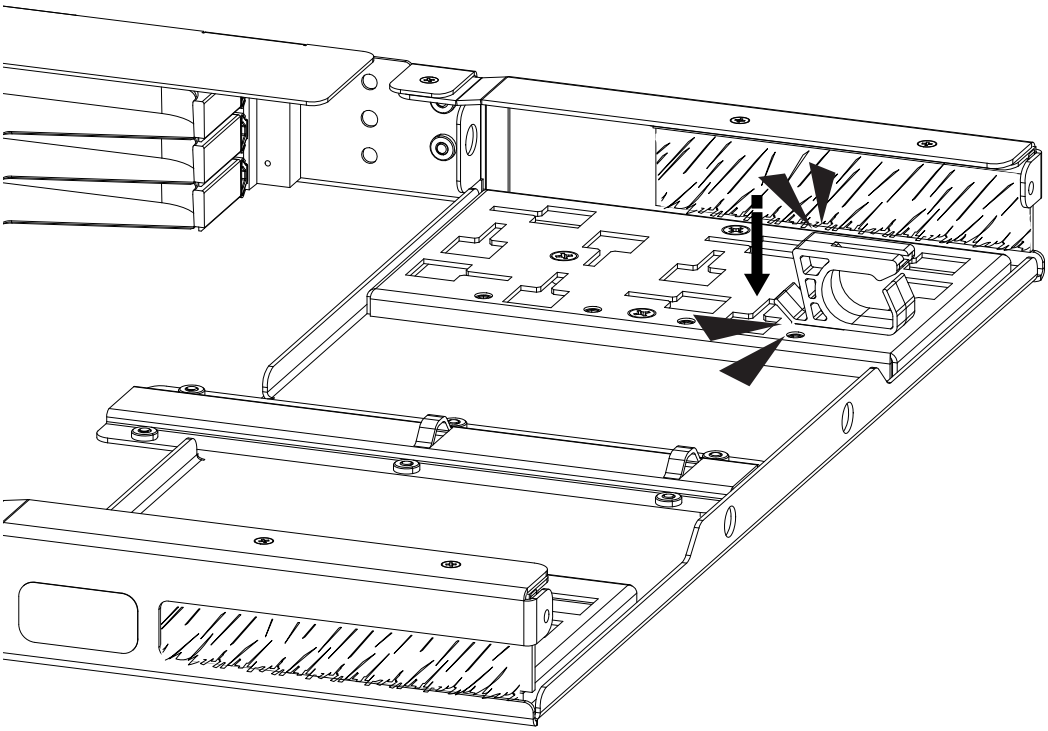
A Ensure cable manager orientation is consistent with the notch of the cable mounting plate.



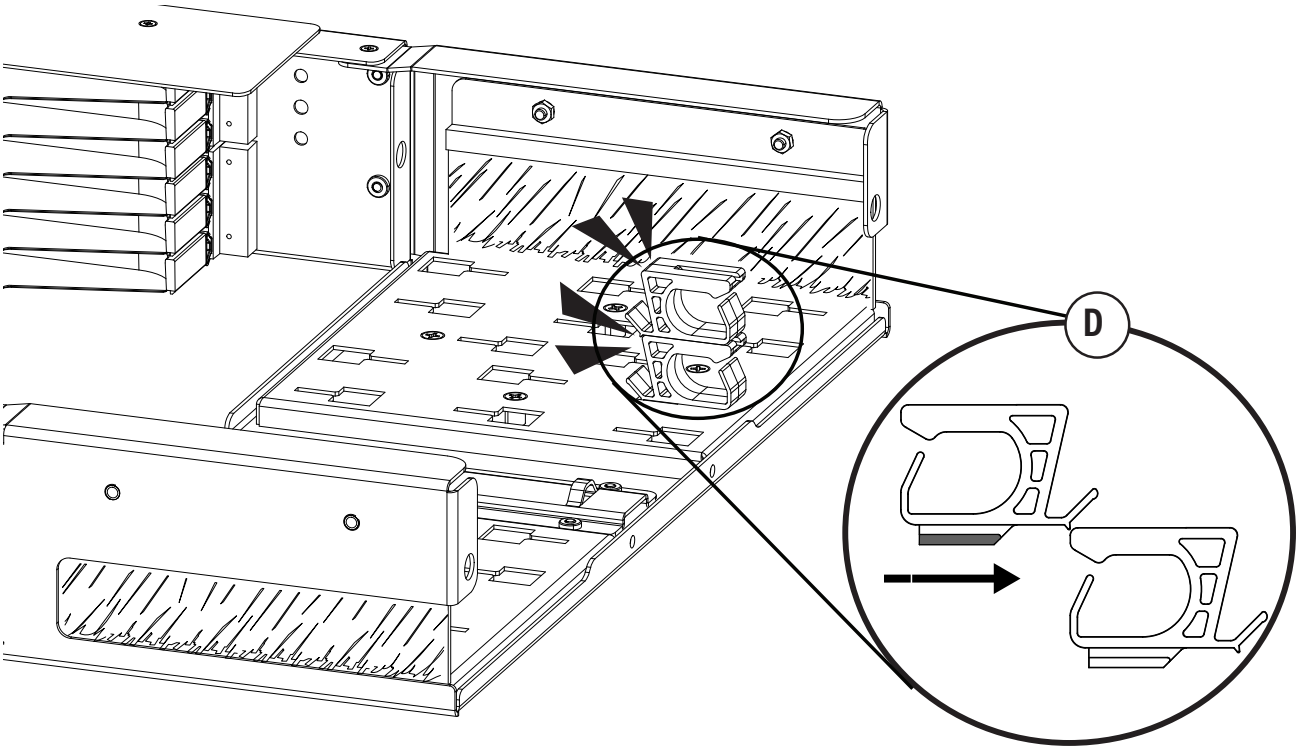
B Slide the cable manager onto the the plate.



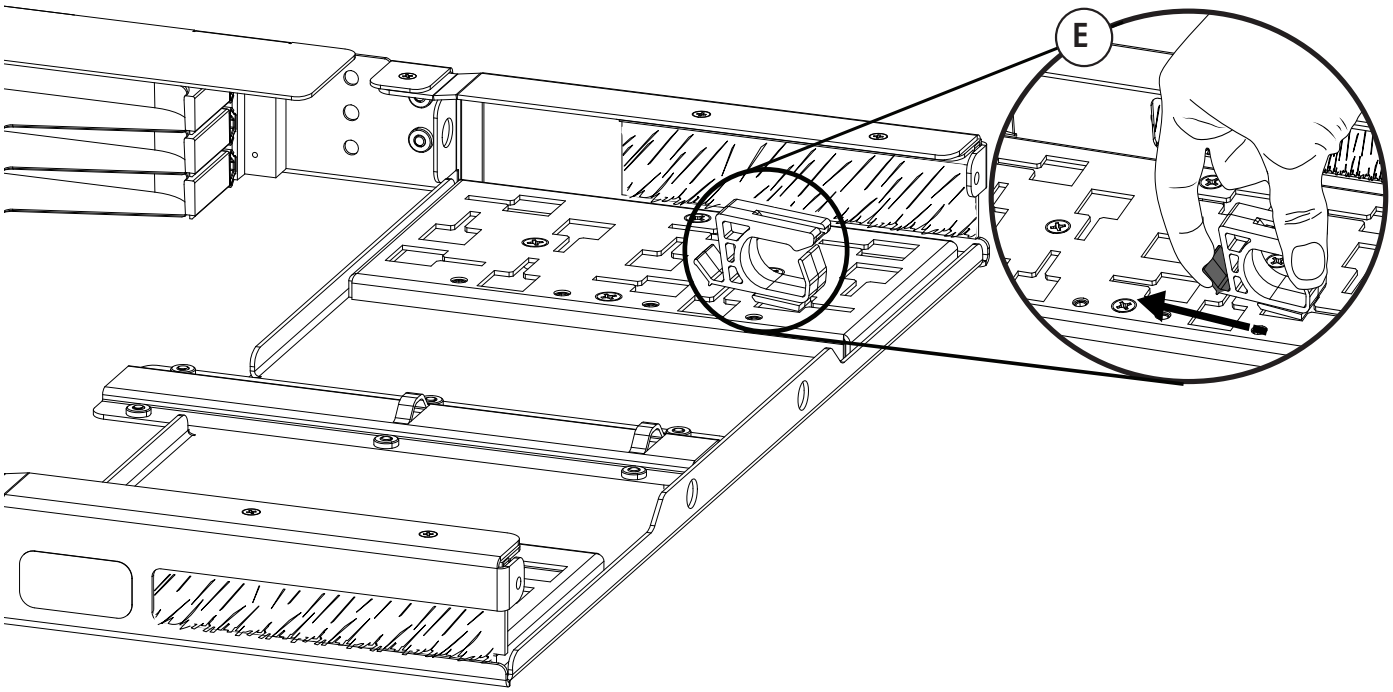
C Press down onto the rear latch to secure the cable manager to the plate.



D To stack cable managers, slide a cable manager on top of another.



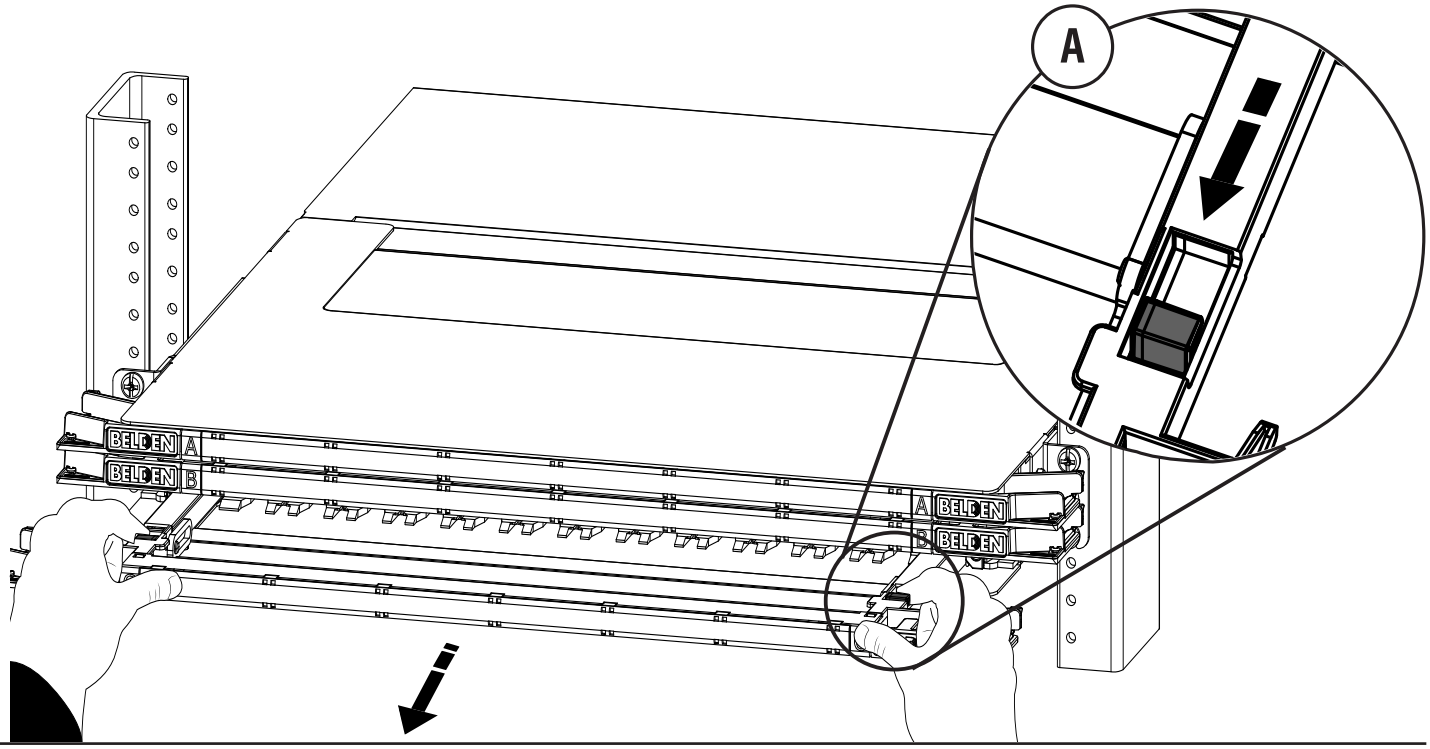
E To remove a cable manager, disengage the rear latch by pressing on it and slide the cable manager out.



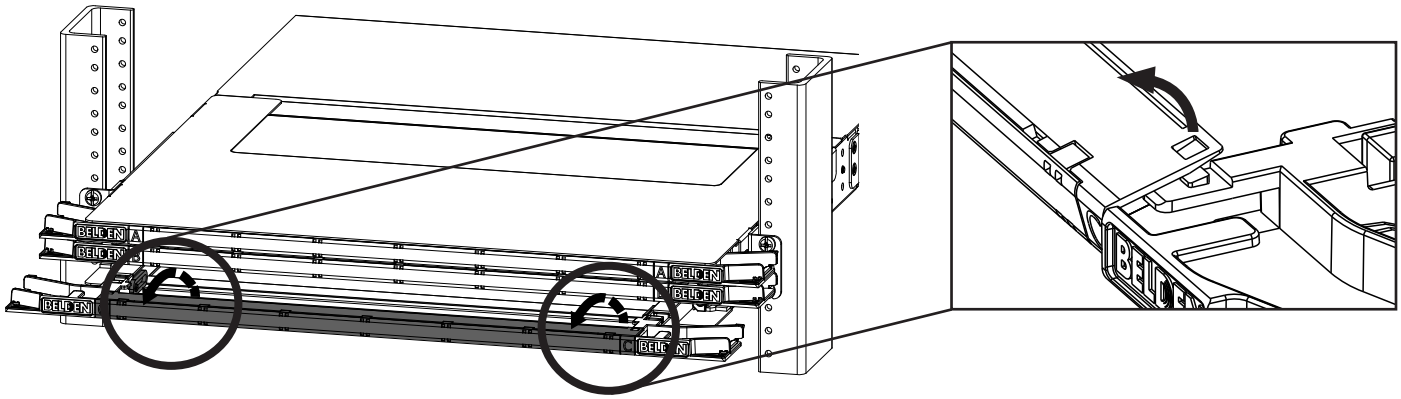
3.5 Insertion of cassettes to the tray

A Pull the tray from both sides into the patching position.

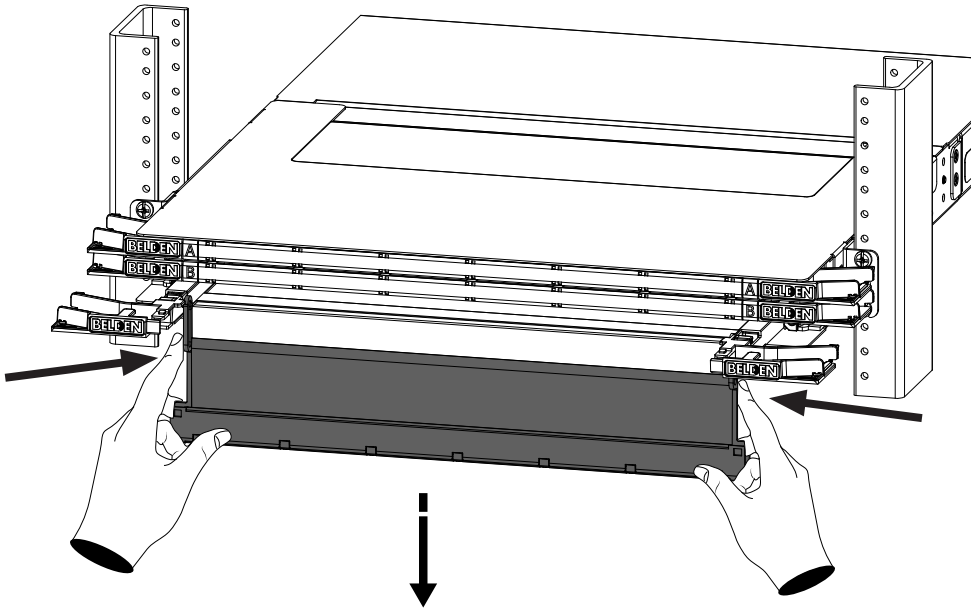
ⓘ = *Tray will lock itself once in patching position*



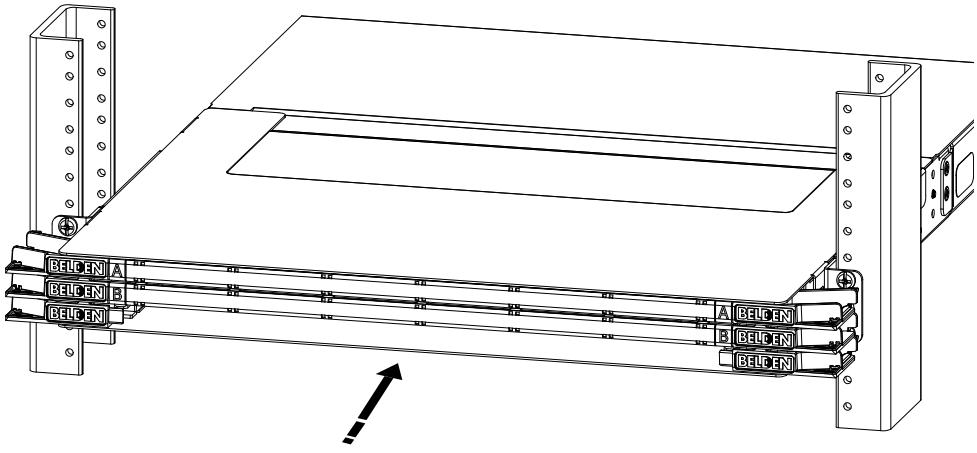
B 1. Release the patch cover by lifting both sides of the cover and pull it outwards.



2. Slightly squeeze both sides of the cover towards the centre as shown and remove it.



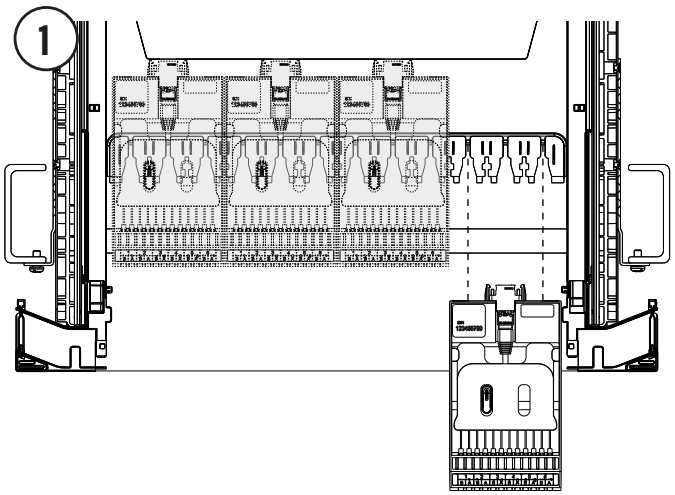
3. Pull latch on both sides and push the tray back into a closed position.

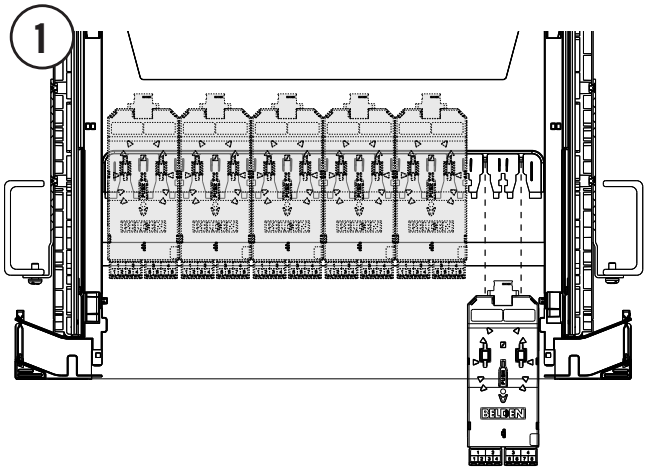


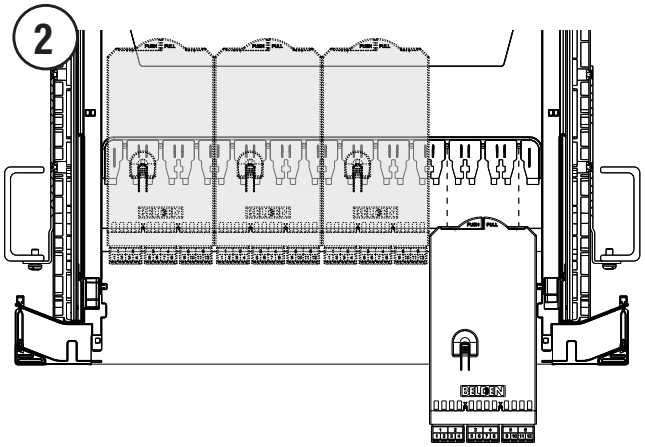
C Making sure trays are pushed back at a closed position, align the cassette to the tray attachment ports, make a slight push to attach the cassette to the tray.

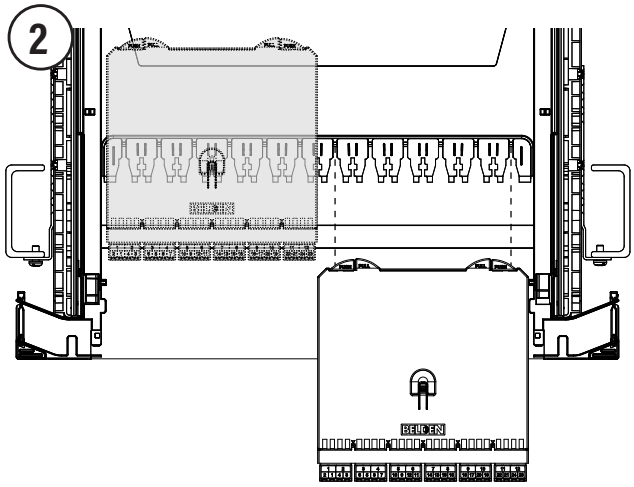
ⓘ = *For visual purposes, tray assemblies (tray A and B) and the lid have been removed*

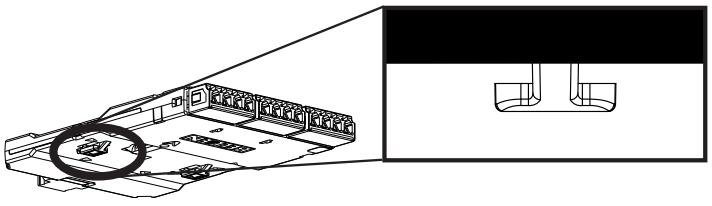
The installation procedures shown are similar for:
1 - DCX Pre-Term Adapter Frames (FFxDxxLDMFxx)
2 - DCX Splice Cassette (FCxDxxLxFx)

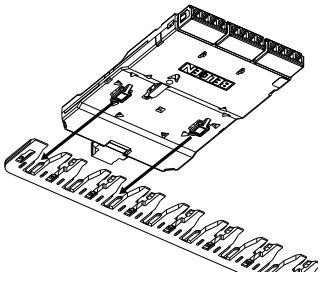


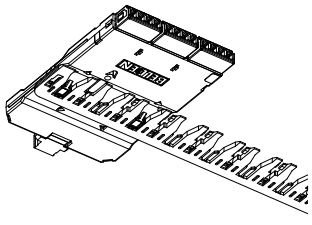




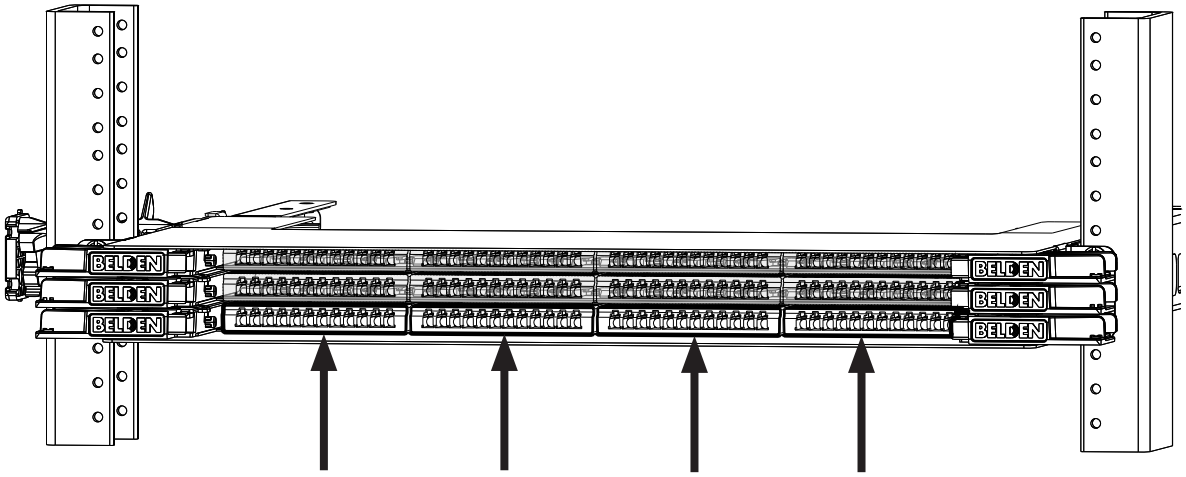






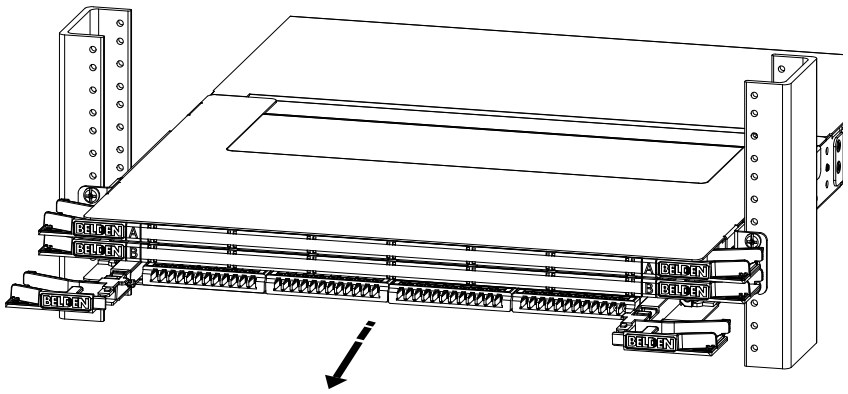


D Install the remaining cassettes on current tray.

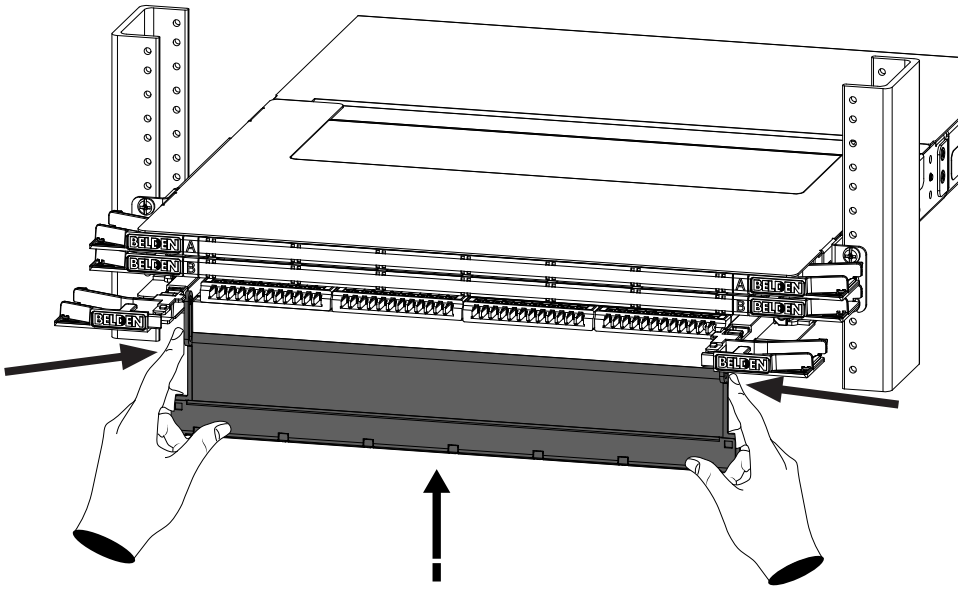


E 1. Pull the tray from both sides into the patching position.

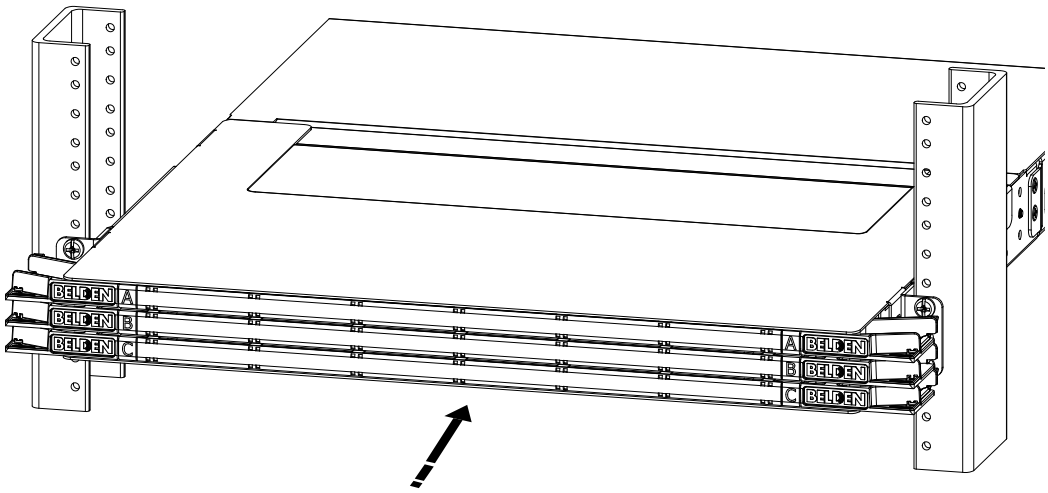
ⓘ = *Tray will lock itself once in patching position*



2. Reinstall the cover onto the tray.

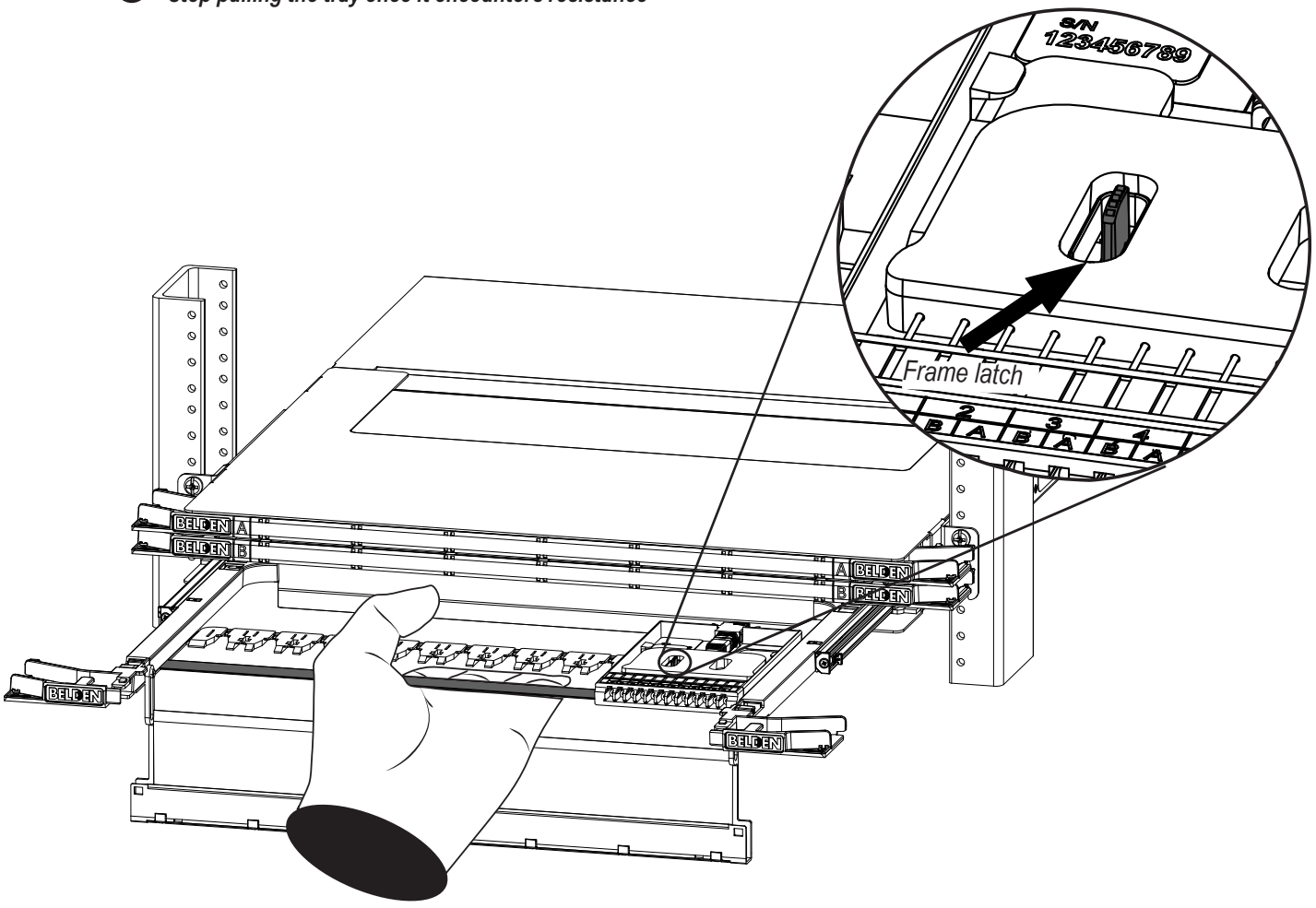


3. Pull latch on both sides and push back into closed position.



= To remove the cassette from the tray, squeeze both front latches and pull the sides of the tray outward to fully open it. Then hold the tray, press the latch on the cassette and slide the component out.

=Stop pulling the tray once it encounters resistance



4. Preparing accessories for the DCX Housing

4.1 Routing preparation

4.1.1 µMini-Distribution cable preparation

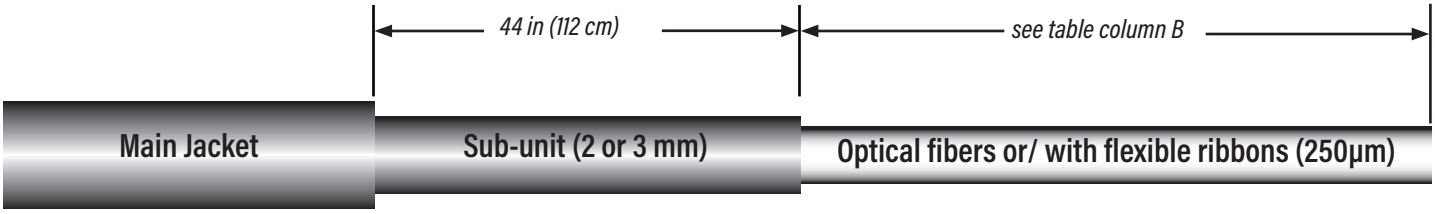
ⓘ = *Section* **4.1.1** *apply to section* **5.1**

A Prepare the cable length by following in the information below:

Type of cassette (SC-LC Duplex)		A-Length of jacket to remove	B-Length of sub-unit jacket to remove
FP/FM	3 cut-outs	81.8 in (208 cm)	37.80 in (96 cm)
	6 cut-outs	94 in (239 cm)	50 in (127 cm)
FS	3 cut-outs	70.77 in (180 cm)	26.77 in (68 cm)
	6 cut-outs		

ⓘ = *a. Remove jacket length specified in column A of table above based on cassette type*

b. Remove sub-unit jacket length specified in column B of table above based on cassette type



4.1.2 FX MPO Trunks cable preparation

ⓘ = *Section* **4.1.2** *apply to section* **5.2**

A Use the recommended cable assembly as indicated in the information below:

ⓘ = *please use 1m fan-out geometry as underlined in cable assembly example*

Example: ***FM4MMBD010MPUEE*** *- FX MPO TRUNK, OM4, MPO-12(MALE TO MALE), TYPE-B, 12 MPO (144 FIBERS), 10 M, OFNP, MINI-DISTRIBUTION (2.0MM SUB-UNITS), FAN-OUT: 1.0M x IN-LINE, ERIKA VIOLET JACKET*

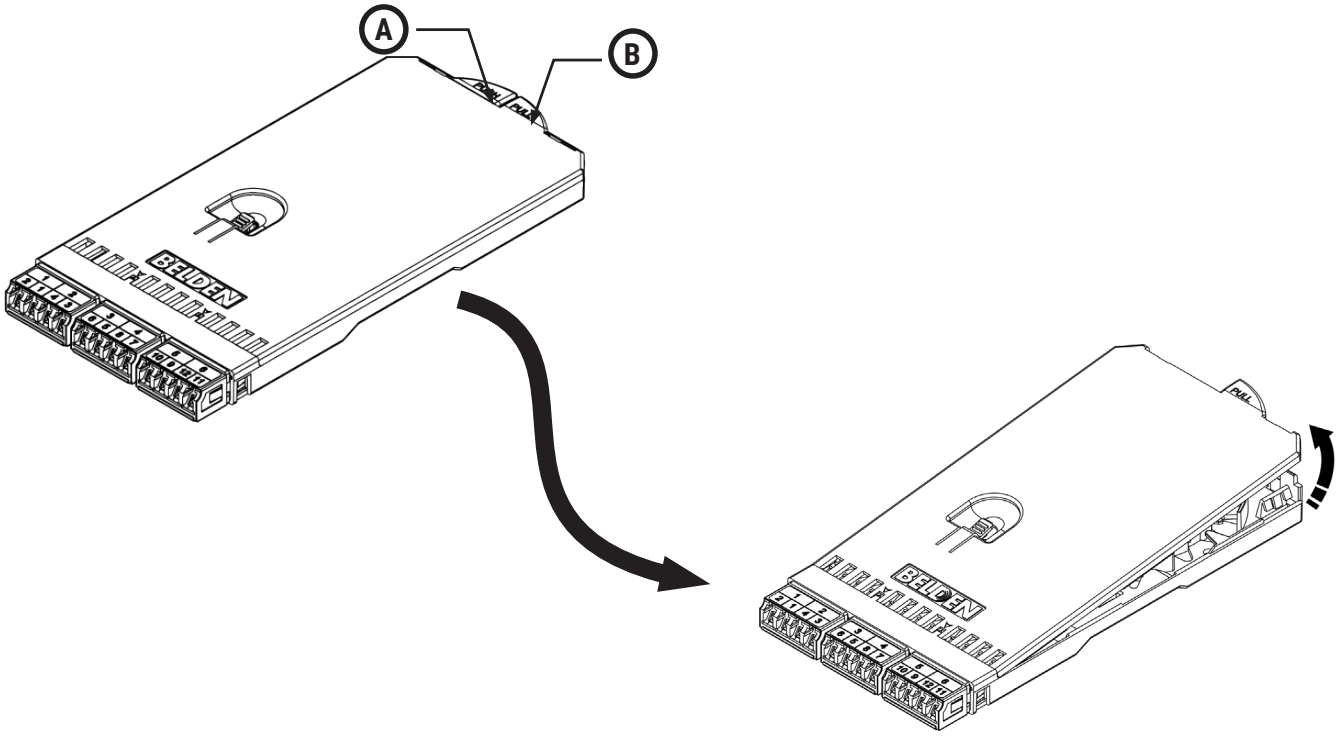
4.1.3 Suggested quantity of cable distribution bracket based on the size of panel

Cable distribution attachment	
Size of panel:	**QTY**
1U	1
2U	1
4U	2

4.1.4 Terminating cable within splice cassettes

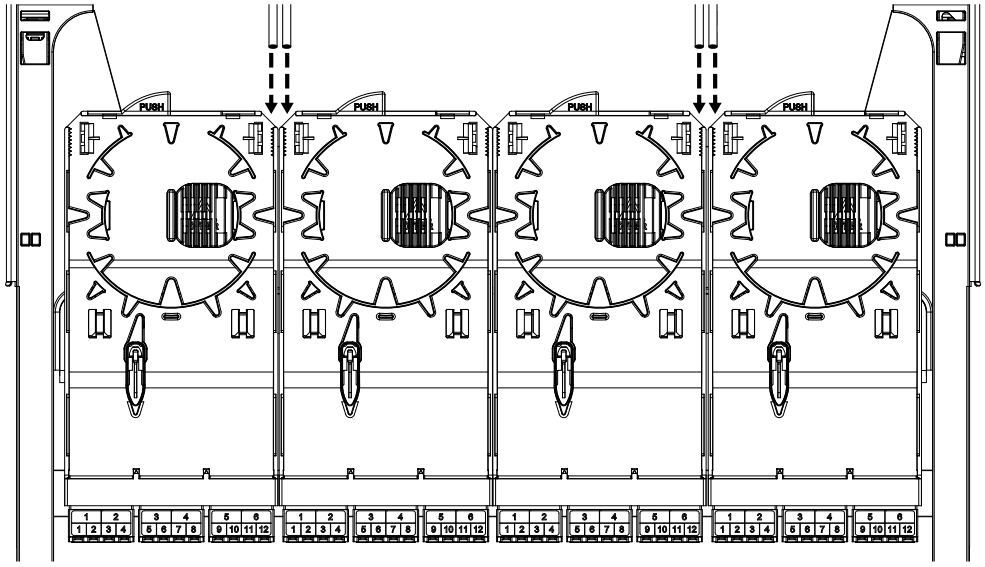
A Opening the cover.

ⓘ = *Push the marked Ⓐ, and pull the marked Ⓑ to remove the cover*

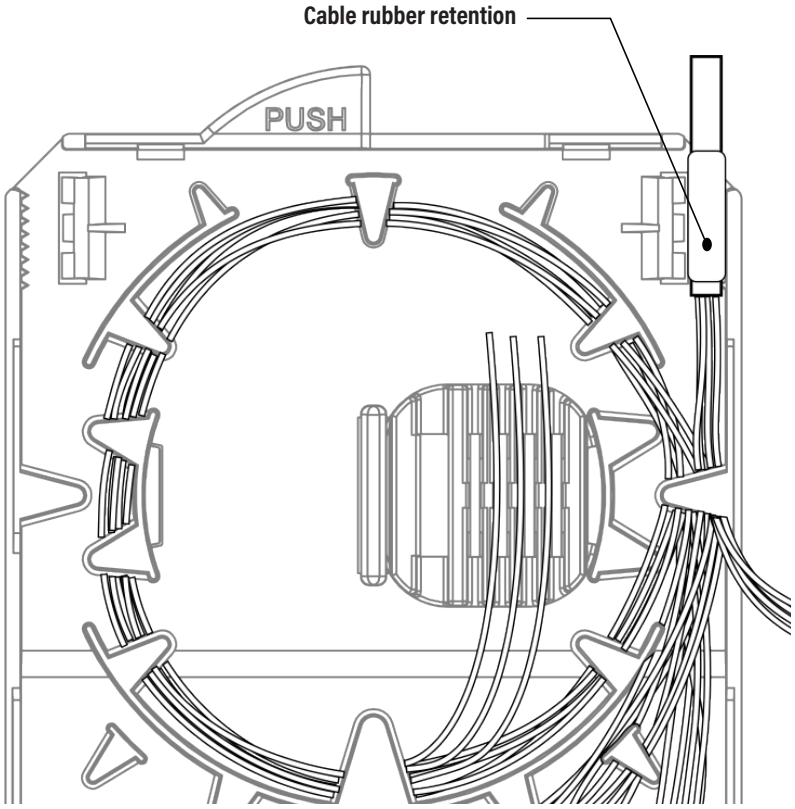


B Use appropriate cable entry point in splice cassette.

ⓘ *=For cable entering from the left side of the cassette, routing steps outlined from steps* **C** *to* **H** *shall be the same but mirrored*

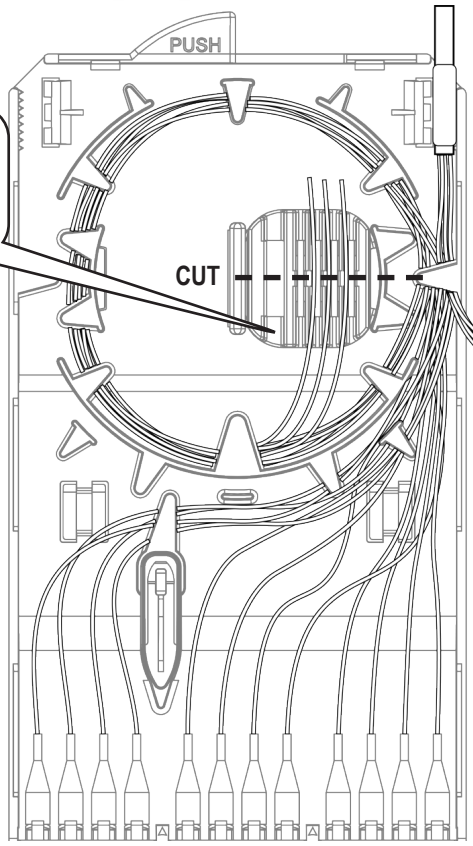


C Secure the µMini-Distribution cable to the splice cassette.



D Place the splice chip on the side where the cable enters in the splice cassette.
Take the end of the pigtails (that are already routed in the splice cassette) and bring it over the splice chip.
Cut the end of the pigtail fibers where they meet the middle of the splice chip.

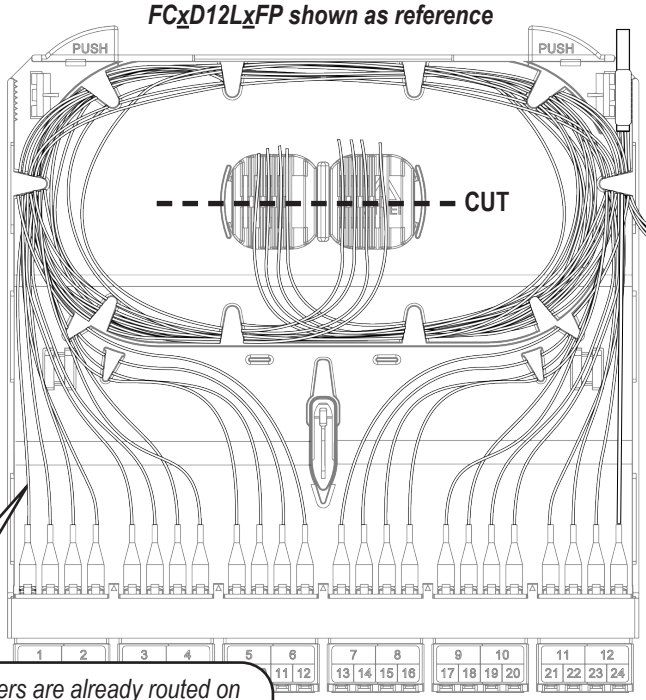
FCxD06LxFP shown as reference



ⓘ = *Splice chip is installed on the same side where cable enters, excepts for* ***FCxD06LxFP/M*** *cassettes.*

ⓘ = *When cutting pigtails cables, 250 µm fibers are placed outside from the cassette.*

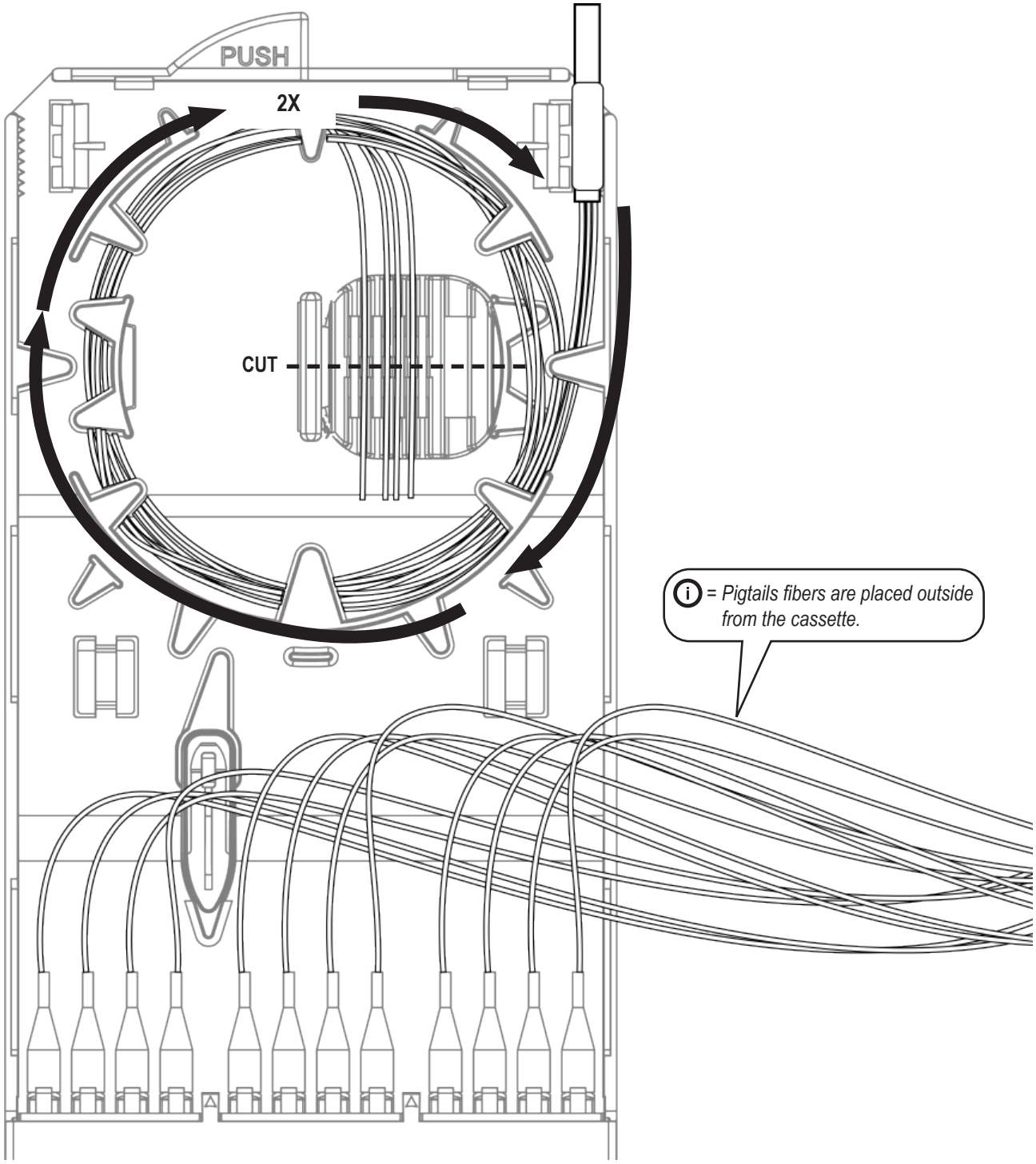
FCxD12LxFP shown as reference



ⓘ = *Half of the cassette fibers are already routed on different sides as the image above shows.*

E Leave the pigtails cables connected to the adapters and unspool the fibers from the splice cassette body.
Repeat the same procedure shown at the step **D** to cut the 250µm fibers at the right length and prepare them for the splicing.

ⓘ = *When routing 250µm fibers, make 2 loops to route the fibers*

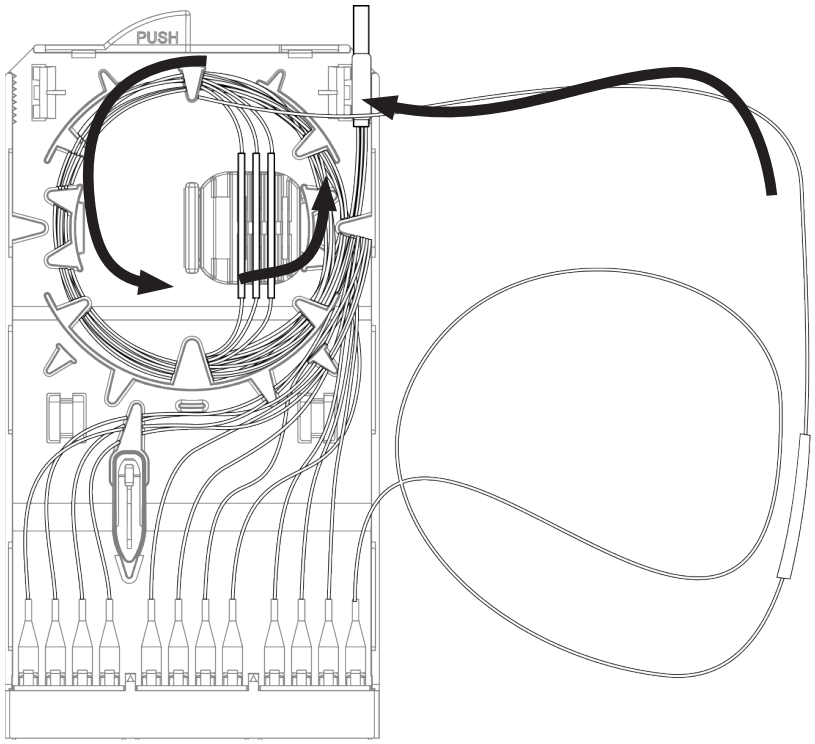


F For each fiber, slide the fusion protection sleeve on either fiber (250 µm or preloaded pigtails). Prepare the fibers for the splicing.

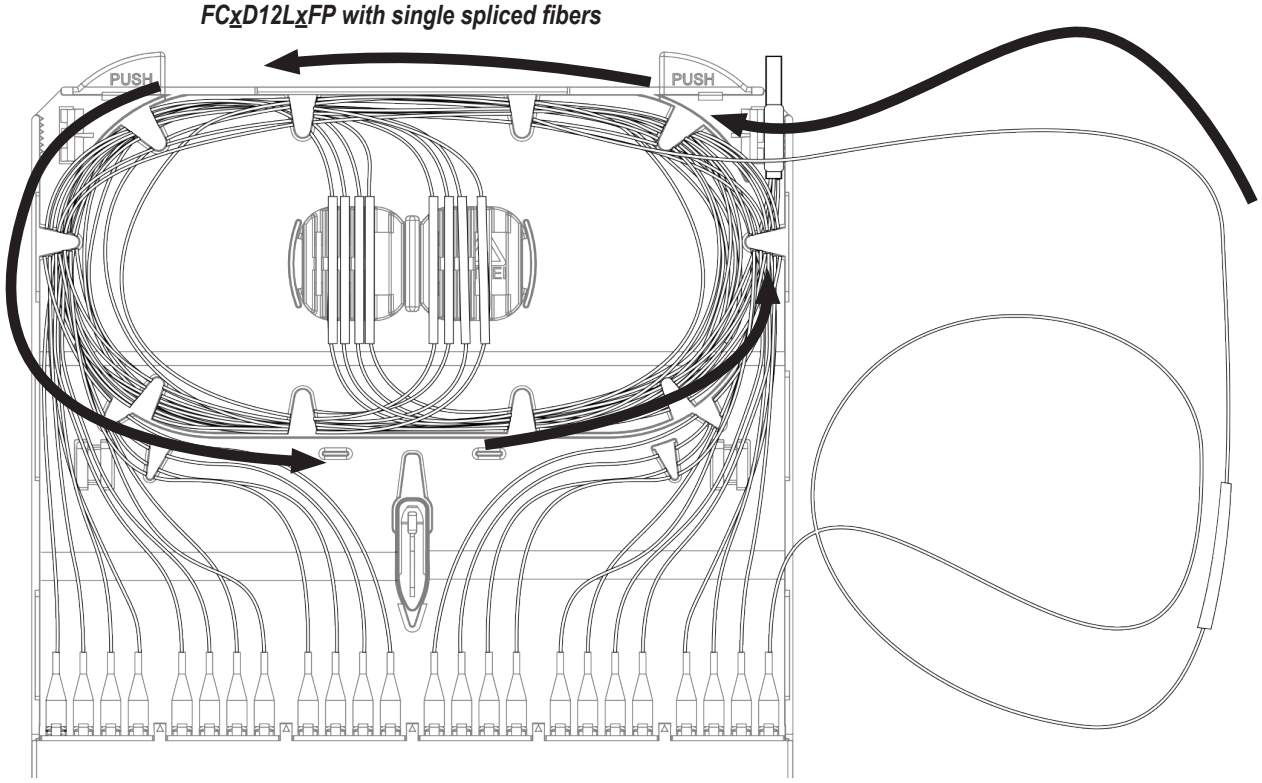
ⓘ = *For the mass fusion splicing the fibers must be grouped with and ribbonized before stripping*

Once the fibers are spliced, route them into the cassette until the fusion protection sleeve is placed in the splice chip

FCxD06LxFP with single spliced fibers

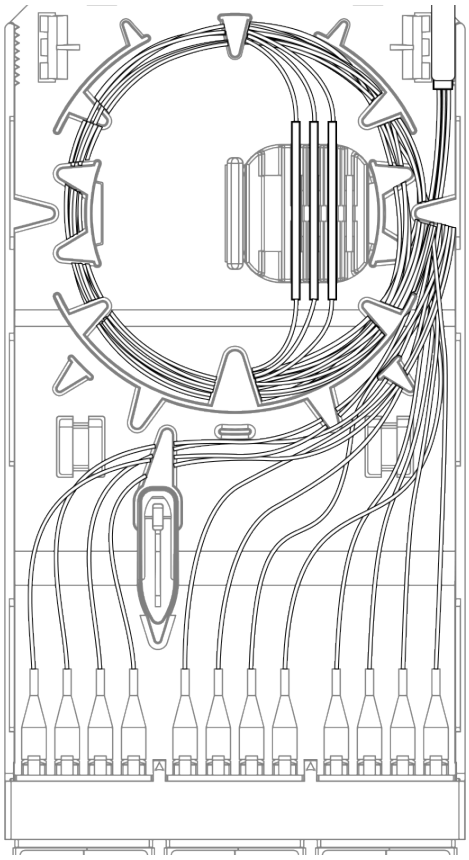


FCxD12LxFP with single spliced fibers

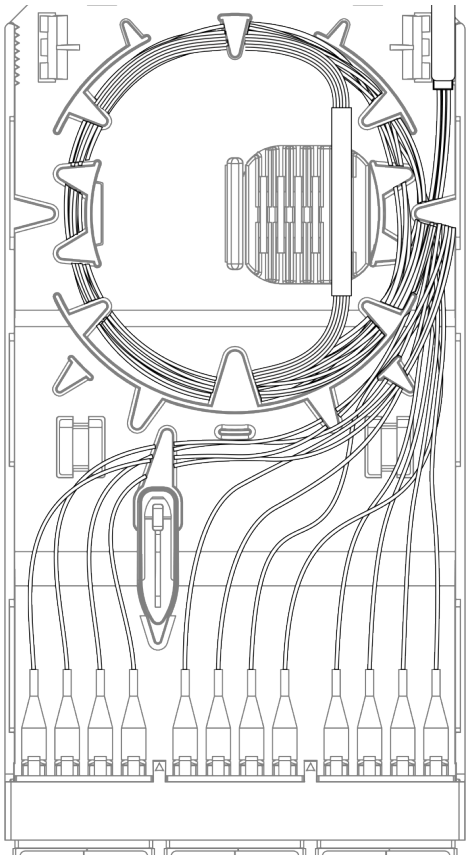


G Continue to route the rest of the fibers.Re-install the cover once all the routing is completed.

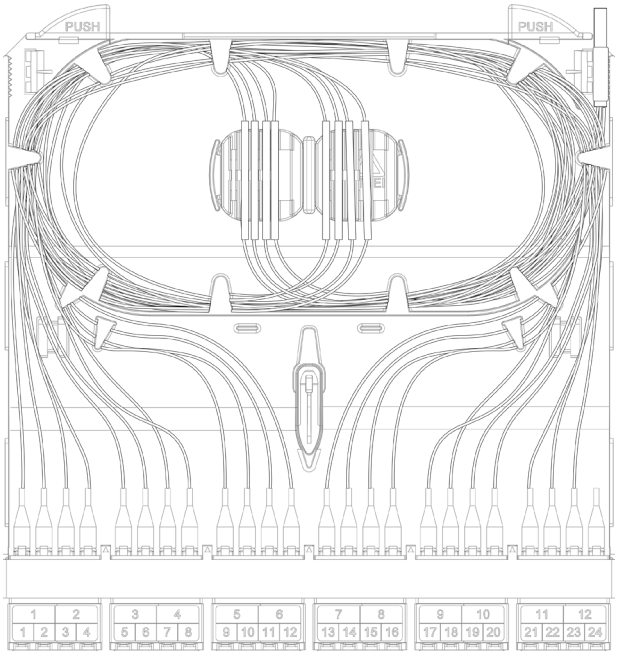
FCxD06LxFP fully loaded



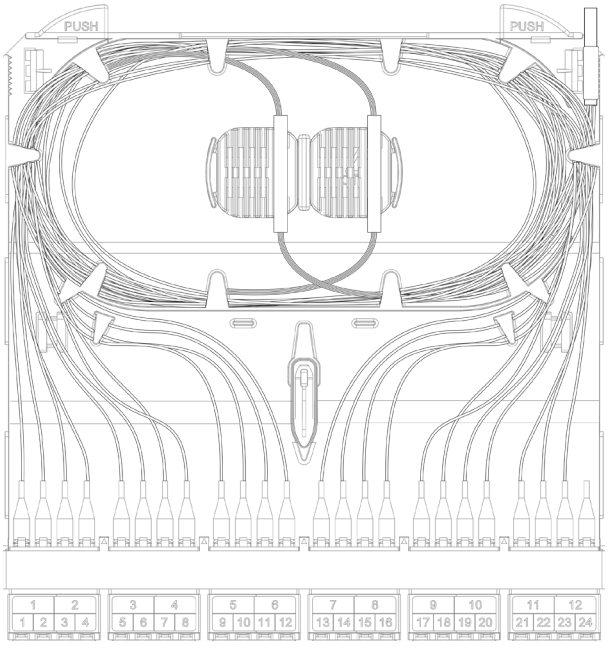
FCxD06LxFM fully loaded



FCxD12LxFP fully loaded

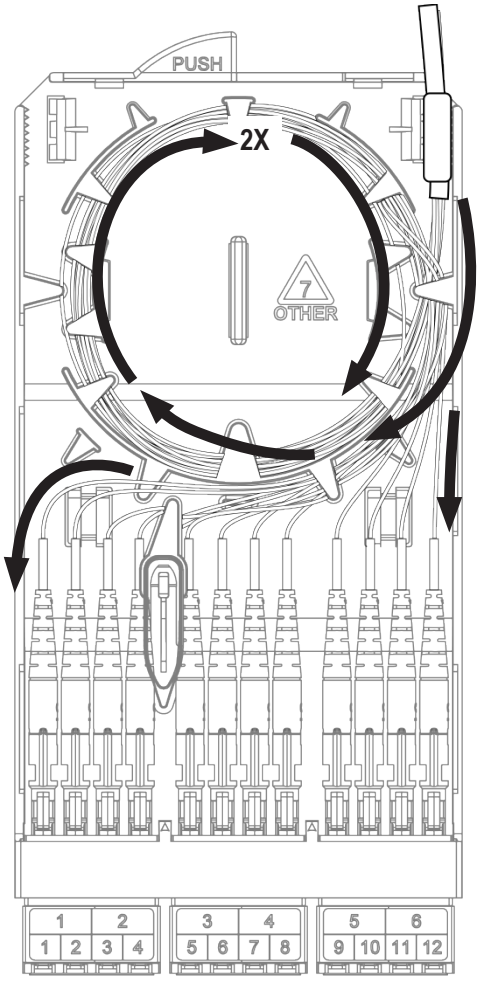


FCxD12LxFM fully loaded

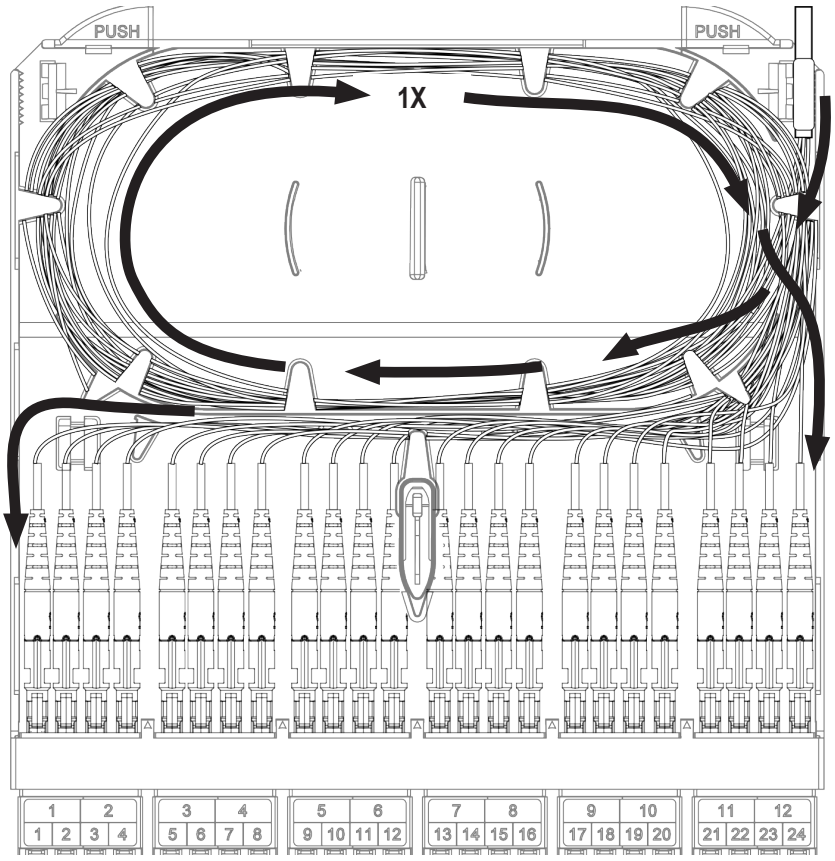


H For splicing optical fibers to the splice-on connectors, route directly the fiber to the adapter to complete the fusion.

FCxD06LxFS shown as reference



FCxD06LxFS shown as reference



5. Routing of cable in panel

5.1 Cable routing in panels with splice cassettes

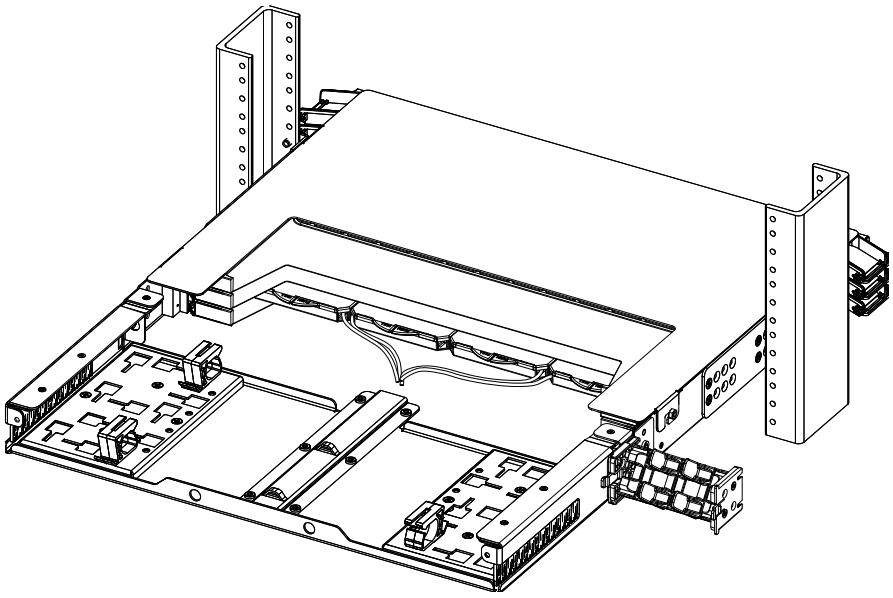
5.1.1 Routing of 1U

A Ensure the cassettes are installed on the bottom tray.

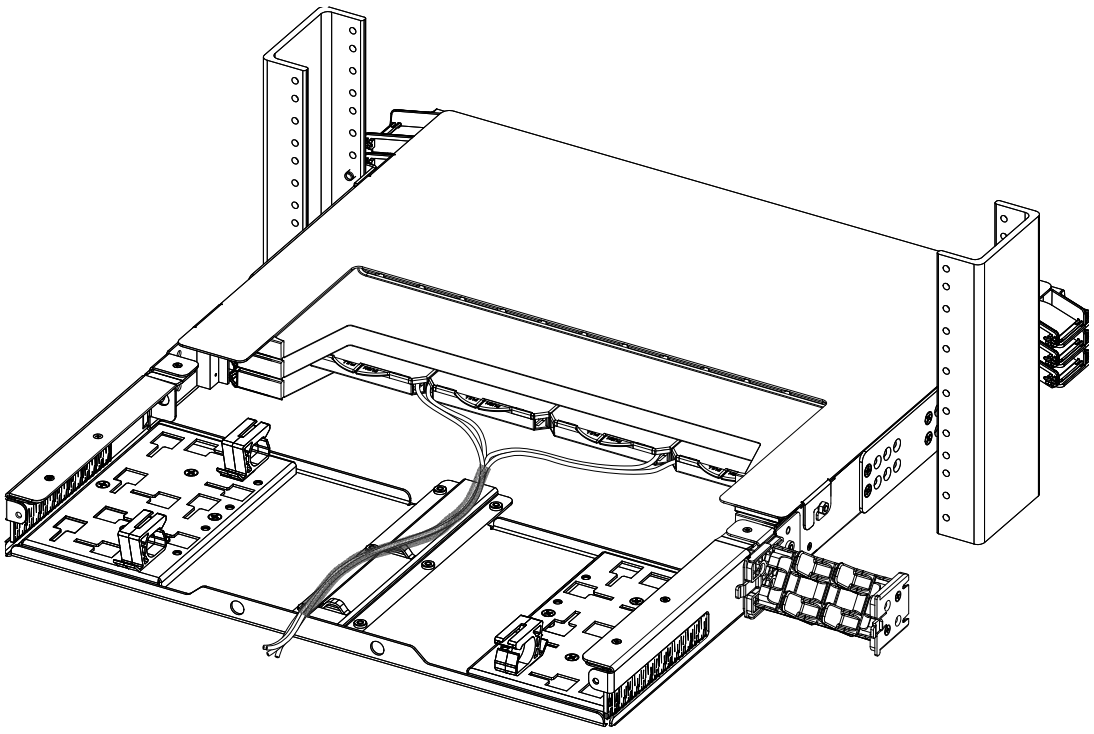
ⓘ = *Refer to steps* **A** *to* **C** *from section* **3.5**

B Install the cable managers.

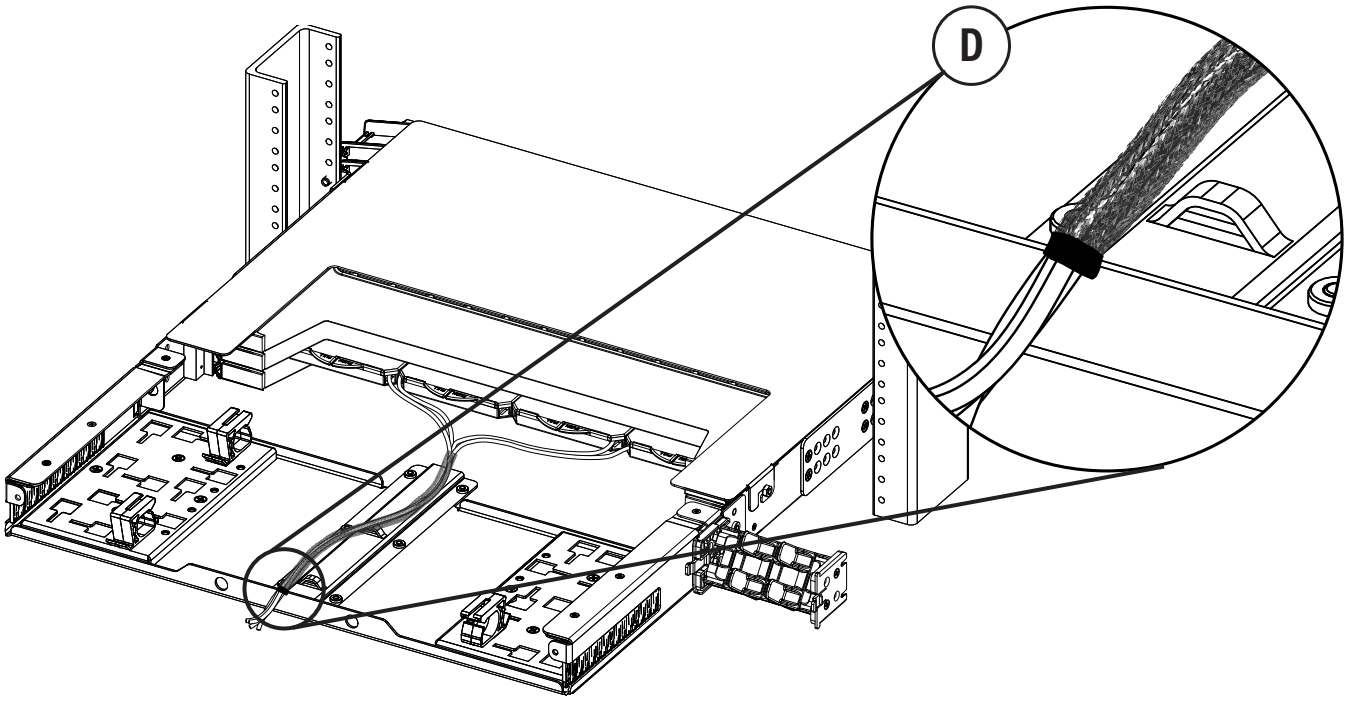
ⓘ = *Refer to section* **3.4** *for more detail on the installation of cable managers*



C Wrap sleeves around sub-units, ensure the end of the sleeve is close to the cassettes without causing excessive bends.

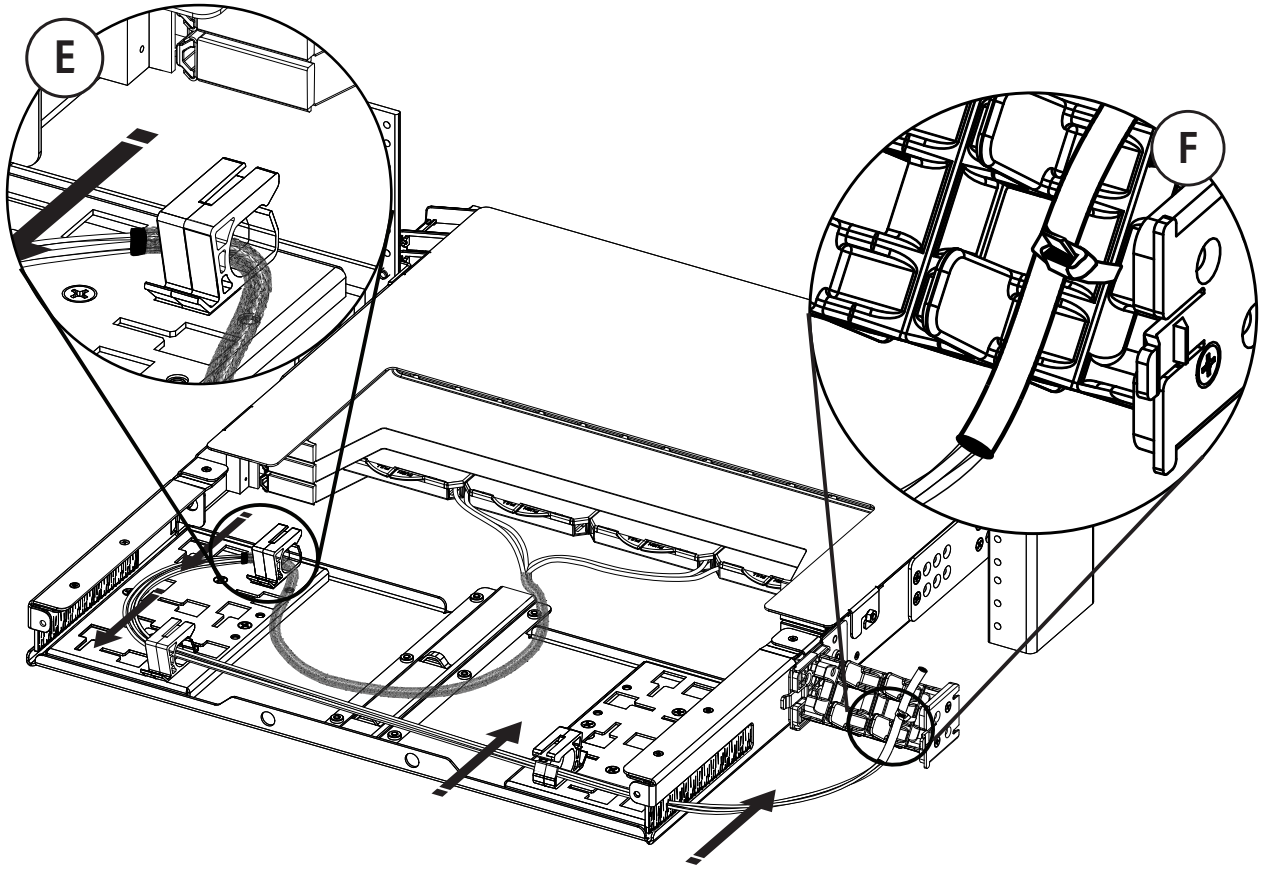


D Secure sleeve sub-units with tape at the rear.



E Insert the sub-units into the cable managers.

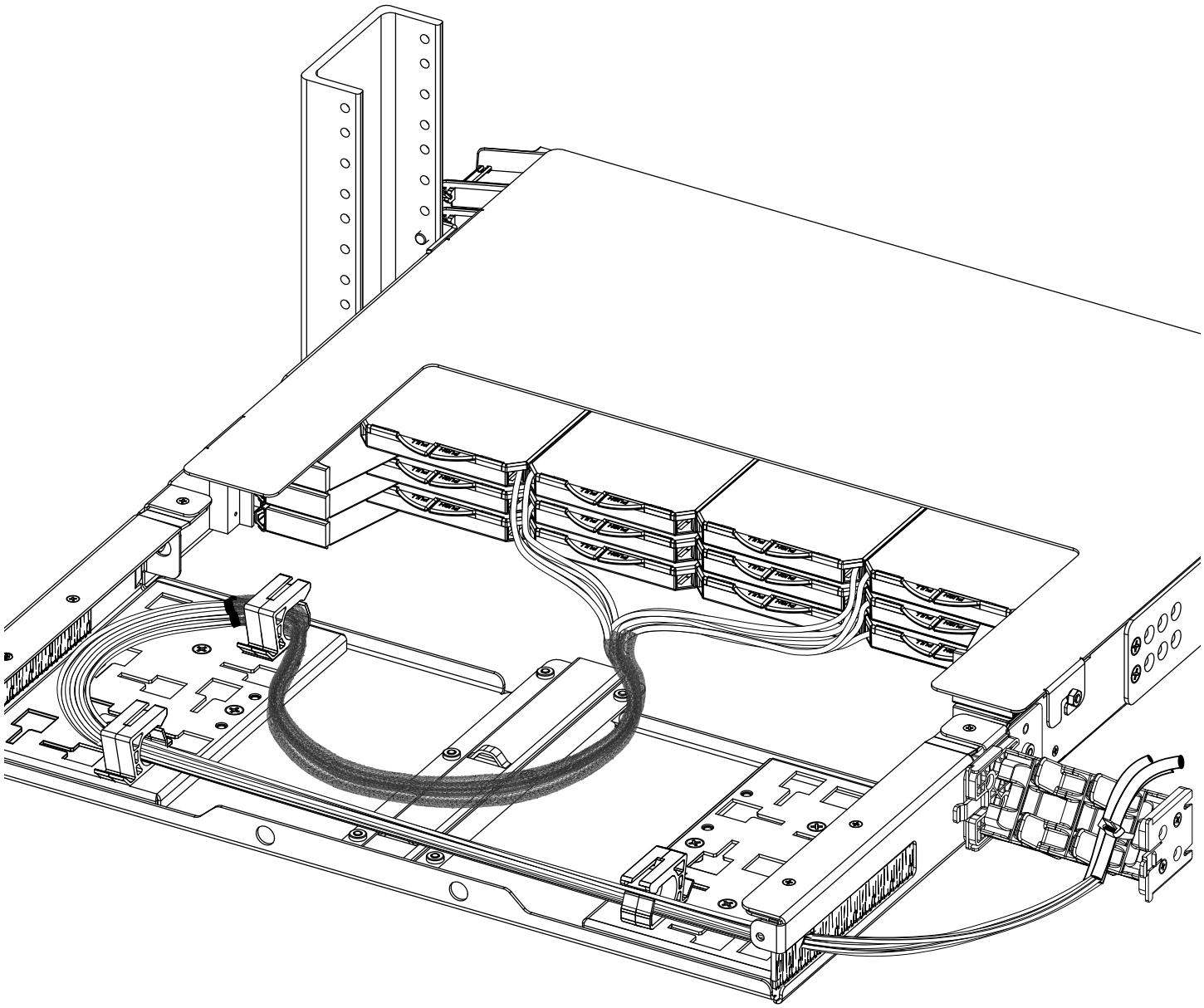
F Secure main jacket to the bracket.



G Repeat steps **A** first, then **C** to **F** for the remaining sub-units, finally secure all main jackets in the bracket.

⚠ = *Do not over-tighten the cable ties*

Do not move the tray beyond the patching position, unless cassette removal is required

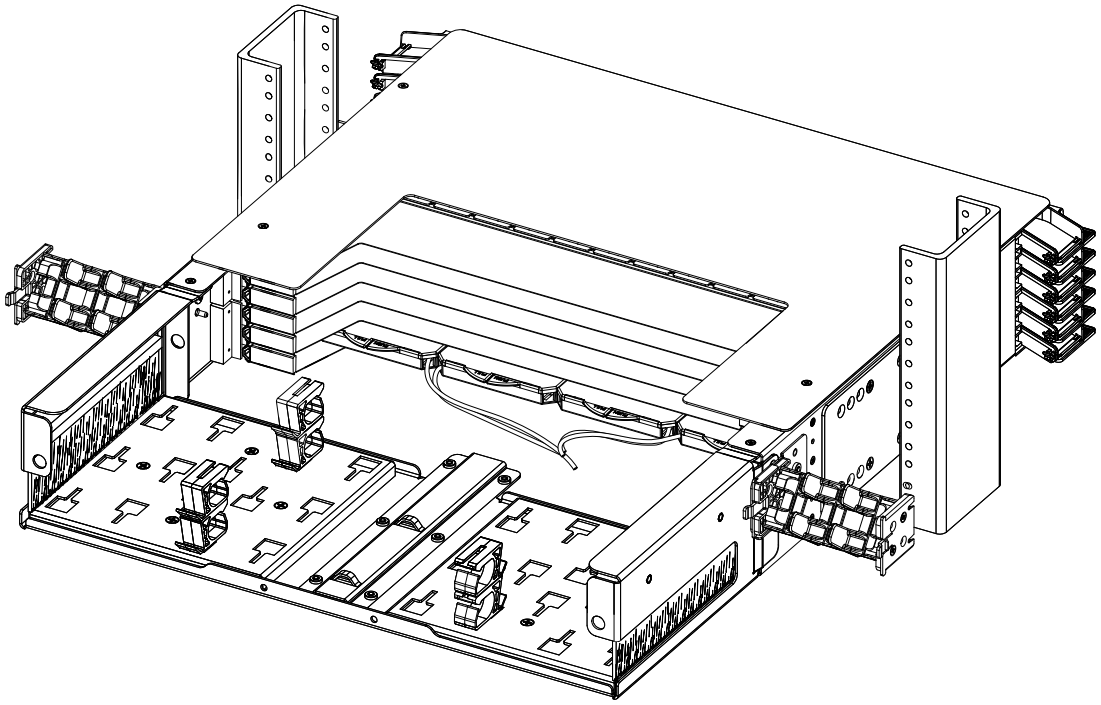


5.1.2 Routing of DCX-2U

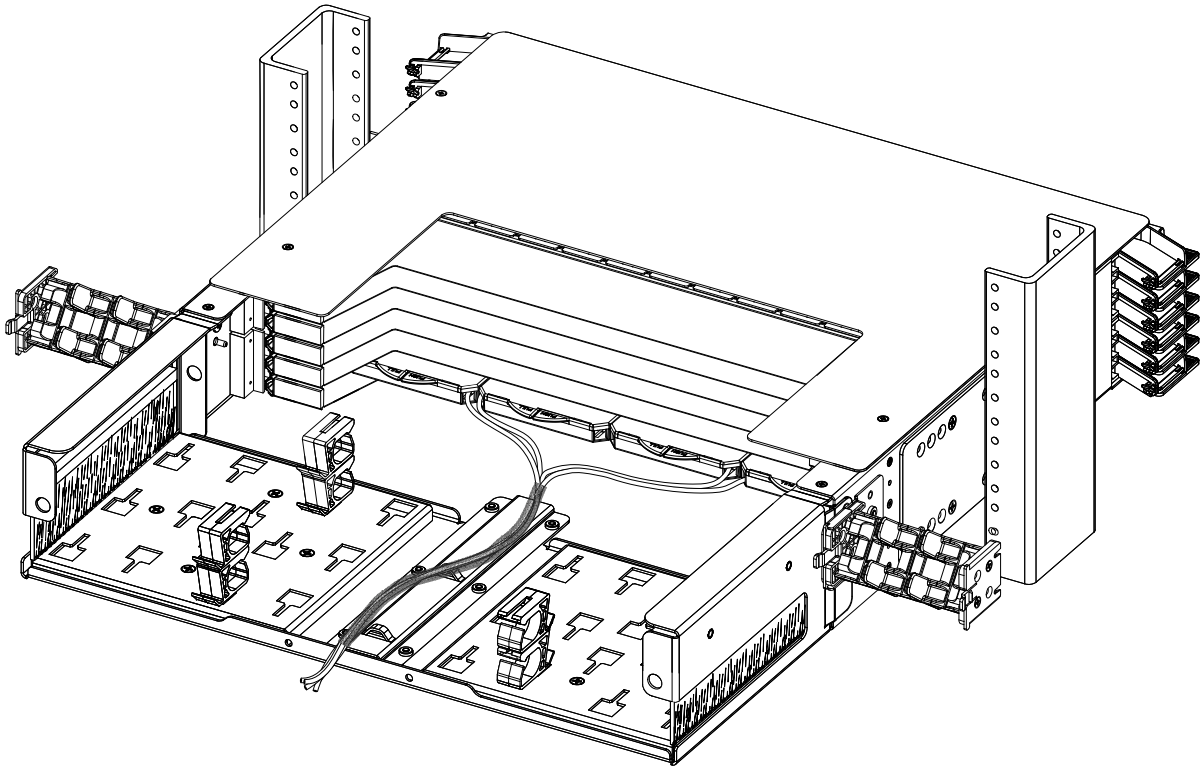
A Repeat step **A** from section **5.1.1** to insert the splice cassette.

B Install the cable managers.

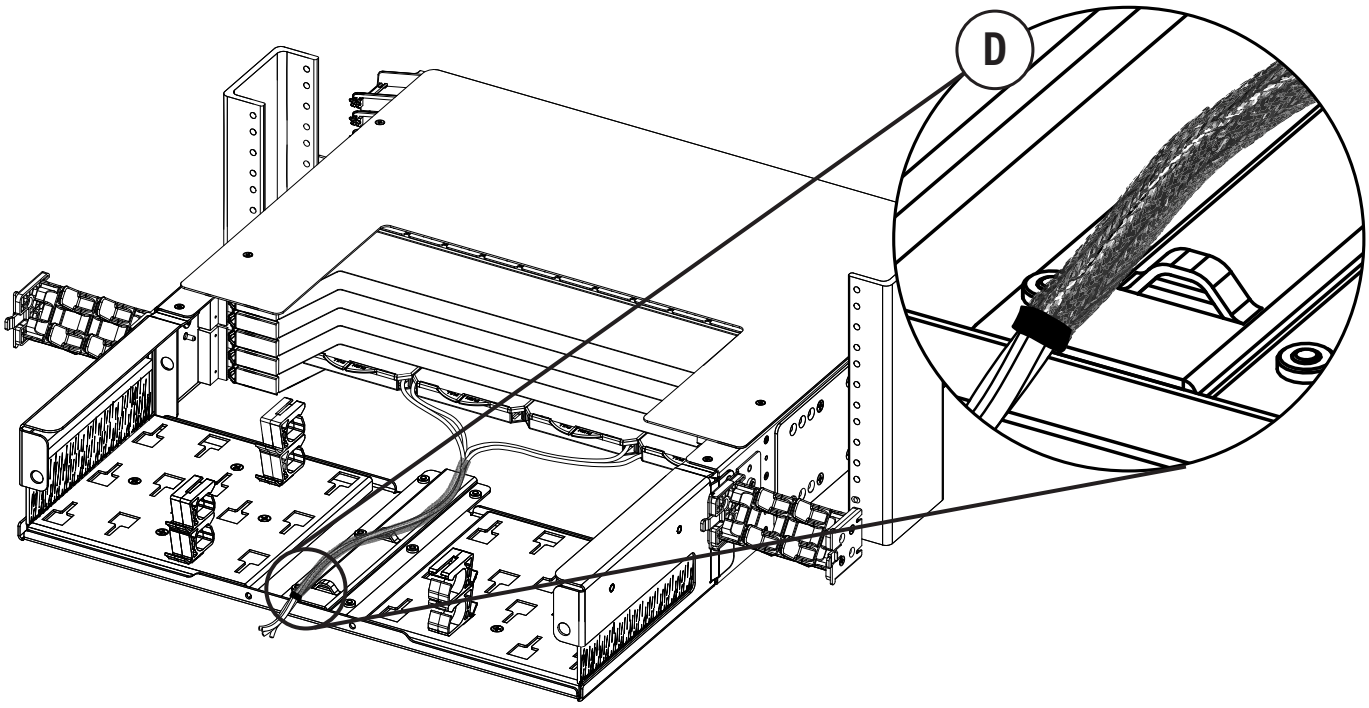
ⓘ = *Refer to section* **3.4** *for more detail on the installation of cable managers*



C Wrap sleeves around sub-units, ensure the end of the sleeve is close to the cassettes without causing excessive bends.

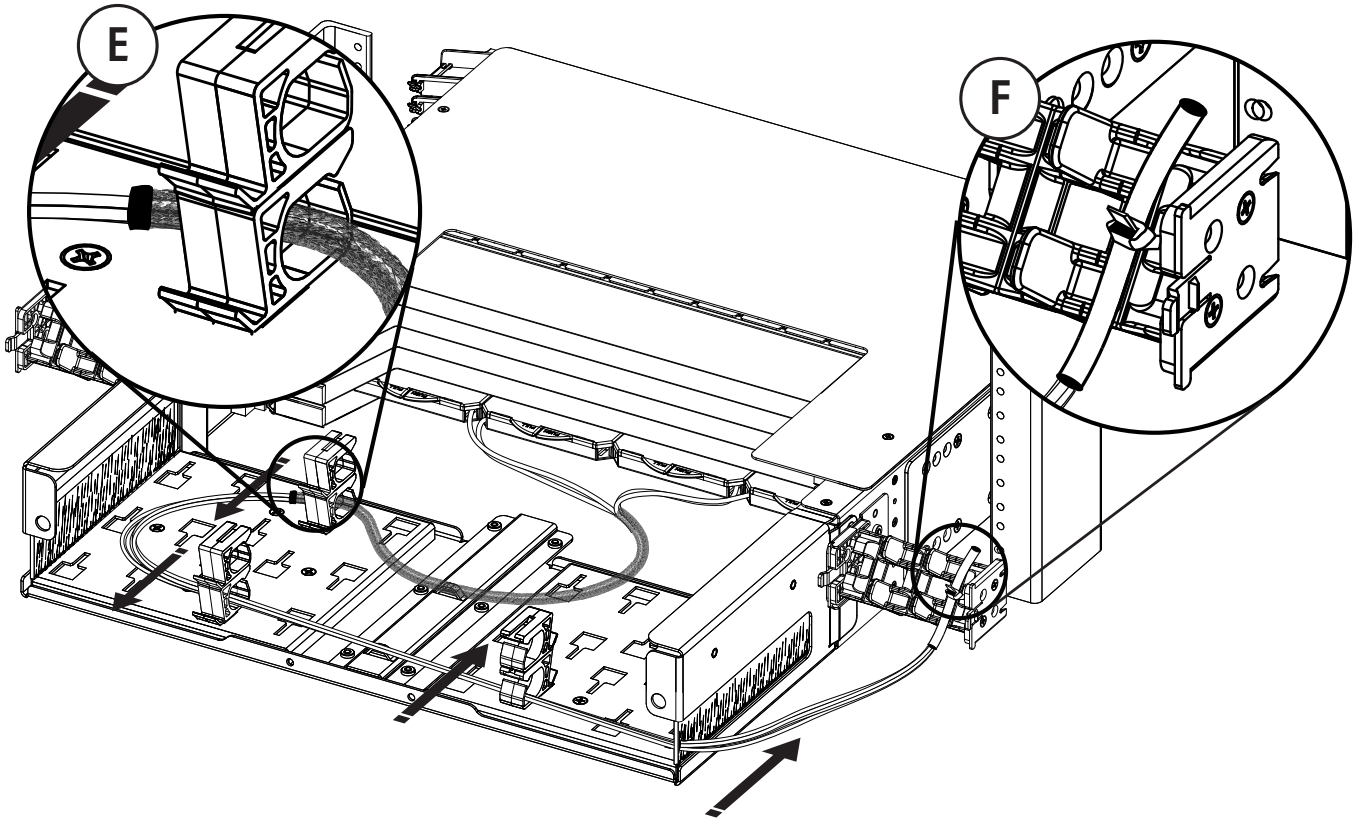


D Secure sleeve sub-units with tape at the rear.



E Insert the sub-units into the cable managers.

F Secure main jacket to the bracket.

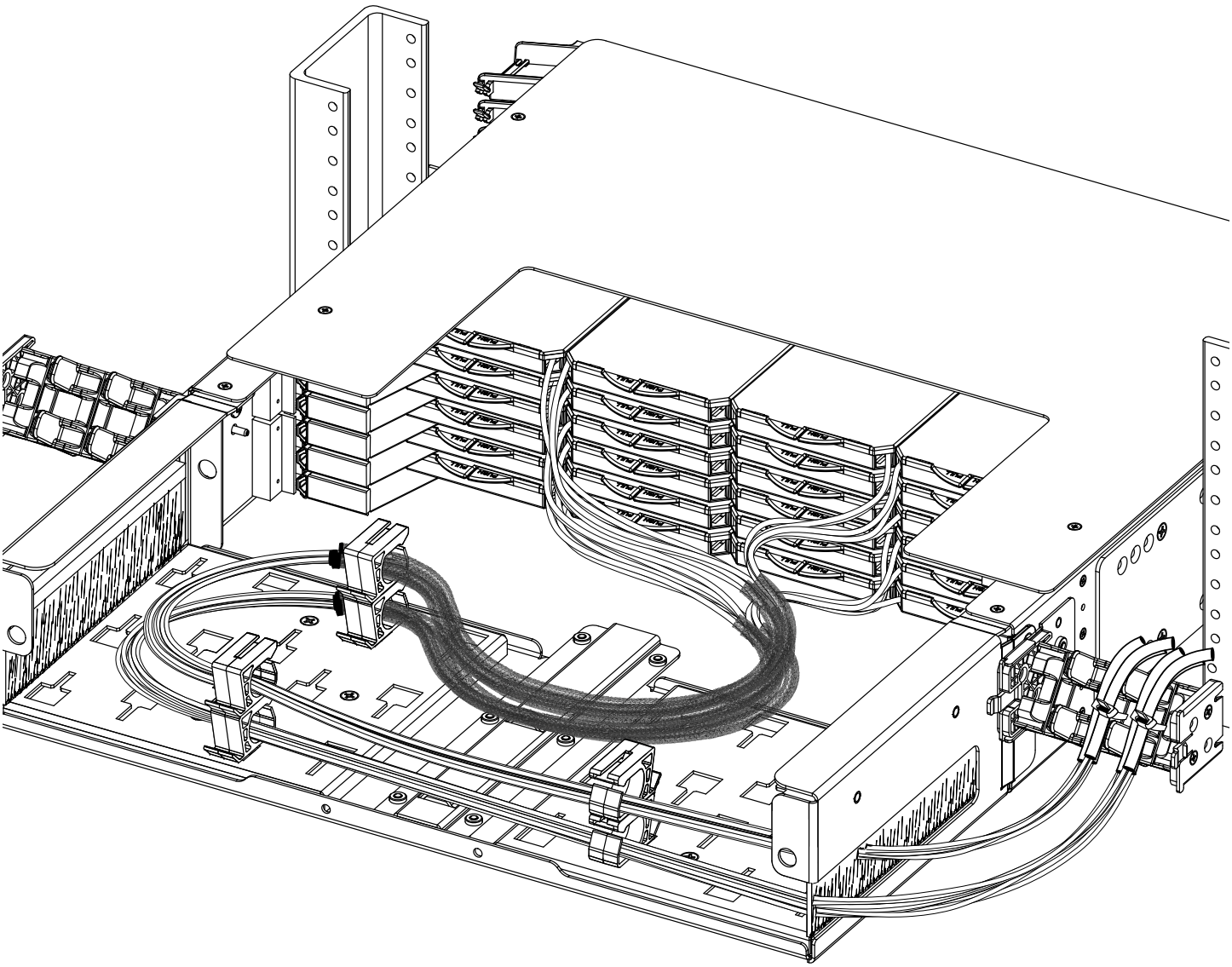


G Repeat steps **A** first, then **C** to **F** to complete remaining sub-units, finally secure all main jackets in the bracket (3 cables per cable manager).

ⓘ = *Tray F to Tray D sub-units use bottom row cable managers, Tray C to Tray A sub-units use top row cable managers*

⚠ = *Do not over-tighten the cable ties*

Do not move the tray beyond the patching position, unless cassette removal is required



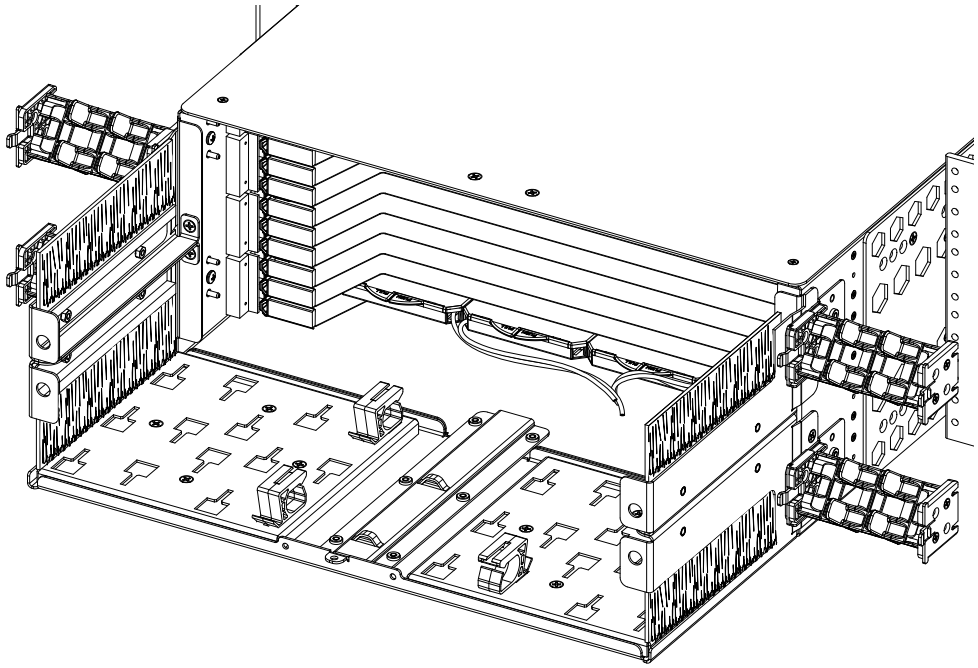
5.1.3 Routing of DCX-4U

ⓘ = *For visual purposes, the top of the rear section has been removed*

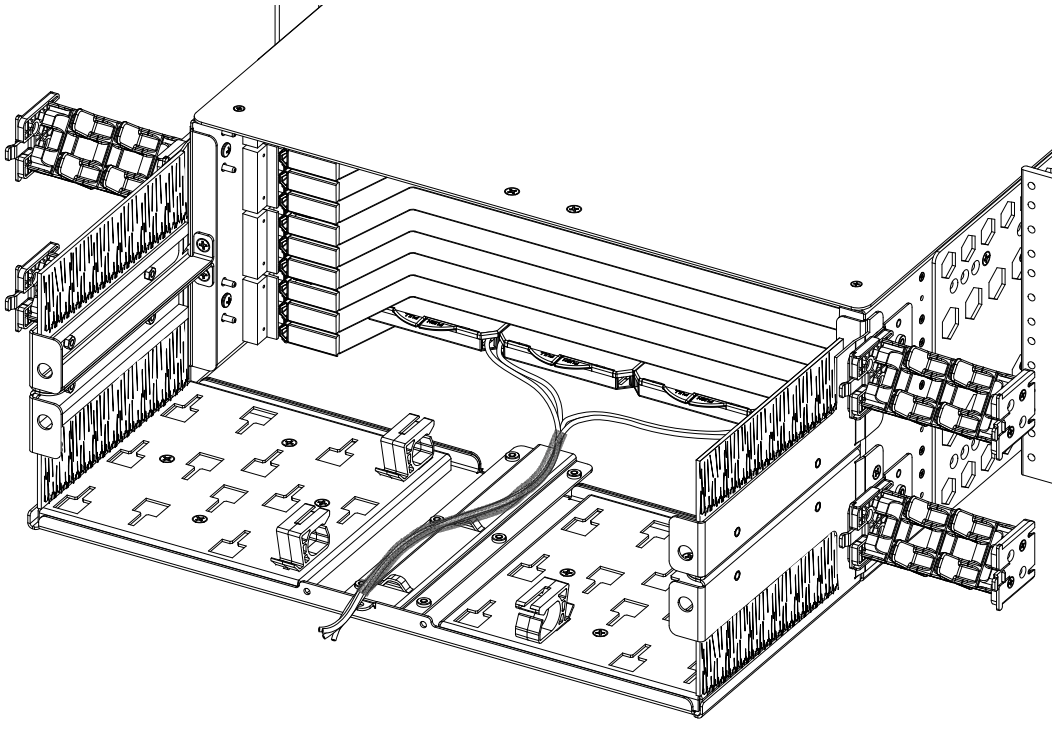
A Repeat step **A** from section **5.1.1** to insert the splice cassette.

B Install the cable managers.

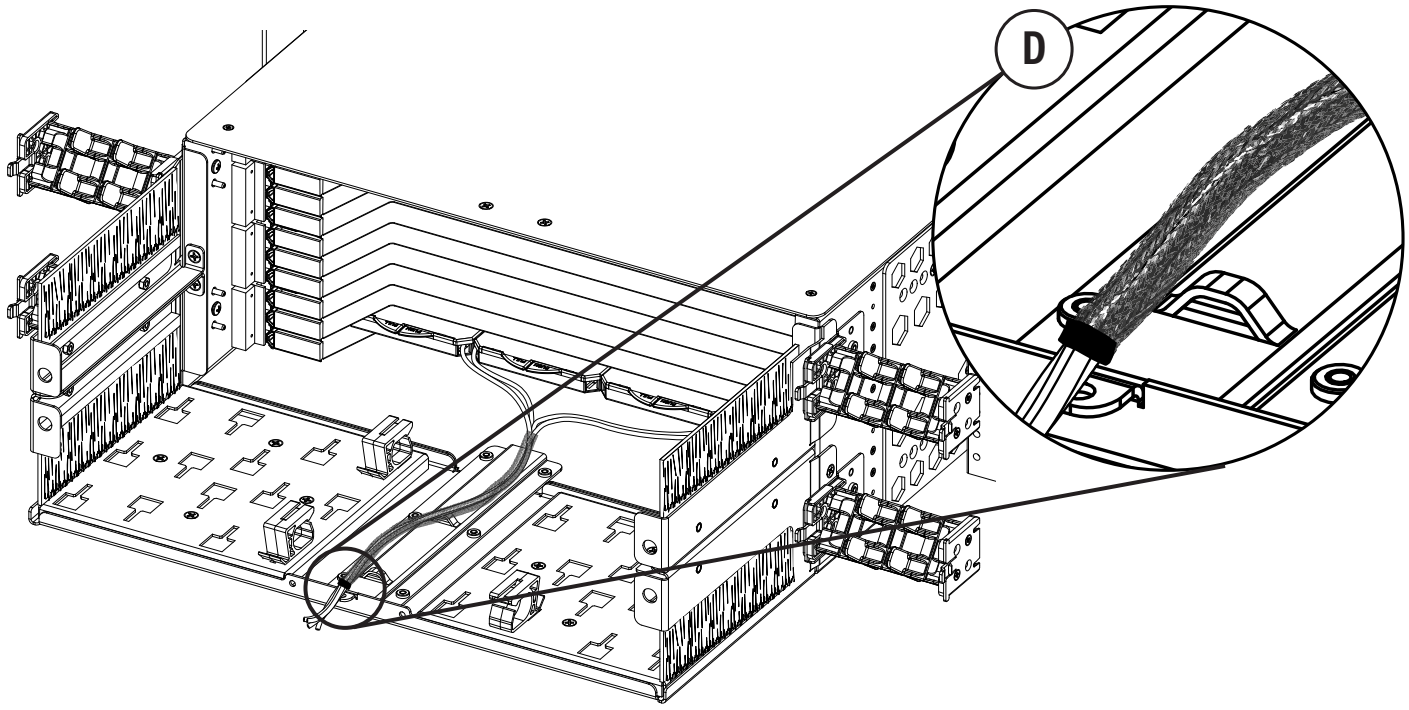
ⓘ = *Refer to section* **3.4** *for more detail on the installation of cable managers*



C Wrap sleeves around sub-units, ensure the end of the sleeve is close to the cassettes without causing excessive bends.

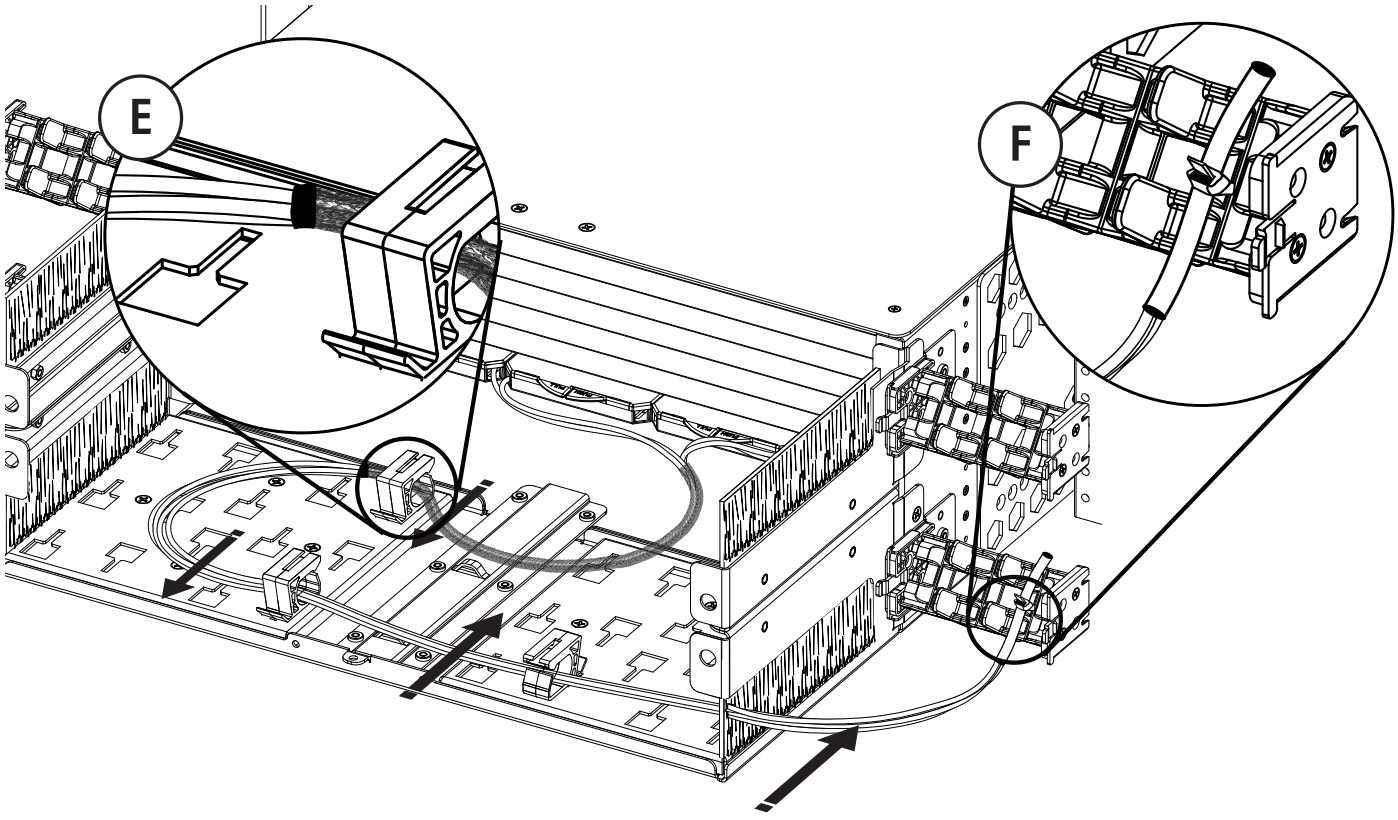


D Secure sleeve sub-units with tape at the rear.



E Insert the sub-units into the cable managers.

F Secure main jacket to the bracket.



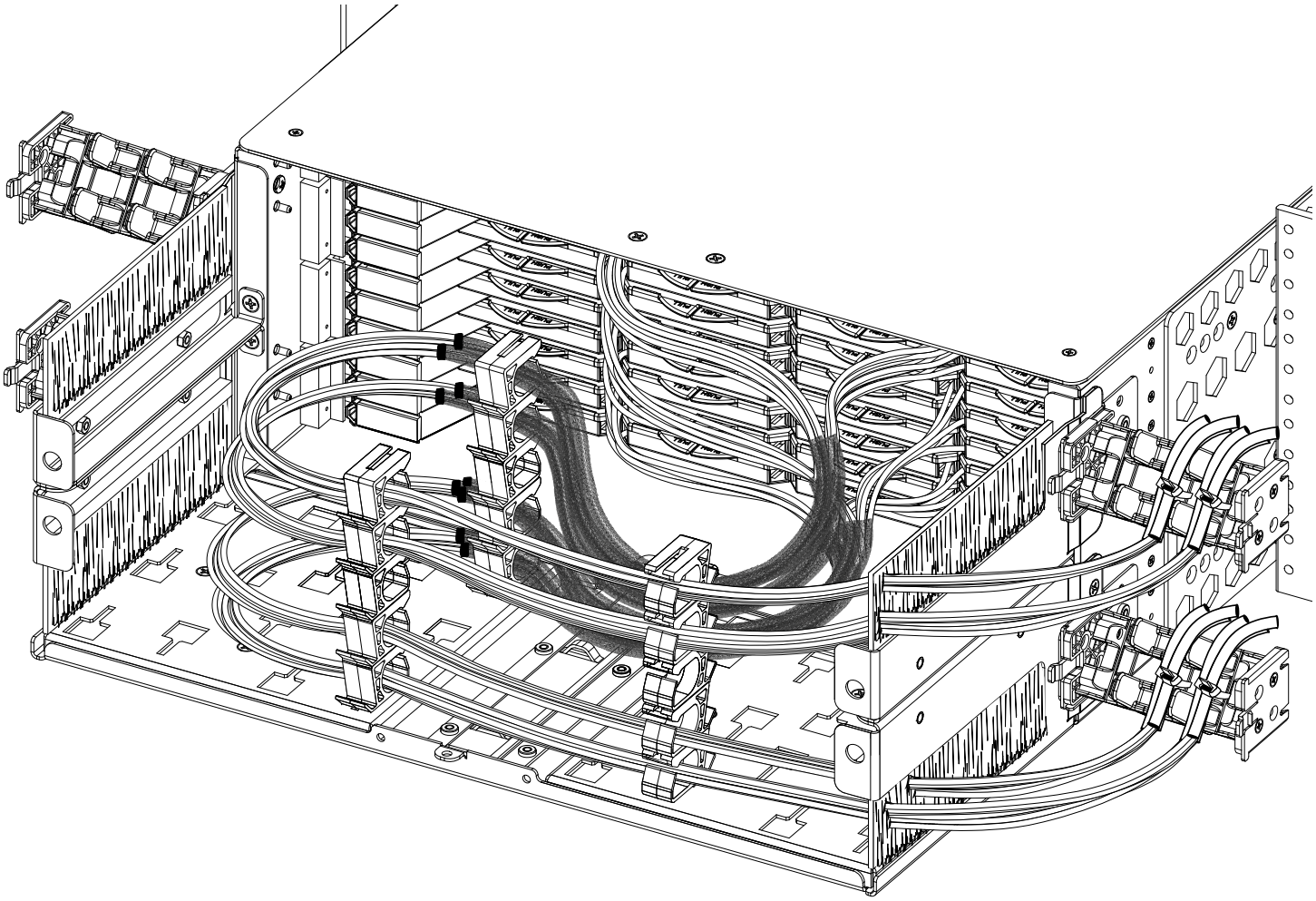
G Repeat steps **A** to **F** to complete remaining sub-units, then secure all main jackets in the bracket (3 cables per cable manager).

ⓘ = *Tray L to Tray J sub-units use first-row cable managers, Tray I to Tray G sub-units use second-row cable managers, Tray F to Tray D sub-units use fourth-row Row cable managers and Tray C to Tray A sub-units use fifth-row Row cable managers*

The third-row is only used as a spacer

⚠ = *Do not over-tighten the cable ties*

Do not move the tray beyond the patching position, unless cassette removal is required



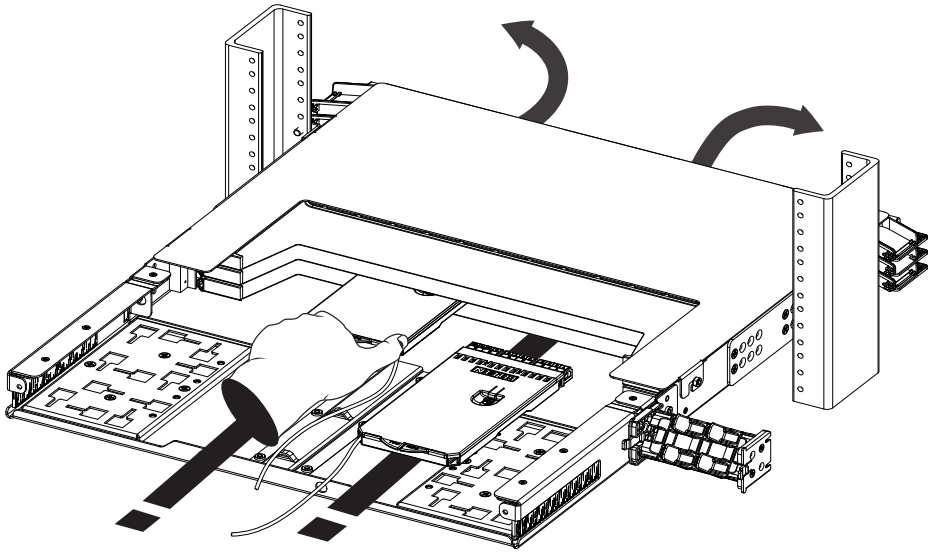
= If cassettes need to be installed from the rear of the DCX housing, refer to the steps below:

A Remove cover.

= Refer to steps **A** *to* **B** *from section* **3.5**

B Push the splice cassettes from both sides onto the tray from the rear center position, then slide them to their respective attaching ports following the direction of the arrows.

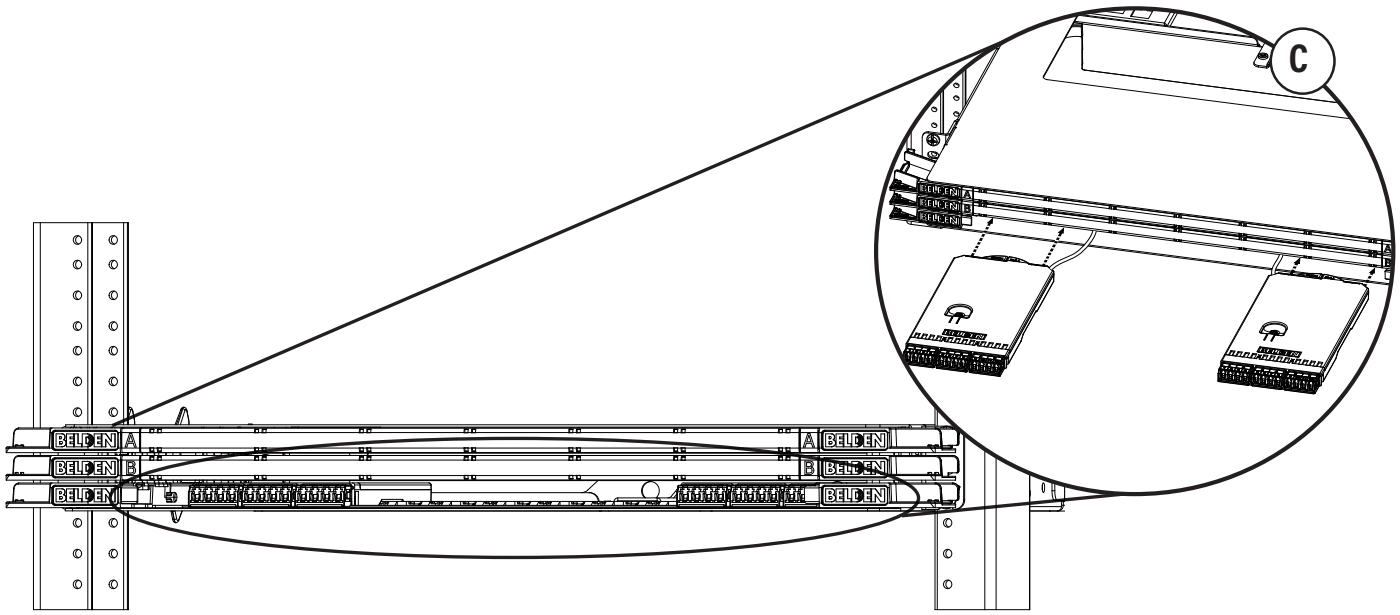
= For both side splice cassettes cable should enter from the inside



C Align the splice cassettes with the tray attaching ports and gently push to attach.

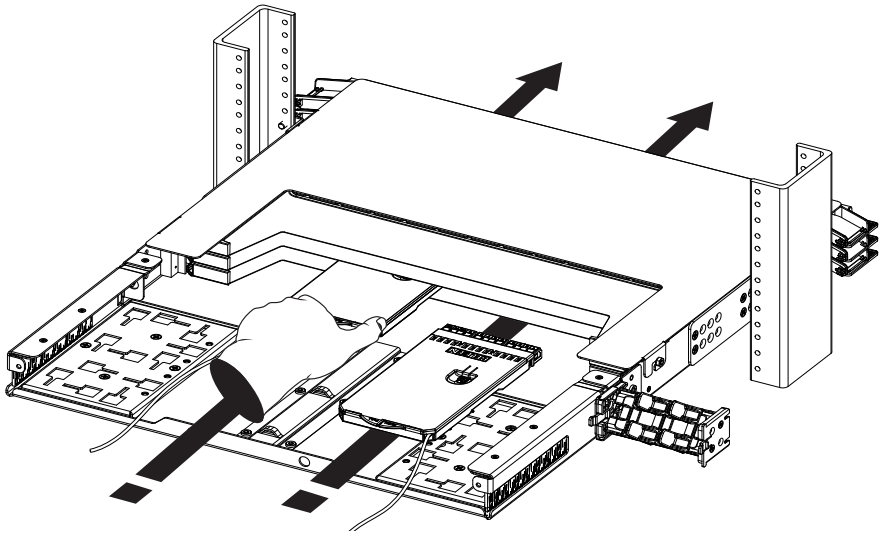
= A click sound is heard when the splice cassette is successfully connected

Refer to step **C** *from section* **3.5** *for the cassettes installation position*



D Push the center splice cassettes onto the tray from the rear center position, then slide them into their respective attaching ports following the arrows.

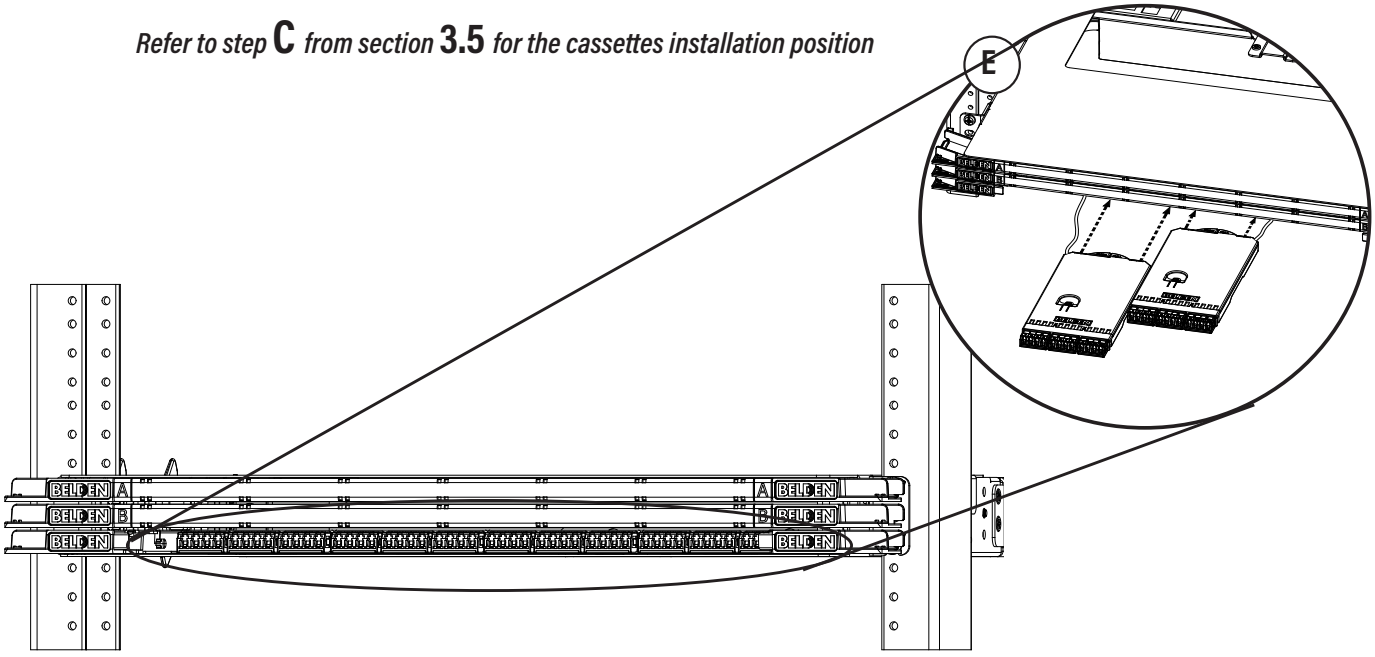
ⓘ=*For center splice cassettes cable should enter from the side*



E Align the cassettes with the tray attaching ports and gently push to attach.

ⓘ = *A click sound is heard when the splice cassette is successfully connected*

Refer to step **C** *from section* **3.5** *for the cassettes installation position*



F Close the tcover.

ⓘ = *Refer to step* **E** *from section* **3.5**

5.2 Routing of MPO cable in panel

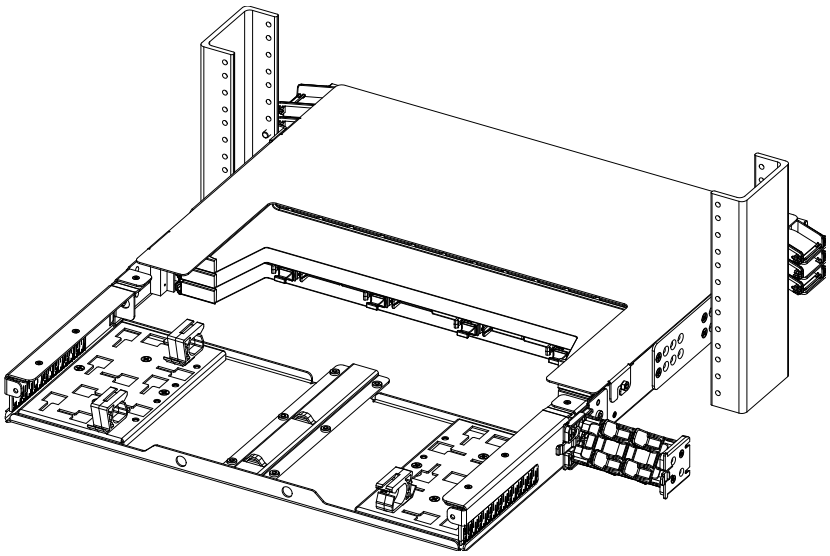
5.2.1 Routing of DCX-1U

A Ensure the cassettes are installed on the bottom tray.

ⓘ = *Refer to section* **3.5** *for more detail*

B Install the cable managers.

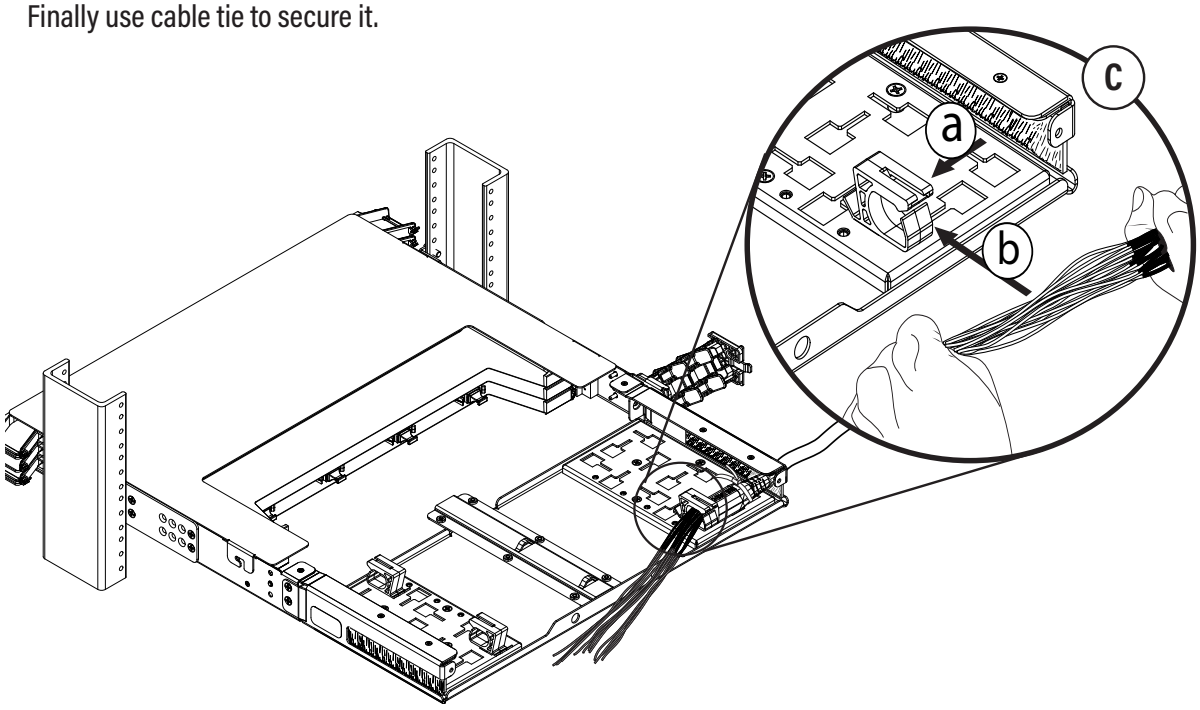
ⓘ = *Refer to section* **3.4** *for more detail on the installation of cable managers*



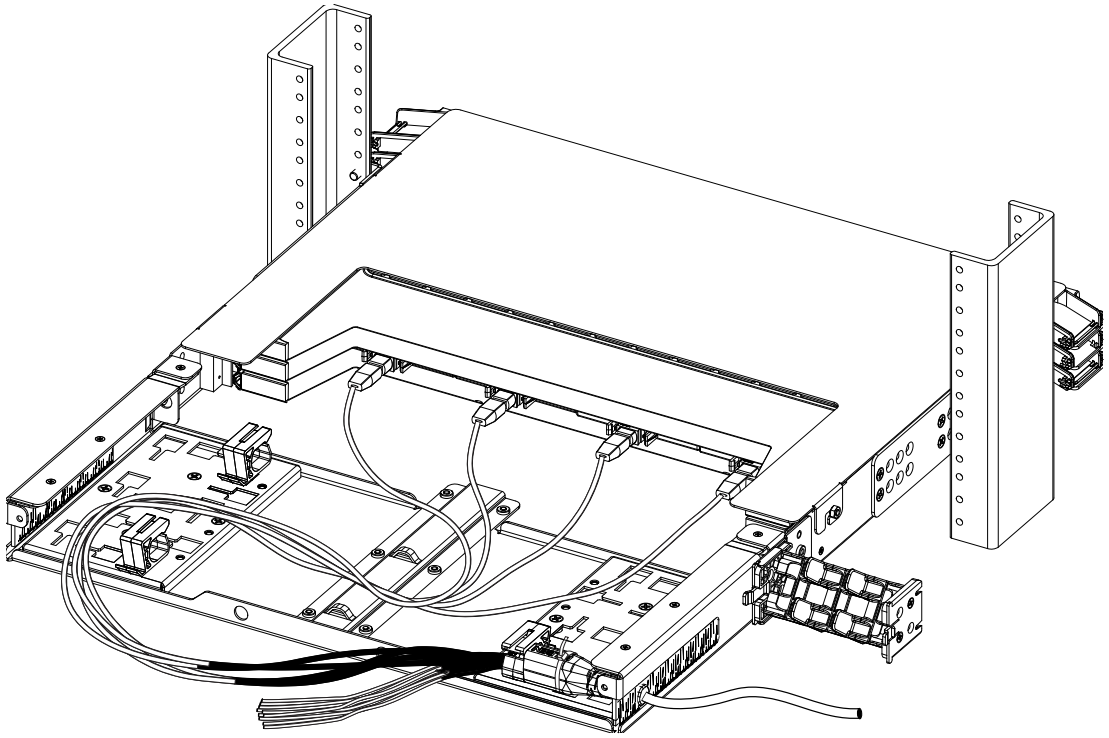
C Install cable assemblies:

a: Hold the cable assemblies with both hands and press the part without heat shink into the right side cable manager.

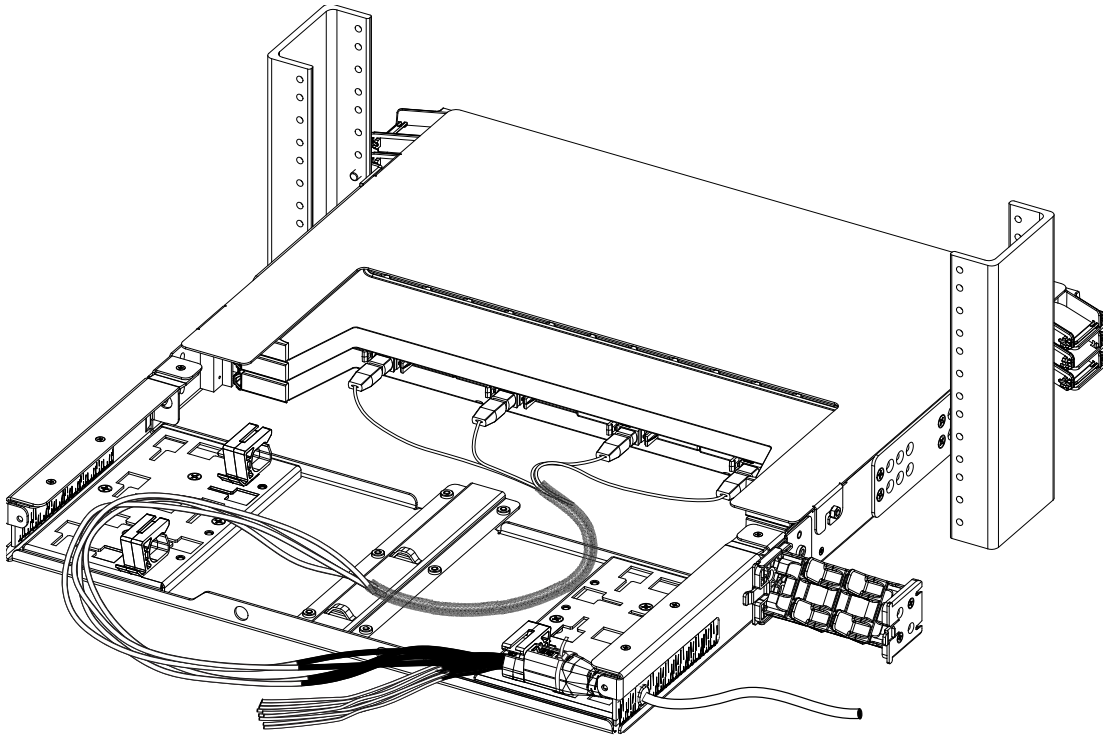
b: Pushing the cable assemblies in the direction of the arrow until the LPM transition hits the right side cable manager. Finally use cable tie to secure it.



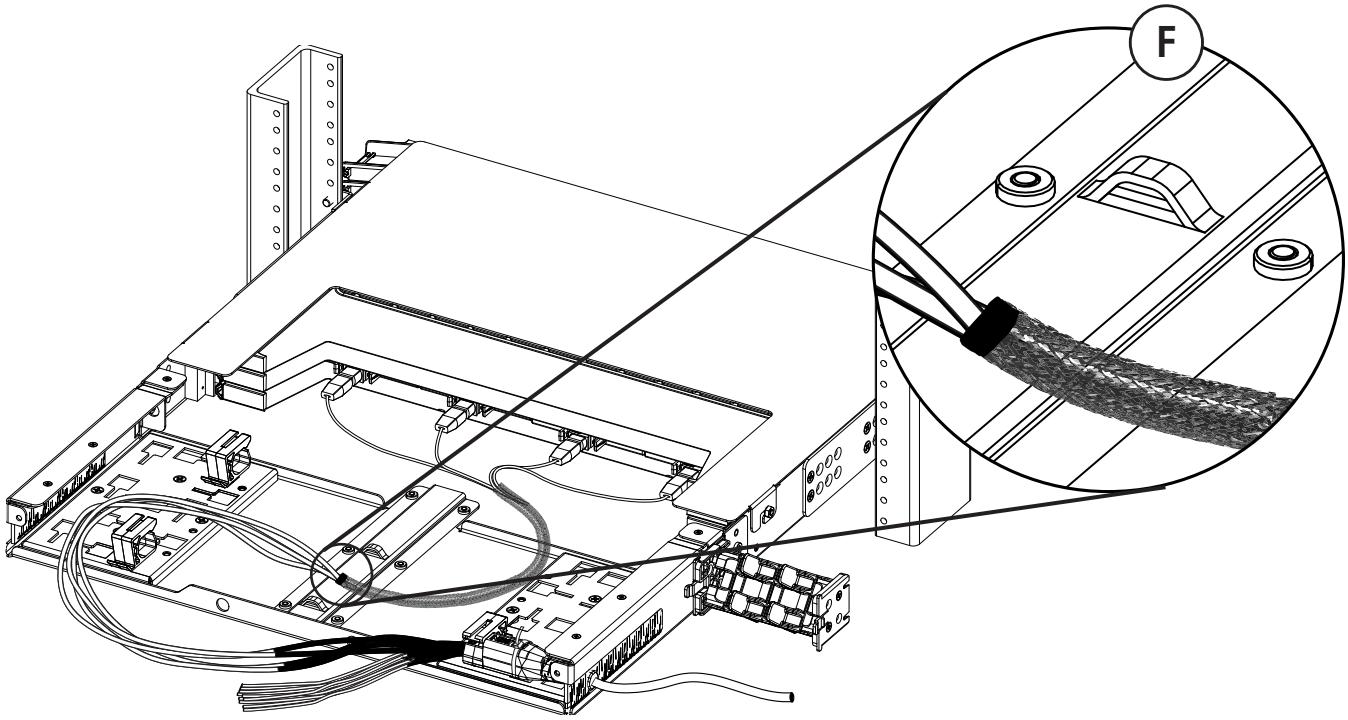
D Connect the cable assemblies to the Pre-Term adapter frame in the bottom tray.



E Wrap sleeves around cable assemblies, ensure the end of the sleeve is close to the cassettes without causing excessive bends.

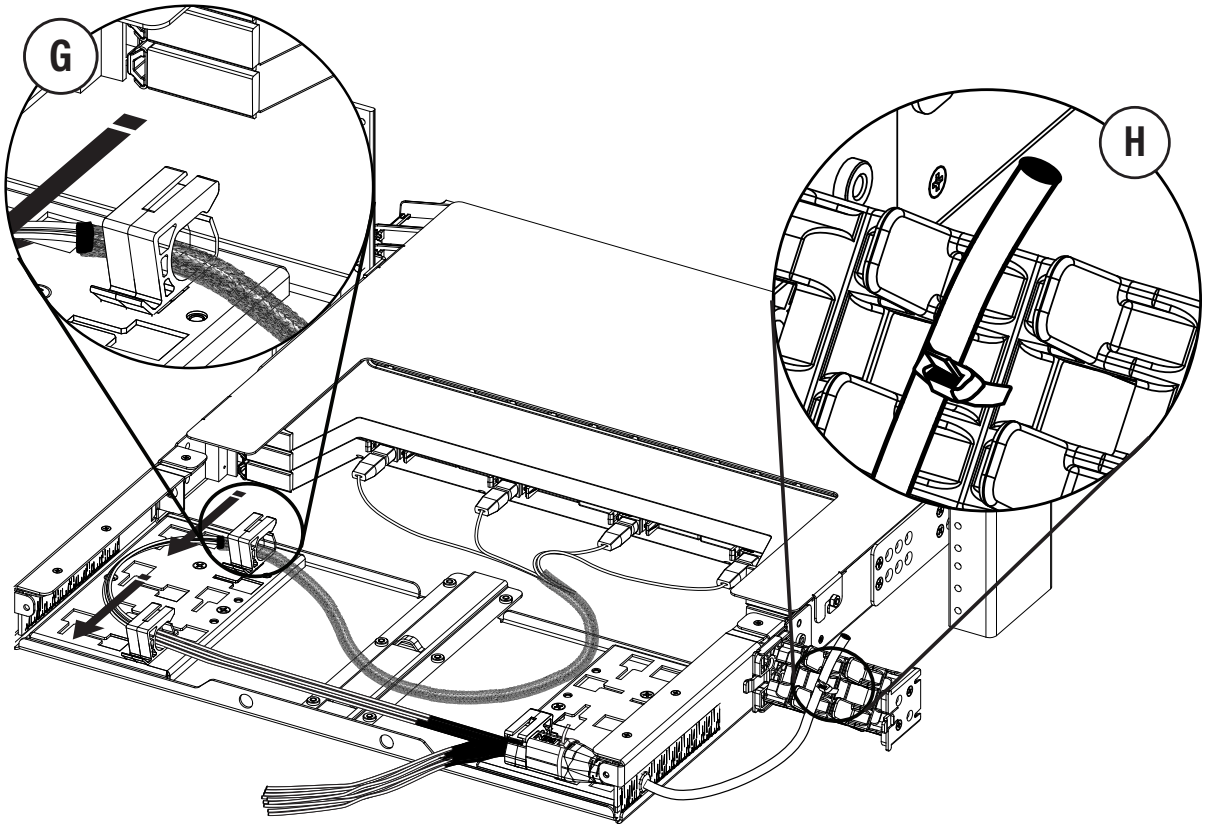


F Secure sleeve cable assemblies with tape at the rear.



G Insert the cable assemblies into the cable managers.

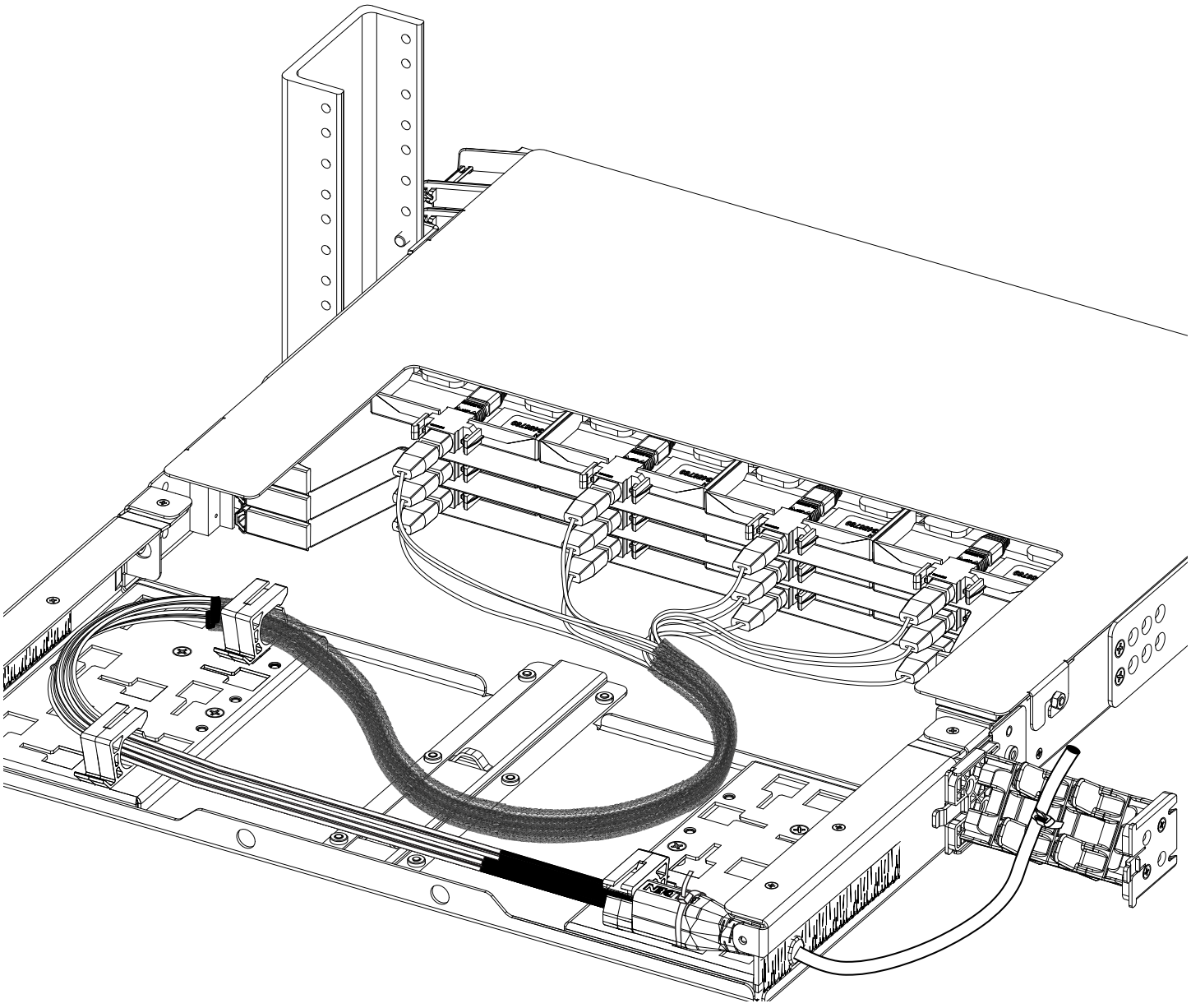
H Secure main jacket to the bracket.



I Repeat steps **A** first, then **D** to **G** for the remaining trays above.

⚠ = *Do not over-tighten the cable ties*

Do not move the tray beyond the patching position, unless cassette removal is required



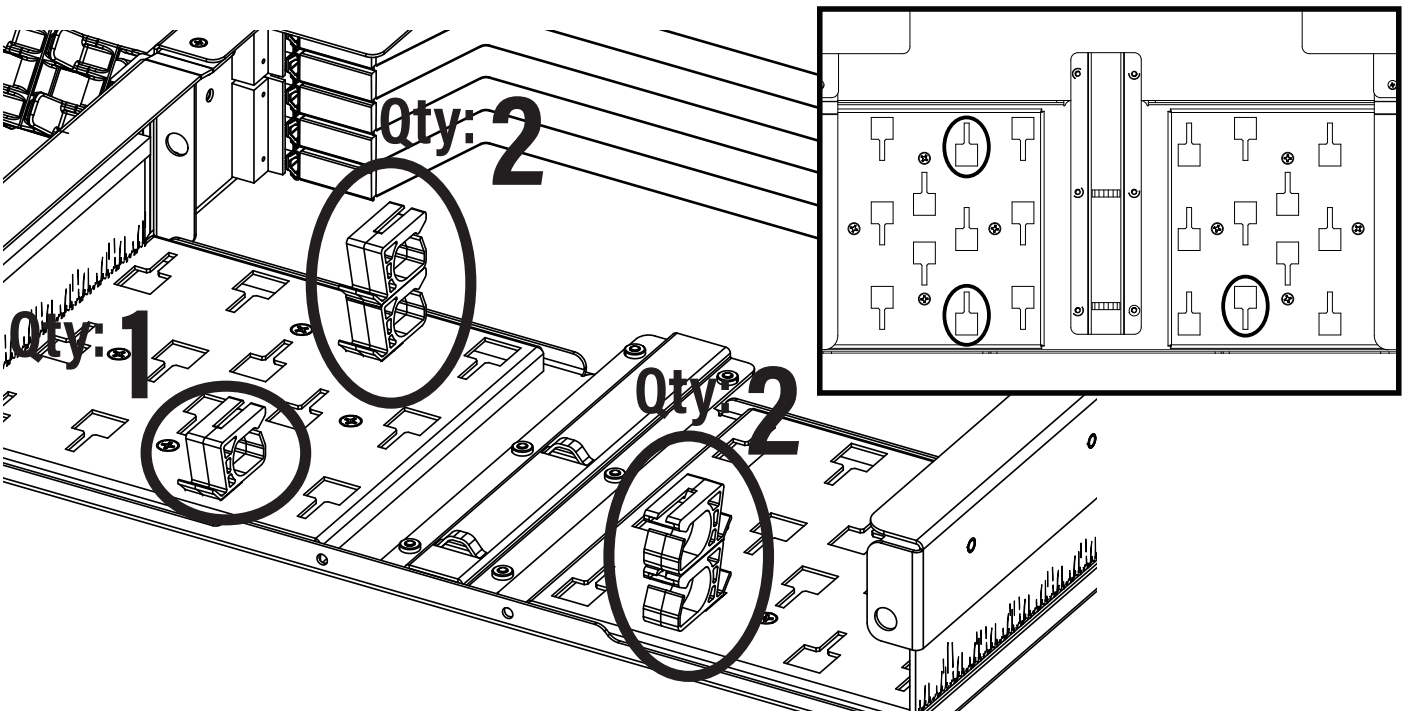
5.2.2 Routing of DCX-2U

A Ensure the cassettes are installed on the bottom tray.

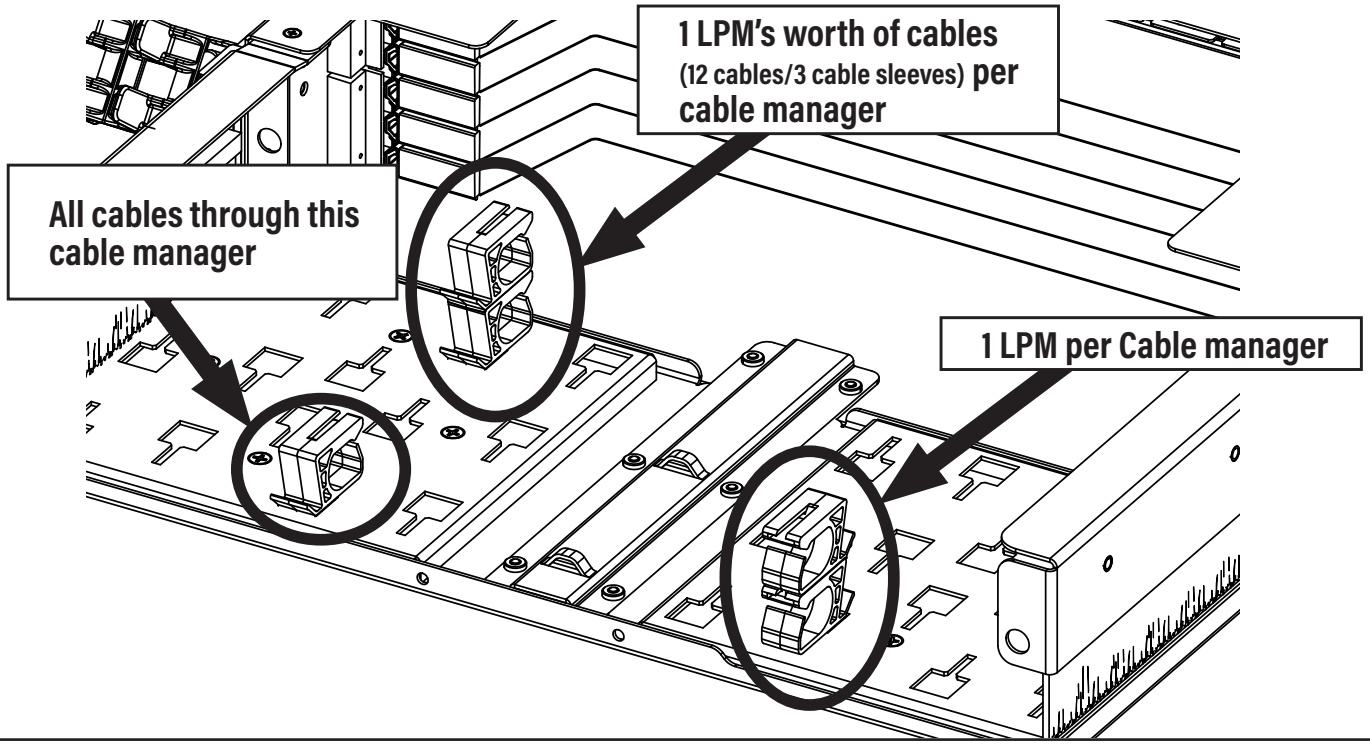
ⓘ = *Refer to section* **3.5** *for more detail*

B Place cable managers.

ⓘ =See steps **A** to **D** from section **3.4** for cable manager installation: See quantities and placement below

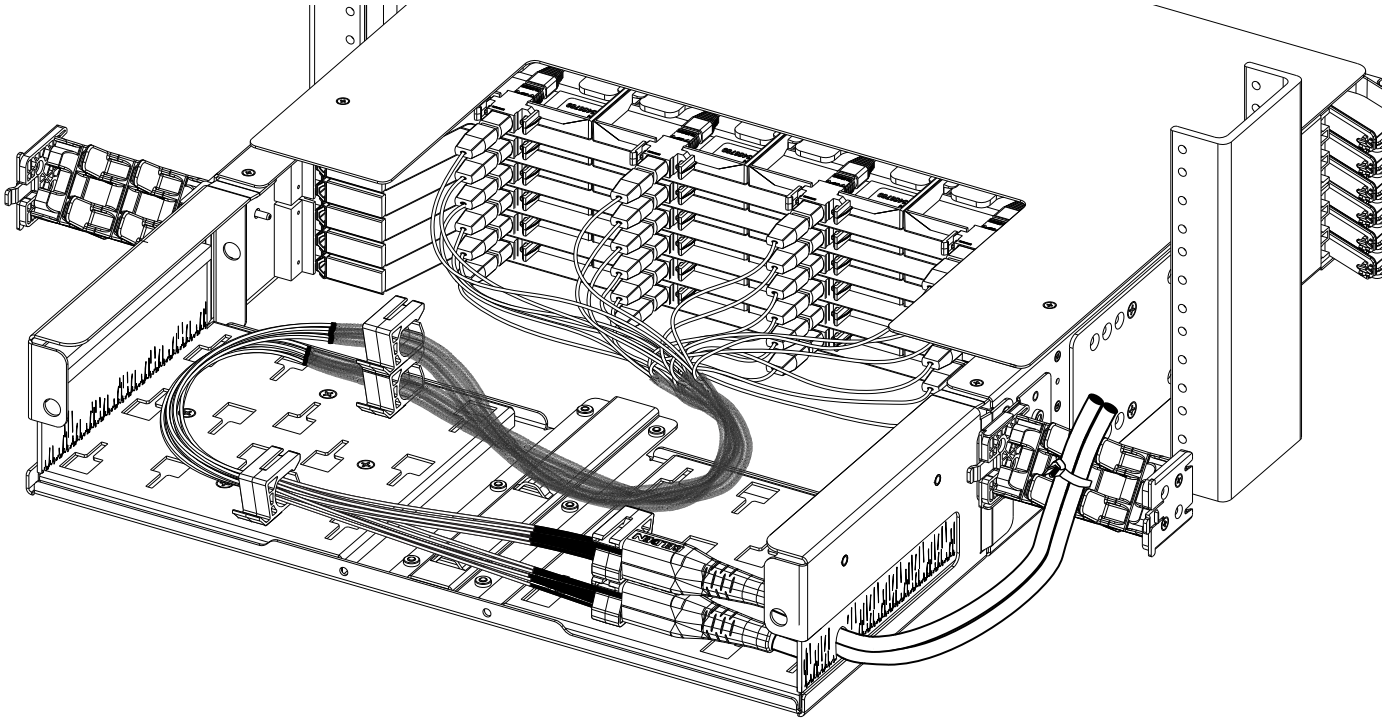


C Install cable assemblies. Repeat steps **C** to **H** from section **5.2.1** with the following exceptions:



D Final look:

ⓘ *=For visual purposes, the top of the rear section has been removed*



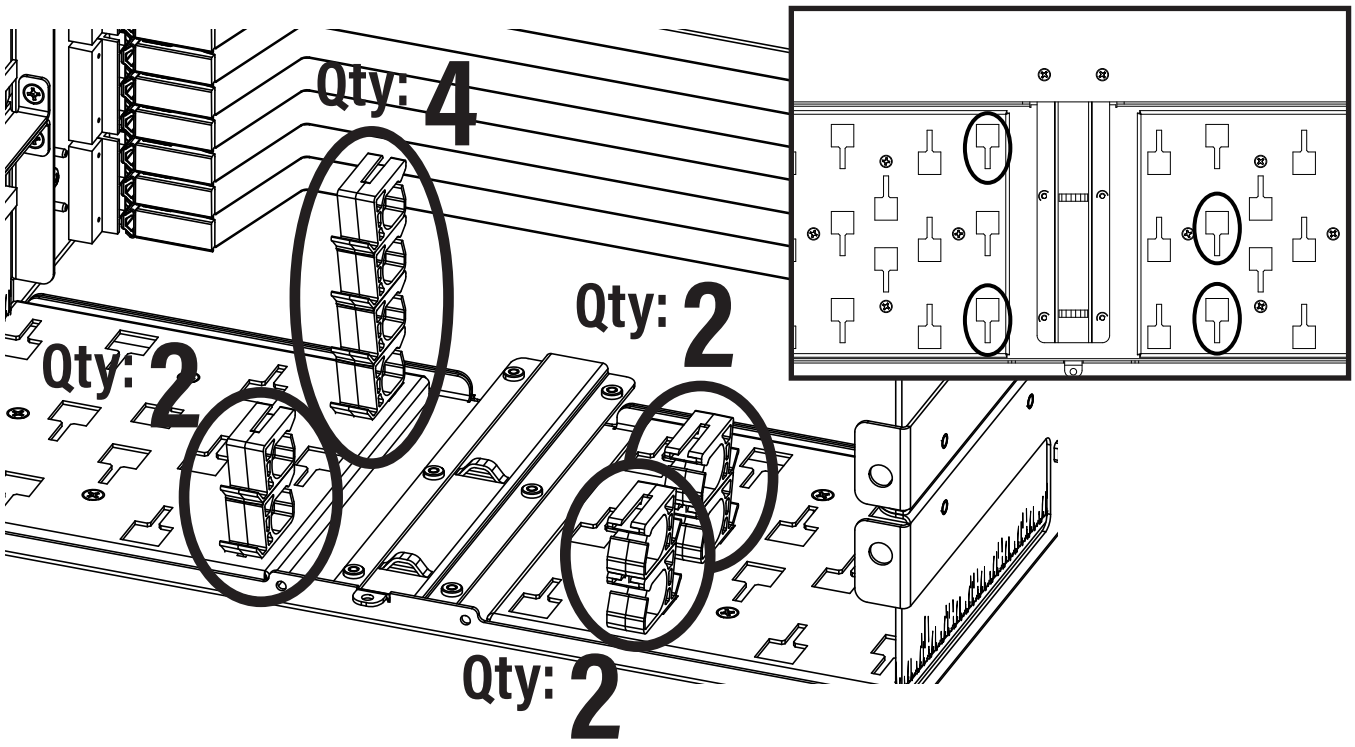
5.2.3 Routing of DCX-4U

A Ensure the cassettes are installed on the bottom tray.

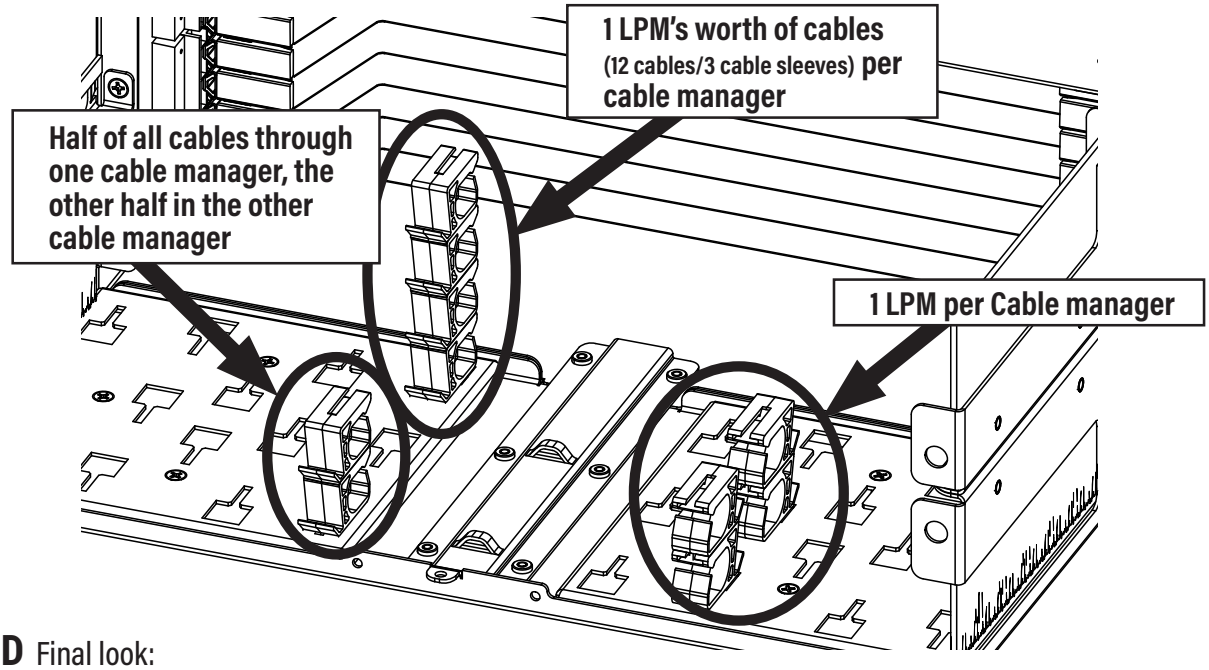
ⓘ *= Refer to section* **3.5** *for more detail*

B Place cable managers *(Different from 2U).*

ⓘ =See steps **A** to **D** from section **3.4** for cable manager installation: See quantities and placement below



C Install cable assemblies. Repeat steps **C** to **H** from section **5.2.1** with the following exceptions:



D Final look:

ⓘ *=For visual purposes, the top of the rear section and a part of the front section has been removed*

