

## Environmental Distribution Center (EDC-o6P-NH)

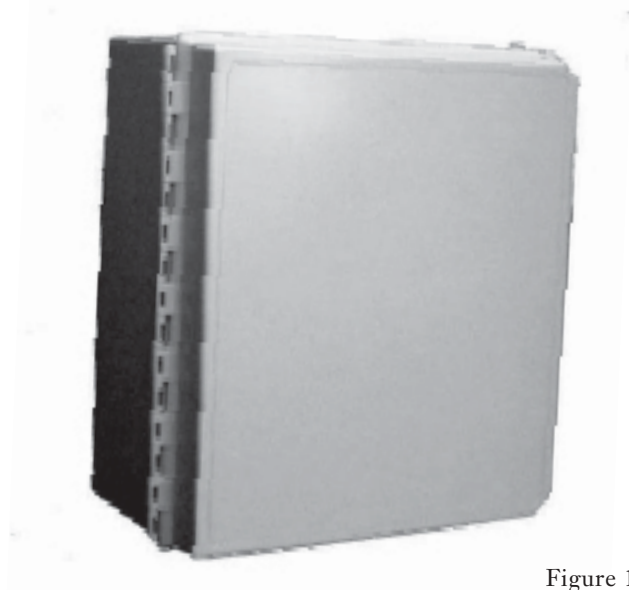


Figure 1

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### 1. General

**1.1** This instruction describes recommended procedure for the installation of the six-panel Environmental Distribution Center (EDC) (p/n EDC-06P-NH) manufactured by Corning Cable Systems.

**1.2** To purchase any accessories that are sold separately, contact your Corning Cable Systems service representative for assistance.

**1.3** This document is being reissued to clarify cable cleaning directions.

**NOTE:** *Read and understand this procedure (as well as the instructions provided with related assemblies) before beginning an installation. Make sure you know how the unit will be mounted and how the distribution cable and drop cable will be routed to the unit.*

### 2. Description

**2.1** The EDC that stores and protects fiber optic connections and splices in an outdoor environment. The cabinet carries a NEMA 250 Type 4X and Type 13 rating in addition to a IEC 529 IP66 rating. The unit provides environmental protection and strain-relief for one distribution cable and up to six drop cables.

**2.2** Connector panels are used to provide interconnection between the distribution and drop cables. The EDC accommodates up to six LANscape® connector panels. Colored icons are available with different symbols for a quick visual reference of the data type at each connector location. Panels and connector panel icons are ordered separately.

**2.3** The unit accommodates six Type 2S or three Type 4S splice trays that protect mechanical or fusion splices. Splice trays are ordered separately.

**2.4** The unit can be field connectorized using buffer tube fan-out (BTF) kits, which are ordered separately.

**2.5** The EDC comes with brackets to mount the unit to a wall or a standard utility pole. The unit may be rack-mounted with an optional rack-mount kit.

**2.6** The unit may be padlocked with a user supplied padlock after installation of the provided quick-release latch kit.

**2.7** Factory stubbed units are available with a specific length of preconnectorized cable installed and strain-relieved in the unit.

### 3. Precautions

#### 3.1 Laser Handling Precautions



**WARNING:** *Never look directly into the end of a fiber that may be carrying laser light. Laser light may be invisible and can damage your eyes. Viewing it directly does not cause pain. The iris of the eye will not close involuntarily as when viewing a bright light. Consequently, serious damage to the retina of the eye is possible. Should accidental eye exposure to laser light be suspected, arrange for an eye examination immediately.*



**WARNING:** *DO NOT use magnifiers in the presence of laser radiation. Diffused laser light can cause eye damage if focused with optical instruments. Should accidental eye exposure be suspected, arrange for an eye exam immediately.*

#### 3.2 Safety Precautions



**CAUTION:** *The wearing of safety glasses to protect the eyes from accidental injury is strongly recommended when handling chemicals and cutting fiber. Pieces of glass fiber are very sharp and can damage the cornea easily.*



**CAUTION:** *The wearing of safety gloves to protect hands from accidental injury is strongly recommended when using sharp instruments.*



**CAUTION:** *Isopropyl alcohol is flammable with a flashpoint at 50°F. It can cause irritation to eyes on contact. In case of eye contact, flush eyes with water for at least 15 minutes. Inhaling fumes may induce mild narcosis. In case of ingestion, consult a physician.*

#### 3.3 Glass Fiber Precautions



**WARNING:** *Cleaved glass fibers are very sharp and can pierce the skin easily. Do not let cut pieces of fiber stick to your clothing or drop in the work area where they can cause injury later. Use tweezers to pick up cut or broken pieces of the glass fibers and place them on a loop of tape kept for that purpose alone. Good housekeeping is very important.*

#### 3.4 Cable Handling Precautions

**NOTE:** *Fiber optic cable is sensitive to excessive pulling, bending and crushing forces. Consult the cable specification sheet for the cable you are installing. Do not bend the cable more sharply than the minimum recommended bend radius. Do not apply more pulling force to the cable than specified. Do not crush the cable or allow it to kink. Doing so may cause damage that can alter the transmission characteristics of the cable — the cable may have to be replaced.*

#### 3.5 Installer Precautions



**WARNING:** *Do not install this unit or work with telephone wiring during a lightning storm. Telephone lines can carry high voltages from lightning causing electrical shock resulting in severe injury or death.*

### 4. Tools and Materials

In addition to the usual complement of installation tools, the following are required for this installation:

- Slotted and Phillips-head screwdrivers
- Tape measure
- Pliers
- 8-mm (<sup>5</sup>/<sub>16</sub>-inch) open or box wrench
- Hole saw
- Two cable entry port fittings and sealant (if required)

Mounting hardware is not provided. The type of hardware used is dependant on the mounting location; wall anchors may be required for adequate support on sheetrock walls.

## 5. Components

### 5.1 Components are illustrated in Figure 2.

- The base plate is the dark metal part inside the enclosure to which the components are attached. It is secured by one screw in each corner.
- There are top and bottom mounting brackets.
- The splice tray holder is removed for clarity.
- The fan-out bracket is underneath the splice tray mounting location.

5.2 An installation kit is provided that includes cable ties, central member strain-relief hardware, a sheath retention kit and a quick-release latch kit.

## 6. Unpacking Stubbed Units

Follow the directions in Standard Recommended Procedure 003-310, provided with the shipping container, to remove the stubbed unit from its packaging.

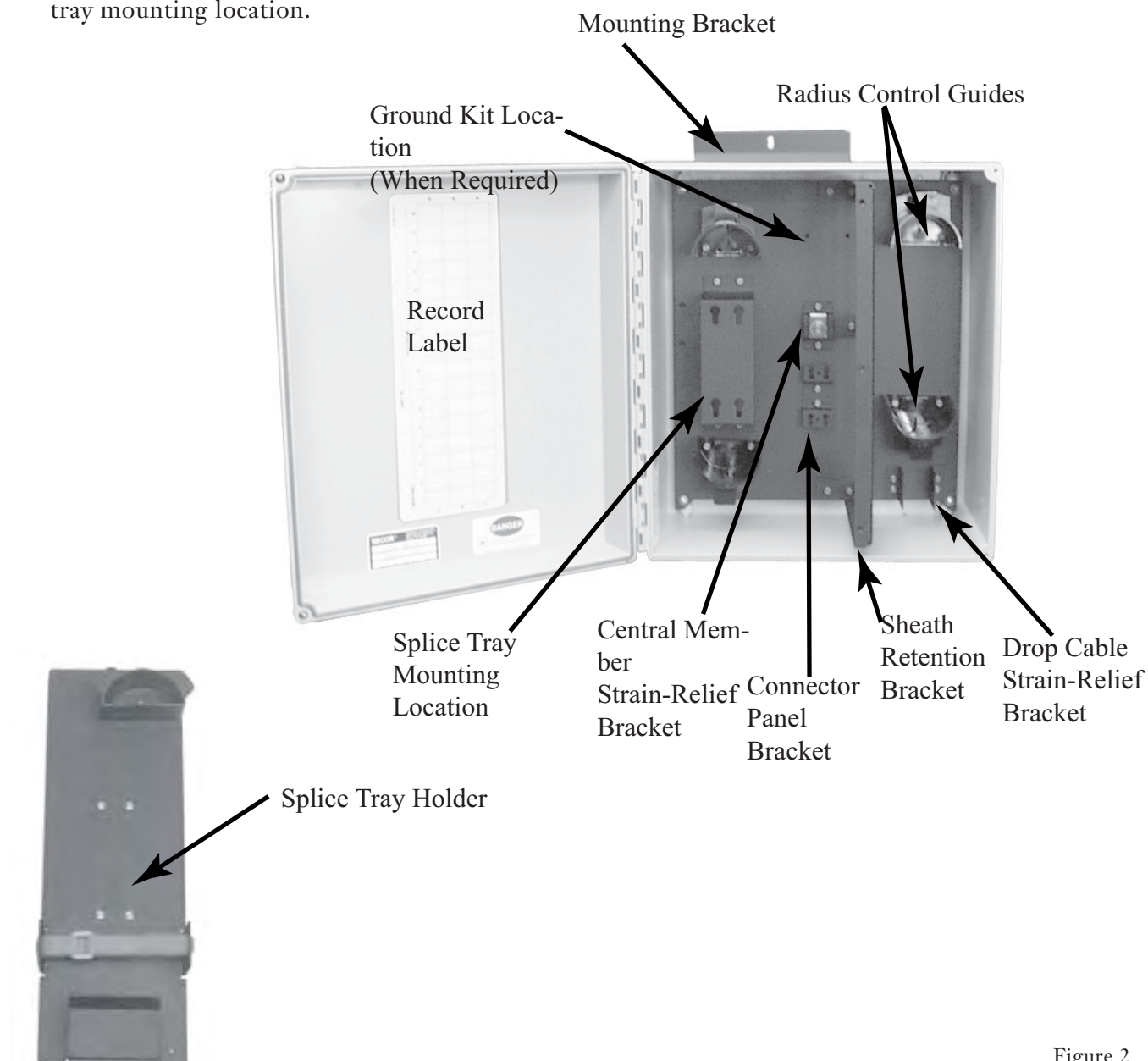


Figure 2

## 7. Installing Holes

**IMPORTANT:** Remove the base plate from the housing before cutting any holes.

**7.1** Determine the size hole needed based on the fitting being used. Based on dimensions in Figure 3, measure and mark the location of the hole centers on the bottom of the unit. The 2-inch conduit fitting holes are represented by the larger circles and the 1-inch conduit holes by the smaller circles.

**7.2** Cut holes as required for your coupling fitting. Follow local safety practices.

**7.3** Install the fittings (purchased separately). Fitting kits are dependant on the type of fitting desired for your application.

**7.4** Reinstall the base plate.

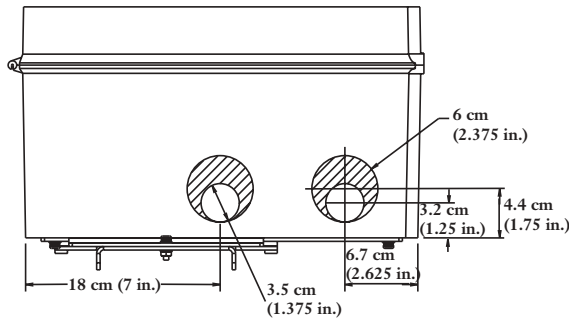


Figure 3

## 8. Mounting

**NOTE:** If you will be mounting the EDC without the stabilizer bracket, remove and discard the stabilizer bracket. Position the housing as desired and secure using 1/4-inch screws in the top and bottom mounting brackets.

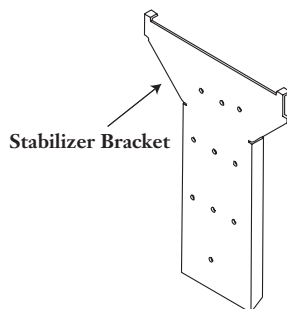


Figure 4

**8.1** When wall-mounting is desired,

- a) Remove the stabilizer bracket (Figure 4).

- b) Drive 1/4-inch screws or wall anchors through the stabilizer bracket and into the mounting surface. Do not install a screw in the bottom hole of the stabilizer bracket at this time.

Hang the unit over the mounted stabilizer bracket.

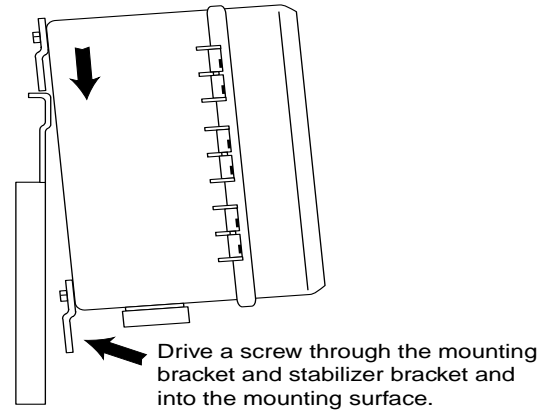


Figure 5

- c) Hang the unit on the stabilizer bracket, ensuring that the top mounting bracket is resting between the two tabs on the stabilizer bracket (Figure 5).
  - d) Align the elliptical hole in the bottom mounting bracket and the bottom hole in the stabilizer bracket and install a 1/4-inch screw through it and into the mounting surface.
  - e) Mounting hardware is not provided.
- 8.2** When the EDC will be mounted onto a utility pole:
- a) Secure the stabilizer bracket to the pole using 1/4-inch screws. Do not install a screw in the bottom hole of the bracket at this time.
  - b) Hang the EDC on the stabilizer bracket, ensuring that the top mounting bracket is resting between the two tabs on the stabilizer bracket.
  - c) Line up the elliptical hole in the bottom mounting bracket with the bottom hole in the stabilizer bracket and drive a 1/4-inch screw through the brackets and into the utility pole.
  - d) Mounting hardware is not provided.

**8.3** To rack mount the unit, a universal rack-mount kit (ordered separately) is required. Remove the stabilizer bracket and follow instructions supplied with the rack-mount kit.

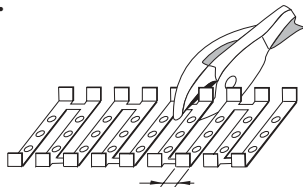
## 9. Preparing Cable

**9.1** Route the incoming distribution (feeder) cable through the fitting on the left at the base of the unit.

**9.2** Perform cable sheath removal steps per instructions for the type of cable being installed. Cut the cable to 3 meters (10 feet) inside the unit.

**NOTE:** Do not expose the bare fiber until you are ready to terminate it.

- 1) Wrap a section of clamp material around the cable to determine the length needed for one full wrap.
- 2) Use side cutters to cut the clamp material so that it ends up one section shorter than this length.



- 3) Place the cut length of clamp material 5 cm (2 inch) from the end of the cable sheath.
- 4) Install a hose clamp over it, covering as many holes as possible. Hand tighten with a slotted screwdriver or a 5/16-inch driver.
- 5) Wrap the sheath retention assembly with vinyl tape. (Shown without vinyl tape for clarity)



Armored cable requires a ground clamp.

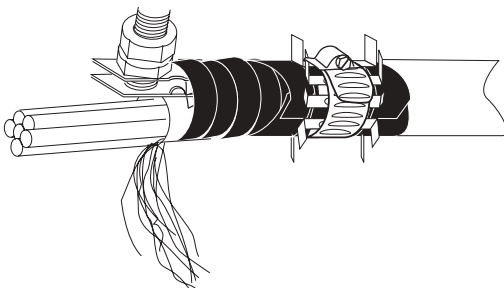


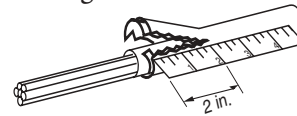
Figure 6

**9.3** Install a sheath retention clamp onto the cable sheath as illustrated in Figure 6. If an armored cable is used, install the ground clamp before installing the sheath retention clamp.

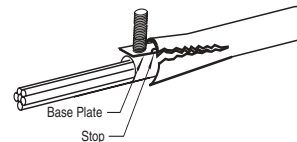
**9.4** Armored cable (metallic cable sheath) should be grounded using a ground clamp

(Figure 7).

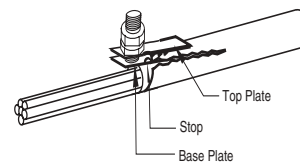
Cut a slit into opposite sides of the outer sheath and armor about 5 cm (2 inches). To do this, score the armor with a cable knife (being careful not to damage the inner sheath) and split the sheath by flexing it.



Position the grounding clamp base plate under the armor. The stops of the clamp should just touch the outside of the armor and sheath. Tap the sheath above the ground clamp base to set the teeth.



Position the top plate and lock nut on the outer sheath over the base plate. Tighten with a 10 mm (3/8 inch) wrench so that the teeth on the upper plate are driven into the sheath. Tighten the assembly with a 10 mm (3/8 inch) wrench.



Wrap the grounding connector and split portion of the sheath with a few wraps of vinyl tape.

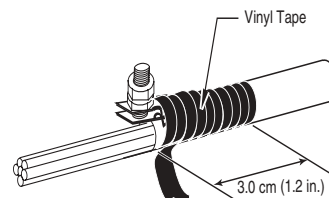


Figure 7



**9.5** Secure the cable to the sheath retention bracket using cable ties. Make sure the tabs on the clamp material are in the recessed section of the bracket (Figure 8).

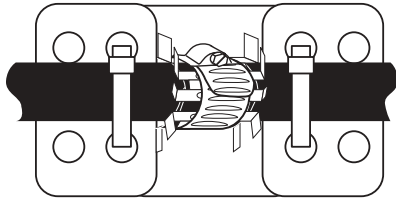


Figure 8

**9.6** When central member strain-relief is required, the central member bolt must be installed into the strain-relief bracket as shown (Figure 9).

**NOTE:** *Smaller diameter central members require a shim to make sure they are adequately secured in the central member clamp. Use a central member clamp shim when necessary (Figure 10).*

- Remove the bracket from the housing.
- Install the U-shaped washer as shown in Figure 9.
- Loosely install the hex nut.
- Use two nylon nuts to install the bracket into the housing.
- Insert the central member of the cable between the bracket and the U-shaped washer.
- Arrange the buffer tubes to ensure clearance around the central member clamp assembly and hardware.
- Tighten the hex nut.
- Install the two flat washers.
- Loosely install the other hex nut.
- Wrap the strength member yarn in a clockwise direction around the bolt and between the flat washers.
- Tighten the second hex nut.
- Trim off the excess yarn and central member.

**NOTE:** *The exposed length of the central member (after strain-relief) is to be less than or equal to 6.5 cm (2 1/2 inches) between the U-shaped washer and the end of the cable sheath.*

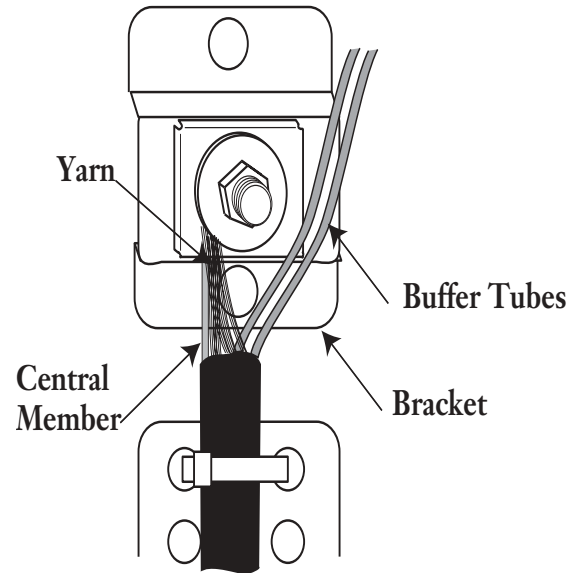


Figure 9

Insert the central member into the hole in the shim. If the central member does not fit in the hole, discard the shim. If the central member passes through the hole, the shim is required to secure the central member. Position the shim between the U-shaped washer and the bracket.

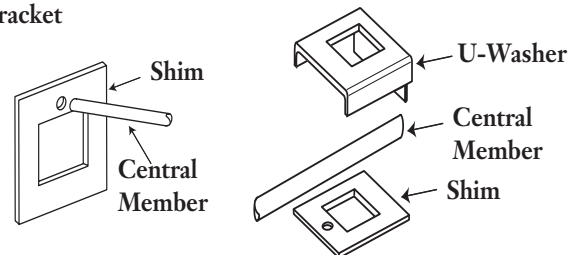


Figure 10

**9.7** When cable grounding is necessary, a hardware ground kit (purchased separately) is required. Install the ground kit as shown in Figure 11.

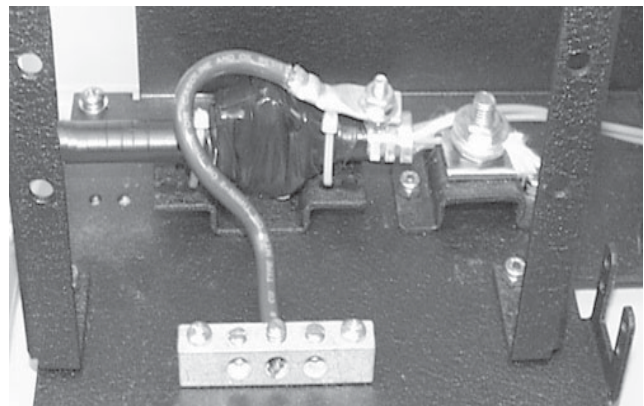


Figure 11

## 10. Connector Panels

**10.1** LANscape connector panels (Figure 12) are generally shipped separately with connector adapters installed.

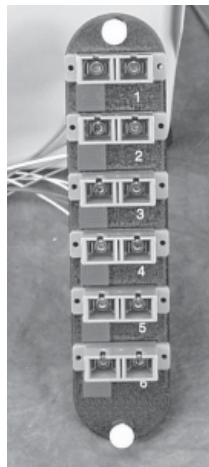


Figure 12

**10.2** If fibers are not already connectorized, install connectors onto the fibers using pigtail splicing or direct connectorization per manufacturer's instructions. If installing BTF kits, proceed to section 12.

**NOTE:** *Pigtails are fiber optic cables with connectors on one end which are installed into connector panels. The other end is terminated in a splice tray.*

**10.3** Remove the splice tray holder from the housing (Figure 13).

**10.4** Install connectors into the appropriate panels (Figure 14).

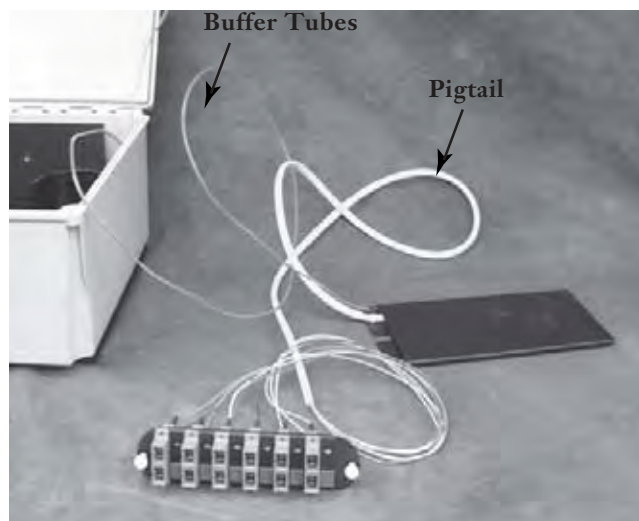


Figure 14

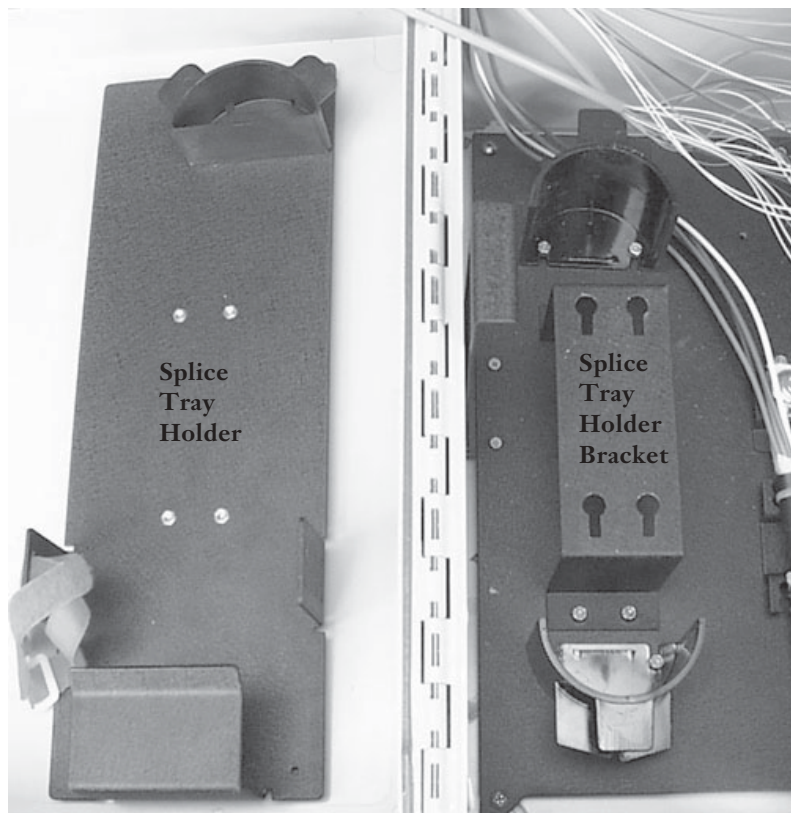


Figure 13

**CAUTION:** *The connector is a delicate device. Obey the following precautions. Damage to the surface of the connector will make it unusable:*

- Use a clean tissue soaked in alcohol to gently clean the connector. Do not press heavily on it as you clean.
- Dry the connector prior to installation with compressed air or a dry tissue.
- Clean all areas that will contact the connector adapter.
- Do not force the connector into the receptacle. If the connector does not fit easily into the receptacle, back it out and reinstall.
- Install threaded connectors into the adapter and tighten. Do not OVERTIGHTEN. Do not allow the connector body (ferrule) to turn as you screw it into place. This causes the surfaces to grind against each other.

**10.5** Remove the blank connector panels from the unit (Figure 15). Install the loaded connector panels into the connector support bracket (Figure 16).

**10.6** Repeat for all required panels.

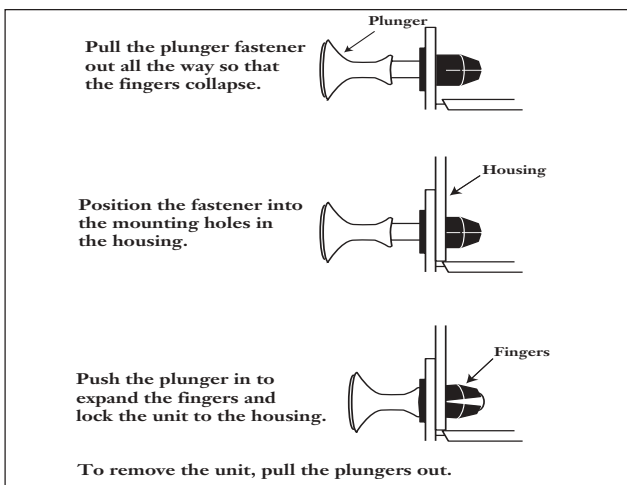


Figure 15



Figure 16

## 11. Splicing

**11.1** The unterminated ends of pigtails are spliced to buffered fibers in a splice tray (Figure 14). Prepare the buffer tubes for splicing.

- Route three complete loops of fiber around the radius guides in a counterclockwise direction. The radius guides are divided into three sections. Begin routing from the back section and work your way forward with each loop in a different section of the guide.
- Reinstall the splice tray holder and install one of the splice trays you will be using.
- Place **ALL** the buffer tubes as they will lie after installation and mark the cable 2 cm ( $\frac{3}{4}$  inch) from where it will enter the corner of the splice tray as shown in Figure 17. (This is where the buffer tube will be removed.)
- Refer to the instructions provided with the splice tray to determine the appropriate length of fiber required in the tray. Measure from the first mark toward the end of the buffer tubes and mark the buffer tubes.
- Trim the excess buffer tube beyond the second mark.
- Remove the splice tray and the coiled buffer tubes.
- Remove the buffer tubes to the marked point (plus the length needed inside the tray). Strip and clean the fibers according to the cable manufacturer's instructions.



Figure 17



**11.2** Prepare the pigtail for splicing in the same manner.

**11.3** Work on one splice tray at a time. Bring both pigtails and buffered fibers to a convenient splicing area - one pair at a time. Secure these fibers to the same corner of the splice tray.

**IMPORTANT:** *When securing 900  $\mu\text{m}$  fiber to the splice tray, 1.5 inches of electrical tape around the sheath as protection for the 900  $\mu\text{m}$  fiber is recommended. Feed a cable tie through the strain-relief holes in the corner of the splice tray. Carefully tighten the cable tie around the tape-wrapped portion of the fibers to secure the fibers to the tray. DO NOT tighten the cable tie too tightly.*

**11.4** Splice fibers as described in instructions for the splicing method you are using.

**11.5** As you complete a splice, label the connector end of the pigtail with its port identifier. Record information appropriately on the record label inside the front door (Figure 18).

**11.6** Repeat for all required splice trays.

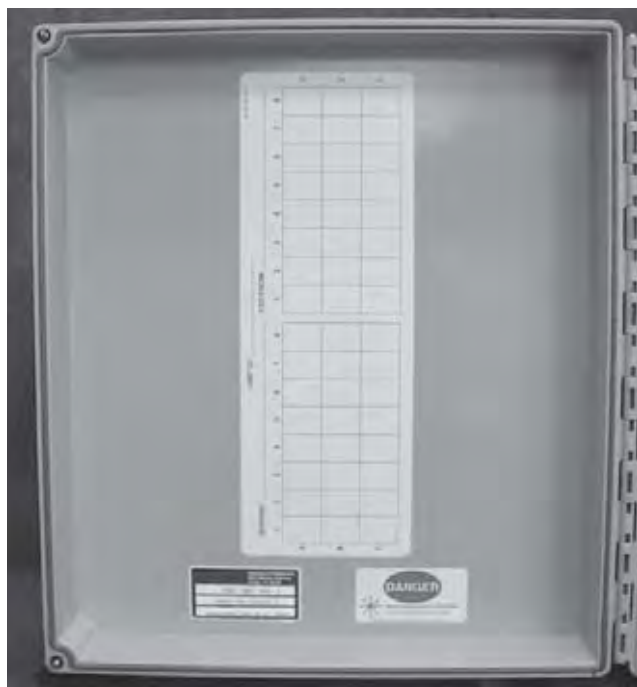


Figure 18

**NOTE:** *Accurate record keeping is imperative for an organized installation.*

**11.7** Place the spliced trays into the holder as shown in Figure 19. The fibers exiting the trays are positioned around the radius control guide. Secure the trays to the holder using the provided hook-and-loop strap.

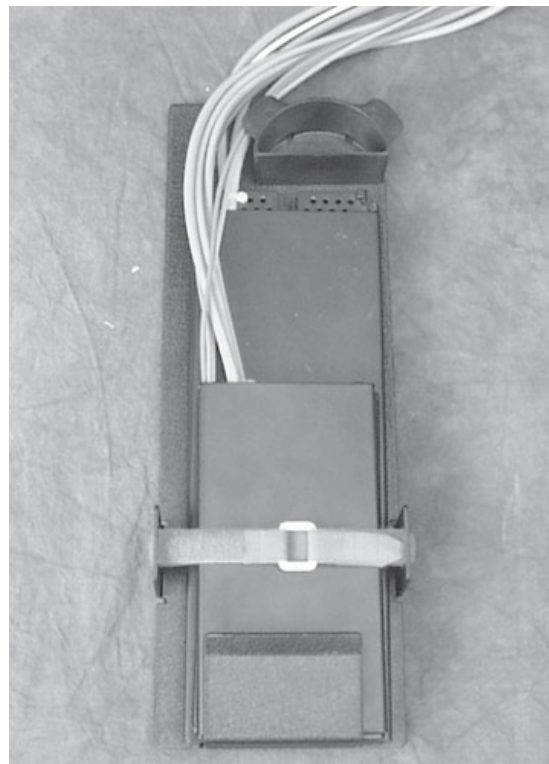


Figure 19

**11.8** Once all splicing is complete, route all buffer tubes (beginning at the cable sheath opening) and pigtails (starting at the connector panels) counterclockwise around the radius guides (Figure 20).



Figure 20

- a) Place pigtails on the outside of the loops and the buffer tubes closest to the guides.
- b) Make sure the fiber from the connector boot is not pulled too tightly and the bend radius is not violated.
- c) The first loop should be in the back section of the radius guides and each successive loop should be in the section above the previous loop.
- d) At the third loop, reinstall the splice tray holder and trays (Figure 21).

**NOTE:** Cable ties can be loosely attached to organize the coils of buffer tubes and pigtail assemblies.

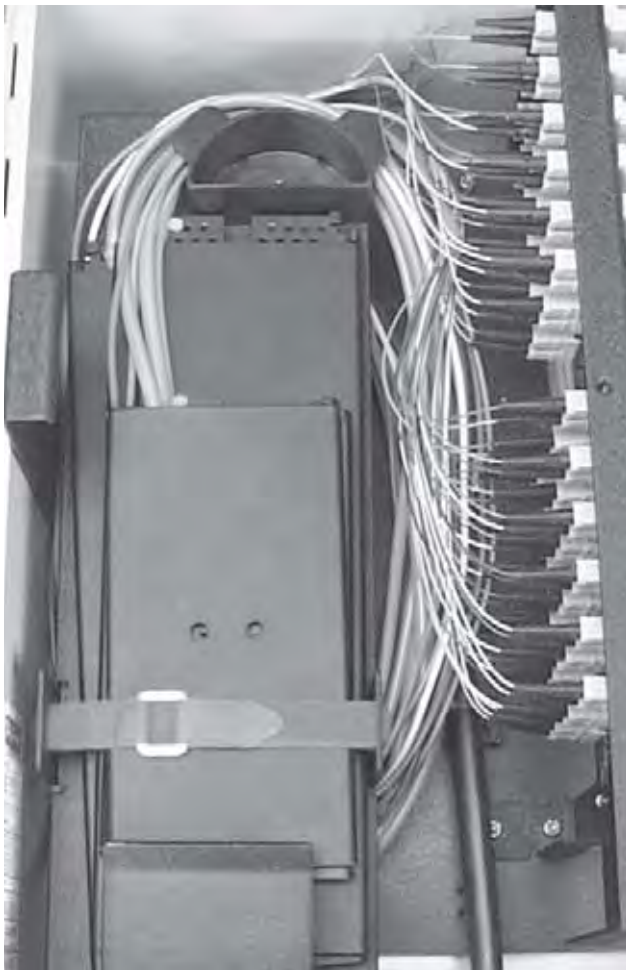


Figure 21

## 12. Installing Fan-outs

**12.1** Fiber optic cable can be installed using BTF kits (ordered separately).

**12.2** Slide the splice tray holder toward the top of the housing and remove it. Remove the splice tray holder mounting bracket also (Figure 22). (The fan-out bracket is underneath it.)



Figure 22

**12.3** Route the buffer tubes around the radius guides three times in a counterclockwise direction. Mark the location of the fan-out bracket on the buffer tubes as shown in Figure 23 to determine the length required.

**12.4** Install fan-out assemblies and connectors according to the instructions provided with the BTF kits.



Figure 23

**12.5** Route the buffer tubes around the radius guides and secure the fan-out assemblies to the fan-out bracket as shown using a cable tie (Figure 24).



Figure 24

**12.6** Route the connectorized fan-out tubing around the guides and plug connectors into the connector panel (Figure 25). Refer to the previous connector care caution to avoid damaging the connectors during installation.

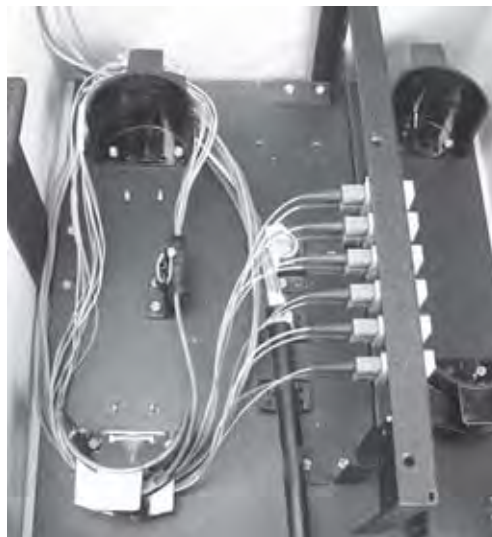


Figure 25

**12.7** Label the connector end of the pigtail with its port identifier. Record information appropriately on the record label inside the front door (Figure 18).

**IMPORTANT:** *Accurate record keeping is imperative for an organized installation.*

**NOTE:** *The splice tray holder and its mounting bracket should be reinstalled to allow future splicing capabilities.*

## 13. Installing Drop Cable

**13.1** The EDC is designed to accept up to six drop cables. Feed 3 meters (10 feet) of drop cable through the fitting you installed on the right at the base of the closure.

- 1) Route three complete loops of the subunit around the radius guides (Figure 28).
- 2) Match the subunits to the corresponding panels and simulate how they will lie.
- 3) Mark the length on the subunit and trim the cable to this length.

**13.2** Gently secure cable with no central members to the bracket using cable ties.



**13.3** When central member strain-relief is necessary, remove the drop cable strain-relief bracket and secure the cable to the bracket using a cable tie as shown (Figure 26).

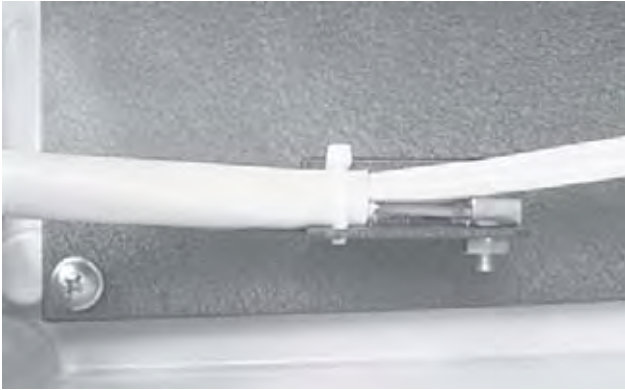


Figure 26

- a) Install the 8-32x<sup>5</sup>/<sub>8</sub> screw from the front side of the strain-relief bracket through the flat washer and U-shaped washer. Loosely install the hex nut.
- b) From the front side of the strain-relief bracket, wrap the strength member yarn in a clockwise direction around the screw and under the U-shaped washer (Figure 27).
- c) Insert the central member of the cable between the flat washer and the U-shaped washer (Figure 27).
- d) Tighten the hex nut.
- e) If the central member is metallic, place the eye of a ground wire (#6 AWG, purchased separately in appropriate length from any electrical supply store) under the U-shaped washer or under the flat washer.
- f) Trim off the excess yarn and central member.
- g) Reinstall the strain-relief bracket.

**NOTE:** The exposed length of the central member (after strain-relief) is to be less than or equal to 6.5 cm (2 1/2 inches) between the U-shaped washer and the end of the cable sheath.

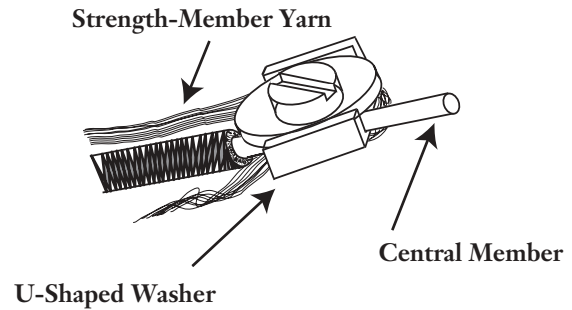


Figure 27

**13.4** Route cable around the guides as shown in Figure 28 and plug in connectors. Refer to the connector installation instructions in Section 10 and the fiber precautions in Section 3 to avoid damaging the cable during installation.

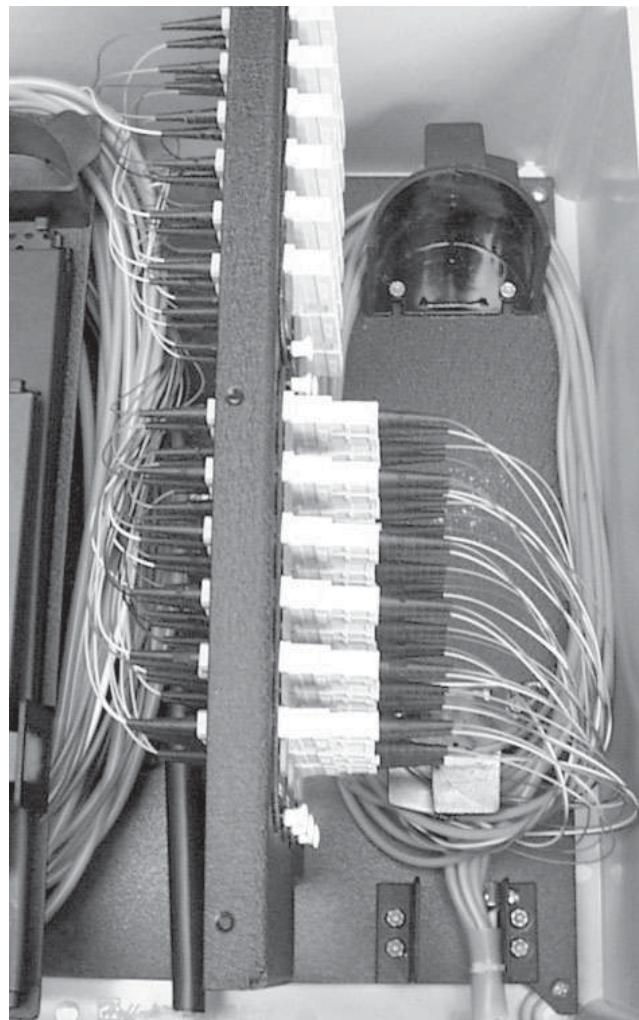


Figure 28



## 14. Maintenance

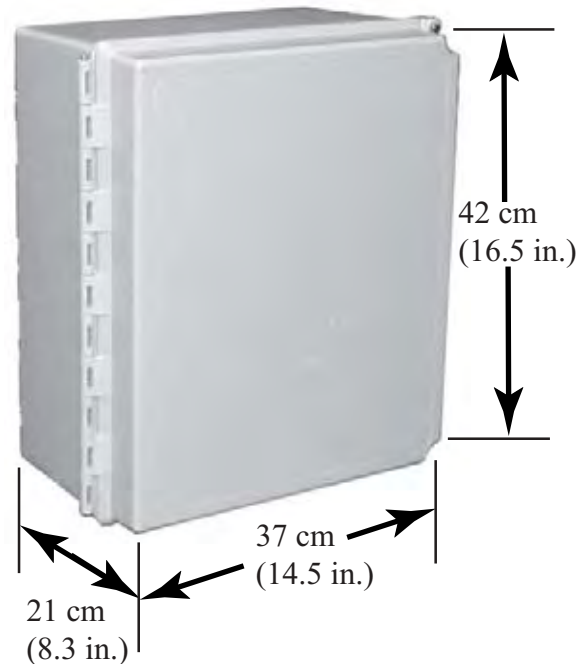
The unit requires very little maintenance to make sure fibers and parts remain in good condition.

**Loose Parts:** Check nuts, bolts and screws for looseness and tighten.

**Moisture:** Check the housing for accumulated moisture and place moisture absorbent packets as needed.

**Fiber Bends:** Check fiber optic cable to make sure bends do not exceed the minimum bend radius. Check cable for unnecessary strain. Check cable entries and exits for crimping or crushing.

**Documentation:** Check record label to make sure it is clear and accurate.



## 15. Specifications

The unit weighs 6.9 kg (15.2 lb).



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