

# CORNING

## Installing a Corning CATV Node Assembly

P/N 009-006  
Issue 13

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SRP-004-052 Instruction, Sheath Removal Procedure for OptiSpan™ Cables

### 1. General

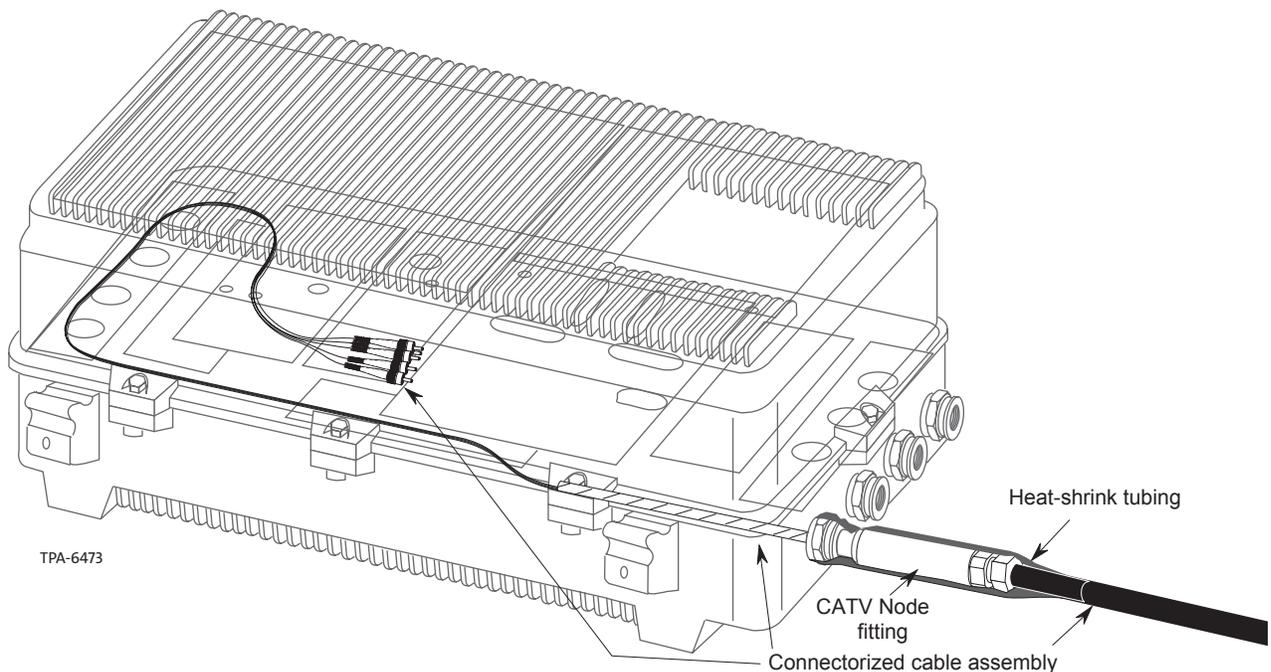


Figure 1

This procedure provides instructions on how to install a straight or 90-degree Corning CATV Node assembly (Optical Receiver Stub Fitting) in an electronic equipment enclosure serving as a cable television system “node”. The CATV Node assembly is routed into the node through a standard 5/8-in entry port, allowing you to splice the pre-connectorized stub into the system and mount the nodes independently of each other.

This procedure assumes that you have the manufacturer’s instructions for the node housing and routing instructions for the fiber optic pigtailed which will be connected to the node’s electronics.

### 2. Carton Contents

Each CATV Node assembly (Figure 1) consists of:

- Connectorized OptiSpan™ cable or EST-Micro dielectric cable assemblies
- CATV Node fitting
- Heat-shrink tube

### 3. Tools and Materials

This procedure requires the following tools and materials:

- Two adjustable wrenches with 7/8-in (19 mm) jaw openings
- Heat gun and power supply
- SRP-004-052, Sheath Removal Procedure for OptiSpan™ Cables
- 5/32-in (4 mm) hex wrench for grounded CATV Node versions

In addition, consult the instructions provided with the node to determine the tools required to open the enclosure and any tools or materials (e.g., cable ties) needed to route or secure the pigtails.

### 4. Installation Procedure

The following installation guides apply to both node housings mounted on strands and positioned at ground level.

**Step 1:** Open the node (enclosure) as directed by its manufacturer’s instructions. Place any bolts or hardware removed in this step in a secure place.

**Step 2:** Check the interior of the node and remove any existing strain relief hardware positioned in front of the fiber optic entry port. Reinsert any screws removed during this step.

	<b>CAUTION:</b> 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.
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**Step 3:** Unpack the cable coil\*. Use caution when handling the connectorized end of the cable. The cable stub should appear as in Figure 2, with connectorized leads, a CATV Node Assembly body, and a fitting nut already attached. A length of heat-shrink tubing is also provided to be used with the straight version.

**NOTE:** \*Cable coils 98 ft (29.88 m) in length and longer are shipped in foam packaging. Refer to the instructions attached to the packaging for directions on unpacking such coils.

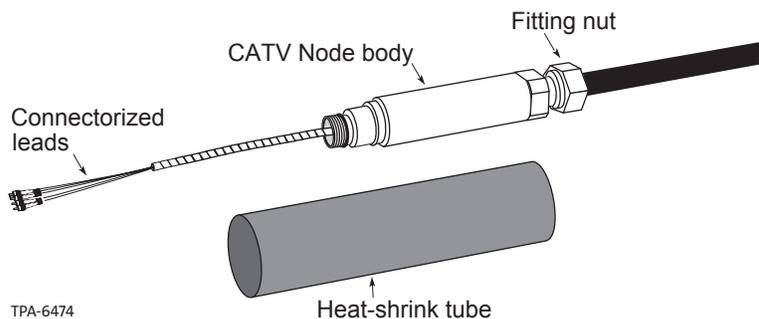


Figure 2

**Step 4:** Slide the heat-shrink tube over the connectorized assembly and move it down the cable stub past the straight CATV Node assembly (Figure 3).

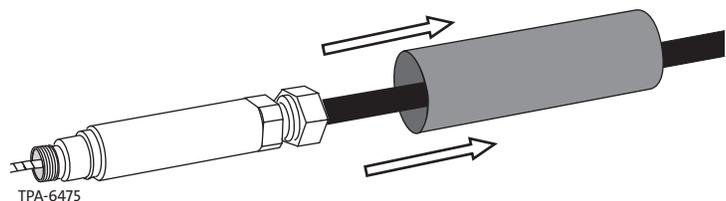


Figure 3

**NOTE:** It is not necessary to install the heat-shrink tubing on the 90-degree CATV Node Assembly.

**Step 5:** With their protective dust caps still installed, pass the connectorized leads of the cable stub, one connector at a time, through the fiber optic entry port (Figure 4).

	<b>CAUTION:</b> Use caution during this step to avoid exceeding the 2-in (50 mm) bend radius of the fiber leads. Do not pull the assembly by the connectors, instead push the connectors through the entry port.
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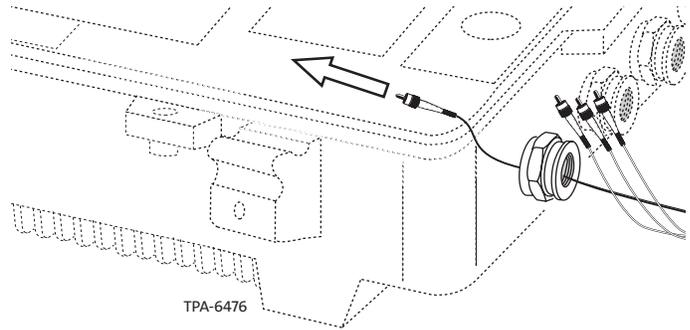


Figure 4

**Step 6:** Continue feeding the connectorized leads through the port until the spiral wrap passes through the fiber optic entry point (Figure 5).

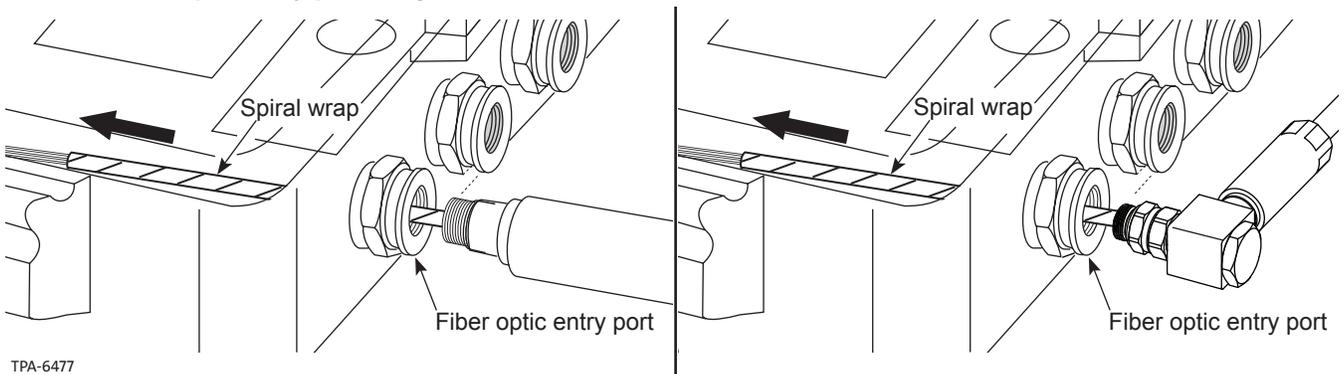


Figure 5

**Step 7:** Unscrew the fitting nut from the assembly body – use an adjustable wrench if necessary. Slide the fitting nut down the cable until it is out of the way (Figure 6).

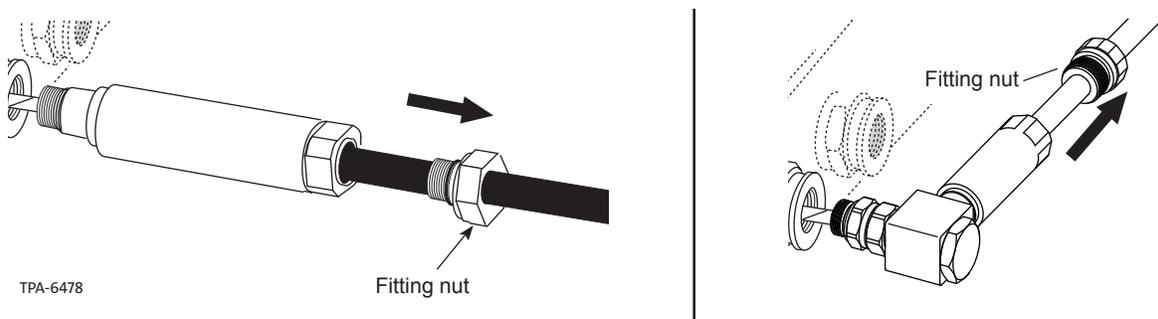


Figure 6

**Step 8:** Route the remainder of the spiral wrap through the entry port and position the assembly body against the fiber optic entry port.

	<b>CAUTION:</b> Overtightening may cause stress fractures on the threads of the CATV Node body, which can affect its performance. Carefully install the threaded components as described in Steps 9 through 11.
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**Step 9:** While holding the cable to prevent it from rotating, thread and hand-tighten the assembly body into the entry port (Figure 7).

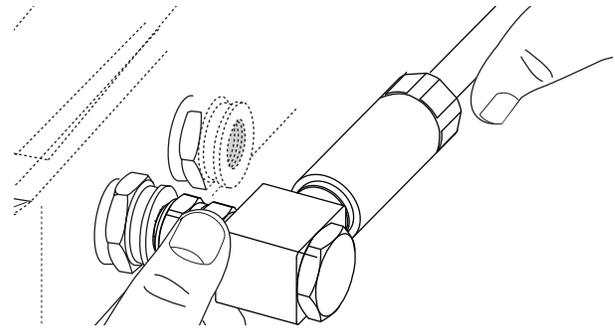
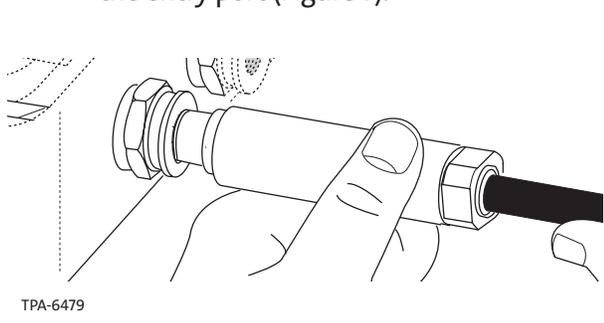


Figure 7

**Step 10:** Slide the fitting nut up against the body. Hold the cable straight to prevent it from rotating and carefully thread the nut into the body (Figure 8).



**CAUTION:** Use care to avoid cross-threading the nut in the assembly during this step.

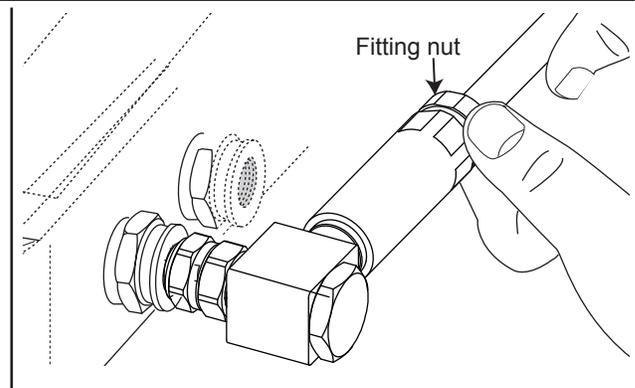
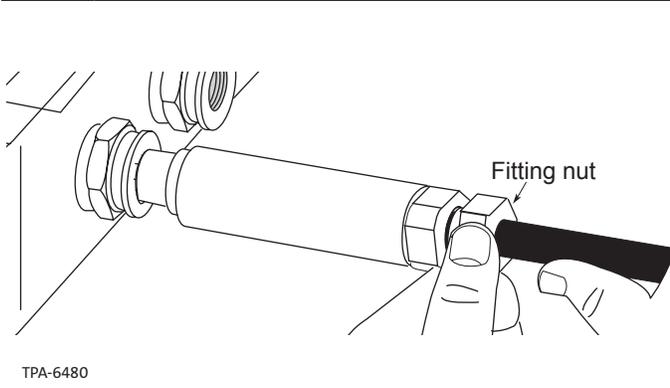


Figure 8

**Step 11:** Hold the assembly body steady with an adjustable wrench. Tighten the nut with another adjustable wrench until the O-ring is slightly compressed (Figure 9).



**CAUTION:** Do NOT overtighten the nut during the step — damage to the fitting and broken fibers may result. If the fitting is loosened several times for any reason (such as reconfiguration), re-lubricate the threads with a silicone grease.

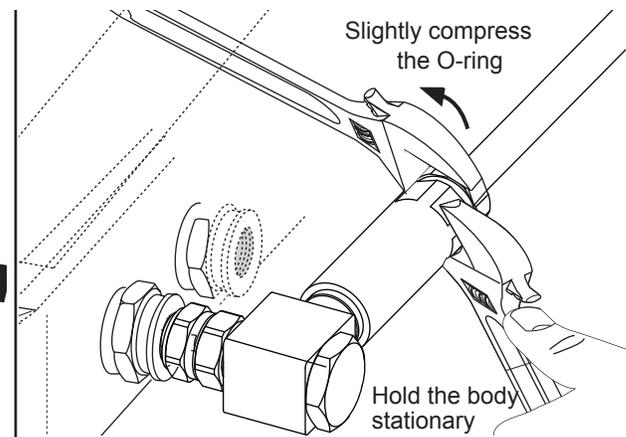
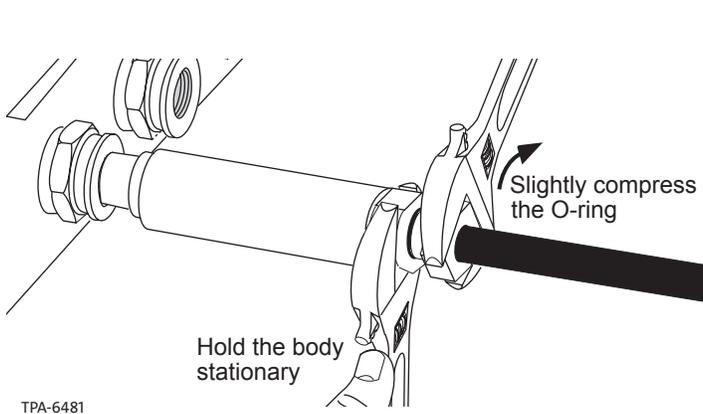


Figure 9

**Step 12:** CATV Node bodies equipped for grounding have two set screws. If present, tighten down the set screws with a 5/32-in (4 mm) hex wrench (Figure 10).

**Step 13:** The CATV Node assembly is now secured in the node. Remove the packaging from the pigtails and route them in the node, following the routing instructions provided by the node's manufacturer.

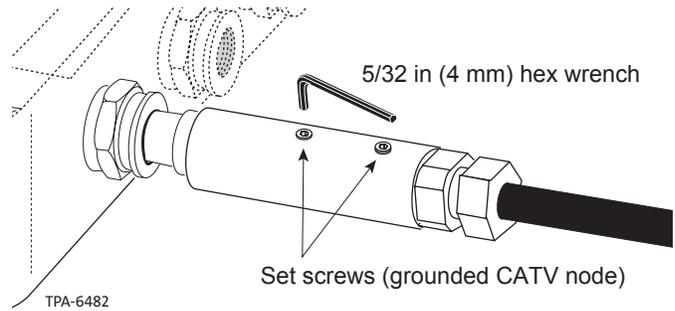


Figure 10

**Step 14:** Close and secure the lid of the node.



**CAUTION:** When using the heat gun, keep the gun far enough away from the cable to prevent any heating or deformation of the cable sheath.

**NOTE:** It is not necessary to install the heat-shrink tubing on the 90-degree CATV Node Assembly.

**Step 15:** To secure the heat-shrink tube over the straight CATV Node Assembly:

- a. Butt the heat-shrink tube against the side of the node.
- b. Starting at the end of the tube next to the node, use a heat gun to shrink the tube over the fitting.

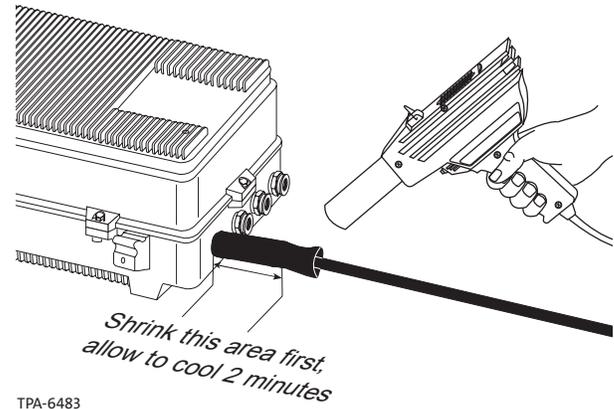


Figure 11

Allow this area of heat-shrink tube to cool for 2 minutes. This sequence will prevent the tube from slipping off the cable fitting.

- c. Complete the heat-shrink application by heating the section of tube covering the cable (Figure 11).

**Step 16:** Prepare the non-connectorized end of the cable stub for splicing as described in SRP-004-052, Sheath Removal Procedure for Corning OptiSpan™ Cables.

**NOTE:** The Corning front-fed cable stub leads are identified with labels numbered from 1 up to 4 (up to 12 with the 12-fiber option). These labels correspond to the fibers in the cable stub as follows:

1 Blue	7 Red
2 Orange	8 Black
3 Green	9 Yellow
4 Brown	10 Violet
5 Slate	11 Rose
6 White	12 Aqua

Extra fibers (i.e., non-connectorized) may be present on the free end of the cable stub. It is not necessary to splice these extra fibers to the feeder cable.

## 5. Accessing the CATV Node Assembly

If it becomes necessary to remove the CATV Node assembly due to component reconfiguration or node damage, it can be accomplished without having to break the continuity of the feed fibers. To access the CATV Node assembly:

- Step 1:** Carefully shave away a small strip of the heat-shrink tubing longitudinally down its length. Use care not to damage the CATV Node assembly or cable beneath the heat-shrink tubing.
- Step 2:** Apply a small amount of heat to the remaining heat-shrink tube to loosen it from the cable. Pull the heat-shrink tube away with pliers.
- Step 3:** Carefully remove any residue from the cable and CATV Node assembly.
- Step 4:** Apply a generous amount of any commercially-available petroleum lubricant to the threads of the CATV Node nut. Let the lubricant soak for approximately 5 minutes.
- Step 5:** Follow Section 4, Steps 9-11 (Steps 9-12 for grounded versions) in reverse order to loosen the CATV Node assembly.