# INSTALLATION INSTRUCTIONS

*LL-5D Splicing and Distribution Enclosure*

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## PACKAGE CONTENTS

LightLink LL-5D Enclosure
Cable Attachment Units, as ordered
Splice Trays, as ordered
Splice Module Cover
Foam and Tie Wrap Retention Kit
Installation Instructions Packet

## REQUIRED TOOLS

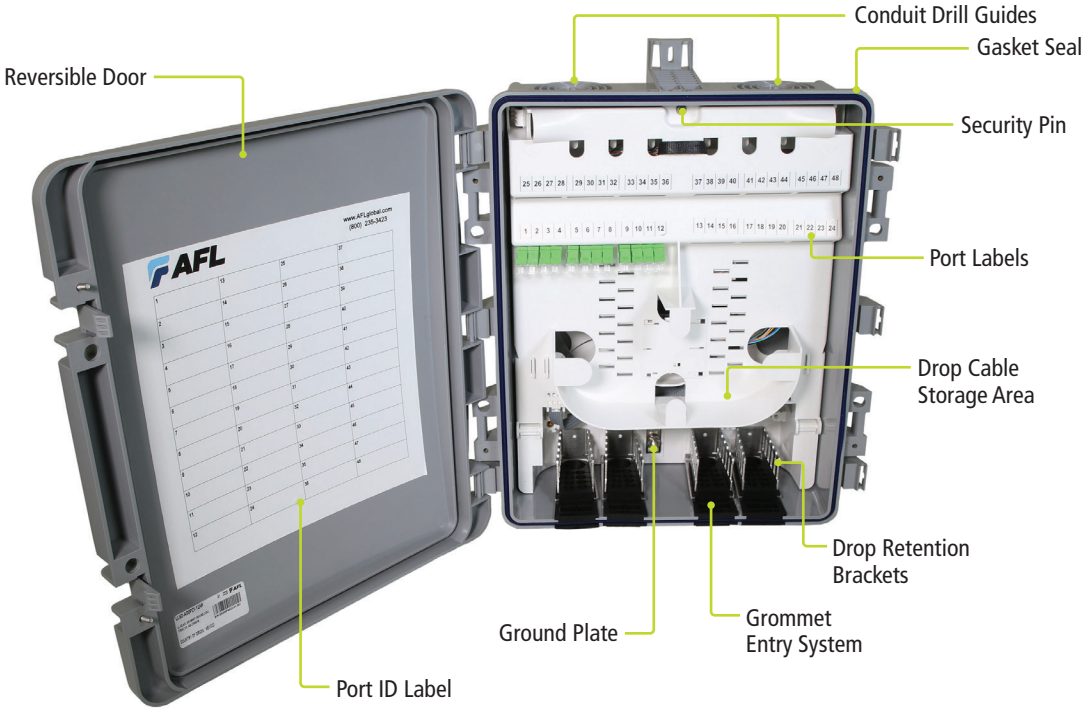
3/8" Can wrench
5/32" Hex head tamper-proof screwdriver
Tape measure
Tie wraps or Velcro® for slack management
Splicer's scissors
Splice equipment and sleeves
Cable entry tools
Marker
Utility Knife

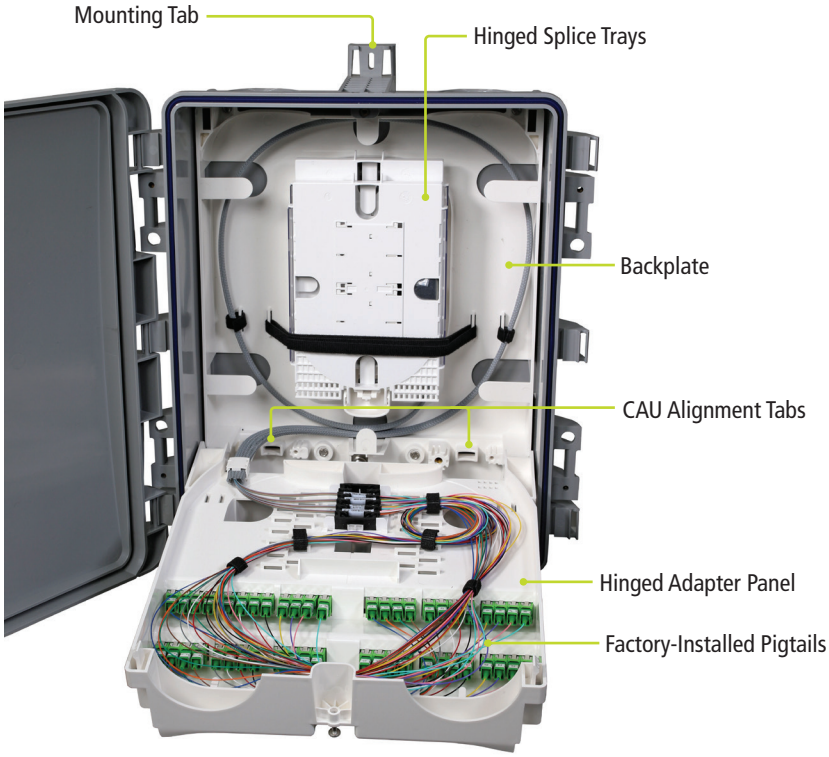
## ADDITIONAL KITS – OPTIONAL

**Table 1**

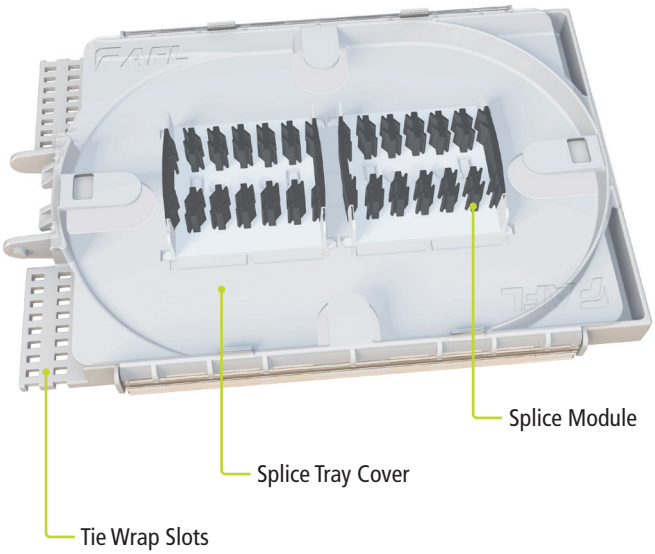
| DESCRIPTION | AFL NO. |
|---|---|
| Velcro, 75 Foot Length Roll – For securing bundles in the slack basket | FC001759 |
| Apex® Cable Bonding Kit (Bonds armored cable sheath to ground) – Alligator clip on one end, eyelet on other end. Pack of 10 | AX-KIT-GROUND-10 |
| Bundle Splice Tray Retention Kit – Includes 25 foam grommets for retaining bundles to splice trays | HW000406 |
| Apex Splice Module (18 single fusion triple stacked, 12 mass fusion double stacked, 6 mechanical). Pack of 20 | AX-TRAY-MOD-20 |
| Apex Cable Attachment Unit | AX-KIT-CBLSTRN |
| X-2S Tray Fully Loaded with Two Splice Modules (288 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR) | AX-TRAY-2S-2 |
| Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads) | AX-KIT-AFRSLT |
| 12 Fiber Tight Buffered Pigtail Kit with 12 ASC Connectors | LL5D-KIT-ASCT |
| 12 Fiber Ribbon Pigtail Kit with 12 ASC Connectors | LL5D-KIT-ASCR |
| PLC Splitter, 1x16, 900 µm, 1260-1650, 1 Meter Leads, SC/APC Connectors | PLC-1X16-9-1M-ASC |
| PLC Splitter, 1x8, 900 µm, 1260-1650, 1 Meter Leads, SC/APC Connectors | PLC-1X8-9-1M-ASC |
| PLC Splitter, 1x4, 900 µm, 1260-1650, 1 Meter Leads, SC/APC Connectors | PLC-1X4-9-1M-ASC |
| PLC Splitter, 1x2, 900 µm, 1260-1650, 1 Meter Leads, SC/APC Connectors | PLC-1X2-9-1M-ASC |
| LL-5D Skirt Kit, with Cover, with Base, with End Plate No Holes, No Fiber Guides, No Clips | LL5D-SKIRT-KIT-0XX |
| LL-5D Skirt Kit, with Cover, with Base, with End Plate No Holes, with Fiber Guides, with Clips | LL5D-SKIRT-KIT-0GC |
| LL-5D Skirt Kit, with Cover, with Base, with End Plate 1.375" Holes, with Fiber Guides, with Clips | LL5D-SKIRT-KIT-1GC |
| LL-5D Skirt Kit, with Cover, with Base, with End Plate 2.375" Holes, with Fiber Guides, with Clips | LL5D-SKIRT-KIT-2GC |

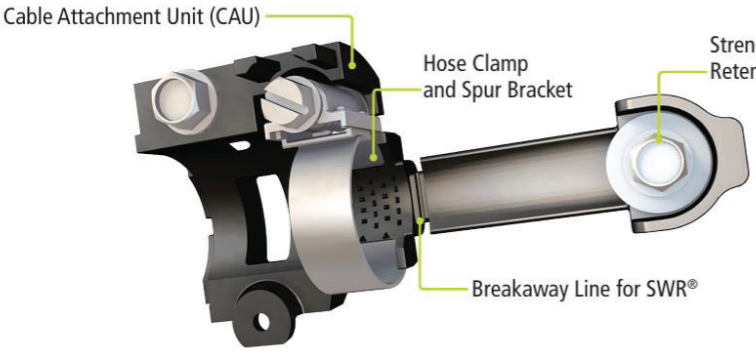
## LL-5D DEFINED



## LL-5D DEFINED


# LL-5D ENCLOSURE DESCRIPTION GUIDE

Reference for the different LL-5D versions mentioned throughout the installation instructions, based on the type of pre-installed fiber pigtails and cable entry system.

* Based on how the LL-5D is ordered, the enclosure will be a combination of configuration group A and B.

** Splice tray count and fiber routing may vary depending on how the LL-5D was ordered.

**Group A**

**Figure 1 – Conduit Version**

**Figure 2 – Grommet Version**

**Group B**

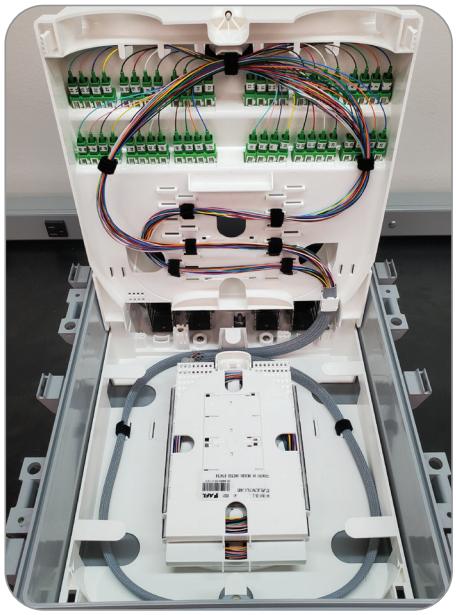


**Figure 3 – Tight Buffer Version**

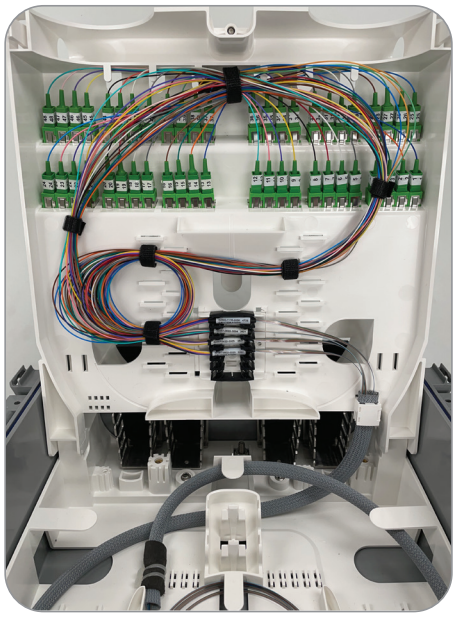


**Figure 4 – Ribbon Version**

## ENCLOSURE MOUNTING – WALL

1. Determine the mounting position of the enclosure on the wall.
2. Identify the two mounting tabs found on the top and bottom of the enclosure and mark to be pre-drilled for enclosure placement. The mounting hole positions are approximately 16 ½ inches apart (**Figure 5**).
3. Drill pilot holes in both previously marked locations (**Figure 6**).
4. For wall mounting, the mounting holes accept size #8 screws for mounting the enclosure.
5. Using local accepted practices and approved hardware, install screws at each mounting tab and secure the screws into the wall (**Figures 7 and 8**).

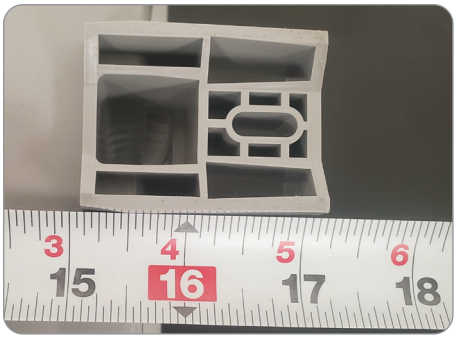



**Figure 5**

**Figure 6**

**Figure 7**

**Figure 8**

**Figure 9**

## ENCLOSURE MOUNTING – POLE

1. Determine the mounting position of the enclosure on the pole.
2. Identify the two mounting tabs found on the top and bottom of the enclosure and mark to be pre-drilled for enclosure placement. The mounting hole positions are approximately 16 ½ inches apart (**Figure 10**).
3. Drill pilot holes in both previously marked locations.
4. For pole mounting, it is recommended to use ¼" lag screws to mount the enclosure. This will require the mounting holes to be widened with a drill bit to accept the lag screws (**Figure 11**).
5. Using local accepted practices and approved hardware, install screws at each mounting tab and secure the screws into the pole (**Figures 12 and 13**).

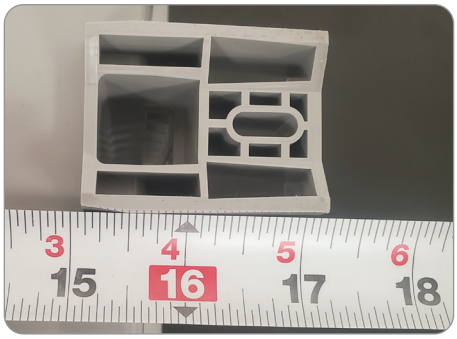



**Figure 10**

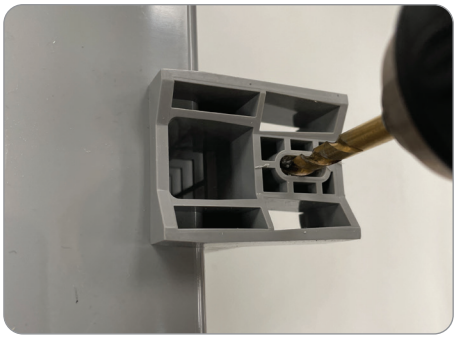


**Figure 11**

**Figure 12**

**Figure 13**

**Figure 14**

## ENCLOSURE PREPARATION – DOOR REMOVAL

1. Using a 3/8" can wrench, unscrew the upper and lower security screws holding the cover closed (**Figures 15 and 16**).
2. Compress both tabs of the door towards the enclosure, push up, and swing open the door (**Figure 17**).
3. Position the enclosure door perpendicular to the enclosure and pull away from the hinge to release the door at the three-hinge points. Place the door to the side (**Figures 18 and 19**).

**Figure 15**

**Figure 16**

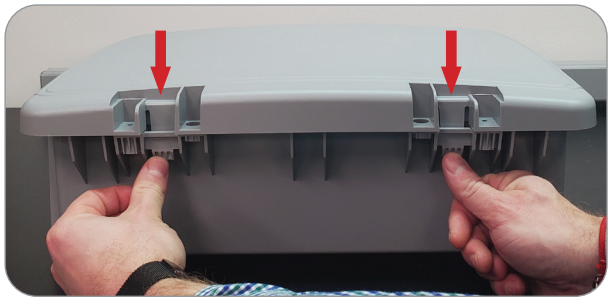


**Figure 17**

**Figure 18**

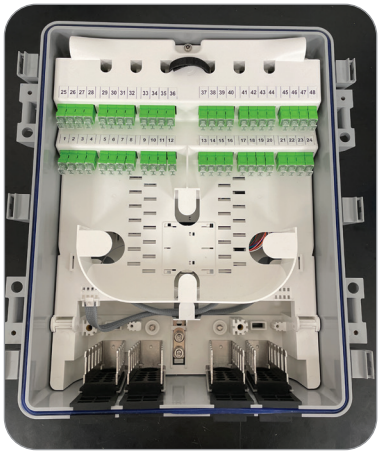


**Figure 19**

## ENCLOSURE PREPARATION – SEAL/GROMMET – GROMMET VERSION

1. Remove the grommets intended for use, along with the drop retention brackets, by pulling them up out of the enclosure (**Figure 20**).
2. Remove the gasket seal from the enclosure and set aside in a spot free of dirt or debris (**Figure 21**).
3. Slit the grommet ports intended for use with a utility knife by slitting down the side of the grommet port. Use cut-resistant gloves and observe all appropriate safety measures (**Figures 22 and 23**).

**Figure 20**

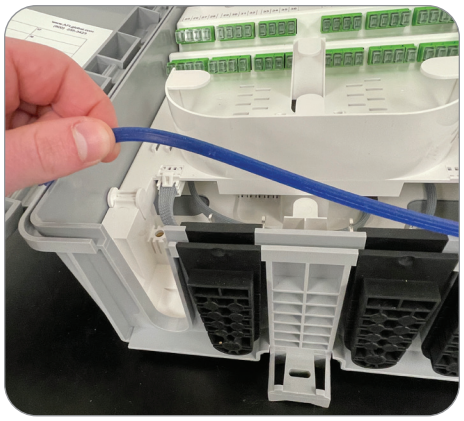


**Figure 21**

**Figure 22**

**Figure 23**

## ENCLOSURE PREPARATION – CONDUIT DRILL OUT – CONDUIT VERSION

**NOTE** Conduit drill-out steps are only necessary if enclosure was not ordered with pre-cut holes, or if the top holes need to be cut out.

1. Identify the conduit fitting size to be used and select the appropriate hole saw drill bit. Measure to guarantee the appropriate drill out ring is used for what's needed (**Figures 24 and 25**).
2. Using the drill and appropriate drill bit, carefully drill out conduit openings while always observing all safety precautions and PPE requirements with the task (**Figures 26 and 27**). Conduit drill guides exist on both the bottom and top of the enclosure and should be removed based on the project parameters.
3. Ensure all cuttings and debris from drilling holes are removed from the unit before proceeding, to guarantee a clean work environment for future steps.
4. Install conduit fitting by inserting the threaded end into the enclosure (**Figure 28**). Place supplied O-ring over the conduit fitting and secure with threaded retaining locknut (**Figure 29**).
5. Make certain the fittings are centered over the hole to create the best possible seal and tighten by hand. Repeat steps for any other ports or adapter sizes needed (**Figure 30**).

Figure 24


Figure 25

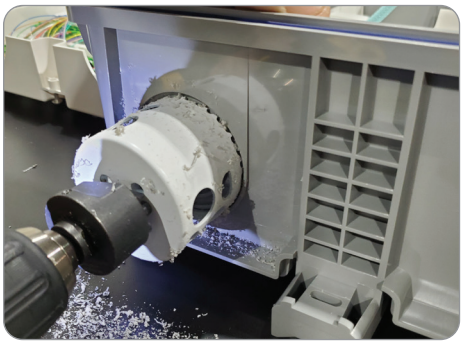


Figure 26

Figure 27

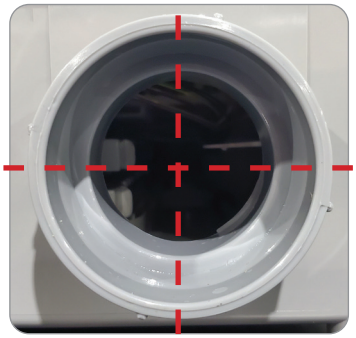


Figure 30

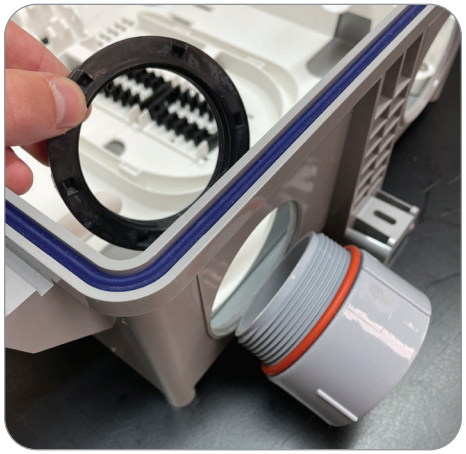


Figure 28

Figure 29

## ENCLOSURE PREPARATION – ADAPTER PANEL REMOVAL

1. Using a 5/32" Hex head tamper-proof screwdriver, release the security screw holding the adapter panel shut (**Figures 31 and 32**).
2. Lift the hinged adapter panel so it sits open freely (**Figure 33**).
3. If the enclosure was ordered with additional splice trays, release them from their locked position by depressing the tab on the splice tray yoke and lift the trays up 90 degrees (**Figure 34**).
4. Remove the splice trays one at a time by hinging the splice tray at an angle and inserting a flathead screwdriver or other flat tool between one of the hinges to disengage (**Figure 35**). Set splice trays to the side until needed for splicing.

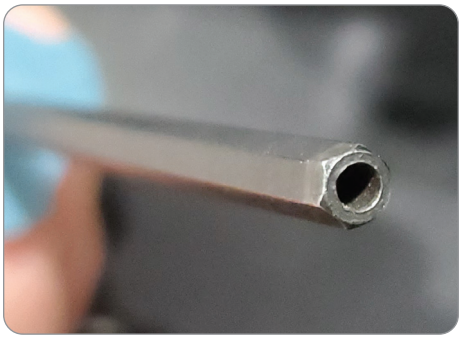


**Figure 31**

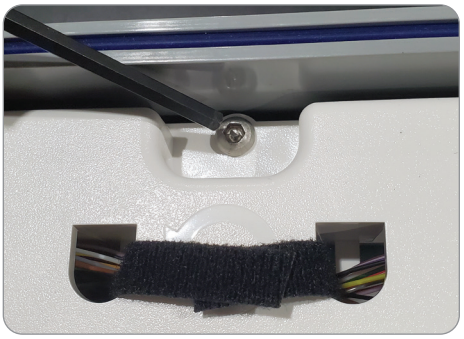


**Figure 32**

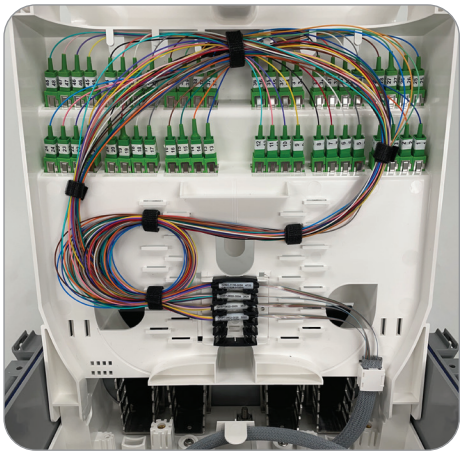


**Figure 33**

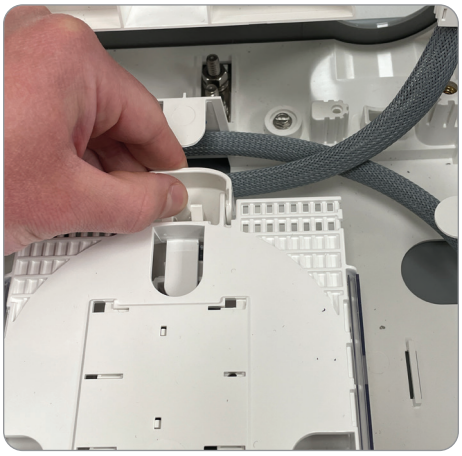


**Figure 34**

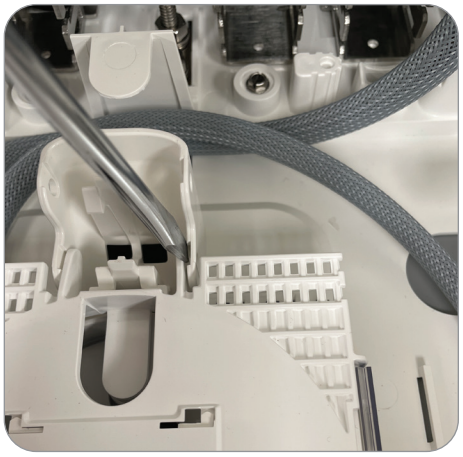


**Figure 35**

## ENCLOSURE PREPARATION – ADAPTER PANEL REMOVAL (cont.)

5. Remove pre-installed Velcro securing the meshed fiber and place to the side (**Figures 36 and 37**).
6. Pull on the upper corners of the adapter panel to release the unit from the hinges (**Figure 38**).
7. Place to the side of the enclosure in a safe area. DO NOT "hang" or leave mesh sheathing under tension, as there is fiber inside (**Figure 39**).

**Figure 36**

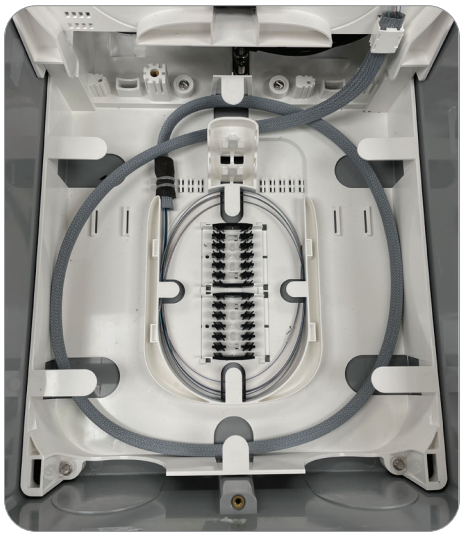


**Figure 37**

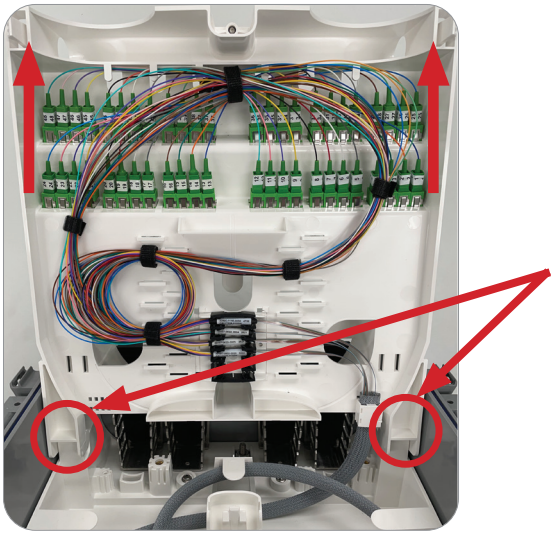



**Figure 38**

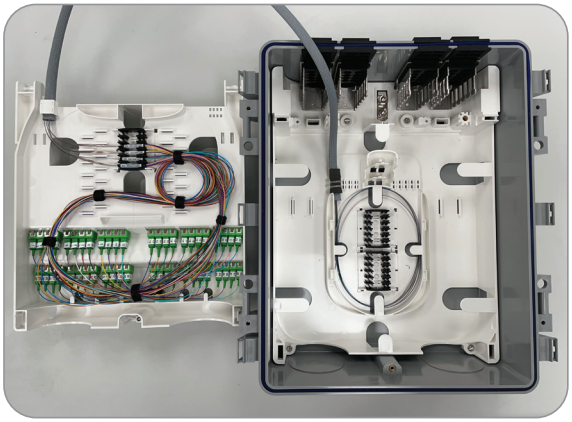


**Figure 39**

# CABLE PREP LENGTH TABLE

****NOTE**** This table should be used as a reference guide for determining the right cable preparation length. Applications will vary.

**Table 2**

| CABLE /COMPONENT | TYPE OF OPENING | LL-5D |
|---|---|---|
| **Prep Length** | | **(in.)** |
| Wrapping Tube Cable (WTC)/Rollable Ribbon | Mid sheath | 64-100** |
| | End cut | 54-72** |
| Flat Matrix Ribbon | Mid sheath | 88-90* |
| | End cut | 54-74* |
| Loose Tube fiber | Mid sheath | 64-100** |
| | End cut | 54-72 |
| All cable types | Sheath to tray | 36 |
| CSM or strength members (Non SWR®) | | 2-2 ¼ |
| **Storage** | | |
| Each additional storage loop in backplate | | 36 |
| Each additional Splice tray service loop | | 18 |
| **Definition** | | |
| Midsheath | Slack loop in backplate, service loop in tray, center cut | |
| End cut | Slack loop in backplate, service loop in tray, to far splice location | |
| Sheath to tray | Slack loop in backplate | |

* Ribbon minimum is slack loop in backplate, no slack waterfall splicing in tray

** Minimum. No service loop in splice tray – maximum allowing for service loop in splice tray

**AFL Wrapping Tube Cable (WTC)**

- No need to secure strength rods.

**Loose tube**

- Leave loose tube stranding intact wherever possible in slack loop.

## CABLE ATTACHMENT UNIT

**Parts of the CAU (Figures 40 and 41)**

- Sheath end
- Hose clamp gear nest in CAU
- Strength member retention bolt
- Alignment tab on back
- SWR® breakaway line
- Spur Bracket

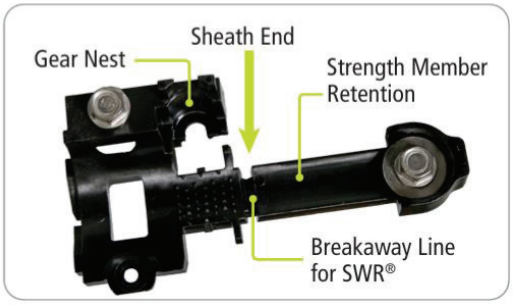



**Figure 40**

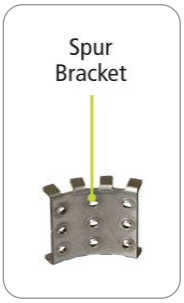



**Figure 41**

Trim strength member (single or dual) to 2-2 ¼" as needed.

***Cable must be clean and free of all tape, dirt, or contamination for proper sheath retention and sealing.****

**For WTC/SWR®**

1. Remove the strength member retention from the CAU at the breakaway line by hand (**Figure 40**).
2. Armored WTC sheath will end at the CAU sheath end location (**Figure 42**).

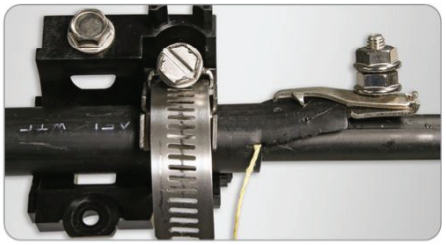


**Figure 42**

**For Flat Matrix and LT**

1. Sheath should be installed even with (or beyond) the breakaway line.
2. Secure strength members under retention bolt without trapping or pinching tubes (**Figure 43**).

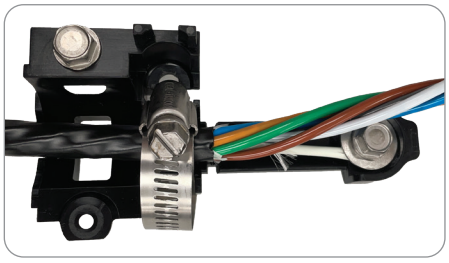


**Figure 43**

**Spur Bracket Orientation under Hose Clamp**

1. The spur bracket MUST be installed completely under the hose clamp ring at the top of the cable (**Figure 44**)

***For mid-sheath on all WTC / SWR® binders and tubed flat matrix ribbon, ensure there is no twisting in the mid sheath opening that occurs to trap groups in the splice basket.****

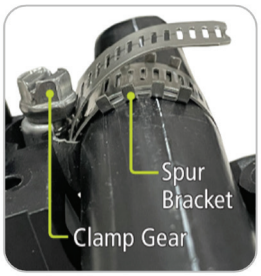



**Figure 44**

**For all Thin-Walled Jettable Micro Cable**

1. Install hose clamp without the spur bracket on any thin-walled micro cable (**Figure 45**).

**For traditional cable types**

1. Secure hose clamp and install spur bracket making sure it is properly oriented (spur bracket on top of cable), but do not fully tighten.
2. If cable is armored, a tab should be left for the ground clamp. The tab should be past the hose clamp (**Figure 42**).
3. Tighten hose clamp to 30 in-lb, which is about the maximum one can get on a can wrench.

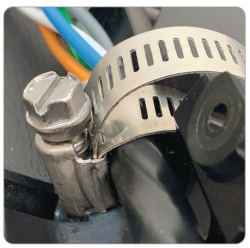


**Figure 45**

## CABLE PREPARATION

1. Using the length table above, determine the total length needed in the enclosure. Measure and mark the cable (**Figure 46**).
2. Use accepted local practice to remove the cable sheath where it has been marked (**Figure 47**). Remove outer jacket, water blocking tape, ripcords, core binders, etc. and discard. If cable contains central strength members or aramid yarn that need to be secured, leave several inches of them remaining. They will be trimmed and secured under the cable attachment unit in subsequent steps (**Figure 48**).
3. If grounding is required, install a grounding clamp under the sheath (Figure 49). Ensure the grounding clamp contacts the cable armor and secure. The ground clamp should be tethered to the ground plate located at the front end of the enclosure (**Figure 50**).


Figure 46

Figure 47

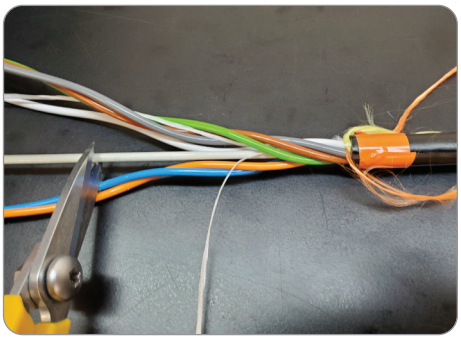


Figure 48

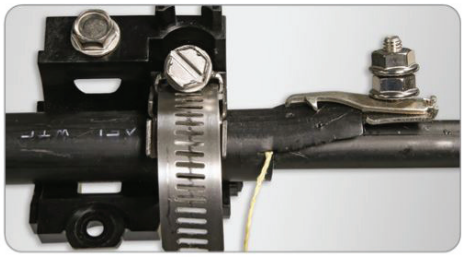


Figure 49

Figure 50

## CABLE INSTALLATION

1. If using the **conduit version** of the LL-5D, insert prepared cable through conduit entrance. (**Figure 51**).
   **If installing the **grommet version** of the LL-5D, omit this step.**
2. Locate the cable attachment unit (CAU) within the unit packaging (**Figure 52**). Attach the cable attachment unit to the cable by tightening the hose clamp. Ensure the hose clamp is oriented properly in the gear nest (**Figure 53**).
3. If cable contains a central strength member and/or aramid yarn, cut to length to secure (**Figure 54**). Once under the strength member retention, secure strength members under retention bolt without trapping or pinching tubes (**Figure 55**).
4. Before fully tightening down the hose clamp, insert spur bracket between the hose clamp and cable sheath. Finish tightening the hose clamp around the cable (**Figure 56**).

Figure 51

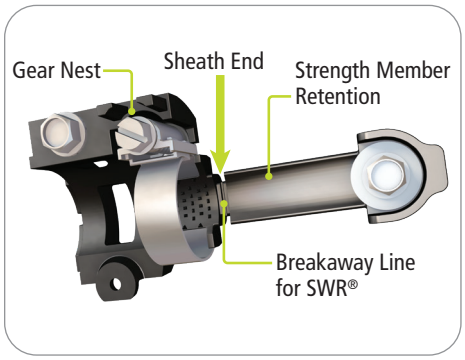



Figure 52

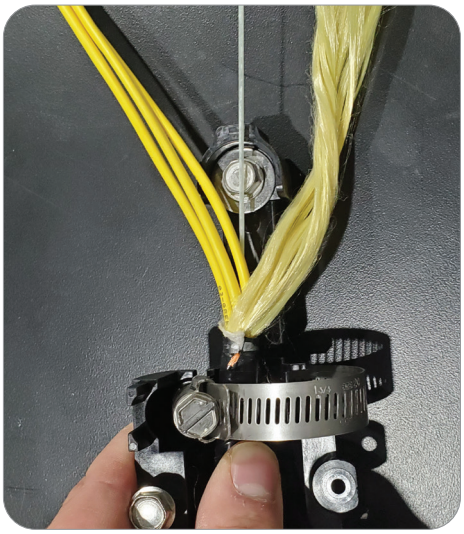


Figure 53

Figure 54

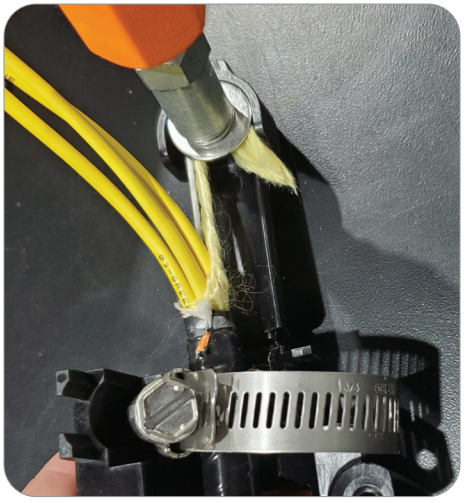


Figure 55

Figure 56

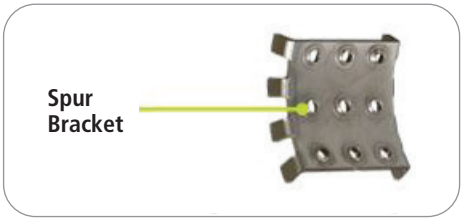



Figure 57

## CABLE INSTALLATION (cont.)

5. If using the **conduit version**, place cable attachment unit and cable into position, and secure using the 3/8" can wrench (**Figures 58 and 59**).
6. If using the **grommet version**, place the drop retention bracket inside the enclosure in front of the grommet port (**Figure 60**).
7. Locate the grommet that was cut in previous steps and insert cable into cable port (**Figure 61**). Using caution not to kink the cable, slide the grommet into the enclosure, in line with the drop retention bracket (**Figure 62**).
8. Gently pull cable outward until the cable attachment unit is seated in the alignment tab, and secure the CAU using the 3/8" can wrench (**Figure 63**).

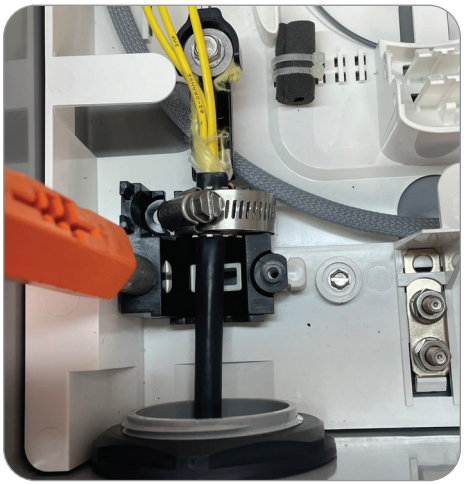


Figure 58

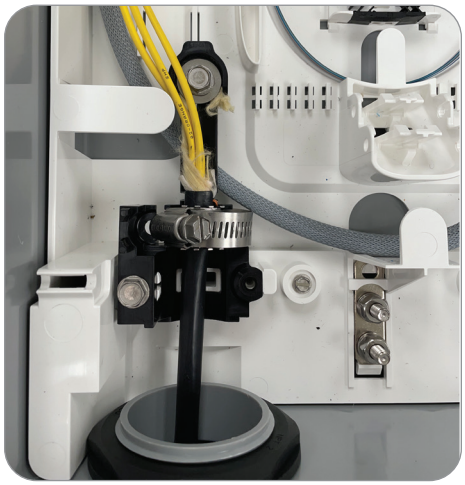


Figure 59

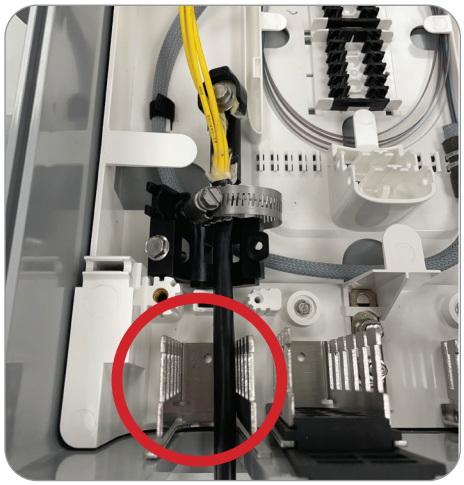


Figure 60

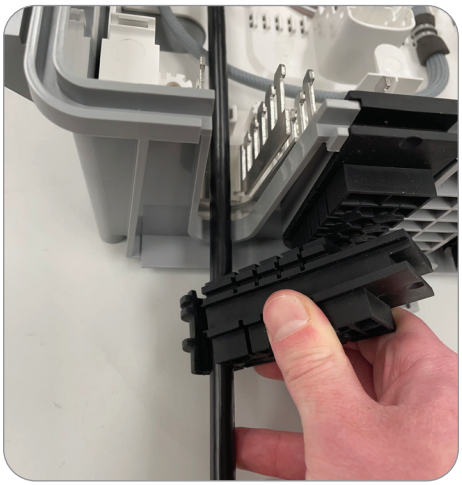


Figure 61

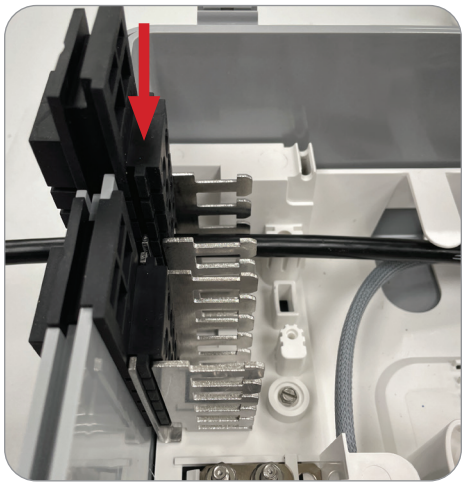


Figure 62

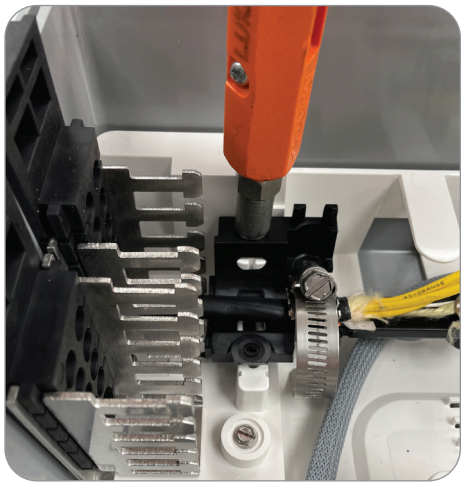


Figure 63

## ENCLOSURE PREPARATION – ADAPTER PANEL INSTALLATION

1. Route meshed fiber back into the enclosure and reattach Velcro (**Figure 64**).
2. Position the adapter panel over the hinges and push downward to reattach (**Figure 65**).
3. Ensure the connectorized pigtails have the proper slack and adjust routing, if needed, to prevent potential macrobending issues (**Figure 66**).

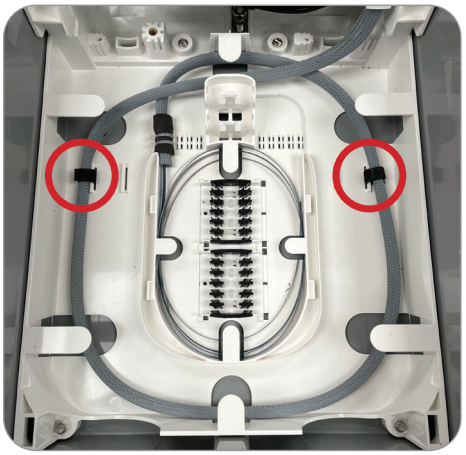


**Figure 64**

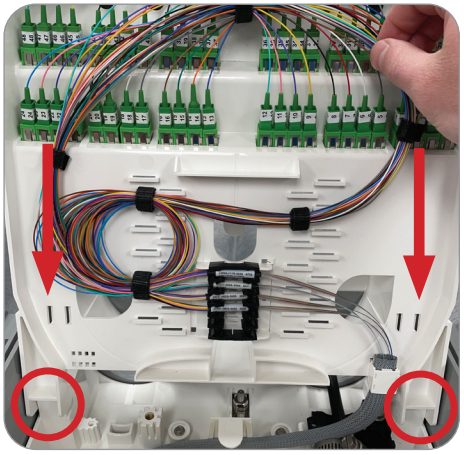


**Figure 65**

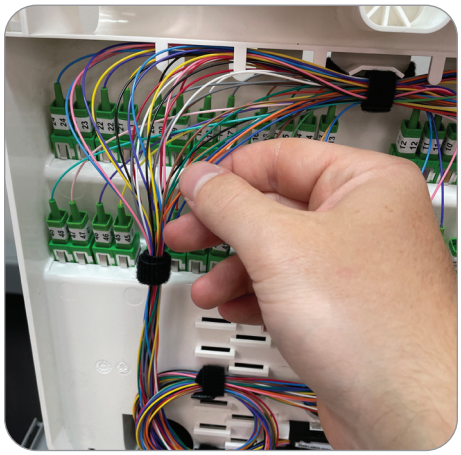


**Figure 66**

## ENCLOSURE PREPARATION – SPLICE CHIP CONFIGURATIONS

Splice trays can be shipped empty, partially loaded or fully loaded and splice modules are field removable (**Figure 67**).

Each Splice Tray holds up to two splice modules, each splice module has six splice chips. In each splice chip, single fusion splices can be triple stacked, and mass fusion splices can be double stacked (**Table 3**).

****NOTE**** Single splice sleeves can be quad-stacked if using AFL Slim Protection Sleeves.

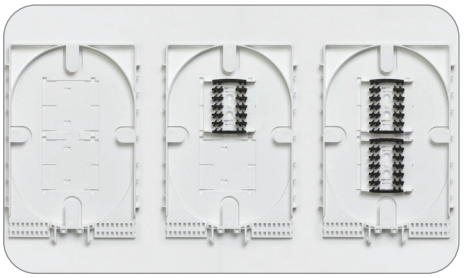


**Figure 67**

| DESCRIPTION | TRAY CAPACITY | |
|---|---|---|
| | SINGLE | MASS |
| X-2S Tray Loaded with One Splice Module | 18 | 72 |
| X-2S Tray Fully Loaded with Two Splice Modules | 36 | 288 |

**Table 3**

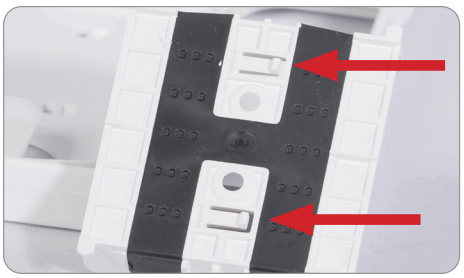


**Figure 68**

1. To add a splice module to splice tray, simply align the latch tabs (**Figure 68**).
2. Slide to engage (**Figure 69**).
3. To remove a splice module, simply disengage the locking tabs on the back with a pair of shears and slide module to release latch (**Figure 70**).

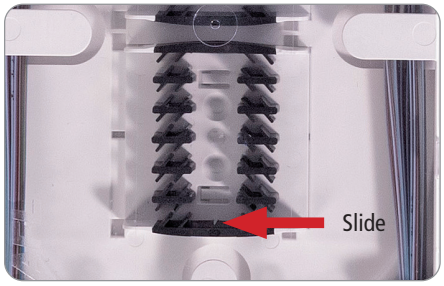



**Figure 69**

**Figure 70**

## ENCLOSURE PREPARATION – FIBER ROUTING – RIBBON VERSION

1. Route the slack sub-units or buffer tubes around in the backplate of the enclosure. Ensure they are routed under the Cable Attachment Unit **(Figures 71 and 72**).
2. Route the sub-units or buffer tubes intended for splicing into the splice tray and mark slightly beyond the wall of the splice tray (**Figure 73**).

   ****NOTE**** The amount of cable routed in the enclosure and splice tray will depend on the cable length chosen from the Length Table on page 13.
3. Wrap Velcro on the cable at multiple locations to neatly dress the cable slack in the backplate (**Figure 74**).
4. Using an appropriate ringing tool, cut and remove the sub-unit or buffer tube where it was previously marked in step 2 (**Figure 75**). Remove any aramid yarn, water-blocking material, or gel from the fiber (**Figure 76**).

Figure 71

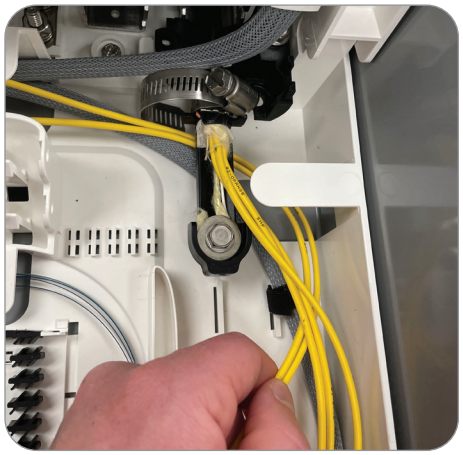


Figure 72

Figure 73

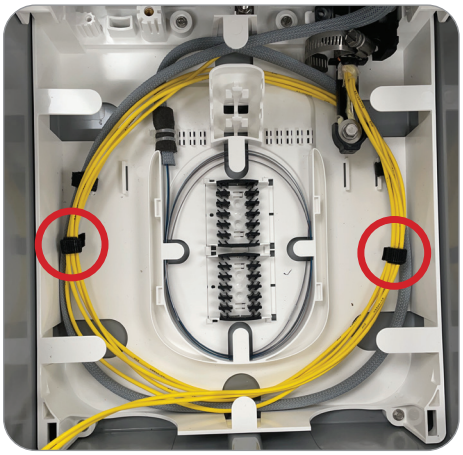


Figure 74

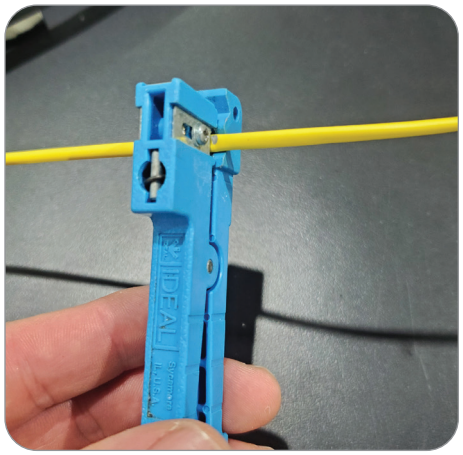


Figure 75

Figure 76

## ENCLOSURE PREPARATION – FIBER ROUTING – RIBBON VERSION (cont.)

5. Insert two tie wraps at the splice tray entrance (**Figure 77**). This will be used to secure the sub-units or buffer tubes to the splice tray.
6. Using the supplied adhesive foam included with the splice tray, cut a piece of foam and wrap around the sub-unit or buffer tube (up to 2 at a time). Cinch tie wraps securely around the foam, but not too tight that it damages the sub-unit or buffer tube. Cut tie wrap tails flush (**Figures 78 and 79**).

   ****NOTE**** If using SWR® or Ribbon, use the supplied foam with the **non-adhesive side down** (**Figure 80**). Alternatively, use the AFL WTC-SWR Foam Retention (AFL P/N: HW00406) to protect the bare fibers and secure with tie wraps (**Figure 81**). The fiber should have some movement after tie wraps are secured to ensure no attenuation.

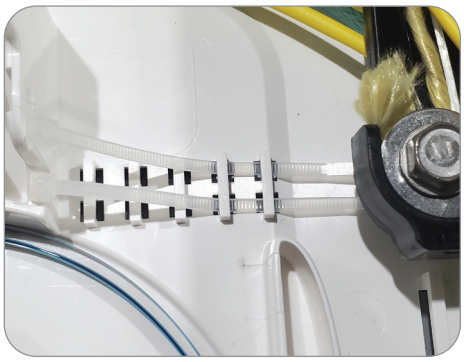


**Figure 77**

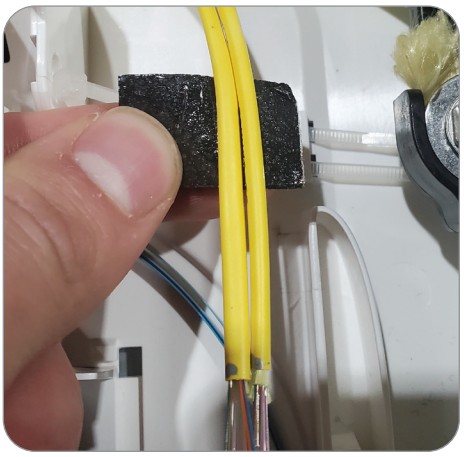


**Figure 78**

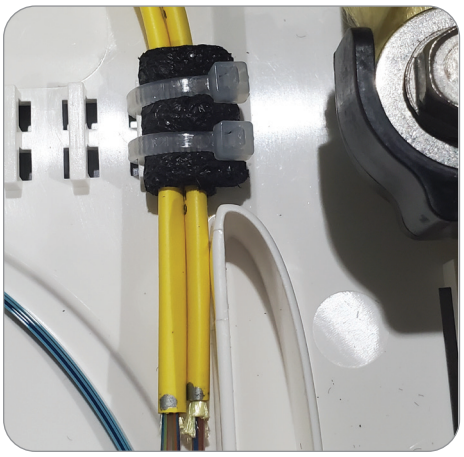


**Figure 79**

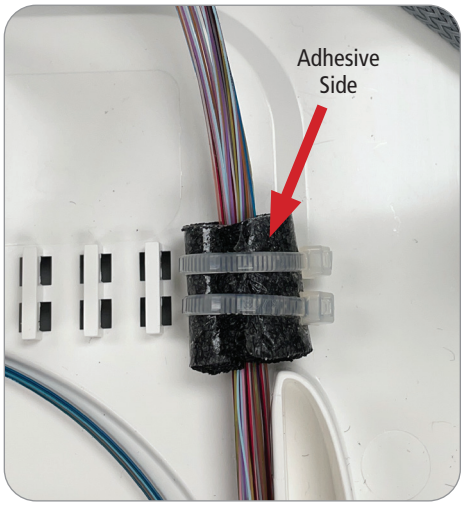



**Figure 80**

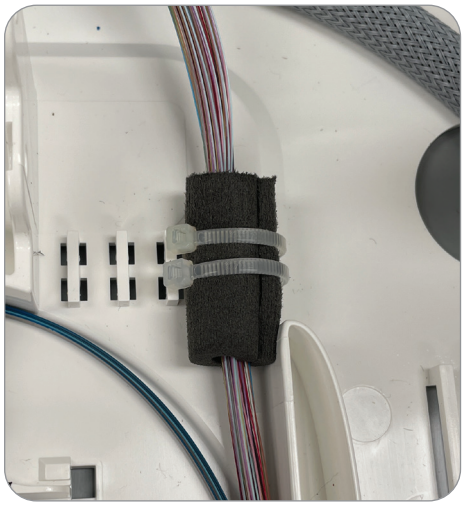


**Figure 81**

## ENCLOSURE PREPARATION – FIBER ROUTING – TIGHT BUFFER VERSION

1. Route the slack sub-units or buffer tube around in the backplate of the enclosure (**Figure 82**). Ensure these are routed under the Cable Attachment Unit (**Figure 83**).
2. Route the appropriate buffer tubes or sub-units to the splice tray and mark slightly beyond the wall of the splice tray (**Figure 84**).

   ****NOTE**** The amount of cable routed in the enclosure and splice tray will depend on the cable length chosen from the Length Table on page 13.
3. Elevate the splice trays so that they sit in the open position and begin by removing the cover off the lower splice tray (**Figure 85**). Uncoil the factory installed fibers in the splice tray and carefully set the tails out of the way (**Figure 86**).
4. Using an appropriate ringing tool, cut and remove the buffer tubes or sub-units where it was previously marked in step 2 (**Figure 87**). Remove any aramid yarn, water-blocking material, or gel from the fiber.

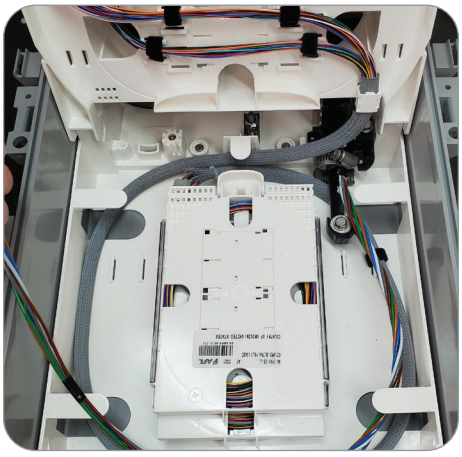


**Figure 82**

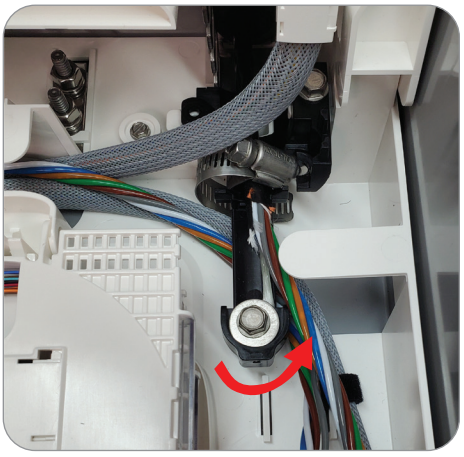


**Figure 83**

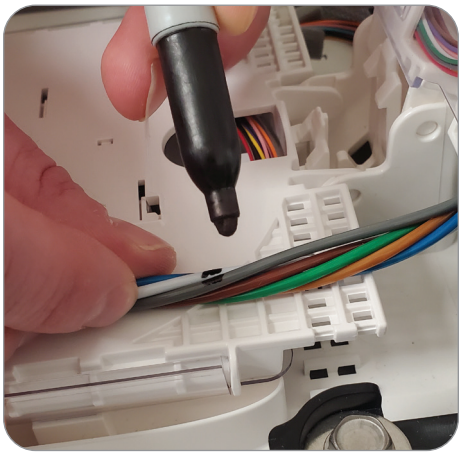


**Figure 84**

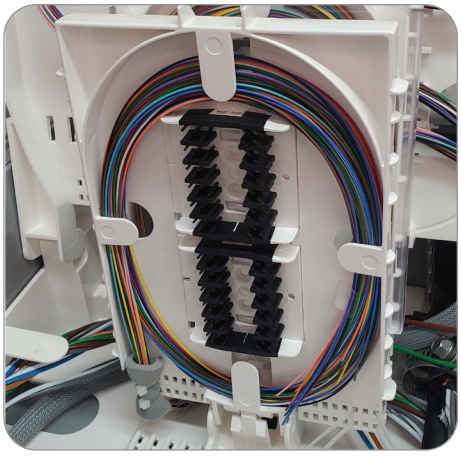


**Figure 85**

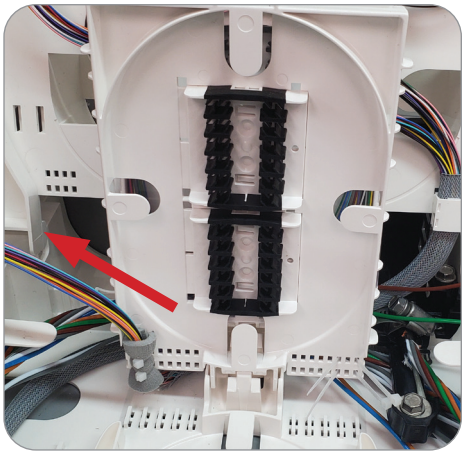


**Figure 86**

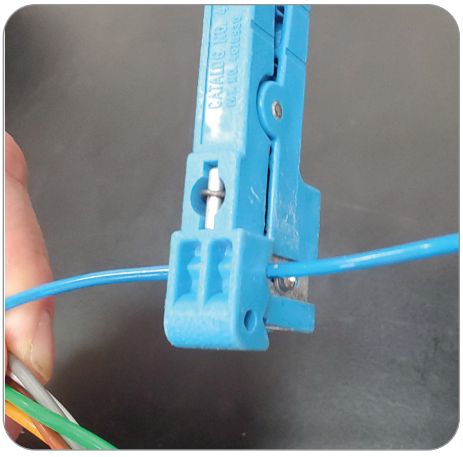


**Figure 87**

## ENCLOSURE PREPARATION – FIBER ROUTING – TIGHT BUFFER VERSION (cont.)

5. Insert two tie wraps where the tubes will enter the splice tray (**Figure 88**).
6. Using the supplied adhesive foam included with the splice tray, cut a piece of foam and wrap around the sub-unit or buffer tube. Cinch tie wraps securely around the foam, but not too tight that it damages the sub-unit or buffer tube. Cut tie wrap tails flush (**Figures 89 and 90**).
7. Route all fiber back into tray and replace splice tray cover (**Figure 91**). Repeat steps for the second splice tray.
8. Route any unused buffer tubes or sub-units in the backplate and use Velcro to neatly dress them (**Figures 92 and 93**).

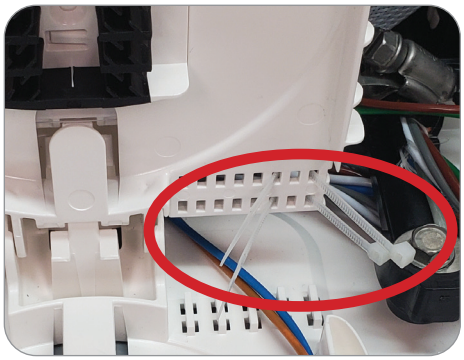


**Figure 88**

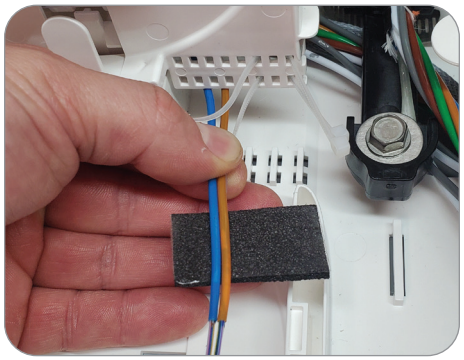


**Figure 89**

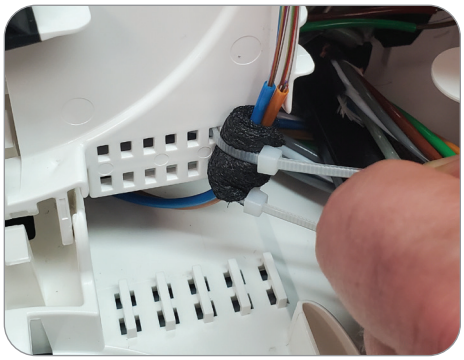


**Figure 90**

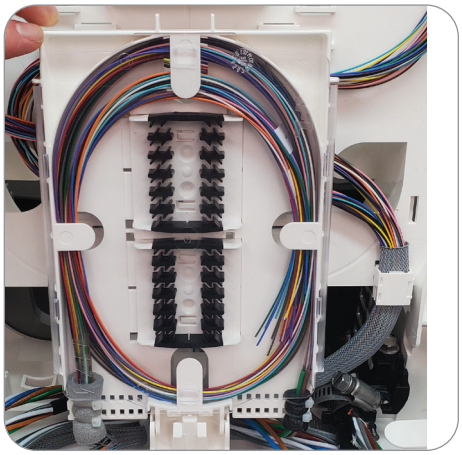


**Figure 91**

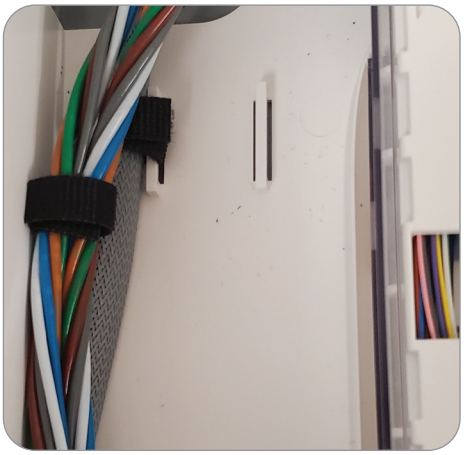


**Figure 92**

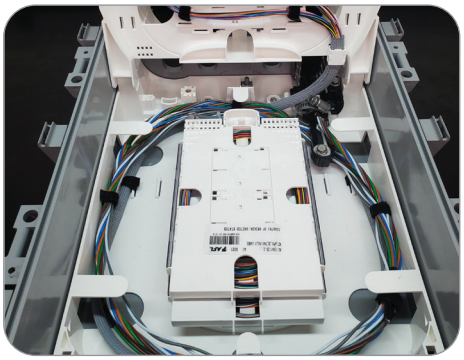


**Figure 93**

## SPLICING

Fiber length and splice location in the splice tray will depend on cable length chosen from the Length Table on page 13.

1. Route fiber in splice tray to determine proper lengths and splice locations (**Figure 94**). Cut any excess fiber that is not desired (**Figure 95**).
2. Remove fiber from the tray to prepare for splicing. Keep a record of the fiber groupings to guarantee successful splicing.
3. Following approved splicing procedures, prepare two fiber ends for fusion splice (**Figure 96**). After acceptable splice, route the fiber in the splice tray, securing the splice sleeve into the splice chip (**Figure 97**).

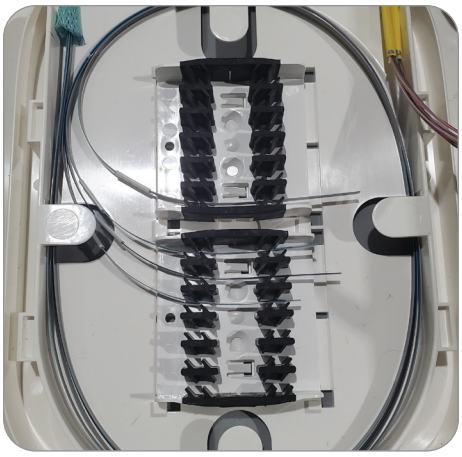


**Figure 94**

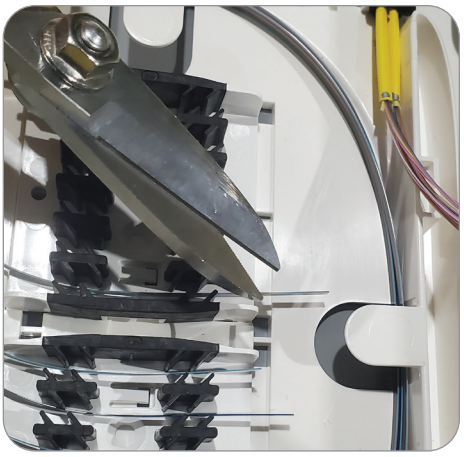


**Figure 95**

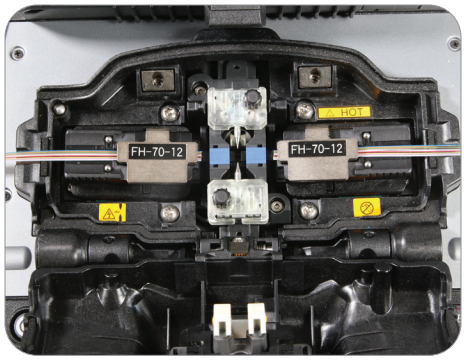



**Figure 96**

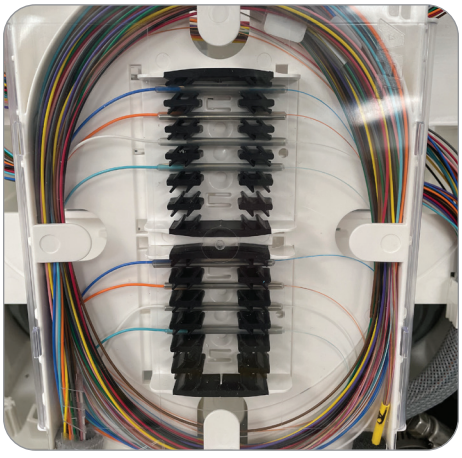


**Figure 97**

## DROP CABLE INSTALLATION – CONDUIT VERSION

****NOTE**** It is recommended to use pre-terminated drop cables for installing the drops on the customer side. If using stubbed drop cable, such as standard flat drop cable, ensure that proper furcation tubing is added to any exposed bare fiber for protection when routed in the enclosure.

1. Prepare drop cables for installation into the enclosure. Before inserting connectors into adapters, use proper cleaning techniques to clean adapters and connectors (**Figures 98 and 99**).
2. Feed drop cables through the conduit entry holes and route cables appropriately. Use the routing wall and Velcro to manage drop cable slack (**Figure 100**).
3. Use the lances on each side of the adapter panel to secure drop cable groupings with tie wraps or Velcro (**Figure 101**).
4. Once enclosure is fully populated with drops, tighten down the safety screw to secure the adapter panel (**Figure 102**). Re-install LL-5D door by pressing back into the 3 hinge positions (**Figure 103**). The door can be installed to open in either direction.

Figure 98

Figure 99

Figure 100

Figure 101

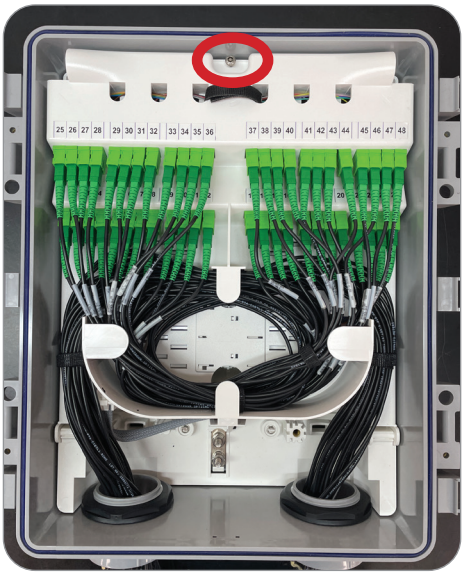


Figure 102

Figure 103

## DROP CABLE INSTALLATION – GROMMET VERSION

****NOTE**** It is recommended to use pre-terminated drop cables for installing the drops on the customer side. If using stubbed drop cable, such as standard flat drop cable, ensure that proper furcation tubing is added to any exposed bare fiber for protection when routed in the enclosure.

1. Prepare additional grommets for drop cable installation by slitting all needed drop openings along the side (**Figures 104 and 105**). Take all safety precautions when using sharp tools.
2. Install drop cables into the pre-slit openings in the grommet – two to three round drops per port, or one flat drop per port (**Figure 106**).
3. Once grommet is fully populated, install grommet and drop retention bracket into the enclosure. Begin routing drop cables into the enclosure (**Figure 107**).
4. Before inserting connectors into adapters, use proper cleaning techniques (**Figures 108 and 109**).

**Figure 104**

**Figure 105**

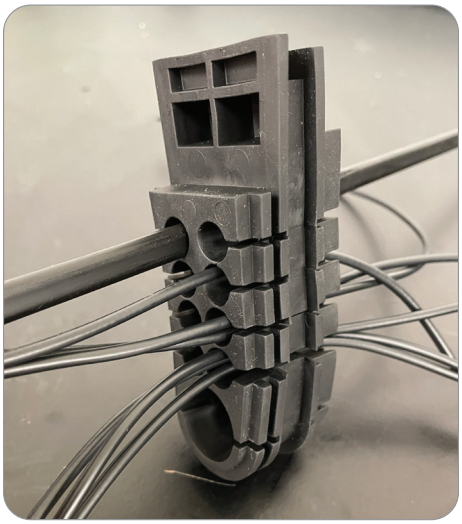


**Figure 106**

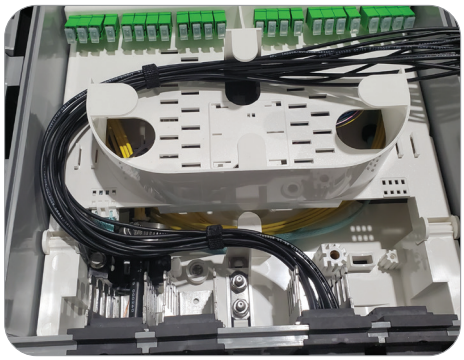


**Figure 107**


**Figure 108**

**Figure 109**

## DROP CABLE INSTALLATION – GROMMET VERSION (cont.)

5. Continue to fully populate the rest of the drops, using Velcro to route and organize the drops (**Figures 110 and 111**).
6. Use the lances on each side of the adapter panel to secure drop cable groupings with tie wraps or Velcro (**Figure 112**).
7. To prevent cable pull-out, foam and tie wraps can be used to secure the drop cables to the drop retention brackets (**Figure 113**). If installing a non-terminated flat drop cable, end the sheath at the metal bracket and secure it to the bracket using foam and tie wraps (**Figure 114**).

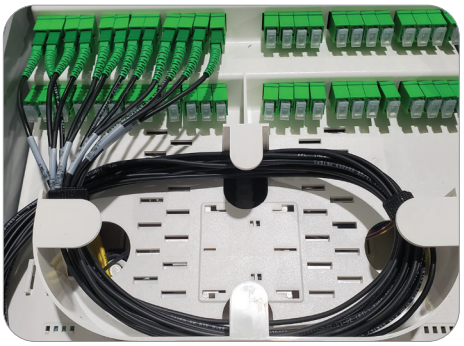


**Figure 110**

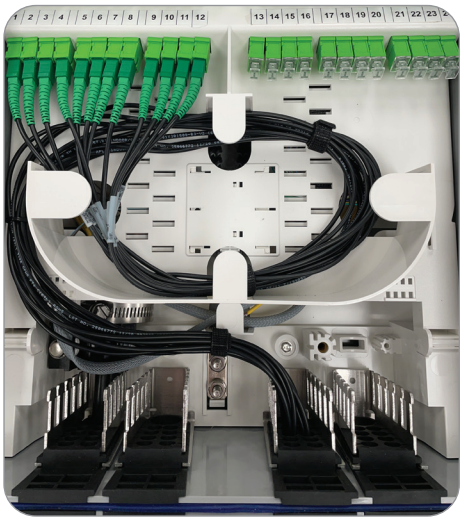


**Figure 111**

**Figure 112**

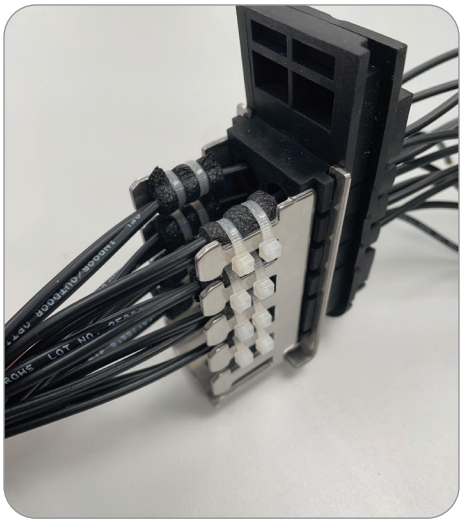


**Figure 113**

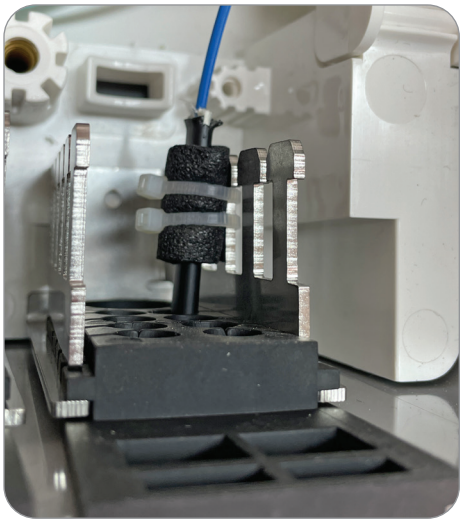


**Figure 114**

## DROP CABLE INSTALLATION – GROMMET VERSION (cont.)

8. Once the enclosure is fully populated with drops, re-install the gasket seal around the edge of the enclosure and tighten the safety screw to secure the adapter panel (**Figure 115**).
9. Re-install the LL-5D door by pressing it back into the three hinge positions (**Figure 116**). The door can be installed to open in either direction.

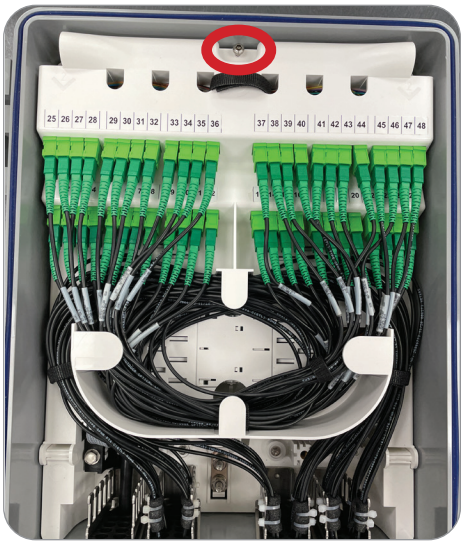


**Figure 115**

**Figure 116**

## SKIRT KIT INSTALLATION – OPTIONAL

1. Align the holes of the bottom plate to the skirt backplate (**Figure 117**). Join the two with ½" #8 screws to secure and make a single assembly (**Figure 118**).
2. If the enclosure has already been mounted, temporarily remove the bottom mounting screw.
3. Pull the bottom of the enclosure slightly away from the mounting surface and slide the skirt backplate under it so that the bottom pegs of the enclosure sit in the corner holes of the backplate (**Figure 119**).
4. Re-install the lower enclosure mounting screw to secure (**Figure 120**).
5. Drill pilot holes in each of the four mounting hole locations (**Figure 121**).

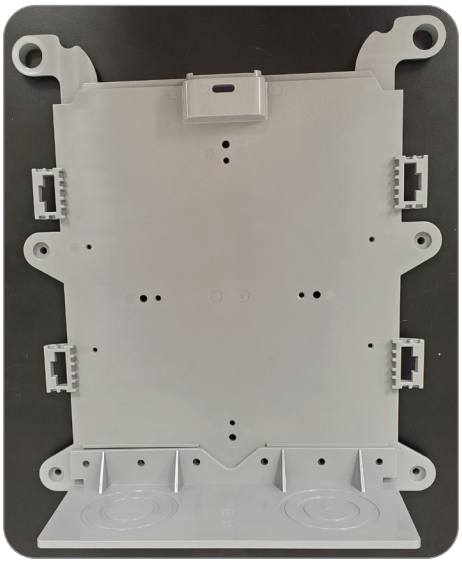


**Figure 117**

**Figure 118**

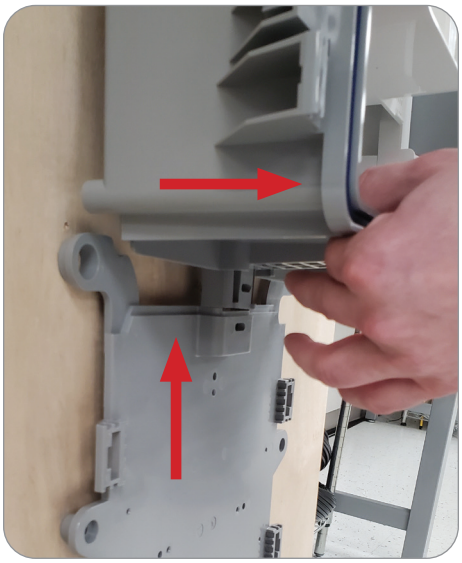


**Figure 119**

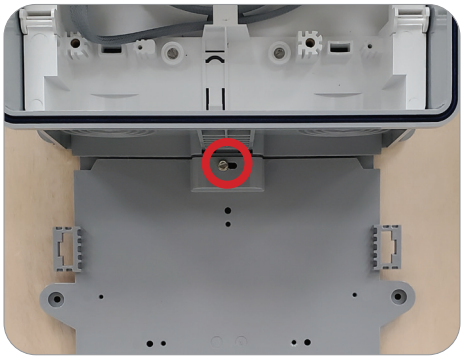


**Figure 120**

**Figure 121**

## SKIRT KIT INSTALLATION – OPTIONAL (cont.)

6. Position skirt cover over the backplate and with light force, push side tabs into the backplate, securing the skirt in position (**Figure 122**).
7. Install four screws into the pilot holes to secure the skirt assembly (**Figure 123**).

**Figure 122**


**Figure 123**

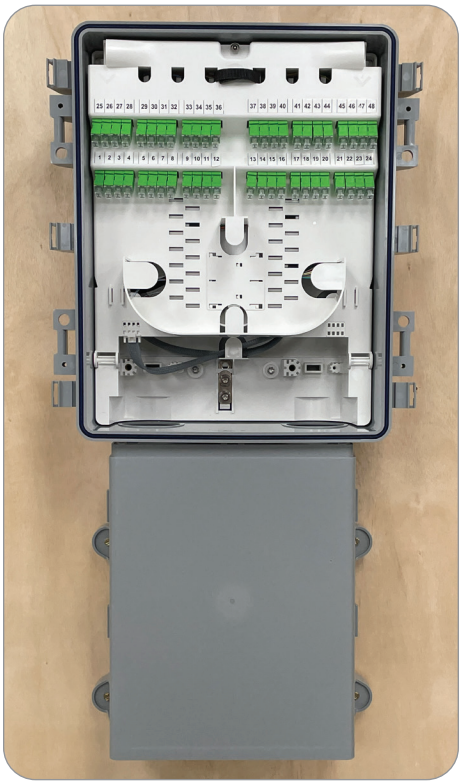


**Figure 124**

**Figure 125**