Fiber Plug and Play Solution: FPP-12SU-series

12 Fiber Box Installation

Related Support and Learning Opportunities Offered by the CommScope Infrastructure Academy

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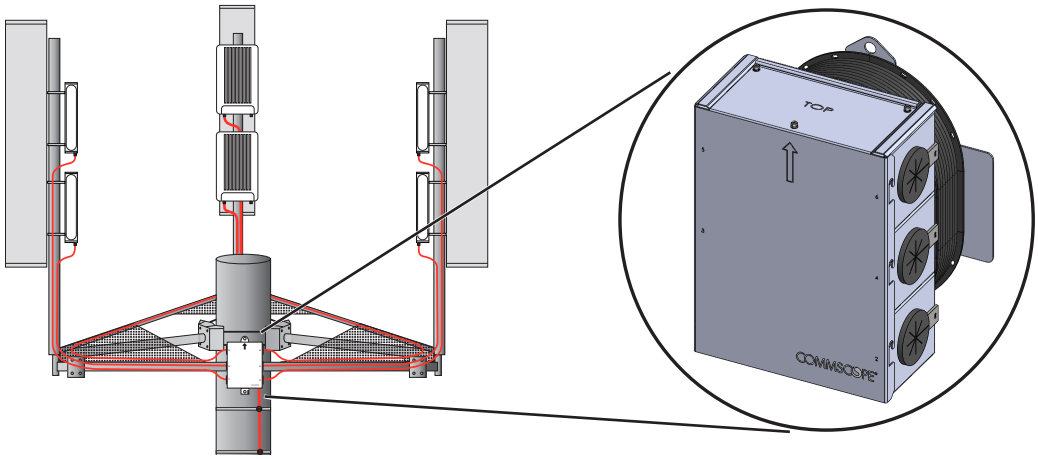

Solution Overview

6 RRU Fiber Discrete Solution
60, 120 or 180 meter length of 12 fiber trunk
6 x 10 meter lengths of 2 fiber armored jumpers
Fiber assembly has IP67 rating
Sheet Metal Box
Robust Design

Scan to view installation video

Customer Service Center

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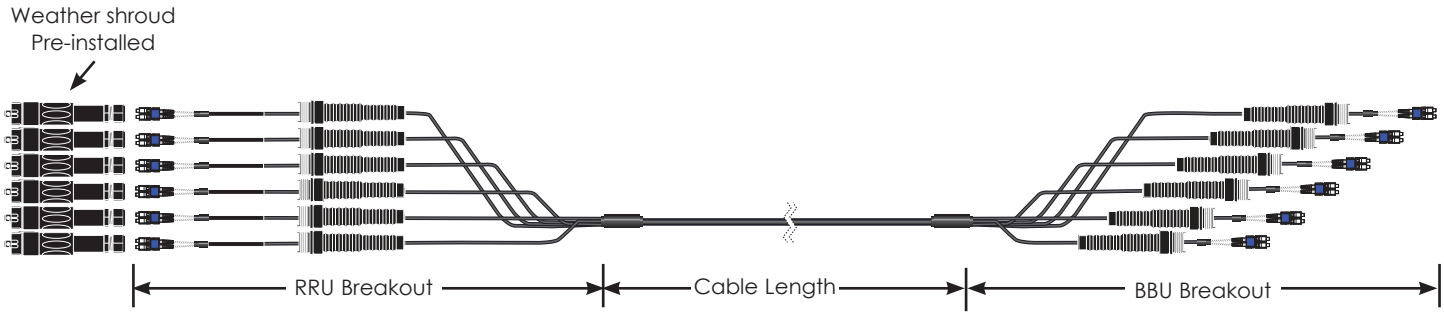
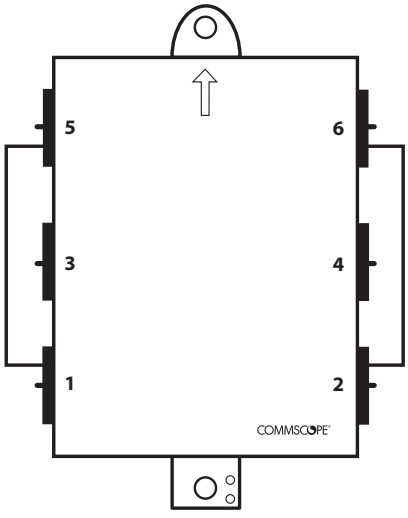
Section 1: General Specifications

Construction Materials	
Fiber Type	Single mode fiber (G.657.A2)
Total Fibers	12
Jacket material	LSZH
Dimensions	
Diameter Over Jacket	7 mm (trunk) | 5 mm (armored jumper)
Cable Length	60, 120 or 180 meter available
RRU Breakout	10 meter
BBU Breakout	1 meter
Environmental Specifications	
Operating Temperature	-40 °C to +80 °C (-40 °F to +176 °F)
General Specifications	
Interface Connector	DLC
Interface Feature	Weather shroud, weather boot
Minimum Bend Radius	140 mm (trunk) | 61 mm (jumper)

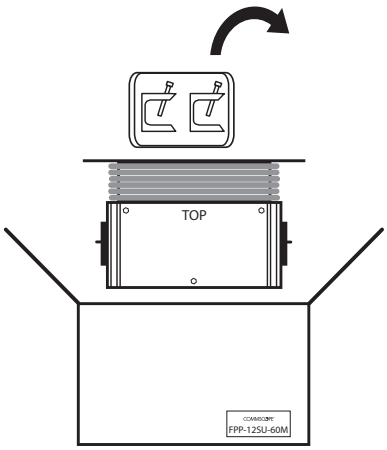


Construction Materials	
Material Type	Sheet metal box | NBR glands
Dimensions	
Depth	234.95 mm | 9.25 in
Height	406.40 mm | 16.00 in
Width	406.40 mm | 16.00 in
Weight	11.3 kg | 25 lb
Environmental Specifications	
Environmental space	Indoor | Outdoor
Operating Temperature	-40 °C to +80 °C (-40 °F to +176 °F)
General Specifications	
Includes	Mount
Mount Type	Angle Iron | Wall | Pipe OD: 76.2 mm - 101.6 mm (3 in - 4 in)



Section 2: Installation

Carton contents
- Hardware Kit
- Fiber Box Assembly

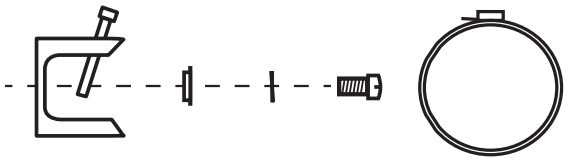


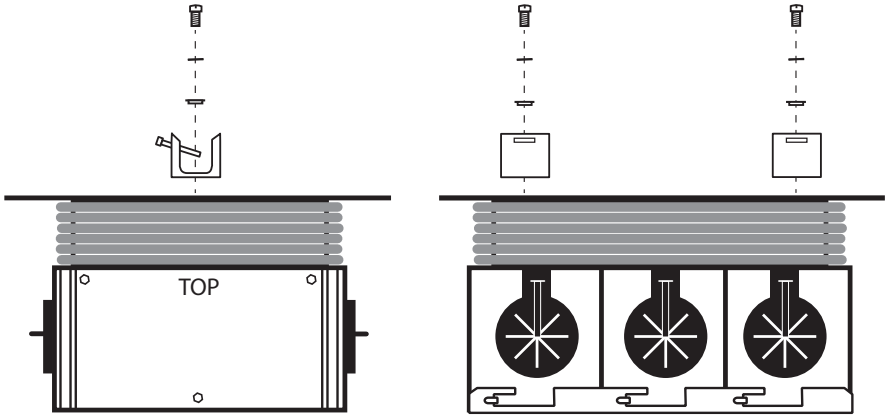
1 Flip cardboard box over and place fiber box on top face down to keep clean. Install the provided mounting hardware to the back of the mounting plate. The hose clamp is provided for round member attachment. For wall mounting skip to step 3.

M8 Bolt
(25 +/-2.0 N•m)

Lock Washer

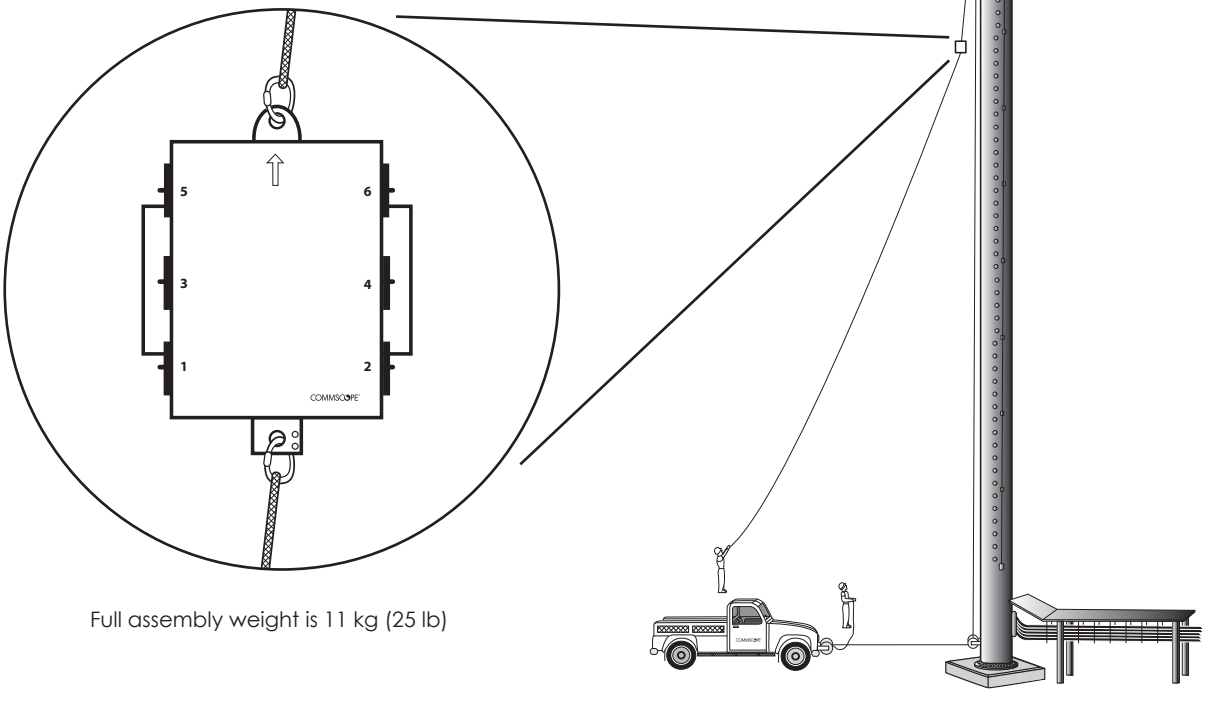
UAAI insert:
M8 bolt will pass thru
without threading





Top View **Side View**

2 Attach the hoist and tag lines to the box assembly. During the hoisting ensure that there is a free path so the assembly will not be damaged.

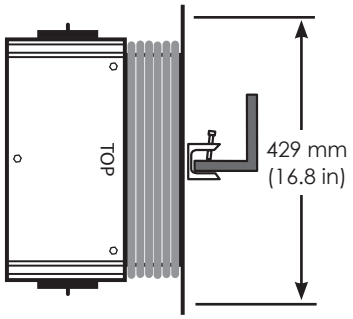


Full assembly weight is 11 kg (25 lb)

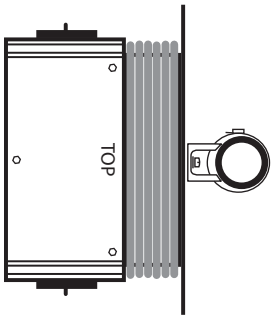
3

Attach the fiber box assembly to angle iron, round member or a wall. Center to center of the mounting holes 429 mm (16.8in)

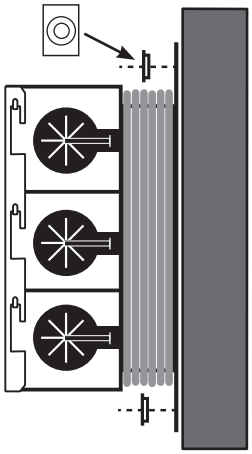
Angle Mount



Pipe Mount



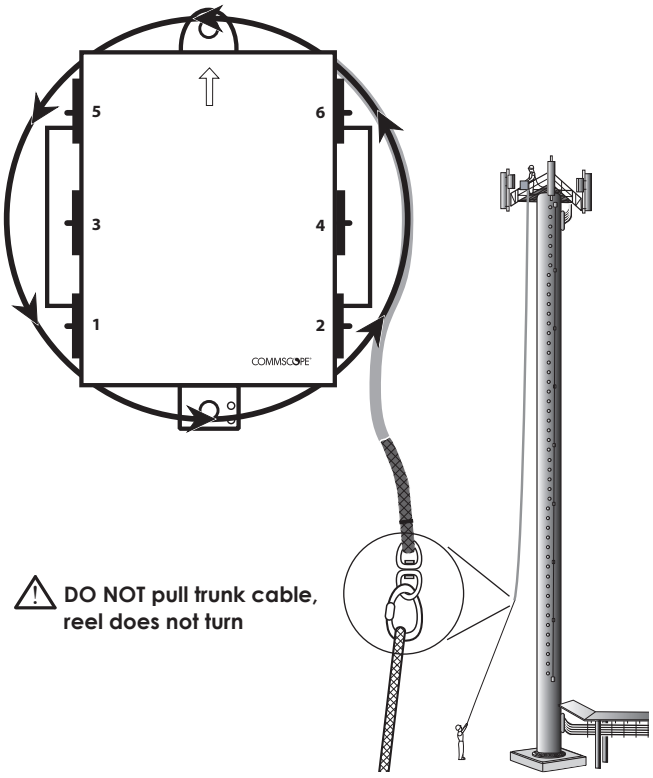
Wall Mount



For wall mounting the UAAI can be used to reduce the size of the hoisting and tag points. (additional hardware provided by contractor)

4

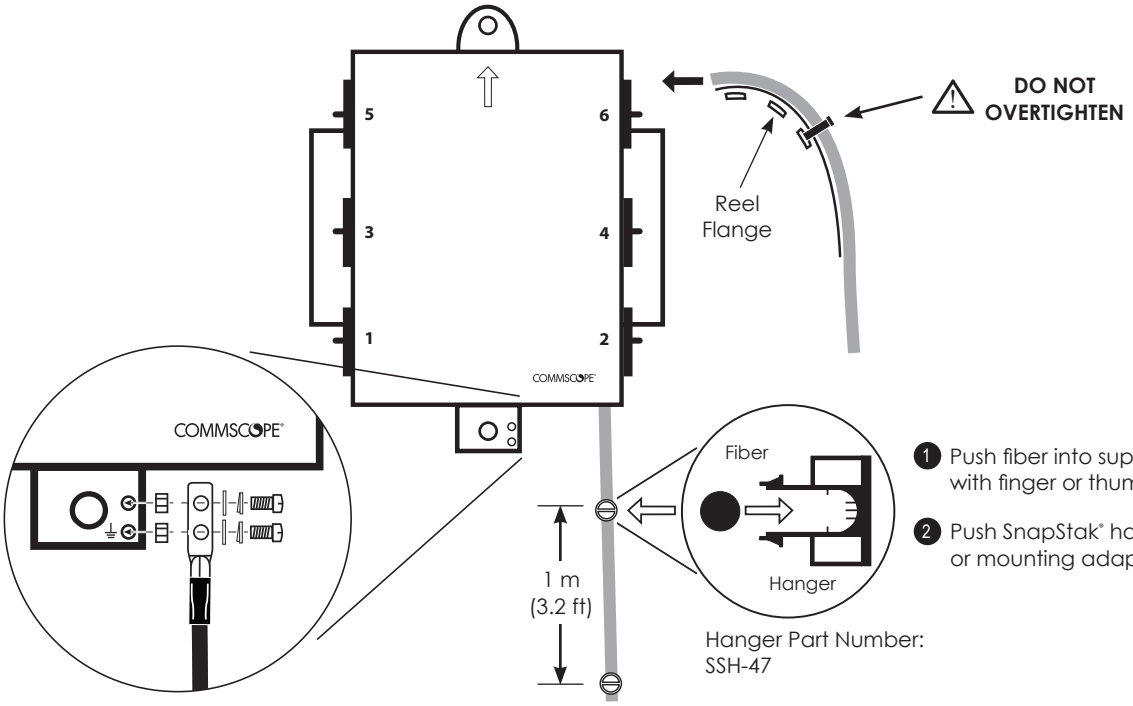
Uncoil the fiber trunk by carefully unwinding the cable from the reel. **To keep the trunk free of obstructions as cable is being lowered remove the tag line from the mount and attach it to the swivel at the end of the mesh sock loop protecting the trunk breakout.**



⚠ **DO NOT pull trunk cable, reel does not turn**

5

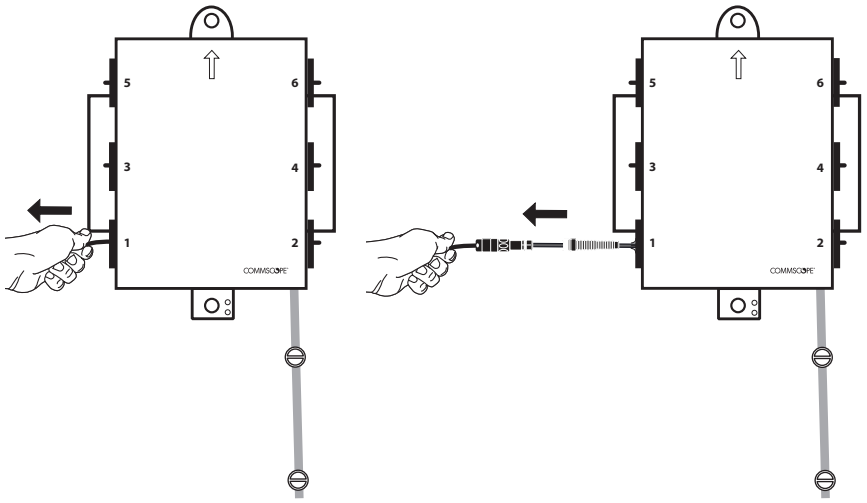
When cable has been routed to the BBU start working back to the fiber box placing hangers every 1 meter to secure the cable to the structure. After the trunk is routed to the fiber box recoil any remaining trunk and secure the cable to the reel by installing a tie wrap (DO NOT OVERTIGHTEN). If required attach a ground cable to the bottom of the box mount (contractor supplied).

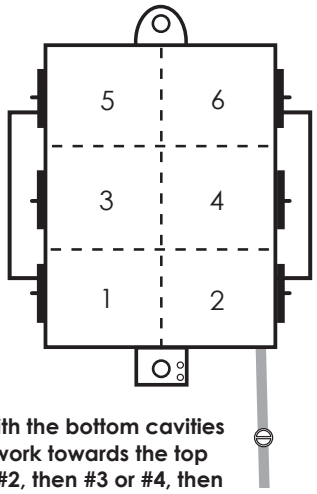


1. Push fiber into support channel with finger or thumb.
2. Push SnapStak® hanger in tower member or mounting adapter with 3/4 in hole.

Hanger Part Number:
SSH-47

6 **Trunk must be installed before step 6 begins.** After identifying which RRU is going to be connected start removing the jumper from the fiber box by pulling the tie wrap. The weather shroud and weather boot from within the box.

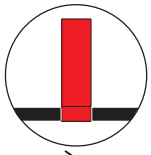




Start with the bottom cavities and work towards the top (#1 or #2, then #3 or #4, then #5 or #6).

7 Route the jumper to the RRU, working back to the fiber box install approved hangers to support the jumper. Place hangers every 1 meter to secure jumper to the structure. The hanger closest to the fiber box should be within 0.5 meter (1.6 feet). If too much cable was removed it can be threaded back into the box.

The cable is marked with a red flag label at 10 meters. STOP removing jumper from the box immediately to ensure no damage occurs.



NOTE:
If the installation is NOT for a Nokia RRU the Weatherproofing boot should be slid back into the box for storage. This will allow the use of the same jumper if the RRU manufacture is changed at a later date.

Hanger Part Number:
SSH-47

A hanger should be within 0.5 meter (1.6 feet) from the box.

Align the jumper in the center of the gland after hanger installation is complete

Section 3: RRU Connection

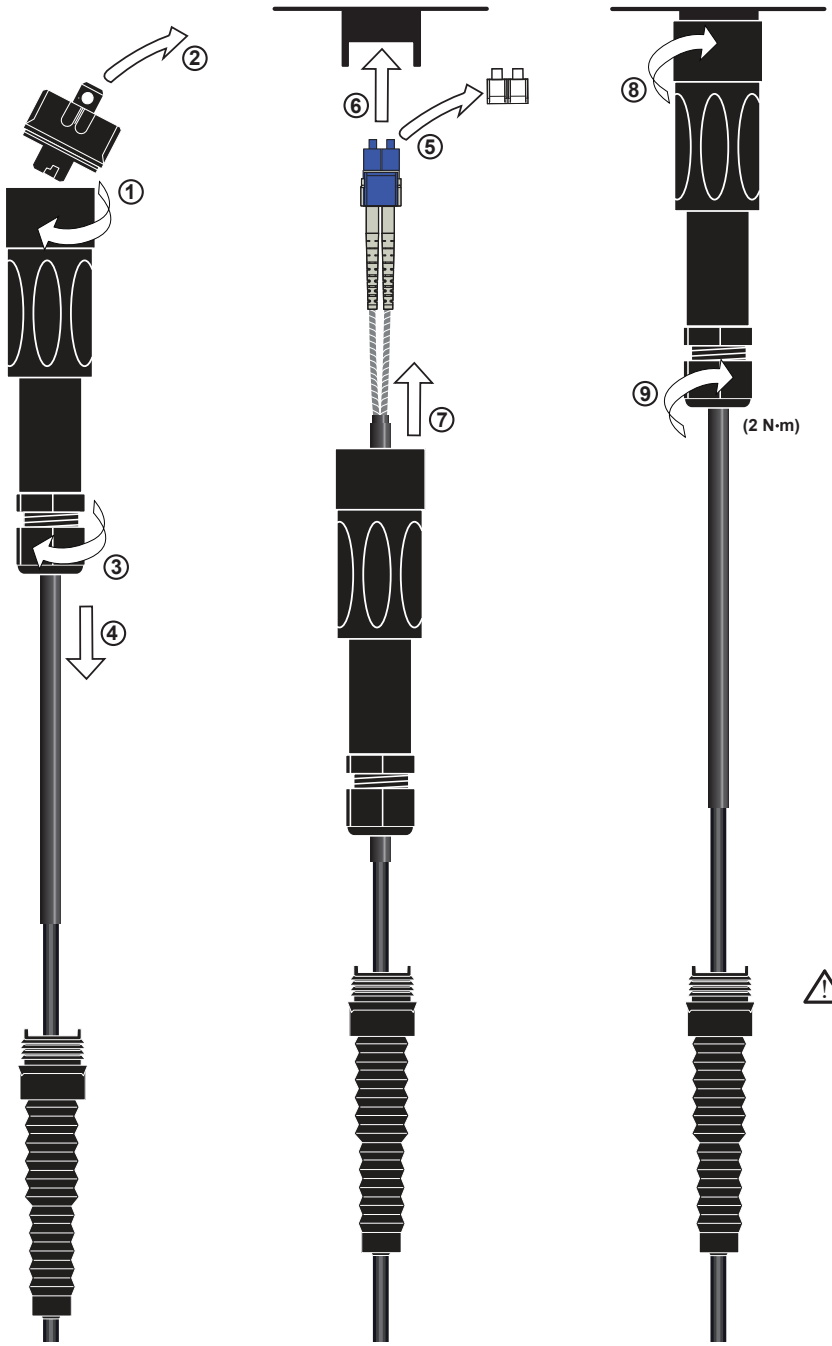
The 10 meter jumpers will connect to an Ericsson, Nokia, Huawei or ZTE RRU interface.

Weather shroud | Flexible DLC Interface | Heat shrink to increase landing area to 6 mm | Weatherproofing boot

The following pages include steps for each style of RRU interface.

Ericsson RRU

1. While holding the end cap stationary twist body counter-clockwise
2. Remove end cap
3. Loosen gland nut by turning counter-clockwise 2 full revolutions
4. Carefully slide weather shroud onto cable to expose the DLC connector
5. Remove dust caps
6. Connect into CPRI card
7. Carefully slide weather shroud over the DLC connector
8. Twist body clockwise to engage RRU
9. Tighten gland nut by turning clockwise: Torque: 2 N•m (± 0.25)

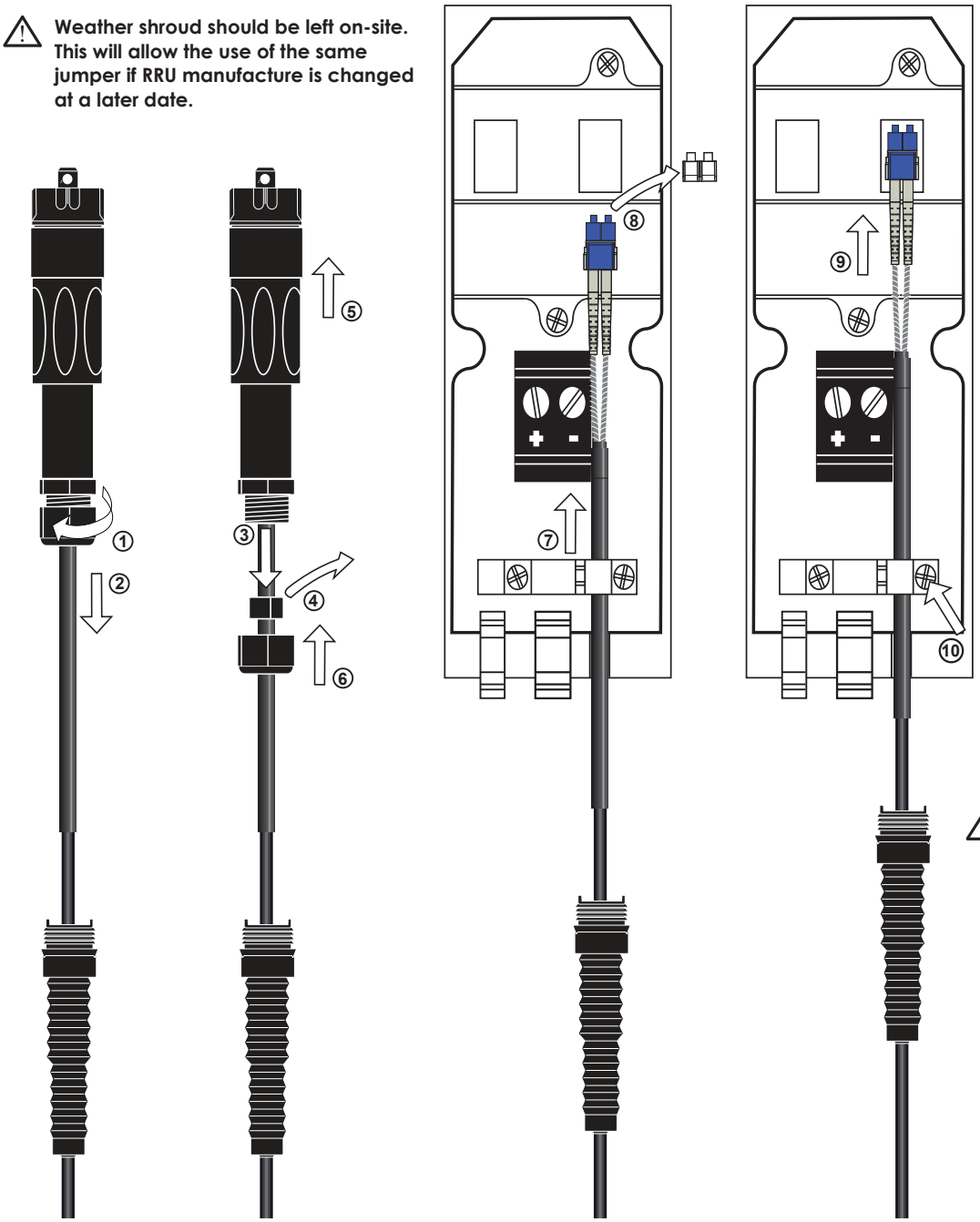


⚠ **Weatherproofing boot should be slid back into box for storage. This will allow the use of the same jumper if RRU manufacture is changed at a later date.**

Huawei / ZTE RRU

1. Remove gland nut by turning counter-clockwise
2. Slide it down the cable so it is out of the way of next step
3. Remove split gland from inside of the shroud
4. Remove from cable (do not loose gland)
5. Carefully slide weather shroud over end of cable to expose the DLC connector
6. Carefully slide gland nut over end of cable (reassemble weather shroud)
7. Open fiber enclosure and route cable to the CPRI card
8. Remove dust caps
9. Connect fiber to CPRI card
10. Tighten saddle clamp over fiber sub unit and close fiber enclosure

⚠ **Weather shroud should be left on-site. This will allow the use of the same jumper if RRU manufacture is changed at a later date.**

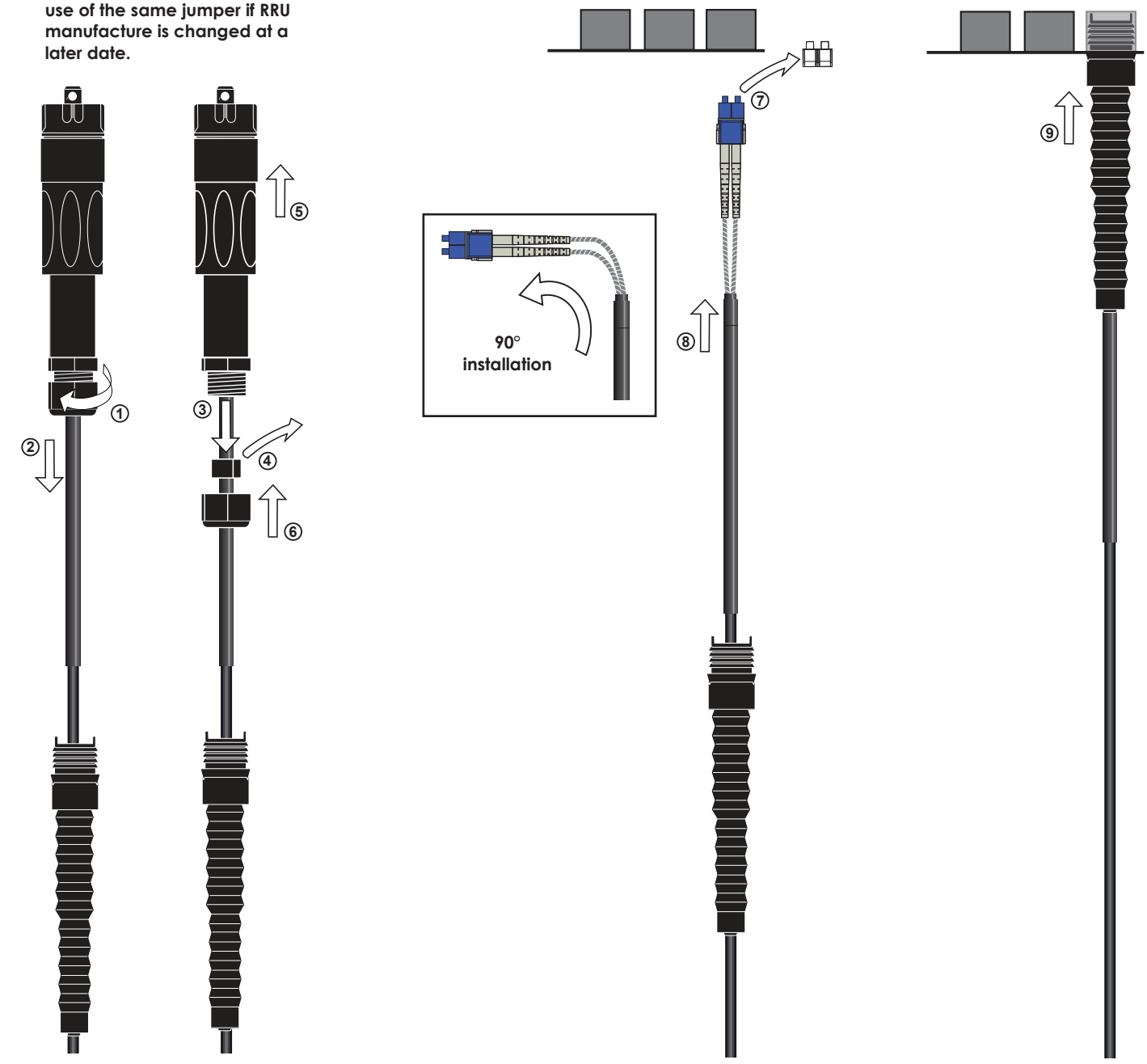


⚠ **Weatherproofing boot should be slid back into box for storage. This will allow the use of the same jumper is RRU manufacture if changed at a later date.**

Nokia RRU

1. Remove gland nut by turning counter-clockwise
2. Slide it down the cable so it is out of the way of next step
3. Remove split gland from inside of the shroud
4. Remove from cable (do not loose gland)
5. Carefully slide weather shroud over end of cable to expose the DLC connector
6. Carefully slide gland nut over end of cable (reassemble weather shroud)
7. Remove dust caps
8. Connect fiber to CPRI card (90° bend is possible with steel furcation)
9. Slide weatherproofing boot along cable and connect to the RRU

⚠ **Weather shroud should be left on-site. This will allow the use of the same jumper if RRU manufacture is changed at a later date.**

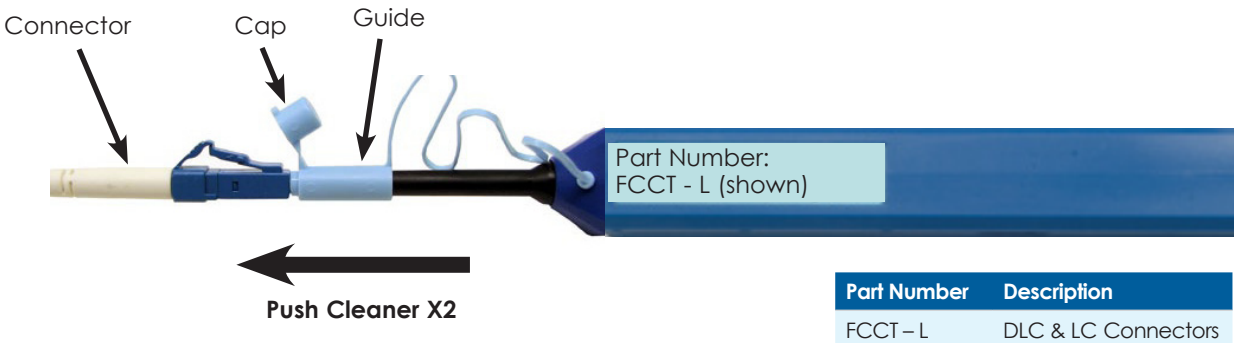


Section 4: Fiber Cleaning

Designed for cleaning the ferrule end faces of connectors

Open guide cap, insert connector into guide, push the outer shell to start cleaning the connector interface, a "click" sound indicates end of a cleaning process, repeat, close cap immediately after use.

Caution: Be careful not to slant the connector while inserting into the Guide cap. Do not overly exert force during insertion as this may cause damage to both the connector and the cleaner.



Part Number	Description
FCCT – L	DLC & LC Connectors

Inspecting

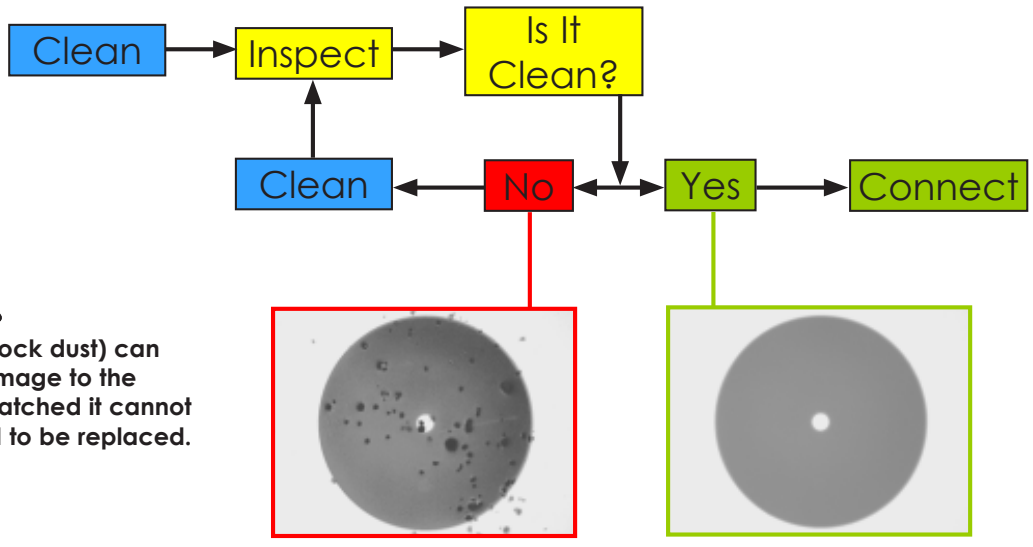
There are 3 basic principles that are critical to achieving an efficient fiber optic connection:

1. Perfect Core Alignment
2. Physical Contact
3. Pristine Connector Interface

Today's connector design and production techniques have eliminated most of the challenges to achieving core alignment and physical contact. What remains challenging is maintaining a pristine end-face. As a result, CONTAMINATION is the #1 reason for troubleshooting optical networks.

Implementing the process of cleaning and inspecting before mating can reduce the time spent troubleshooting, optimize signal performance and prevent damage.

Scan to view video



Abrasive particles (i.e. rock dust) can cause permanent damage to the interface. If interface is scratched it cannot be repaired, it would need to be replaced.

Section 5: Accessories

Hanger

PART NUMBER	DESCRIPTION
SSH-47	Plastic hanger for fiber trunk and jumper, 4 mm – 7 mm; kit of 10

Mounting Adapters

PART NUMBER	DESCRIPTION
UA-3	For Angles
SA-1U	For Round Members

Fiber Cleaner

PART NUMBER	DESCRIPTION
FCCT-L	LC interface

Installation Check List

- ☐ Trunk and jumpers are properly supported to prevent strain on fiber during severe weather
- ☐ Bend radius minimums haven't been exceeded
- ☐ Fiber connections are engaged and the sectors are consistent with requirements
- ☐ CommScope approved installation accessories are used
- ☐ Cable serial number has been documented in the closeout paperwork and a copy has been left on-site

Fiber Troubleshooting

- Clean First! Clean optical end face with appropriate all in one cleaner. Clean all connector end faces
- Visually inspect end face for residual dirt and damage
- Avoid migration of contaminations from one connector to another
- Check continuity by using LED or laser light source from one end face and look for light from other end to identify any broken fiber (Do not look directly at cable with laser source)
- Check end face again for cleanliness before attachment. If needed, clean again

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